A Comparison of the Performance
of Digital and Face-to-Face/In-Person Reference Services
in UK Academic Libraries

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Abstract

This study's aim was to explore how digital and face-to-face/in person reference work resemble or differ from each other in terms of place and time, in terms of communication and in terms of the several stages of the reference interview. It considered the implications of these differences and similarities for the library and the user; it tried to find out how complementary these two types of reference service might be for the sake of the library users and the libraries themselves, and to what extent digital reference services herald the demise of traditional reference services. It focused on UK academic libraries domain, therefore it first investigated to what extent there have been developed and established digital reference services models, and to what extent face-to-face/in person reference services are used in UK academic libraries.

The study involved an email survey of 9 UK academic libraries that offer both types of reference service. Key information professionals of participating libraries completed an extensive questionnaire which was designed as a semi-structured interview and therefore allowed for the collection of both quantitative and qualitative data concerning all five objectives of the study. However, during the research process there emerged an additional need to investigate the reasons why UK academic libraries appeared less keen on establishing digital reference services. Follow-up interviews conducted via a variety of ways (email, telephone and face-to-face) with 5 of the 9 information professionals, illuminated the above question.

It was discovered that digital reference services have made a solid beginning in the UK academic domain using mainly web form based reference services, and the reasons why they have not taken yet further steps are due to funding and staffing issues and constraints, resistance to change, and the fact that they serve many more on campus than distance learning students. It did not became clear how much traditional reference is
used, but there are indications that decreases in enquiries are due to the fact that users have become increasingly independent in locating resources for themselves. The comparative approach of the several features of the two types of reference revealed that their differences and similarities have different implications for the services’ use, the skills needed by the librarian, the types of questions asked, the quality of communication, the types of resources used to answer questions, and the satisfaction rate of both user and librarian, but not for the search & answering strategies librarians use. Finally, it was found that information professionals believe more in a unitary, rather than a dividing future of the reference services.

The study concludes that UK academic libraries of 2005 are in the same digital reference climate that USA academic libraries were in 1999, that face-to-face reference transaction is higher valued than digital reference transaction, as a means of offering quality personalized reference services, by information professionals and by users. Libraries should work cooperatively for the development of common models of evaluation of reference services performance, both for traditional and digital reference, which should not be based only on enquiries numbers. Moreover they need to identify what model of reference services they provide and then to rebuilt it in accordance with users’ demands, who have entered the new electronic epoch but they are still served in a hybrid library environment.
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Thanks go to all 9 participants of UK academic libraries who found time to complete an extensive questionnaire, and to 5 of them who were also interviewed either via email or in person. This project would have not been completed without their valuable opinions and experience.
Chapter 1

Introduction

There has been claimed that one of the core and most important functions in all types of Libraries and Information Services is “Reference Work”.

Grogan (1992:33), in an attempt to demonstrate its significance, argues that practitioners see it as the “raison d’ etre” of the whole librarianship and he continues by quoting the words of some prominent persons in the field:

“As early as 1904 we find Mary Eileen Ahern proclaiming that ‘The reference work of the library gives the institution its greatest value and may be called the heart of the work’. […] In 1957 Ranganathan wrote that ‘Reference service is the primary motive the culmination of all library practices’. For the current generation too ‘reference service is the peak of library activity’ (Davinson, 1980)”.

However, one of the questions that arise in today’s constantly changing information arena is whether we need reference services any more. Many wonder, whether greater provision, access to and use of electronic resources by libraries and their users, through the World Wide Web, will lead to the “extinction” of the reference librarian as an intermediary between the user and the available resources.

In reply to this threat, libraries worldwide are trying to empower their reference/enquiry services. On the one hand, they have started adopting new methods, which are more in-line with the demands of the electronic era, such as digital reference. On the other hand, some of them are trying to fully exploit the values of traditional reference. For instance, they are experimenting with it, by diversifying it into roving reference.
Thomsen (1999: xiv) states that:

"Before, during, and after (if there will be an “after”) the information revolution, the essence of good reference work has, is, and always will be a knowledgeable librarian providing personal service. Whether the service is provided on the phone, in person, or over the Internet, reference librarians are the ultimate generalists – essential links in connecting people with any information in any subject area”.

Therefore, although we may not know what the future might bring it is interesting to explore in more detail how digital and traditional reference work resemble or differ from each other. Such a comparative investigation could give libraries a better insight into the merits and drawbacks of these two types of reference, and eventually help them to plan for a better future of their reference/enquiry services.

1.1 Aim and Objectives

The overall purpose of this study is to expand our understanding of the present and the possible future of the reference work in UK academic libraries. We are interested in exploring how digital and face-to-face/in person reference work resemble or differ from each other, what are the implications of these differences and similarities for the library and the user, and to find out how complementary they might be for the sake of the library users and the libraries themselves.

1.1.1 Aim

To investigate what are the differences and similarities between digital and face-to-face/in person reference services in UK academic libraries.
1.1.2 Objectives

To investigate:
1. To what extent there have been developed and established digital reference services models, and to what extent face-to-face/in person reference services are used in UK academic libraries.
2. How different/similar are face-to-face/in person reference work and digital reference work, in terms of place and time.
3. How different/similar are face-to-face/in person reference work and digital reference work, in terms of communication.
4. How different/similar are face-to-face/in person reference work and digital reference work, with regard to the several stages of the “reference interview”.
5. To what extent digital reference services herald the demise of traditional reference services.

1.2 Scope of the Study

This study was carried out using a survey of academic libraries in the UK. The requisite for the academic libraries to be involved in this study was that they offered both face-to-face/in person and digital reference services to their users.

The web page entitled “Member institutions and representatives”, which is maintained by the Society of College, National and University Libraries (SCONUL, 2005) served as a credible source which helped to identify the libraries which fulfilled this requisite. 63 out of 168 institutions listed on this web page, were excluded from the present study because they are college, school, institution and national libraries.

An initial search was conducted on the web sites of 28 out of the remaining 105 UK university libraries, which were chosen with the helpful guidance of this study’s supervisor, because of their geographical proximity to Sheffield. This search on the 28 web sites of UK university libraries resulted in
identifying 10 libraries which offered both face-to-face/in person and digital reference services to their users. Although the majority of the 28 libraries offered one or more emails as enquiry points for general or specific questions, it was decided to choose only the libraries which also offered a web form as a designated enquiry area on their web sites. The reason why is because a web enquiry form demonstrates a more official and experienced approach to a digital reference service on behalf of the libraries. It has to be noted that there were identified only three libraries offering a real-time chat reference service.

Literature search revealed another 5 UK university libraries which, although geographically distant from Sheffield, were also included in this study because they appeared to be pioneers in the field of digital reference services in UK.

All 15 libraries were approached by email and were asked to complete an extensive email questionnaire which was designed as a semi-structured interview. Additionally, all 15 libraries were asked to participate in a follow up interview. 9 libraries replied to the email questionnaire, 5 of which also participated in a follow up interview. 3 of the interviews were conducted via email (asynchronous communication), 1 of the interviews was conducted face-to-face and 1 was conducted via telephone.

Therefore, all email survey data and interviews data is from university libraries within the UK which offer both face-to-face/in person and digital (email and web form) reference services.
1.3 Definition of Terms

1.3.1 Reference Work & Reference Interview

Grogan (1992:2), and Bopp and Smith (1995:3) quote Samuel Rothstein’s definition in order to describe Reference Work:

“I represent reference work to be the personal assistance given by the librarian to individual readers in pursuit of information”

This study focuses on personal assistance provided to the library user, and specifically on the interaction between the library user and the librarian. This interaction is widely known as the Reference Interview.

There has been published a variety of literature about the Reference Interview, part of which has been consulted for this study. At this point, instead of presenting a short definition, it was thought more helpful to quote Saxton and Richardson’s (2002:1-2) concise description of it. Although it is short, it is successful in presenting the logical sequence of all the stages of the Reference Interview:

“When providing reference service, a librarian, or some other type of information professional, engages in a dialogue with a library user.

The dialogue is initiated by the user’s inquiry, or least by some form of contact in which the user applies for assistance regardless of whether or not that contact takes the form of a clearly defined inquiry.

Frequently, the user requires assistance from a librarian to formulate the user’s need into an explicit request for information, hereafter referred to as a reference query.

Once a definition of the reference query has been formulated and agreed upon a result of the initial part of the dialogue, the librarian will then respond with suggestions as to how find an answer to that query.

The librarian’s response can take many forms which include, but are not limited to, the librarian directing the user to specific information
resources that contain the desired information, the librarian developing a strategy by which the user will be able to discover sources of information independently, or the librarian referring the user to another information professional who will presumably provide a better response to the query.

"Based on continuous feedback from the user, the librarian is then able to revise the response until the user determines that no further input from the librarian is necessary."

1.3.2 Face-to-Face/In Person Synchronous Reference Transaction

For the purpose of this study, when the Reference Interview, as defined above, between a librarian and a library user takes place at the library’s reference/enquiry desk (as a physical place), with the physical presence of both parties, it will be called “Face to Face/In Person Synchronous Reference Transaction” hereafter referred to as ‘face-to-face reference’.

1.3.3 Digital Asynchronous Reference Transaction

Janes (2003:29 a) defines “Digital Reference” as:

“the use of digital technologies and resources to provide direct professional assistance to people who are seeking information, wherever and whenever they need it.”

The provision of “Digital Reference” as defined above has been developed in a variety of ways among libraries. Others provide it as an integrated component of their regular reference service, others as a separate service, and others as a part of a collaborative consortium.

Moreover, libraries and Information Services use either, all, or a combination of the following technologies: Web Forms and Email (which are asynchronous ways of communication), Chat and Video Conferencing (which are synchronous ways of communication). There are also cases
where a question is received digitally and answered traditionally and vice versa. (McClure et al., 2000:2)

Most of the libraries which have been included in this study have established and provide a form of “digital reference service” using mainly Emails and Web Forms. In Digital Asynchronous Reference Transactions the user sends in their questions via Email or a Web Form maintained by the library for this purpose, and typically expects to receive an answer to their email. This type of reference transaction can not be considered a Reference Interview any more. Janes (2003:51,54 a) characterizes this type of transaction as “Today’s Reference ‘Noninterview’”, and he adds that “[it] isn’t at all different from correspondence reference which arose and became commonplace in the late nineteenth century”.

However, from the point that the user decides to make a query using this type of reference service, until the point the user will receive their answer, there intervene the same stages that occur in the Reference Interview as this is traditionally known. How differently these stages take place it is an issue of investigation of the present study.

Therefore, for the purpose of this study we will call “Digital Asynchronous Reference Transaction”, and hereafter referred to as “digital reference”, the Reference Interview, as defined above, where communication between user and librarian, though, is conducted via a Web Form and/or Email.
Chapter 2 – Review of Related Literature

There has been consulted a range of related to the issues under investigation literature. In this chapter there are highlighted the most prominent works in the students opinion. The total of the items cited here and those that have been used for background reading appear in the Bibliography of the present study.

2.1 The emergence of digital reference services and the current situation concerning traditional reference services in UK academic libraries

2.1.1 The emergence of digital reference services: a comparison between the USA and the UK libraries

As early as 1999, Janes, Carter & Memmott (1999:148-149), conducted a survey of 150 USA academic library web sites in order to identify the proportion of libraries that provided digital reference services and to examine the characteristics of those services. The results of that survey revealed “that digital reference services [had] made a solid beginning in academic libraries”, as 44.7 percent of them “offered these services, using simple but effective technologies (e-mail, Web forms)”.

The writers commented that digital reference “[was] still in its infancy” in 1999, but they appeared confident that in the near future libraries would experiment with new models, and would exploit the merits of the ever developing technologies, such as real-time chat, as a means of answering reference questions.

Janes, Carter & Memmott (1999) were right in their predictions because today, libraries in the USA have further developed digital reference services in order to respond to the new demands of their users. Numerous published reports, surveys, case studies and some researches, a number of which
has been consulted for this study, demonstrate the extent to which these services have been developed and are being used.

The OCLC QuestionPoint Cooperative virtual reference (questionpoint.org, 2005) for instance, is currently the most developed digital reference service in the USA and worldwide. It offers a wide range of digital reference related services to its member libraries which include: user-librarian communication directly from a library’s web site by chat, e-mail and web forms, the creation of local knowledge base of already answered questions, access to the global Knowledge Base built by contributions from all QuestionPoint members and the ability to refer unanswered questions to other libraries in a library’s local reference network or to the Global Reference Network of all QuestionPoint members.

On the other hand, the limited literature concerning digital reference with regard to UK academic libraries substantiates that only a small proportion of them have just started out slowly while a few others have taken some further steps. Bains (2002) acknowledges that “[d]evelopments have been pioneered in the USA, but the UK library sector now appears to be catching up” and he notes that a Google search limited to the UK academic domain, yields more “genuine electronic reference services, rather than reports or research”.

The only literature that has been identified as closely related to digital reference services in the UK academic libraries domain consists of three case studies by Chowdhury and Margariti (2004), Beard et. al. (2003), and Payne and Bradbury (2002), and two more articles by Davis and Scholfield (2004) and Bains (2002).

The first three case studies portray to some extent the current situation in the UK, as they discuss issues concerned with how a digital reference desk operates on a daily basis, what types of technologies are used, the extent to which library users benefit from it, and what such a service entails for library staff and for library policies and resources. All writers agree that these
services are successful and beneficial in many aspects for libraries and their users. However, they underline that further research and investigation is needed in order to exploit them fully.

Chowdhury and Margariti (2004), for example, who discuss the findings of a study which was conducted in three university libraries, one public library and the National Library of Scotland, admit that these libraries have not yet exploited the full potential of digital reference services, which reinforces the hypothesis that digital reference is still in its early stages in the UK academic libraries domain.

A significant point made by Beard et. al. (2003), in their review of a five-year project concerned with designing, implementing, promoting and evaluating a virtual enquiry desk in a new British University, is that in order for the service to be successfully maintained, iterative staff awareness and involvement should be ensured, as this takes fear for the “new” away and facilitates cultural shift.

A key research contribution is one made by Payne and Bradbury (2002). They discuss the complexities and the merits of a research project concerned with the development of a fully automated 24/7 service, capable of handling and replying to routine enquires received by distance learning university students. Furthermore, they examine enquirer behavior and enquiry patterns, that helps understanding the way users interact with such a system, and therefore assists in determining the operational requirements of this project system.

Another interesting aspect which is being revealed by all three case studies is that face-to-face reference work is still very much in use and that digital reference is seen as a complementary service rather than the replacement of it.

Two more digital reference related articles report collaborative initiatives undertaken by UK academic libraries in this field. Davis and Scholfield
discuss the advantages and disadvantages of providing a cooperative digital reference service to the users of a UK and an Australian university library. It is concluded that such a global real-time consortium approach may reduce cost and enhance the service’s value for all participant libraries. On the other hand it may result in unequally distributed workload because societal, educational and cultural conditions lead users of the Australian university library to use the service significantly more than UK university library users. This results in UK library staff answering more overseas questions than their Australian colleagues.

Evenly, Bains (2002) reports the experiences gained by a group of seven members of the Consortium of University Research Libraries in the UK, when they participated in the beta testing of the OCLC Questionpoint electronic reference service. According to the CURL libraries’ observations, support and communication were good, the product could be very useful if each institution could use it on a reasonably large scale, and fears of being swamped with enquiries worldwide were unjustified. Certainly there were reported some shortcomings as well, such as the fact that chat was problematic, unstable and difficult to use. But generally there was a feeling that the whole notion of collaborative reference service was called in question by the beta-testers as by the end of the beta, only one library continued to use Questionpoint as a live service, while the rest of them decided to take it offline.

If all the above works are put together they probably result in an uncompleted puzzle entitled the current situation of digital reference services in the UK academic libraries domain. Missing parts that could yield a more satisfactory image of this puzzle would be to examine to what extent is the total or a significant proportion of the UK academic libraries currently using digital reference services, what types of digital reference they are using, when did they commence their efforts and why they appear, according to the limited literature, to have fallen relatively behind in comparison to the USA libraries and even to the UK public libraries.
Public libraries throughout the UK are working together and are providing “Ask a librarian”, a web form based digital enquiry service which is online 24 hours a day, 356 days a year. This is an award winning collaborative digital reference service delivered by more than 70 Library Partners within the UK on a voluntary basis, and whilst it is a national resource, it is hosted and maintained by Co-East, a consortia of libraries operating in the East of England region (Ask a Librarian, 2005).

In trying to explore the reasons why UK academic libraries have taken relatively few initiatives regarding this area in comparison to UK public libraries, we refer to Janes (2002: 558-559 b). He reports that, surprisingly enough, USA public librarians use and are much more in favour of digital and networked technologies and resources in reference work, than their academic colleagues. The reason why, is that, according to the pertinent survey’s findings,

“…academic librarians, in general, have more technological experience, are more likely to think they are getting fewer and more difficult questions, and more likely to use fee-based Internet resources as their first choice, so they would appear to be making these statements from a knowledgeable perspective. Public librarians, however, report answering substantially more questions in the previous week using digital reference, in an average of 26.4 with a median of 3, compared to an average 7.7 and median of 2 for the academic librarians. Perhaps experience underlies these attitudes as well.”

One could assume that the limited adoption of digital services by UK academic libraries is due to the same reasons that make USA academic librarians appear less keen on using them in comparison to their public colleagues. Still, USA academic libraries are far ahead. Therefore, what may be the other reasons that undermine UK academic libraries’ orientation towards these new trends?
2.1.2 The current situation concerning traditional reference services in UK academic libraries

LISU Academic Library Statistics (2004:141) report about the estimated annual enquiries in UK universities that:

“Enquiries per FTE student have fallen for the third year running. The reason for this can only be a matter for speculation. Suggestions include changes in the layout of library buildings leading to increased user independence to locate resources for themselves; increasing availability of and familiarity with electronic resources leading enquirers to look elsewhere before asking the library; and the position and staffing of enquiry desks within the library or at joint enquiry points with other services.”

Additionally, Duckett (2000) identifies some of the main factors that have caused enquiry services in UK to loose adequate attention and financial support in the recent years. These are: the fact that electronic resources are taking up an increasing proportion of library budgets; the wide notion that everything is on-line; and the difficulty in estimating and displaying the real number of reference enquiries and the real value of reference work.

However difficult the current situation may be for reference work, the challenge to overcome it by acting both reactively and proactively remains, and it is indeed vital because as Parus (1996:4) states:

“If we do not care for their [our users’] information need, they may turn somewhere else to satisfy it.”

Janes, Hill & Rofle (2001) for instance, measured performance, response rate, response time and verifiable answers, by sending two hundred forty questions to 20 non-library commercial and non-commercial information services on the World Wide Web. These services, which are better known as “Ask-an-expert”, seem to be filling a vacuum in the information arena, when people are looking for answers to their questions on the Internet but
are unsuccessful to find them. Then, they turn to real people, who are experts and give answers. And according to the findings, these services would be revisited by users despite their many shortcomings; a fact which indicates that “nonlibrary expert services provide a useful information service that cannot be overlooked”.

But how do UK academic librarians feel about the current climate in face-to-face reference. Do they observe a change, and if so why?

2.2 The Comparison between Traditional Reference and Digital Reference

In order to compare traditional with digital reference there is a need to identify their basic characteristics and their several stages. Richardson (2002) compiled a chronological review of nearly 90 major works that have been conducted on the reference transaction process. This review, which helps in understanding the theoretical orientation of reference researchers, includes contributions dating from the latter part of the 19th century and ending with Saxton’s and Richardson’s (2002) work “Understanding Reference Transactions: Transforming an Art into Science”.

This lastly referred work provides “a system analysis perspective as well as next steps for improving reference service”. In the introduction of this work there appears a concise description of the Reference Interview which was thought ideal for the purposes of this study, as it unfolds clearly, the stages of it. Thus, using this description as the backbone of the identification of the basic characteristics and the several stages of the Reference Interview, and drawing from other relevant literature as well, it has been planned a framework for the comparison between traditional and digital reference (see appendix).

Although the reference work and the Reference Interview could be seen as a cyclic and iterative process, for the purposes of this study they are approached linearly, in order to facilitate the investigation and the
discussion of their several elements. However, there occur certain overlaps in this linear perspective that is followed, exactly because of the cyclic nature of reference work. Especially at the point where communication issues are discussed many of these are re-discussed in all four stages of the reference interview, because communication is inherent in all of them. Nevertheless, they are approached through a different prism at a time, focusing on the current issues under investigation.

Below follows a comparative discussion, of the differences and similarities of the two types of reference and a consideration of the possible implications of these differences and similarities for the reference work.

2.2.1 Differences in Place and Time

The basic difference between face-to-face and digital reference in terms of place, is while in the first case interaction between user and librarian takes place at the “enquiry desk”, which is a physical designated area within the library building, in the second case the same interaction takes place through a “virtual enquiry desk”, which is a designated area on the World Wide Web and usually on the library’s Web page.

In terms of time, while in face-to-face reference interaction between user and librarian takes place within the working hours of the specific library, in digital reference input of the question by the user can be 24/7, but for the most part answering is done by the librarian during the working hours of the library.

Ross et. al. (2002:185-208) refer to some of the implications of these differences:

Digital reference allows flexibility of access because it removes time and place boundaries. Therefore, users who live at a distance from the library, users whose every-day life situations prevent them from visiting the library, housebound and disabled users, as well as the increasingly large number of
distance learners are all able to ask a question whenever and from wherever convenient. Moreover, they refer to cases where university students may be sending their enquiries to the library, electronically from within the campus.

For the librarian, offering digital reference service may allow more time for reflection on the question than with the traditional reference. Additionally, questions can be answered at quiet times and without the pressure imposed by long queues at the enquiry desk. Finally, workload can be distributed among the staff directed to appropriate individuals or subject specialists, which may also affect positively the quality of the answer.

However, the use of computer mediated interactive communication means, such as emails and web forms, may lead some users to have unrealistic expectations about an immediate answer. Although the situation is not any better with face-to-face transactions, at least in the second case, the users are provided with more immediate answers and moreover they have the advantage of accessing the recommended resources instantaneously in the library building, and especially in case they are available only in print form.

Face-to-face reference is typically considered less time consuming as well. Typing an answer may take longer than finding the answer in the first place. Sometimes the response requires retyping information from print resources, and even if cutting and pasting from electronic resources can be done, it often requires some editing.

Finally, although one could argue that in using digital reference the library expands its horizons and serves larger and more diverse groups of users, this may well lead to a decrease in library visits by the users.

Among the present study’s objectives is to explore how UK academic information professionals, who have an experience in both types of reference, and how library users, in the information professionals’
experience, perceive these differences in their daily practice. This will allow for a more tangible perception of the function of reference work.

2.2.2 Differences and Similarities in Types of Communication

Reference work is more a type of interaction between peers rather than a series of tasks or activities. Low (1996), states that reference librarians are in contact with users for many more hours than other library staff, therefore it is crucial for them to have adequate communication skills. He (1996:13) also stresses that:

“…as we enter a period when primary clientele become remote users and contact with them is through interactive technology or by means of telephone or e-mail”, “the complexities [of the interaction between librarian and user] are even more pronounced”;

meaning that librarians will have to develop as well different kinds of skills.

Therefore, the skills needed by the librarian as Low (1996:13,26) suggests are the following: Sensitivity and awareness of the complexity in language issues and in cultural and individual differences which may obstruct communication, as well as “a sincere desire to assist individual users”.

Certainly, these skills could be considered necessary for librarians involved in both types of reference work. Below we are going to look into the differences between these two types of reference in terms of communication, with a focus on the skills needed by the librarian, and on the different types of users.

Traditional reference is a synchronous, face-to-face, live, type of communication, which is conducted in speaking between the librarian and the user.

Thomsen (1999:50), underlines the significance of the listening skills for the reference librarian, and Jennerich & Jennerich (1997:12) argue that “by far
The most powerful nonverbal communication is eye contact”, and “whatever the situation, the librarian should do his or her best to make and maintain eye contact with the patron through the interview”.

The later (1997:12-17) also outline a series of nonverbal and verbal skills needed by the reference librarian such as: the effective use of gestures, of posture, of the facial expression and of the tone of voice. Also the ability of remembering, avoiding premature diagnosis, reflecting feelings verbally and using “encouragers” which are surprisingly effective in their simplicity.

However, digital reference, as it has been defined for the purposes of this study, is an asynchronous, remote, type of communication, which is conducted in writing between the librarian and the user. Moreover, this “written dialogue” is conducted through electronic means which requires adequate communication and technical skills by the librarian.

Grosvenor (1998), investigates the nature of the unique language composition of email and she examines how this may result into miscommunication between individuals. She has found out that email exhibits features taking from both writing and speaking.

For example, use of abbreviations, acronyms, and elimination of first personal pronouns make it less formal and facilitate the speed of communication resulting in users’ perceiving it as a more immediate interaction. On the other hand, it allows re-reading, self-monitoring and time for editing as it is more permanent than a spoken conversation. Therefore she calls it “conversational writing”.

Nevertheless, lack of “voice inflection, facial expression, gestures and response to the others visual reaction makes it easier to misinterpret what the other meant and there is not the immediate ability to check it out”. Often, “miscommunication in email occurs not in the writing of it, but in the reading of it”.

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Therefore, she suggests some solutions for avoiding or resolving miscommunication events: in writing the email, use of punctuation in a conscious manner, use of descriptive vocabulary or visual representations to express emotion, re-reading the email before sending it; in reading the email after receiving it, careful but not meticulous reading and reading the conversation aloud.

Evenly, Janes (2003:97 a) proposes an “Asynchronous Guideline Checklist” highlighting that librarians should avoid library/internet jargon (such as ILL, OPAC, LCSH), and most importantly that they should provide authority and date of the sources they recommend.

Librarians involved in digital reference transactions should become aware of both the benefits and limitations of such types of communication, and should develop the adequate skills in order to respond efficiently to the new demands of their role.

In addition to effective communication skills, librarians will have to acquire adequate technical skills relating to these emerging information and communication technologies. Chowdhury and Margariti (2004:51) refer to McClennen and Memmot (2003) who

“recommend that advanced digital reference services might employ different information professional for each of four roles which are: [...] The role of the ‘filterer’ can be particularly useful since he/she can take repeated and trivial questions out of the way, and hence let the ‘answerers’ concentrate on questions that require intellectual effort to answer. The ‘administrator’ ensures the smooth running of the service, can add answers to FAQs, create user accounts and perform other technical tasks. Finally, the ‘coordinator’ is dedicated to defining and implementing policies and procedures with a view to taking initiatives for the improvement of the service”.

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Library use could be also affected positively or negatively by either type of reference. For instance, users who rarely approach the enquiry desk out of fear that they might look unknowledgeable, or as Lankes et. al. (2000:52-53) put it “those who enjoy working on their own and those who desire greater equality in the way that users and reference librarians interact”, might find digital service more convenient. On the contrary, users who feel more comfortable with “a hierarchical relationship where the librarian is gate keeper” may be put off by the use of digital reference services.

As a result, librarians not only should enhance their communicative and technical skills but they should also be aware of all different types of users, and “the new types of users who have taken center stage”.

2.2.3 The Stages of the Reference Interview

Stage 1: The initiation of the dialogue

In traditional reference the dialogue is initiated by the user’s enquiry orally and in face to face, while in digital reference the “dialogue” is initiated by the user’s enquiry in writing and remotely. The question that arises is whether the type of reference transaction determines the types of the questions asked.

Some librarians support that digital reference is best mainly for quick/read-reference questions, as the several communication limitations discussed in section 2.2.2, do not allow for a proper reference interview which is considered by many absolutely necessary for more difficult such as research questions.

For example Janes, Hill & Rofle (2001) refer to a study by Janes and Hill (2001), where conversations with librarians about digital reference indicated that they favour more factual questions in the digital environment. The reasons why were because factual questions require less interaction between participants, less time and consideration and they are easier to
answer, and because the absence of traditional reference interview in a
digital environment, which librarians consider necessary about research and
more complex questions, might result in an unsuccessful transaction.

Moreover, Janes, Hill & Rofle (2001:118), in this research about commercial
and non-commercial “ask an expert” online information services, report that
these performed well mainly on factual questions. The writers explain that
information professionals of these services do not believe that reference
interview is necessary when answering factual questions. This is probably
the reason why “very few initially requested the kinds of information
consistent with traditional reference interview and almost never responded
to requests for additional information after receiving the question”.

It is also true that libraries nowadays have created a set of frequently asked
questions, or frequently asked reference questions and answers on their
web pages, in order to help users find these answers without having to
contact the librarian. These are mainly concerned with opening hours,
users’ cards and other similar matters. Janes (2003:144-145a) argues that
“[e]xperience has shown, by the way, that it won’t prevent people from
asking those questions anyway, but at least somebody might find them
useful”.

However, Ford (2002) in trying to investigate, among others, whether the
type of reference (traditional and digital) affects the types of questions
asked by users, found out that “the likelihood that a ‘research’ question, a
‘factual’ question, a request for evaluation or opinion, or a request for
instruction would be posed in a given interaction did not vary significantly
across media”.

Therefore, it would be interesting to investigate what types of questions,
information professionals in the UK academic libraries believe that are
better handled in the digital environment and what types at the traditional
inquiry desk, and what types of questions do users of these libraries
actually ask when online and when on face-to-face contact with the librarian.

**Stage 2: The interaction between user and librarian**

While in traditional reference librarian may interact directly with the user in order to clarify the reference query further, in digital reference the user is expected to have clarified the query on his/her own by reading, understanding and following the guidelines given on the library’s web page.

This is for many the most important and even the most difficult stage of the reference interview: negotiating the question. It is vital that the librarian uses all possible means, not only to “extract” the query from the user, but also to help her/him understand what it is exactly that they need and form it explicitly.

Kluegel et. al. (2003:39) states: “I am willing to make a bold claim: a reference interview (the asking of one or more questions intended to discover the user’s information needs) must be conducted in every transaction…I argue that some additional seconds spent in finding out the user’s real information need saves time in the long run”.

She continues explaining that in doing so, less time is spent a) by the reference librarian in searching answers for the wrong question, b) by the e-reference librarian in having conducted the search for the wrong question and additionally in typing answers that guide remote enquirers to wrong sources.

One could argue that given the limitations of asynchronous written communication discussed earlier, it would be even more difficult for the user and the librarian to collaborate into clarifying the query.
According to Ford’s (2003) findings both users and librarians asked significantly more questions in face-to-face interactions, while interactivity in email interactions was quite low.

Ross et. al. (2002:202), suggest possible ways in overcoming these barriers. What is noteworthy about these suggestions is that the authors present them in a comparative way between the in-person and the e-mail reference interview. In brief they categorize the reference interview in several parts, many of which are relevant to the current discussion:

Their suggestions for avoiding premature diagnosis of the question are when in live contact, not only to avoid prejudging the user’s need based on their appearance or way of speaking, but also to try and identify the gaps, and the kind of help needed, by prompting the user to give more information. When in contact via email, they recommend that sense-making questions should appear in the form and if further clarification is necessary, then, there should be asked open or sense-making questions in an email response. Moreover, the enquirers should not be prejudged according to their writing skills.

They also suggest the use of inclusion, paraphrasing the understanding of the information needed and following up. These techniques do not differ significantly between in the in person and the email contact. In fact they should be given the same attention in both types of reference transaction.

It would be quite useful to know what experienced librarians report with regard to interactivity in both types of reference. This would illuminate the present situation and would help in taking more informed future decisions on delivering quality personal information services to library users.
Stage 3: Ways of answering a query

During this stage the librarian responds to the question using various ways. Saxton and Richardson (2002:1-2) have identified some of those:

- librarian directs the user to specific information resources that contain the desired information
- librarian develops a strategy by which the user will be able to discover sources of information independently
- librarian refers the user to other information professional who will presumably provide a better response to the query.

It would be interesting firstly, to find out whether there are any differences in the kinds of resources that the librarians use when answering in person from when answering in writing. Secondly, which of the above types of answering are their most preferred when in an in person contact and when in an email contact.

Admittedly, there has been found scarcely any published information on what reference librarians actually choose to do when answering queries. Gardner (2002) in investigating the opinions of UK public library staff towards using e-resources reports that they lack confidence in using the Internet and that they prefer to use e-resources in conjunction with print. One probably expects that their academic colleagues will feel more comfortable with using e-resources, due to the fact that universities are nowadays more heavily relied on them. Nevertheless, this is another issue of investigation.

As far as the second issue is concerned, Chowdhury and Margariti (2004:56) describe how staff involved in digital and traditional reference services of three academic libraries in Scotland responds to the queries. In two of them “most enquires are answered on the spot”, while more specific queries are passed to subject librarians through email. In the third library there is “a broad spectrum of staff (library assistants, subject librarians and
administrators) [who] participate in answering reference enquires”. There also exists an IT enquiry desk which uses a type of management software to handle queries but not yet widely exploited. However interesting this piece of information does not illuminate the issue broadly.

Stage 4: Feedback from the user

The last stage of the reference interview, as it has been categorized for the purposes of this study, concerns the feedback that reference staff receives from library users.

There is a range of case studies concerning USA academic libraries, which among other things, have measured and report user satisfaction in terms of digital reference. For example Stoffel and Tucker (2004) refer to a number of such studies which concern more, user satisfaction with chat reference rather than with email reference, although the latter is older and one would expect to find more studies relevant to it, as the writers comment. Overall user satisfaction with digital reference is quite high, and specifically in Stoffel’s and Tucker’s study, users expressed a slightly higher satisfaction with email than with chat reference.

Two of the most prominent works that were identified with regard to measuring user satisfaction in relation to reference services, are those of Saxton and Richardson (2002), and McClure et. al. (2000). The first presents a multivariate analysis of a number of variables in order to determine, among them, the best predictors of reference performance. The dependant variables, signifying performance are “utility” (with two measures completeness and usefulness), accuracy, and satisfaction with outcome. There have also been identified sixteen independent variables which relate to the nature of the question and the experience of the user, the librarian, the collection, and service policy. In the final chapter of this work there appears a set of data flow diagrams displaying how librarians can benefit from this research.
The second work by McClure et. al. (2000) is a handbook that can be regarded as a first attempt to identify a set of measures, statistics and standards that libraries can use to assess the effectiveness of their digital reference services. Most of these measures can be collected automatically, and there appears an Appendix providing sample forms and other survey instruments which could be used by libraries wishing to assess performance of their digital reference services.

Although collection of data about user satisfaction with regard to both types of reference service, would probably yield more accurate results, time, scope and research limitations of the present small scale study, would not made this feasible. Therefore, it was decided to focus on investigating how librarians, perceive the processes of receiving feedback from users within the different contexts of the two types of reference transaction, and how rewarding each type of reference is for librarians.

Receiving feedback is essential, because in doing so, a librarian can intuitively and continually, in her/his daily practice, estimate the rate of a user’s satisfaction. This estimation can broaden a librarian’s perception about the value, the advantages and disadvantages of the service. Moreover it can enhance job satisfaction and motivation, and help in the planning for and the maintaining of high quality in reference work, which should be “based on providing the maximum benefit possible to each individual, rather than mediocre service to many”, as Saxton and Richardson (2002:101) argue.

In the case of face-to-face reference, feedback from user is usually more obvious and immediate. For instance Duckett (2000:455) states that “Fortunately most face-to-face surveys tell us how good we are!”. But how far is that true on the one hand, and how certain do librarians feel that a user’s query has been sufficiently answered in an email reference transaction, on the other hand? This is an issue of investigation of the present study.
2.3 Does digital reference herald the demise of traditional reference?

An increasing number of libraries worldwide are considering the fact that the availability of different types of services through the World Wide Web is a common trend in our age. People have become increasingly comfortable utilizing and, indeed, relying on digital services as part of their way of life. For example, many people are now shopping, banking and paying their bills online. They also communicate with others in their personal and business lives by using email or real time services such as online chat, instant message, or video conferencing.

Therefore, it is assumed that people are also beginning to expect their libraries to provide some type of digital service. Thus, many libraries having taken into account this expectation, as well as the rise of electronic resources, both free and licensed, and the availability of Internet-based technologies as potential ways of interacting with people who have information needs and questions, have already implemented a type of “Digital Reference Service”. (McClure et al., 2000:1). Does this mean that traditional reference will soon be outdated?

As early as 1995, Ewing and Hauptman (1995), argumentatively claimed that traditional academic reference is “obsolete”. They pointed out the factors leading to the demise of traditional reference services, the most prominent of which were considered: the types of questions asked (most of them directional, simplistic and therefore easily handled without the need of specific expertise); and the every day reality with regard to reference work, especially after the advent of technology which has facilitated computer-user interaction to a great extent, leading skillful reference librarians to deal mostly with routine and manual tasks, such as adding paper and rebooting a station.

Lewis (1995) took the claim further declaring that traditional academic reference is already “dead”, and therefore he proposed a “new paradigm” accommodating “five facts of life”: to follow the example of electronic
resources agents who are pioneers in delivering e-information; to restrict
provision of information only to the primary clientele of libraries, in order to
enhance high quality of service; to incorporate instruction in the use of
information to a university’s curriculum; to be aware that new tools come
from outside the library, which means upgrading librarians’ skills and
recruitment of experts others than librarians; to make restructuring of
university teaching in cooperation with faculty a primary concern of a
library’s strategic plan, and to expect that this will cause disagreements with
old allies.

Notwithstanding these pessimistic points of view about reference work,
libraries worldwide are increasingly adopting digital reference on the one
hand, and are trying to improve traditional reference on the other hand. For
instance, some USA academic libraries have started experimenting with
diversifying traditional reference. In an attempt to reach on-campus
students who rarely visit the library in order to make their enquiries, they
experimented with providing roving reference services in designated areas
within their campuses. While still in its very early steps, roving reference
could be proved in the future as one of the best ways to foster face to face
reference work (Kuchi et al., 2004; Smith and Pietraszewski, 2004).
Moreover, the fact only, that libraries slowly started exploring the various
ways that traditional reference, in an e-epoch, could still enhance the library
use, underlines its significance.

Another well aimed and tangible suggestion about improving delivery of
traditional reference services in an Australian university library is the one
described by Garner (1999). Reference staff at that university
acknowledged that the library’s reference desk model was no longer an
efficient method of meeting users’ needs. Therefore library staff worked
together and developed, tried and revised a model which resulted in a three
tiered level reference service: a) self service, enabling users to operate
certain activities individually, such as loans and reservations; informing
users about the library use through a variety of print and electronic guides;
and electronic delivery of information literacy programmes, b) inquiry
services, including an “Ask a reference librarian” service and resulting in the quick and efficient handling of all types of enquiries apart from advanced research and subject ones, c) reference services, allowing reference staff to focus on users “in need of advanced reference assistance, web authoring and delivering classes”.

But what will be the shape of reference work in the near future? Duckett (2000:460) argues:

“How, precisely, we will organise our knowledge services is hard to imagine, but as ever, we will be needed to help the puzzled, the ignorant and the poor. Bookshops have been around for centuries, but we still have libraries. And as it has often been said, if anything needs the skills of a librarian, it is the Internet.”

Therefore, this study will also attempt to speculate about the near future of reference services in UK academic libraries, by exploring and presenting the opinions of relevant to both types of reference work UK academic librarians.
Chapter 3 - Methodology Issues

3.1 The methodological approach to the present small scale research

This small scale research aimed at exploring the differences and similarities in face-to-face/in person and digital reference services and at discovering the possible implications of these differences/similarities for libraries (e.g. changes in familiar models of service, skills and time required by library staff, etc.) and for library users (e.g. effects on the quality of service, convenience in time and place, etc.), mainly based on the opinions of experienced in both types of reference service library staff.

When examining perceptions and opinions of people in a given subject area researchers frequently suggest that a qualitative methodological approach would be more suitable because it allows a relatively holistic and in-depth understanding of these perceptions and opinions (Patton, 2002).

Nevertheless, Tashakkori and Teddie (1998:24-25) argue that “Decisions regarding the use of either qualitative or quantitative methods (or both) depend upon the research question as it is currently posed and the phase of the research cycle that is ongoing”. They explain that this view is very close to the pragmatists’ theory for doing research, who support that what is more important in a research is the research question and “what works” best for the research question to be investigated and answered. The starting point of the investigation of a question may be at any stage of this ongoing research cycle, and researchers may decide to use different research methodologies during this cycle.

The writers give a characteristic example of one of the multiple scenarios that may occur when researchers decide to follow the above methodological concept: “Some researchers start from theories or abstract generalizations (inductive logic, usually attributed to interpretivists or naturalists), while others start from observations (deductive logic, usually attributed to
positivists). *In many research reports there is an initial attempt to inductively build a conceptual (theoretical) framework on the basis of previous findings (i.e., in the introduction section of a journal article). The obtained theoretical framework is then used as a basis for planning the course of the research [...] at some points during the research process, it is likely that both types of inferences and methods will be used simultaneously*. Finally, they conclude that “When this occurs, then we have the ‘mixed model studies with multiple applications within phase of study’”.

The framework of the whole process of the present small scale research tried to follow this mixed model studies methodological approach, presented by Tashakkori and Teddie (1998), because it was thought to be a flexible way enabling one to exploit the merits of the two broad types of methodology (qualitative and quantitative). However, other works related to research methodology issues were also consulted which helped in obtaining richer information for each of the stages of the research process.

Each stage (and the several steps of each stage) of the research process are presented below in a linear order so as to facilitate the reader, but the discussion of those reveals their sometimes iterative or cyclic nature, which makes overlaps inevitable.

**3.2 The research process**

**Web sites searches and sampling procedures**

For the purposes of this study there were conducted two searches on the web page entitled “Member institutions and representatives”, which is maintained by the Society of College, National and University Libraries (SCONUL, 2005). This served as a credible source which helped to identify the libraries which offer both digital and face-to-face/in person reference services to their users. 63 out of 168 institutions listed on this web page, were excluded from the present study because they are college, school, institution and national libraries.
The first search was conducted on the web sites of 28 out of the remaining 105 UK university libraries, which were chosen with the helpful guidance of this study’s supervisor, because of their geographical proximity to Sheffield. This search on the 28 web sites of UK university libraries resulted in identifying 10 libraries which offered both face-to-face/in person and digital reference services to their users. Although the majority of the 28 libraries offer one or more emails as enquiry points for general or specific questions, it was decided to choose only the libraries which also offered a web form as a designated enquiry area on their web sites. The reason why is because a web enquiry form demonstrates a more official and experienced approach to a digital reference service on behalf of the libraries.

Literature search revealed another 5 UK university libraries which, although geographically distant from Sheffield, were also included in this study because they appeared to be pioneers in the field of digital reference services in UK.

Thus, at the library level, the selected sample was firstly selected with (geographical) convenience in mind, 28 out of 105 libraries. Then, the 10 out of 28 libraries were selected based on the specific purposes of the research (purposive sampling). Furthermore, the 5 libraries that were considered as exhibiting a high intensity of the requisite attribute of the study (pioneers in digital reference in UK academic domain), could be also considered a purposive sampling that was added to the previous (of 10 libraries) purposive sampling. Consequently, this study’s sampling, at the library level, can be considered a purposive sampling.

All 15 libraries web sites were thoroughly searched in order to identify potential participants’ emails. Reference librarians and front line library staff were identified by the relevant information provided on the libraries’ web pages. These potential participants were then approached by email. There were initially sent 167 emails, aiming at identifying the most relevant to the study’s purposes library staff. The cover email informed the potential
participants about the survey’s purposes and asked them either to complete
the questionnaire themselves or to forward the questionnaire to staff that
was presumed more appropriate.

During the sample selection process it became clear, especially by
information professionals’ email replies who were offered to forward the
questionnaire to the most appropriate library staff, that libraries occupied an
average of 1-3 key information professionals for their digital reference
services. Therefore it was decided that if at least one of each of the 15
library’s appropriate employees replied, this would be a sufficient and valid
number of participants. Eventually, 6 completed questionnaires from
different libraries were sent back to the student.

In an attempt to involve the 9 remaining libraries there were sent another 9
emails to 9 information professionals, each working in a different library.
These were identified with the helpful guidance of this study’s supervisor.
They too were asked either to complete the questionnaire themselves or to
forward it to staff that was presumed more appropriate. 3 more completed
questionnaires were received by the student.

The above description of the sample selection procedure, at the information
professionals’ level, demonstrates a persistent effort to identify and
approach library staff based on “specific questions/purposes of the research
in lieu of random sampling and on the basis of information available about
these individuals/groups” which is what Tashakkori and Teddie (1998:76)
name “purposive sampling”.

The writers argue that if one is not able to randomly select a relatively large
number of units to study and observe, which is one of the most widely
accepted methods that yield credible results, then the above sampling
strategy, which is used by both qualitative and quantitative researchers, can
also result in trustworthy results.
Overall, the 9 libraries, from where the most appropriate participants come, consist the 60% of the purposefully identified libraries, and the 21,4% of the total number (42) of the UK university libraries that offer web form based digital reference services.

This second proportions (21,4%) comes from a secondary search which was conducted on the web sites of the 105 UK university libraries listed on SCONUL’s web page. This search resulted in identifying 42 libraries which offered a web form based digital reference service to their users. This means that approximately 41,2% of the total number of the UK university (excluding college, school, institution and national) libraries actually offer this type of digital reference service.

It has to be noted that this secondary search was not conducted for sampling reasons, but in order to be used as an alternative type of literature that would throw light to some of the study’s questions. The results of this search are discussed in the appropriate section of the data presentation and discussion, and have been analyzed and interpreted as a source of information.

**Literature search**

Literature search about the topic was conducted using the following tools. They are presented in turn, from the most to the least useful, with regard to the amount and relevance of the items that were recalled.

The Internet search engines “Google Scholar” and “Scirus for scientific information only”. These tools were very useful because they allowed great flexibility in combining the different search terms. They recalled large numbers of documents which enlarged the student’s perception about the subject. Furthermore, the different items (articles’ abstracts, most of which could not be accessed directly from the search engines, reports, websites) often appeared in rank of relevance which eliminated significantly the time spent on finding the most useful literature.
LISA (Library and Information Abstracts) was quite useful as well, recalling significant for this study items. Browsing the electronic journals’ indexes on the University of Sheffield’s library web site was useful mainly in the case where the student needed to electronically locate, and access, the already recalled items from the above search tools.

The University of Sheffield’s library catalogue recalled broadly relevant to the topic items (books and handbooks) which were of great utility for this study.

Library literature & information science full text bibliographic database was theoretically the most useful search tool because it ideally exhibits a combination of the most significant features of the above tools: ability to conduct advanced search, direct access to the full text of the recalled sources most of the times, ideally subject oriented to library and information science. However, being American biased was not of great help for this study that tried to focus on UK related literature and especially because this database was made known to the student towards the end of her study, when there had been already found a large number of American related literature.

Overall, literature search yielded not many items concerning UK academic libraries and digital reference services, while there appeared a plethora of them regarding USA. Moreover, there were hardly any publications on the comparison between traditional and digital reference services. Instead, the relevant information was gathered from within different chapters of books and parts of articles, most of which were discussing reference services in the broad sense, or were focused on specific aspects of the subject (e.g. user satisfaction with regard to digital reference services, etc.).
Content analysis of the related literature

Bryman (2004:181) reports that: “Content analysis is an approach to the analysis of documents and texts (which may be printed or visual) that seeks to quantify content in terms of predetermined categories and in a systematic and replicable manner […] In a sense, it is not a research method in that it is an approach to the analysis of documents and texts rather than a means of generating data. However, it is usually treated as a research method because of its distinctive approach to analysis”.

While Bryman (2004) views content analysis of texts and documents through a quantitative perspective, Gorman and Clayton (1997:207) discuss content analysis of interview transcripts, observations and filed notes via a qualitative perspective, where the emphasis “is less on frequency of occurrences than on the identification of themes”.

Using these two methods simultaneously in analyzing the content of the relevant literature that emerged while conducting searches throughout the research process helped: firstly, identifying the main thematic categories of the subject under investigation (qualitative approach); secondly testing the importance of these categories by investigating their frequency of occurrence in the different sources (quantitative approach), thirdly building a thematic framework which served in the broad understanding of the subject, and is reflected in the writing of the literature review and the in the design of the research tools; and lastly, exploring more subtly the individual parts of the thematic framework by looking for words that reveal certain tendencies, differences in culture etc. These have been used to support the student’s confidence in a valid interpretation of the primary data gathered by the survey and the interviews.
Research tools- design and effectiveness

1. Questionnaire

Drever (1995) suggests that questionnaires can provide a broad picture about the subject under investigation, and by coding and counting the answers to each question separately the researcher is enabled to draw conclusions from percentages and correlations. Confidence in the value and importance of the findings is largely based on statistical significance. Thus, questionnaires are generally considered quantitative research tools.

On the other hand, the author suggests that interviews “can provide depth of explanation within a particular context”, and by having participants to explain their answers at length the researcher is enabled “to identify common features or distinctive views across the range of interview”. Confidence in the value and importance of findings is mainly based on “how that was expressed from the interviewees themselves”. Thus, interviews are generally considered qualitative research tools.

For this study the several themes that emerged, while studying and analyzing the relevant literature were categorized in five general objectives.

Objective one required both collection of quantitative and qualitative data, as it aimed at investigating the extent to which have been developed and used digital reference services in UK academic libraries, and what factors affect their use, and the extent to which traditional reference services are used and what factors affect their use.

Objectives two to five were mainly concerned with the opinions, perceptions and attitudes of the reference staff of UK academic libraries towards both types of reference, which normally required qualitative data. In some cases though, when investigating issues in detail there is a need to ask questions that allow the collection of quantitative data as well (e.g. which of the following types of questions are most likely to be asked when a face-to-face transaction takes place? a) FAQ’S, b) instructional, c) research, etc.).
The research question as presented above demanded using both or a combination of the two research tools (questionnaire and interview). Following the pragmatists concept who argue that what is more important in a research is the research question and “what works” best for the research question (Tashakkori and Teddie, 1998), it was decided to design a questionnaire using both a qualitative and a quantitative approach and specifically a questionnaire in the form of a semi-structured interview. Although questionnaires and interviews are two different tools, a semi-structured interview in the form of a questionnaire, if carefully and according to the demands of the issue under investigation designed, exhibits many of the features of these two tools and allows for a combination of both methodologies (qualitative and quantitative) in all the following stages of the research process: data gathering, analysis and interpretation, and presentation and discussion.

More specifically, Drever (1995:15,13) states that the “semi-structured interview is capable of various adaptations” and summarizes its features as follows:

- it is a formal encounter on an agreed subject, and ‘on the record’

In the present study participants were emailed the questionnaire, were informed about the study’s subject in the cover email, and they were provided with additional brief information on all main aspects of the study’s subject and process (via a document entitled participant’s information sheet which was attached to the email message sent with the questionnaire). Moreover, they were asked to confirm that they had read the document and they agreed to participate in the research, and they were assured that all data collected for this project will be regarded as confidential. Moreover they were informed that data will be stored securely on the researcher’s computer and kept only for the duration of the study, and all information appearing in the report will be anonymised so that participating individuals and their libraries cannot be identified.
main questions set by the interviewer create the overall structure
In the present study participants were presented with 19 questions that tried to reflect an easily understood structure mapping of the topics to be covered. This structure was consistent with the study’s objectives in the order they are presented in section 1.1.3

prompts and probes fill in the structure: prompts by encouraging broad coverage, probes by exploring answers in depth
there can be a mixture of close and open questions
the interviewee has a fair degree of freedom: what to talk about, how much to say, how to express it

In the present study many questions were broad and in order to facilitate the participant in answering them, questions were followed by ready unbiased answers drawn from the relevant literature, to choose from. The intention of the provision of those answers was to facilitate participants to reflect more broadly on the subject (prompting) and choose in their opinion all, several or none of the given answers (closed questions). The same questions often appeared as open ones too, probing participants with the use of emphatic language to give their own answers. For example instead of just asking for “other reasons” which often appears in questionnaires, there was used persistently, the following phrase: “Please feel free to add any other reasons according to your point of view”.

This proved extremely efficient as a number of questions were also answered with short or lengthier texts by the participants, whose conversational writing revealed a need to explain how they feel (e.g. “I don’t see it as an area where one is preferable to the other”, “I do not think we should generalize”: parts of two respondents’ answers which showed disagreement or disapproval when prompted to choose one answer or another, and decided to choose both, or none and to explain further their choices; “This is hard to answer”: introductory phrase of a respondent’s answer who decided to choose none of the given answers and gave her/his own point of view; “However I do enjoy…”, “yes I like the sense of…”, “I am quite happy to…”, “I think I prefer to have manned enquiry points!”,”it’s
more human!": parts of five respondents’ answers who emphatically expressed feelings).

• but the interviewer can assert control when necessary

In the present study participants were given adequate space in the questionnaire to express their opinions, but in clearly framed areas so as to try and be concise. Moreover, participants in many questions were asked to choose for example which service they prefer more, or what most users do, implying that although they were free to choose all options, it would be best for the study’s purpose to first ponder and then decide on a firmer basis. This was very effective as it extracted more thoughtful answers and urged many participants’ need to explain why although they chose one given answer they also agree with the other option.

However, there were also asked close questions either in order to obtain a set of quantitative data, such as questions 1, 2, 3 and 5, or in order to identify tendencies and frequency of practices, such as questions 11, 15 and 16. However, in question 11 there also appeared answers outside the given frames.

Overall, the questionnaire was designed with quantitative and qualitative perspectives, corresponding accordingly to the specific requirements of each objective, and having the form of the semi-structured interview. Thus, there was conducted an email survey using an extensive questionnaire which exhibited many of the features of the semi-structured interview and therefore allowed for the gathering of both quantitative and rich qualitative data.

2. Interviews

In the end of the question there was incorporated an interviewee recruitment form, probing participants that would reply to the questionnaire to agree on a face-to-face or real time chat follow up interview. A follow up interview, the questions of which would be designed separately for every
participant, according to the answers they would give in the questionnaire, was considered useful because of two main reasons:

The first reason was that a follow up interview would ensure richer data by probing interviewees, who would not give sufficient answers, to discuss further their views and opinions.

The second reason was that web sites search and literature review had indicated that UK academic libraries have fallen relatively behind in the development of digital reference services. Thus, part two of objective one needed to certify how far that was true in the participants’ opinion (quantitative data) and what reasons the participants would report about it (qualitative data).

The plan was that the answer as to how far this hypothesis was true would be initially inferred from the overall tendency that the data of the first questionnaire replies would show (e.g use of one type of reference more than the other). After obtaining the first three replies of the email questionnaires, the data showed that this hypothesis was quite true and therefore the following question that would yield rich qualitative data was thought of: “It seems that UK public libraries have already implemented a collaborative digital reference service (Ask a Librarian), and USA libraries have widely established digital reference/enquiry services in order to respond to the new demands of their users. However, UK academic libraries seem to have fallen relatively behind on undertaking more actively “digital reference service” related initiatives. In your opinion, why is this so?”

Thus, in a follow up interview apart from the several tailored to each participant questions, there would be also asked consistently the above question.

However, after receiving a few more replies to the questionnaire, there was a firm indication that there was an extremely low willingness to participate in
a follow up interview. Therefore, it was decided to email the above question to all questionnaire respondents, as a follow up email interview question. Moreover, respondents were probed to answer the question, either in writing and emailing it to the student, or via telephone, or face-to-face. Three of the respondents replied via email giving sufficiently lengthy and well expressed answers that were successfully focused on answering the question.

Two more respondents agreed on a follow up interview, one via telephone and one face-to-face. These interviews were conducted as described above. The telephone interview could not be tape recorded, but the respondent intentionally kept a low pace while talking, which allowed the student to record many of the answers almost verbatim. In the case where this was not possible, the student would try to summarize what the respondent said and would read aloud the short phrases to the respondent for confirmation. The face-to-face interview was tape recorded and then transcribed and saved as a “Word” document.

One last questionnaire respondent agreed on either a face-to-face or real time chat interview. Due to time constraints, and also due to the fact that it would be an interesting and valuable for the purposes of this study experience to conduct a real time chat interview, the student welcomed the respondent to conduct the latter. However, the student received no further reply by the respondent.

Overall, interviews resulted in richer data and mainly helped illuminate part two of objective one.

**Data analysis, interpretation, presentation and discussion**

On the one hand, quantitative data that emerged from the email survey and from the secondary search on the 105 UK university libraries’ web sites were coded and counted manually. On the other hand, qualitative data that emerged from both the email survey and the interviews were coded and put
into predefined categories, where possible. These predefined categories are the same ones that have been discussed in the literature review and that appear in the questionnaire as ready answers to the questions. However, some categories were abandoned because they were not considered important by respondents while some new common patterns emerged by the respondents’ answers. This is a combination of qualitative and quantitative approach to the analysis of data, as in some cases it measured how much and it tried to test hypothesis (predefined categories of issues, opinions, answers), but it also searched for new other significant patterns in the respondents’ answers.

Interpretation was seen in many cases as a synthesis of the analyzed data and the ideas and facts in the relevant literature. There was made an attempt to find any significant relations between arithmetic results, situations that the respondents perceived as facts and the reasons that caused these results and facts.

Data presentation and discussion follows in chapters 4 to 8, each corresponding accordingly to the five objectives of the present study. Although the readers are presented with tables, charts and proportions this was done mainly to facilitate visual perception of the results rather than to demonstrate statistical credibility of those. The student, in chapters 4 to 8 mainly tried to portray and communicate what the data revealed in terms of numbers of the surveyed sample but without generalizing, and to discuss relationships and causes, as well as consequences in chapter 9, that the student considered important. However, generalization is attempted only when the results of the 9 surveyed libraries demonstrate a tendency similar to the results of other published studies. As Patton (2002:479) argues: “when careful study of the data gives rise to ideas about casual linkages, there is no reason to deny those interested in the study’s results the benefit of those insights. What is important is that such statement be clearly qualified as what they are: interpretation and hypothesizing”. In that sense data interpretation and discussion is mainly qualitative.
Chapter 4 - The extent to which have been developed and established digital reference services models, and the extent to which face-to-face/in person reference services are used in UK academic libraries

4.1 The extent to which have been developed and established digital reference services models in UK academic libraries

It has been previously mentioned that the web page entitled “Member institutions and representatives”, which is maintained by SCONUL (2005), served as a credible source which helped to identify the UK university libraries that offer both face-to-face and digital reference services to their users. 63 out of 168 institutions’ sites listed on this web page, were not at all searched because they are college, school, institution and national libraries. A secondary search was conducted on the web sites of the remaining 105 UK university libraries. This search resulted in identifying 42 libraries which offered a web form based reference service to their users. This means that approximately 41.2% of the total number of the UK university libraries actually offer this type of digital reference service.

The vast majority of these libraries do not link this service directly from the library’s homepage and in some cases it was quite difficult and time consuming to discover the link to the service. In many cases, the instructions as to what types of questions the users are allowed to submit are not clear, whilst there is a feeling that most web forms have been designed in a way that prompts more factual, simple and library related questions, rather than research and subject questions. Furthermore, the vast majority of the libraries do not offer a real-time chat reference service. The following presentation and discussion of the results are from the 9 UK university libraries that participated in this study. These libraries consist of
the 21.4% of the total number of UK university libraries that offer a web form based reference service.

4.1.1 Types and year of establishment of the digital reference/enquiry service offered by the surveyed libraries

The first two questions in the survey were designed to find out the types of digital reference/enquiry services which have been established by the surveyed libraries, and the year during which each library started offering these services to its users. The results are shown in Chart 1.

Chart 1

<table>
<thead>
<tr>
<th>Types of digital reference/enquiry services offered by the 9 surveyed libraries</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web Form;</td>
</tr>
<tr>
<td>Email;</td>
</tr>
<tr>
<td>Chat;</td>
</tr>
</tbody>
</table>

Web Forms (100%)

All 9 participating libraries (100%) reported that they have established a web form reference/enquiry service. 3 out of 9 participating libraries use the OCLC QuestionPoint Cooperative virtual reference, while the remaining 6 have designed their own web forms.
For each year from 1999 until today, it was found that at least one of the libraries started offering a web form based reference/enquiry service. This demonstrates that the present sample of 21.4% (9 out of 42) of the total number of UK university libraries that offer this type of service, first embarked on web form based reference in 1999, and since then, year after year, one library after another has moved towards the same direction.

**Emails (66.66%)**
6 out of 9 respondent libraries (66.66%) reported that they also maintain an email reference/enquiry service. Email has been used by one of the surveyed libraries as a means of answering reference/enquiry questions since 1997, while the rest of the libraries commenced using this service in each of the following years until 2002. It is evident from the data, that email has been used at least 2 years earlier than web forms, probably due to the fact that it consists of a simpler technology. Although still in use, it seems that it has stopped being popular as a way of embarking on digital reference, after 2002; otherwise at least one or more of the 6 libraries that maintain it, would have reported that the year during which they started offering an email reference/enquiry service would have been from 2003 and on. Furthermore, 3 out of 9 libraries do not offer an email reference service at all.

**Real-time Chat (11.11%)**
Only 1 out of 9 participating libraries (11.11%) is currently conducting a real-time chat reference/enquiry service which was established in 2004. 1 more of the libraries reported that it offered experimentally this type of service during 2002.

It appears that libraries are moving progressively, from 1997 to 2005, from less to more complex and advanced models of digital reference (see Chart 2). This is evidenced by the calculation of the median- the mid-point derived by arraying all years, from the earliest to the latest, of establishment of each type of digital reference service separately. At this point it was considered more useful to display the median instead of the arithmetic mean which is
considered vulnerable to extreme values at either end of the distribution (Bryman, 2004:229).

The median year of establishment of Email reference/enquiry service is the year 1999.
The median year of establishment of Web Form based reference/enquiry service is the year 2002.
The median year of establishment of Real-time Chat is 2004.
The median year of establishment of all three types of digital reference service is 2001.

Chart 2

<table>
<thead>
<tr>
<th>Year</th>
<th>Email</th>
<th>Web Form</th>
<th>Chat</th>
</tr>
</thead>
<tbody>
<tr>
<td>2005</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2004</td>
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<td>1998</td>
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The search on the web sites of the 105 UK academic libraries, which revealed that 41.2% of them offer a web form based reference service, along with the above findings, fill in some of the missing parts of the puzzle about digital reference services in the UK academic domain. Therefore, in combination with the previously mentioned case studies and articles (see section 2.1.1), which as a whole could be considered a snapshot on the current practices and efforts of the UK academic libraries in this field, it has been now revealed a broader picture. According to this picture, digital reference services made a solid begging in the UK academic libraries’ domain in 2001, which is the median year of these services establishment,
using mainly “*simple but effective technologies (email, web forms)*”, which is similar to what the USA academic libraries did in 1999, according to Janes, Carter, & Memmott (1999) study. Additionally, it appears that UK academic libraries adopt progressively, from 1997 to 2005, more complex technologies (from email to web forms, and from web forms to real-time chat), and in the meantime they are also experimenting with cooperative models of digital reference.

### 4.1.2 The usage of digital reference/enquiry service in the surveyed libraries

While the findings of the first two questions in the survey helped to form a broader picture about the current digital reference climate in the UK academic domain, questions 3 and 4 were though of in order to gain a more in-depth insight into the extent to which these services are currently used.

Question 3 asked to what extent each type of digital reference/enquiry service is being used by the library’s users. The participants were asked to choose according to their opinion one of the following three options: Widely used, Occasionally used, Rarely used. The results of question 3 are shown in Chart 3, Chart 4 and Chart 5.

**Chart 3**

<table>
<thead>
<tr>
<th>The reported usage for the 3 types of digital reference as a whole</th>
</tr>
</thead>
<tbody>
<tr>
<td>Widely Used; 56.25%</td>
</tr>
<tr>
<td>Occasionally used; 43.75%</td>
</tr>
</tbody>
</table>

According to the findings of question 3, the three types of digital reference service as a whole, are widely (56.25%), and occasionally (43.75%) used.
A significant aspect of these results is that none of the libraries replied that the services are rarely used (see Chart 3). This means that not only digital reference has made a solid beginning in the UK academic libraries, but that it has also been widely or occasionally favored by the libraries’ users.

However, these findings are based on the librarians’ opinions and feeling about the services’ usage which may not be as accurate as numbers. Although participants were asked if it was possible to quantify approximately the proportion of enquiries received by each route by adding the % use, only 1 library reported a recorded proportion of the enquiries received by its digital reference/enquiry service. This may be an indication that most libraries have not exploited yet the ability offered typically by a digital reference service to automatically record the rate of usage and to release statistics.

More detailed results about what participants stated concerning the use of each type of digital reference service separately are shown in Chart 4 and Chart 5.

**Chart 4**
As previously mentioned, 6 out of 9 participating libraries maintain both an email and a web based reference/enquiry service. The majority (4 out of 6) of these libraries, report that both of their services are widely used. On the other hand, all 3 of the libraries which maintain only a web form based reference/enquiry service, report that this is only occasionally used.

In the light of these findings it could be possibly detected a relationship between the number of types of digital reference/enquiry services offered by the libraries and the extent to which these are used. Therefore, it could be argued that the more the types of digital services provided by the library, the more the library tends to report that these services are used. Only 1 library reported that both its email and its web form service are occasionally used, and only 1 library reported that its email service is widely used, while its web form and its real-time chat service are occasionally used.

Overall, it appears that email is more widely used (83.3%) than web forms (44.4%), although email has stopped being popular as a means of embarking on digital reference, after 2002.

On the other hand, it seems that libraries which have established their services during the later years (with most frequently occurred the years 2001 and 2002) tend to report that these are widely used, while the libraries which have them established earlier (with most frequently occurred the year
tend to report that their services are occasionally used, although one would expect that the longer a service has been offered the higher its rate of usage would be.

It would be risky to argue that there is a relationship between the year of establishment and the rate of the service’s usage, and to conclude that the earlier a library has implemented a digital reference service the lower the reported rate of the service’s usage. Nevertheless, there is feeling that the longer the service has been offered by a library, the more experienced the library is, and therefore the more knowledgeable the library’s statement. Therefore, no matter how controversial it might seem for a library that has been using a service for a period of 6 years, to report that it is occasionally used this may have a hint of truth.

Question 4 tried to investigate the possible reasons that may cause the service to be occasionally or rarely used.

The most frequently reported reason for a service being occasionally used is that the service is not widely and/or proactively publicized by the library. Even one of the participating libraries which had previously reported that both of its services were widely used stated that:

“*Our services could be used more, and we struggle to find means of publicizing the services other than with book marks and banners*”

Maybe the solution lies behind another respondent’s answer who reported that as soon as the library re-named its web form based reference/enquiry service into “ask a librarian”, the enquiries’ number immediately increased.

This acknowledgement on behalf of the libraries that their services are not widely used, mainly because they have not publicized them widely could be explained by Janes, Carter & Memmott (1999) published findings about digital reference services in the USA academic libraries, which bare many
similarities with the findings of the present study about digital reference services in the UK academic libraries.

Janes, Carter & Memmott (1999) found out that half of 44.7 percent of the USA academic libraries that offered a digital reference service, did not link this service directly to the library’s main web page, and therefore this made it more difficult to find and use the service. They argued that this attitude on behalf of the libraries was probably due to the fact that they considered the service a novelty or experimental. The majority of the UK academic libraries did not link their service directly to the library’s homepage, either.

Additionally, two of the participating libraries of the present study stated that they intent to publicize their services widely, as soon as they develop them further, which also implies that libraries acknowledge that they are still in the early stages of the implementation of digital reference services.

Consequently, it can be argued with certainty that although digital reference has made a solid beginning in the UK academic domain, it is still in its infancy. Moreover, a significant relationship of the results between Janes, Carter & Memmott (1999) study and the present study is that the first illuminate the situation of the USA academic libraries in 1999, while the later describe a similar situation of the UK academic libraries in 2005.

Considering the fact that USA has made considerable progress in the field since 1999, as well as that the UK public library domain is running successfully “Ask a librarian“ for several years now, and comparing this situation with the current digital climate in the UK academic domain, it is clear that UK academic libraries have lagged behind in the field. Therefore, an additional question arose which was asked after the completion of the questionnaires in the follow up interviews. The findings of this question are discussed in the following section.
4.1.3 Why UK academic libraries have fallen relatively behind on undertaking digital reference services initiatives

All 9 participating libraries, after sending back a completed questionnaire were emailed the following question: “It seems that UK public libraries have already implemented a collaborative digital reference service (Ask a Librarian), and USA libraries have widely established digital reference/enquiry services in order to respond to the new demands of their users. However, UK academic libraries seem to have fallen relatively behind on undertaking more actively “digital reference service” related initiatives. In your opinion, why is this so?”

3 of them sent their answers to this question via email, and 2 agreed on follow up interviews, one of which was conducted via telephone, and one face-to-face.

2 out of 5 respondents particularly underlined that funding difficulties which UK academic libraries are faced with today, can be the main reasons that have hindered libraries’ potential to move forward in this field. One participant specifically stated that digital reference services can be expensive and another said that the incredibly expensive resource provision has been done at the expense of other services, such as digital reference.

2 out of 5 respondents also pointed out staffing issues. Adding a new service plus keeping all the information desks for face-to-face reference means increased staffing number and time, and changing the working practices for the staff in such a way that they can meet the demands of the service. These reasons are also reported in Janes, Carter & Memmott (1999:149) study when they discuss what had possibly prevented the use of more advanced technologies in the field of digital reference, within the USA libraries.
Another cause that emerged from 2 of the respondents’ replies is the possible resistance to change and to technology taking over human processes. As one of the respondents characteristically stated, the reason why UK libraries have been slower to adapt to digital ways of answering enquiries than the USA is that:

“…we have traditionally had good personal enquiry services… Perhaps we have been too traditional.”

Bear et. al. (2003), acknowledging that there is always human resistance to change, state that staff in a new British university overcame fear for job insecurity and adapted to cultural shift “that surrounds the introduction of a virtual service to complement an existing face-to-face service” by involving as many staff as possible in the project, and by organizing regular staff awareness sessions.

Another interesting point made by one of the respondents was the fact that in the USA perhaps they have more large campuses and more distance learners and this may be explaining why they have embraced broadly digital reference as a way to serve remote library users. This point is also highlighted in Davis and Scholfield (2004) article when they explain why, during a pilot collaborative digital reference project between a UK and an Australian university library, students of the latter made considerably greater use of it than students of the UK. As the writers stress “[t]he Australian higher education environment is one where more part-time and distance learning studying takes place than in Scotland or the UK as a whole”.

Overall, it appears that UK academic libraries have not developed digital reference services as widely because of funding and staffing constraints, resistance to change, and the fact that they serve more on campus than distance learners.
As for UK public libraries, one of the respondents wonders “Are public libraries seeking methods to show there is a demand for these types of services [digital reference services] and looking for different ways to reach users?”. 

This does not answer why UK public libraries run successfully an official, collaborative digital reference service, whereas UK academic libraries do not. It rather raises more questions, such as are or not UK academic libraries as pressured as UK public libraries to prove demand for certain types of services? One could only speculate that public libraries have advanced because they serve a diverse clientele who ask a wider range of queries, and not specific university oriented, that can be more easily answered via a collaborative service. Moreover, public libraries users typically live at a greater distance from their local libraries in comparison to on campus university students, and therefore they would use more a remote service offered by their libraries.

4.2 The usage of traditional reference service in the surveyed libraries

Duckett (2000) argues that the current situation concerning reference work in all types of libraries is ambiguous. The main reason for this is because it cannot be easily evaluated and measured.

He supports that enquiry measuring is a difficult endeavor that may lead to false and confusing results. He stresses the multiplicity of factors to be taken into consideration, which range from the difficulty to identify with certainty the different categories of enquiries to be measured, to what it is considered to be a good answer.

Furthermore, Saxton and Richardson (2002:3) acknowledge that there are substantial theoretical problems in trying to assess reference service performance and this is the reason why no widely accepted method has been established yet. Similarly to Duckett’s opinion they believe that:
“…published findings are of little value in terms of explaining what factors influence the reference process.”

Considering the above this study did not attempt to collect quantitative data with regard to the enquiries received by the libraries, digitally or in person. Instead, it tried to investigate the librarians’ perceptions about these two types of reference in a comparative way.

More specifically, in question 5 participating libraries were asked to report if a change had been observed in the number of reference enquiries received by their face-to-face/in person reference service, since their digital reference service had been available. 4 libraries reported that they had observed no change, 4 libraries reported that they had observed a decrease, and 1 library reported that this is not known.

Question 6 tried to explore the possible reasons why there has been a change (increase or decrease) in enquiry numbers received by a library’s face-to-face/in person reference service. Only 1 library reported that the reason why there is a decrease in its face-to-face enquiry numbers is because its users prefer its digital enquiry/reference service. Therefore, it cannot be argued that there is a correlation between the rate of usage of digital and face-to-face reference services. Additionally, as it has been implied by many case studies and as most participants of this study stated somewhere in their replies, digital reference is seen as complementary rather than as a replacement of face-to-face reference.

Thus, it would be wiser to search elsewhere for the reasons of the enquiries’ decrease in face-to-face reference. On the one hand, it is the simplification of user interfaces that many databases and electronic resources environments offer today, which has facilitated the ways users can search for and access resources and especially electronic ones. On the other hand, not all users have or start with an adequate level of IT knowledge, therefore sophisticated technology "require busy librarians to
spend more time in teaching and consultative roles, leaving less time for traditional reference roles” (Graves, 1998).

There is a great range of literature discussing this shift from the mere provision of information to the development of information skills among ‘end-users’ in libraries. This is probably why the most frequently reported reason, in this study, for the decrease in face-to-face enquiries, according to the participants’ opinions, is the fact that users become increasingly independent in locating resources for themselves.

Overall, it cannot be argued with certainty whether there is a change in the use of face-to-face reference services, but it could be claimed that the speculation expressed by LISU (2004) that users become increasingly independent in locating resources for themselves is probably the most significant reason why a decrease occurs lately in UK academic libraries enquiry numbers. This is an optimistic perspective which implies certain changes in the role of librarians who ultimately become more tutors rather than information intermediaries.

Summary of Chapter 4

- 41.2% of the total number (105) of the UK university libraries offer a web form based reference service to their users.

- The 9 surveyed libraries (21.4% of the above 41.2%) offer mainly web form based reference services (100%); they also offer email reference services (66.66%) and real time chat reference services (11.11%). These proportions could be considered representative of the broader picture of the UK academic domain, because observations from the secondary search on the web sites and the related UK literature also support this image.

- Digital reference services made a solid beginning in the UK academic domain, in 2001, which is the median year of these services’ establishment,
and they are moving progressively, from 1997 to 2005, to more complex technologies (from email to web forms, and from web forms to real time chat).

- Digital reference services as a whole are widely used (56.25%), and occasionally used (43.75%) by the 9 surveyed libraries, which reveals an optimistic attitude towards the use of these services, as none of the surveyed libraries reported that they are rarely used.

- Email reference service is more widely used (83.3%) than web forms (44.4%), although email has stopped being popular as a means of embarking on digital reference after 2002, by the 9 surveyed libraries.

- The more the types of digital reference services offered by the 9 surveyed libraries, the more these libraries tend to report that these services are used, which is an element worth taking into consideration by libraries wishing to increase use of their digital reference services as a whole.

- The 43.75% of the libraries that reported that their digital reference services are only occasionally used, supported that this is mainly due to the fact that they have not publicized them widely. This enhances further the aspect that although digital reference has made a solid beginning in the UK academic domain it is still in its infancy, as non-publicity of a service reveals that the institution considers it a novelty or experimental and is not yet ready to deal with the issues and the implications of a wider service use, that wider publicity will probably yield.

- UK academic libraries have lagged behind with regard to the establishment of digital reference services due to funding and staffing issues and constraints, resistance to change, and the fact that they serve many more on campus than distance learning students, in comparison to the USA libraries.
• The current climate in face-to-face reference is somewhat ambiguous, as to if there is a change in enquiries numbers, but when libraries report that a decrease has been observed they support that this is mainly because users have become increasingly independent in locating resources for themselves.
Chapter 5- Librarians’ and users’ attitudes towards digital and face-to-face reference transaction, in terms of place and time

Differences, in terms of place and time, between digital and face-to-face reference transaction were identified. Drawing from the relevant literature, advantages and disadvantages of each type of reference were discussed (see section 2.2.1). However, no relevant literature was found as to how librarians in the UK academic libraries, who have an experience in delivering both types of reference, perceive these differences in their daily practice.

Therefore, question 7 asked which type of reference transaction does the participant think is more convenient for the librarian, in terms of place and time, and why. Although this opinion poll consists of a relatively small sample which is not considered adequate in order to be generalized, it is yet a good indication showing a higher preference to face-to-face reference, as only 3 out of 9 respondents replied that they prefer more digital reference in terms of time and place (see Chart 6).

Chart 6

Furthermore, what enhance these findings’ validity are the reasons which the respondents reported about their preferences.
Among the most common reasons that emerged while examining the 6 replies in favor of face-to-face reference, is that librarians like the sense of human interaction at the enquiry desk. This was reported by 4 respondents, while 2 of them stressed this reason by also stating that they typically perceive digital reference as a solitary activity which does not suit them.

One of the respondents explained that “it is also more pro-active to have a personal enquiry service-it encourages students to approach a member of staff”. Although she continued “However, our management aim to reduce personal service points on ground of staff costs, as we do end up answering a lot of very simple questions which do not require a trained librarian- hard to know which is best”, she ended up by stating “but I think I prefer to have manned enquiry points!”.

Moreover, 2 out of 6 librarians who found face-to-face reference more convenient felt that this is less time consuming and 1 librarian found digital reference time pressured. The following description from one of the respondents could be considered typical as to how one may feel for digital reference in terms of time:

“…e-mails may be imprecise, so there is a time delay before I open the e-mail, then I have to ask for more detail, then e-mail back again”.

On the other hand, all 3 librarians who found preferable digital reference in terms of time and place, agree that this allows more time to reflect on the query, and that workload can be distributed among staff. As one of them stated:

“…sometimes a fuller answer is possible when one has had an opportunity to consult and reflect on the question”.

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Question 8 tried to investigate which type of reference transaction is more convenient for most users in terms of place and time, in the librarians’ experience.

9 out of 9 respondents felt that most users in UK academic libraries find more convenient face-to-face reference in terms of place and time (see Chart 7).

Chart 7

The reasons why most users prefer more face-to-face transactions, in terms of place and time, according to the librarians’ experience, are listed below in order of how frequently they were reported:

- Users can have an immediate answer to their query (7 out of 9)
- Users can access the recommended resources immediately (5 out of 9)
- Users expect that the answer to their query might take longer via a digital reference transaction (4 out of 9)
- Users are not sure that their query will be read and answered if sent via digital means of communication (3 out of 9)

Consequently, it could be argued that while by the emergence of digital reference services there is a tremendous opportunity to conquer the geographical limitations and the time constraints that library users and
library staff may be tolerating in order to communicate, this opportunity is not as widely favoured in the UK academic domain, because immediate answers and immediate access to library resources are largely appreciated by the users, and face-to-face contact at the enquiry desk is very much preferred by the librarians.

However, 3 of the respondents explained that when library users are off campus, and they do not have the option of face-to-face contact, they are reliant on efficient telephone or electronic support, and therefore there is a need to offer both forms of personal service if finance permits it. Moreover, one respondent argued that even for users who are in campus, but their enquiries are not urgent, or if there is a queue at the enquiry desk a digital reference service may be preferred.

Additionally, one of the respondents stated:

“I’ve answered that users prefer face to face because at the moment that is how we receive the majority of our enquiries, but this is maybe because we haven’t publicized the service very widely yet”.

Considering that the majority of UK university students are on campus students, as mentioned before by Davis and Scholfield (2004), and that UK academic libraries have not publicized their digital services widely, as concluded in chapter 4 of this study, it becomes clearer why librarians state that users prefer the face-to-face option in terms of place and time. If these two factors change in the future (increase in the number of distance learners and wider publicity of digital reference) the results might be different. Nevertheless, in the present, there is a strong feeling among librarians, that if users are in the campus they will approach the library’s enquiry desk anyway, mainly because they prefer immediate answers to their queries.
Summary of Chapter 5

- The majority of the respondents prefer face-to-face reference transaction in terms of time and place, because of the advantages of the human contact that can take place between user and librarian only at an enquiry desk.

- In all 9 respondents’ experience, users in UK academic libraries prefer more face-to-face reference transaction in terms of place and time, mainly because they can have an immediate answer to their query, and because they can access the recommended resources immediately.

- Digital reference, in the respondents’ opinion, is mainly useful for distance learners, or when users are off campus and they have no alternative choice to be served.

- If there is an increase in the number of distance learners, and if a wider publicity is given to the digital reference services, these will probably be more favored by library users, in terms of place and time.
Chapter 6- Communication issues with regard to face-to-face and digital reference transaction

6.1 Communication skills and attributes with regard to face-to-face and digital reference transaction

All the works discussed in chapter 2.2.2 of the literature review, apart from Grosvenor’s (1998) which is not specifically related to reference work (Hybrid Language: A Study of E-mail and Miscommunication), are significant contributions to the understanding of the theoretical issues of the reference transaction process.

Based on these works, there was made an attempt first to identify and then to group into two categories the skills and attributes needed by the librarian in order to deliver efficiently personal reference services to users. The first category discussed in chapter 2.2.2, was concerned with face-to-face and the second with digital reference transaction. However, all skills and attributes are considered important for both types of reference as there are many overlaps in the reference process through both types of reference service.

Therefore, questions 9 and 10 in the survey meant to examine how librarians, who have an experience in both types of reference work, rank these communication skills and attributes in terms of importance for each type of reference service separately. The comparative results are shown in Table 1.
<table>
<thead>
<tr>
<th>Face-to-face reference transaction</th>
<th>Digital reference transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>1st</strong> Good verbal/oral communication skills (e.g. the ability to reflect feelings verbally and use encouraging language)</td>
<td><strong>1st</strong> Good writing skills (e.g. punctuation and use of descriptive vocabulary)</td>
</tr>
<tr>
<td><strong>2nd</strong> A desire for live interaction with people</td>
<td><strong>2nd</strong> Good technical skills (e.g. email use and Internet use)</td>
</tr>
<tr>
<td><strong>3rd</strong> Good nonverbal communication skills (e.g. eye contact, gestures, posture, and facial expression)</td>
<td><strong>3rd</strong> Awareness of the complexity of language issues</td>
</tr>
<tr>
<td><strong>4th</strong> Awareness of the complexity of language issues</td>
<td><strong>4th</strong> Sensitivity to cultural and individual differences</td>
</tr>
<tr>
<td><strong>5th</strong> Sensitivity to cultural and individual differences</td>
<td><strong>5th</strong> A desire for live interaction with people</td>
</tr>
<tr>
<td><strong>6th</strong> Good technical skills (e.g. email use and Internet use)</td>
<td><strong>6th</strong> Good verbal/oral communication skills (e.g. the ability to reflect feelings verbally and use encouraging language)</td>
</tr>
<tr>
<td><strong>7th</strong> Good writing skills (e.g. punctuation and use of descriptive vocabulary)</td>
<td><strong>7th</strong> Good nonverbal communication skills (e.g. eye contact, gestures, posture, and facial expression)</td>
</tr>
</tbody>
</table>

It appears that “Good verbal/oral communication skills”, such as the ability to reflect feelings verbally and use encouraging language, which is the 1st most important attribute for a face-to-face reference transaction, in the respondents opinion, takes the 6th place for a digital reference transaction. Evenly, “Good writing skills”, such as punctuation and use of descriptive vocabulary, which appears 1st in a digital reference transaction, falls in the 7th place in a face-to-face transaction. Apparently, almost the same inversion of importance takes place for the rest of the skills and attributes,
with only “Awareness of the complexity of language issues”, and “Sensitivity to cultural and individual differences”, being almost equally important for both types of reference transactions.

These findings certify that librarians acknowledge that, apart from the similarities, there are substantial differences in terms of communication, between the old and the new type of reference service. These differences and similarities have to be taken greatly into account because they underline the need to enhance the old skills, as well as to be constantly aware of and develop the new ones, in order to sustain and to deliver quality personalized reference services. Thus, whereas a library offers only traditional reference services, when deciding to embark onto digital reference field, apart from financial, time and technical infrastructure considerations, it should also consider more proactively, staff communication skills. Ask a Librarian (2005), for example, maintain a web page specifically dedicated to guiding librarians on how to write email-answers to users’ questions, which also points to the need of clarifying communication complexities that emerge with the new service.

6.2 Librarians’ and users’ attitudes towards digital and face-to-face reference transaction, in terms of communication

Part of question 11 asked which type of reference service librarians find more challenging, and which one they find more interesting in terms of communication. The results are shown in Chart 8 and Chart 9.
In Chapter 5, when discussing which type of reference service librarians find more convenient in terms of place and time, there appeared a higher preference for face-to-face reference (6 out of 9). In terms of communication though, this difference seems to be flattening. As it is shown from the results both types of communication are almost equally challenging (5 for face-to-face and 4 for digital), while face-to-face communication with the user is slightly more interesting for the librarians (5 for face-to-face and 3 for digital).

One of the respondents stated “I think digital is interesting because it’s a new area, and there is lot’s of new things to understand…There is a lot of, more technologies and implications of using those technologies, that’s interesting!”

This opinion probably reflects how the average individual might feel when envisaging a new situation or opportunity. Nevertheless, in the field of reference work, this new and interesting challenge did not prevent librarians from showing equal or even a slightly higher interest for their traditional and familiar practices. This could be argued that it is quite revealing in terms of culture and attitude on behalf of the UK academic librarians, who generally appear quite modest towards digital reference services.
Question 12 tried to explore which type of communication users seem to prefer when placing a question to the librarian (see Chart 10). In the respondents’ experience, users seem to prefer face-to-face communication (8 out of 9).

The reasons why, are listed below in order of how frequently they were reported:

- Users prefer live interaction (7 out of 8)
- Users find it easier to express their queries (6 out of 8)

Only 1 respondent clearly stated that users prefer communicating through digital media, and this is because they are afraid they might look unknowledgeable if they ask for information in face-to-face contact.

Additionally, 2 of the respondents, who had initially replied that users prefer face-to-face communication, also felt that for some users this feeling might be true, and therefore they might prefer digital reference. Thus, librarians started acknowledging that those types of users may be better served after the advent of digital reference. However these users have not taken center stage yet, as Low (1996) had predicted almost a decade ago.

Chart 10

<table>
<thead>
<tr>
<th>Users’ preferences in types of communication</th>
</tr>
</thead>
<tbody>
<tr>
<td>face-to-face: 8</td>
</tr>
<tr>
<td>digital: 1</td>
</tr>
</tbody>
</table>

Generally, it is clear that users not only find more convenient face-to-face reference in terms of time and place, but they find it more preferable in terms of communication as well. This consistency in the preferences of
users, when discussing reference in terms of place and time, and reference in terms of communication, enhances the validity of the findings, as there appear no contradictory and confusing patterns which may lead to false results.

**Summary of Chapter 6**

**In the respondents' opinion**

- The most significant communication skills with regard to face-to-face reference transaction are good verbal/oral communication skills, such as the ability to reflect feelings verbally and to use encouraging language.

- The most significant communication skills with regard to digital reference transaction are good writing skills such as punctuation and use of descriptive vocabulary.

- Awareness of the complexity of languages issues, and sensitivity cultural and individual differences, are almost equally important attributes in the delivery of high quality personalized reference services, in both types of reference transaction.

- For information professionals both types of reference communication are almost equally interesting and challenging.

- For users, face-to-face reference communication is preferable in the respondents’ experience, because it allows live interaction and it makes it easier for user to express their queries.
Chapter 7- The comparison between face-to-face and digital reference transaction process with regard to the four stages of the reference interview

7.1 The reference transaction process-stage 1: Types of questions

After being surveyed about communication issues and preferences with regard to both types of reference transaction, participants of this study were asked to report which type of reference service is more suitable for different types of questions. These types of questions that appear in question 13 and 14 in the survey were thought of after consulting the relevant literature.

Researchers identify many different types of questions but the most commonly referred to are the frequently asked questions, known also as FAQs, quick and ready reference or factual questions, as opposed to research and subject questions, easy questions as opposed to difficult questions, instruction and opinion, and evaluation questions.

Participants were also asked in question 14, to report in their experience, which types of questions are users more likely to ask during face-to-face interaction and which types during digital interaction.

The results of question 13 and 14 are shown below in Table 2 and Table 3 respectively.
Table 2. Types of questions which are more suitable for each type of reference interaction, in the librarians' opinion.

<table>
<thead>
<tr>
<th>Type of question</th>
<th>Face-to-face reference</th>
<th>Digital reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequently asked questions</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>Quick reference questions</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Research questions</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>Easy questions</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Difficult questions</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td>A request for instruction</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>A request for opinion/evaluation</td>
<td>6</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 3. Types of questions which users are more likely to ask during each type of reference interaction, in the librarians’ experience

<table>
<thead>
<tr>
<th>Type of question</th>
<th>Face-to-face reference</th>
<th>Digital reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequently asked questions</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Quick reference questions</td>
<td>3</td>
<td>5</td>
</tr>
<tr>
<td>Research questions</td>
<td>8</td>
<td>2</td>
</tr>
<tr>
<td>Easy questions</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Difficult questions</td>
<td>6</td>
<td>2</td>
</tr>
<tr>
<td>A request for instruction</td>
<td>8</td>
<td>-</td>
</tr>
<tr>
<td>A request for opinion/evaluation</td>
<td>6</td>
<td>2</td>
</tr>
</tbody>
</table>
The few surveys discussed in the review of the literature, in chapter 2.2.3-
stage 1, resemble the present study to an extent. For example, as far as
FAQs are concerned, 9 out of 9 participants felt that digital reference is
more suitable than face-to-face reference. But when asked what users do, 4
replied that users will ask a FAQ face-to-face, and 4 replied that users are
more likely to access the library’s web page in order to find an answer. This
is in line with Janes (2003:144-145a) argument about FAQs that
“[e]xperience has shown, by the way, that it won’t prevent people from
asking those questions anyway, but at least somebody might find them
useful”.

According to the findings of Janes, Hill & Rofle (2001) and Janes (2002b)
studies, information professionals of commercial and non-commercial, as
well as of libraries reference services tend to believe that factual questions
are better handled in a digital reference environment, while research
questions are more suitable for face-to-face reference. For quick reference
questions, as opposed to research questions, on the one hand, and for
easy questions, as opposed to difficult questions, on the other hand,
participants’ choices in the present study indicate a tendency similar to the
one emerging from the above studies.

As for which types of questions actually users are more likely to ask, it is
evident from the data that research and difficult questions, as well as
requests for instruction, opinion and evaluation, are more often asked in a
face-to-face contact. This could be explained by the fact that digital
reference has not been widely publicized in the UK academic sector, and by
the findings discussed in chapter 5 of the present study, which revealed that
users prefer significantly more face-to-face reference in terms of times and
place, mainly because they can have an immediate answer to their query.
Other reasons, especially for research and difficult questions might be the
fact that both parties, users and librarians, feel more confident with the
outcome of a live dialogue, than with the outcome of a digitally conducted
dialogue.
For instance, according to Ford’s (2003) findings, in her exploratory study of the differences between face-to-face and computer-mediated reference interactions, although the types of questions asked in the two types of reference did not vary significantly, face-to-face reference interactions were found to be richer.

But this is discussed further in the following section which is about interaction between user and librarian.

7.2. The reference transaction process- Stage 2: The interaction between user and librarian

Interaction between user and librarian is affected by the mode and means of communication. Therefore, for economy reasons, this second stage of the reference interview was incorporated in question 11 in the survey, where communication issues were investigated.

First, librarians were asked to report during which type of reference service they feel that it is more difficult or easier to understand the user’s initial query, and during which one they feel it is more difficult or easier to negotiate the query with the user. While participants had the option to choose that understanding a user’s query and negotiating the query with the user can be difficult, or easy in both types of reference, they only chose one and their choices were identical 99%. This is a strong indication that communication between librarian and user, during the most significant stage of the reference interview is easier in face-to-face interaction. The detailed results are shown in Table 4.
### Table 4

<table>
<thead>
<tr>
<th></th>
<th>Face-to-face reference</th>
<th>Digital reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>More difficult to understand the user's initial query</td>
<td>1</td>
<td>8</td>
</tr>
<tr>
<td>Easier to understand the user's initial query</td>
<td>9</td>
<td>1</td>
</tr>
<tr>
<td>More difficult to negotiate the query</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>Easier to negotiate the query</td>
<td>9</td>
<td>-</td>
</tr>
</tbody>
</table>

Additionally, participants were asked (in part ii of question 11) to report their experience with the users, as far as the same question is concerned. The results are 99% similar to the above findings (see Table 5).

### Table 5

<table>
<thead>
<tr>
<th></th>
<th>Face-to-face reference</th>
<th>Digital reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>More difficult for users to express their queries</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>Easier for users to express their queries</td>
<td>9</td>
<td>-</td>
</tr>
<tr>
<td>More difficult for users to negotiate the query</td>
<td>-</td>
<td>9</td>
</tr>
<tr>
<td>Easier for users to negotiate the query</td>
<td>9</td>
<td>-</td>
</tr>
</tbody>
</table>

Apparently, in librarians’ opinion and experience, digital means of interaction cannot substitute the quality and depth offered by face-to-face communication. This is probably because digital reference in the UK is currently being conducted in the asynchronous way that web forms and emails allow.
As one of the participants stated in digital reference

“...somebody can send you an email, you can say what you think is the answer, and they still might not understand, and you will never get that opportunity to recognise that they won’t understand what you were saying [...] I think that people will have to be prepared to have a series of emails rather than just I've got this question give me the answer, because the answer might not be as straightforward as, I think, as the question is, so it might be, it might take longer”.

Indeed, Viles (1999) refers to Eileen Abels (1996:354) who has proposed a model e-mail reference interview to simulate the exchange of information in the face-to-face interview. "An efficient e-mail reference interview would consist of three messages: the problem statement by the client, summarization by the intermediary, confirmation by the client. When question negotiation is needed, the interview might be extended to five messages, adding one intermediary-client round of messages".

Whereas in face-to-face communication the above participant continued that “...sometimes you have a chance if you say something in a particular way, if you are looking at somebody, you can see that they don't understand what you’ve said, so you try to say it in a different way, or you approach it in a different way, and then you see in their face that they've understood”.

Abels’ suggestions imply the inherent difficulties in email communication, which affect substantially the reference interview transaction. The participant’s statement, and the findings of the study displayed from above confirm the fact that asynchronous digital reference does not allow for a proper reference interview. Does this mean that synchronous digital reference is better in terms of communication?

In a research project by Pellegrino (2004), who investigated the effectiveness of a specific reference interview technique, the use of open questions, in the context of online synchronous communication (“virtual” or
“chat” reference), there are some suggestions that even digital reference which is conducted via real-time chat may also have shortcomings in terms of communication. In brief, these are the following: those who decide to use a real-time chat reference service are looking for quick answers, therefore librarians often avoid open or open-ended questions that may prolong the reference interview, “second, that open questions, particularly as they are commonly phrased in the library science literature, often feel too stiff or formal, or seem uncomfortably prying; and finally, that we are hesitant to ask any kind of question that will require extensive typing on the part of the patron, because we cannot know how well the patron types, and we do not want to ask them to do more typing than they are comfortable with.”.

Consequently, face-to-face reference is still very much valued, at least by UK academic librarians, as a means of offering quality personalized reference services to library users.

7.3 The reference transaction process- Stage 3: Ways of answering a query

At this point of the present study there was made an attempt to discover whether there are any significant differences in the types of resources used by the librarians when answering face-to-face questions, and when answering digitally transmitted questions.

According to the findings of question 15, in face-to-face reference transactions, 5 out of 9 respondents use only electronic resources, while 3 out of 9 respondents use both print and electronic resources. On the other hand, in digital reference transactions, 8 out of 9 respondents use only electronic resources while only 1 respondent uses both print and electronic resources (see Chart 11 and Chart 12).
The fact that for face-to-face reference there is a slightly higher tendency to use print resources as well, could be possibly explained if the users' demand for immediate answers is taken into consideration. In chapter 5 it has been found that 5 out of 9 respondents report that users prefer face-to-face reference service in terms of time and place because they can access the recommended resources immediately. Therefore, librarians might feel that there is no point in recommending a print resource as well, in a digitally transmitted query, if the user has to wait first for their question to be answered and second, if the user has to visit the library in order to use the recommended resources.

However, there is no significant difference in the types of resources used by the librarians in order to answer a query, either face-to-face or digitally. On the contrary, it appears that electronic resources are widely used by UK academic librarians both in face-to-face and in digital reference, while print resources are overall used lesser and mainly in face-to-face reference.

Moreover, the initial speculation discussed in stage 3 of the literature review, that UK academic librarians use generally more electronic resources than print ones, than UK public librarians, who prefer to use electronic resources in conjunction with print ones, has been confirmed to
an extent. Especially, as far as digital reference is concerned, all but one, use only electronic resources in order to answer to a query.

At this third stage of the reference transaction process, as this has been structured for the purposes of this study, it has been also tried to investigate which is the librarian’s most preferred way of answering a query in face-to-face and digital reference respectively.

Findings from question 16 reveal that, when answering a face-to-face query, 8 out of 9 respondents, and when answering a digitally transmitted query, 7 out of 9 respondents prefer the following order of actions
First: (1) Developing a strategy by which the user will be able to discover sources of information independently.
Second: (2) Directing the user to specific information resources that contain the desired information.
Third: (3) Referring the user to another information professional and/or asking advice from another information professional who is presumed able to provide a better response to the query.
Only 1 respondent when answering a face-to-face query, and 1 respondent when answering a digitally transmitted query placed the above actions in the following order (2), (1), (3). Finally, 1 respondent preferred the following order of actions when answering a digitally transmitted query (2), (3), (1).

It is evident that there is a great extent of consistency among participants in the ways they choose to respond to users queries. One significant indication, emerging from the above data is the fact that there are no substantial differences in the ways of answering queries across both types of reference. Another important indication is that librarians insist on firstly delivering a type of personal instruction to users, even if they do it via email, and secondly directing the user to the actual sources of information.

In section 4.2, where there were discussed the possible reasons for the decrease in face-to-face inquiries, the most frequently reported reason by the respondents was that users become increasingly independent in
locating resources for themselves. Moreover, while browsing the UK academic libraries web pages, in order to find out which ones offered a digital reference service, one of the most prominently publicized services was the provision of tutorials, and of online guidelines concerned with information searching and information literacy. Thus it could be argued with certainty that there is a distinct characteristic among UK academic information professionals, the one of preferring to instruct the user on how to find information, rather than guiding the user to already by the librarian identified resources.

As one of the participants typically stated

“We provide a lot of information… But we are very keen on ensuring that students are finding resources for themselves… If we do that well, then this is reducing the number of the questions”.

7.4 The reference transaction process- Stage 4: Feedback from the user

7.4.1 Feedback from user

In question 17 of the survey respondents were asked to choose if they feel “certain”, “not certain”, or both, that the user’s query has been sufficiently answered during a face-to-face, and during a digital transaction, and to explain why.

2 of the respondents stated that they feel certain in both cases, explaining that if there is any doubt, or if the inquirer needs more information they invite her/him to contact them again or come back for further clarification and help. The respondents emphasize with their replies what a librarian providing personal information services to users should always do.

However, 3 out of 9 respondents replied that they feel uncertain as to what extent a user’s query has been sufficiently answered in both types of
reference transaction. Comparing the three replies explaining why respondents feel this way a common pattern emerges: feedback from user is often unclear. Although, in face-to-face contact it is easier for the librarian to certify the extent to which the user feels satisfied, because “you can judge body language and observe the enquirer’s subsequent behaviour if they stay in the library”, as one of the respondents stated, librarians still cannot be certain that they have understood clearly the underlying inquiry. This fact is even more underlined by another of these 3 respondents statement:

“…often they [users] seem to feel they shouldn’t be asking. I think it sometimes takes them a lot of courage to actually ask and so when you try to make sure that you have answered their question they always say that you have. There seems to be the belief that everyone else knows what he or she is doing so hard to ask for help and harder still to admit if you don’t understand”.

3 out of 9 respondents appeared more confident and stated that they feel certain in face-to-face contact because satisfaction can be confirmed by asking or observing user body language and user behaviour. On the contrary, they replied that technical difficulties and time constraints do not always allow them to confirm user satisfaction after a digital transaction.

Overall, 6 respondents replied that they feel certain with face-to-face and 2 with digital transaction, while 3 stated that they feel uncertain with face-to-face and 7 with digital transaction. These converse findings with regard to both types of reference service indicate that receiving feedback from users and confirming user satisfaction on the sufficiency of the answer is easier with face-to-face transactions (see Chart 13).
7.4.2 Librarian satisfaction

Participants were asked to report which type of reference transaction they find more rewarding. They were given the option to choose both types of reference and they were prompted to explain their choices.

6 out of 9 participants stated that both types of reference can be rewarding. The reasons they reported reveal a positive attitude towards reference work generally, and they imply that one type of reference is seen as complementary to the other.

“I like the combination of both and enjoy the variety of interaction, as they use different skills and have different challenges.”

“Both types are satisfying. In Face-to-face transactions you have the benefit of non verbal communication and in digital you can provide links to value added information.”

“Both very different and have their own challenges. I’ve always enjoyed reference work so trying to do it digitally is a learning experience...”
“Both can be rewarding since you can help people. Face to face is nice because you often get instant satisfaction that the user has found what they need. Digital can be rewarding too because well thought out answers can illicit very positive feedback.”

Only 3 of the respondents stoutly stated that they find more rewarding face-to-face reference. In their opinion:

“You can’t smile electronically. Also, I may pick up on other information needs of the student, because we would communicate more than one can in an e-mail.”

“A more complete and accurate response can be given”

“There is more interaction with the enquirer and there is more opportunity to make sure that any underlying information need is met. It is a chance to build up a relationship with library customers and provide a personalized service, It also encourages them to come back and ask for further help and advice. It allows the overall library service to be seen as friendly and approachable.”

However, none of the 9 respondents demonstrated a stout and unique preference for digital reference. Considering as well the attitudes of librarians towards face-to-face and digital reference, discussed in section 6.2, there can be claimed that the majority of the librarians find almost equally interesting, challenging and rewarding both types, but there is always a slighter preference for face-to-face reference work.

This enhances the feeling that although information professionals who work for the 21.4% of the total number of UK university libraries that offer a web form based reference service, perceive these two types of reference service as complementary, in terms of culture and attitude, they appear quite modest towards digital reference services.
Summary of Chapter 7

Stage 1
● 9 out of the 9 surveyed information professionals believe that frequently asked questions are more suitable for digital reference, but almost half of them stated that users are likely to ask these questions in a face-to-face interaction.

In the surveyed information professionals’ opinion:
● Quick reference questions and easy questions can be better handled in a digital environment.
● Research questions and difficult questions can be better handled face-to-face.
● Users are more likely to ask research and difficult questions, as well as to make requests for instruction, opinion and evaluation in a face-to-face transaction.

Stage 2
● The vast majority of the respondents agree that in a face-to-face reference transaction it is easier for users to express their queries, and easier for the librarian to understand a user’s initial query.

● All 9 respondents felt that in a face-to-face transaction it is easier for both parties to negotiate a query.

● On the contrary, all 9 respondents believe that digital means of communication make all the previously mentioned transactions between librarians and users more difficult.

● Overall, face-to-face is very much valued, as a means of offering high quality personalized reference service, by information professionals who work in the 21.4% of the UK academic libraries that offer digital reference services.
Stage 3
- Electronic resources are widely used by UK academic librarians, in both, face-to-face and digital reference, while print resources are used lesser and mainly when answering a face-to-face query.

- The vast majority of the surveyed information professionals, first choose to develop a strategy by which the enquirer will be able to discover sources of information independently, and they secondly choose to direct the user to specific information resources that contain the desired information. Referring the user to another information professional, who is presumed able to provide a better response to the query, is their third choice. This sequence of choices in answering users’ queries, are followed by the majority of the surveyed librarians in both types of reference transactions.

Stage 4
- The vast majority of the surveyed information professionals feel certain that a user’s enquiry has been sufficiently answered during a face-to-face reference transaction, but uncertain during a digital reference transaction.

- The vast majority of the surveyed information professionals find almost equally interesting, challenging and rewarding both types of reference work, but there always appears a slighter precedence in their preferences for face-to-face reference work.
Chapter 8- Speculations about the near future of reference services: traditional or digital?

Question 19, which was the last question in the survey tried to explore UK academic librarians’ opinion about the near future of reference services. It specifically asked which type of reference service do librarians believe that will be dominant in their libraries in the near future, and it prompted them to give reasons for their opinion.

The results are shown in Table 6

Table 6. What the surveyed UK academic librarians speculated about the near future of reference services in their libraries

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face-to-face/in person reference service will be dominant</td>
<td>2</td>
</tr>
<tr>
<td>Digital reference service will be dominant</td>
<td>3</td>
</tr>
<tr>
<td>Both types of reference service will be equally used</td>
<td>3</td>
</tr>
<tr>
<td>Use of both types of reference service will decline</td>
<td>1</td>
</tr>
</tbody>
</table>

Attempting to interpret the above data based only on how many of the participants chose one of the several scenarios about the near future of their reference services, which are displayed in Table 6, would yield relatively superficial conclusions, as there appears no significant consistency in the participants’ choices. Therefore, one would only be able to comment that generally there is an optimistic perspective among librarians about the use of reference as only 1 of them stated that “use of both types of reference service will decline”.

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The respondent explained that: “I think the answer is probably Google. Seems to be a trend in America that reference questions are going down and so I think the UK will find exactly the same”.

Nevertheless, the rest of the respondents do not seem to share this opinion, neither the pessimistic opinions of Ewing and Hauptman (1995), and Lewis (1995), discussed in section 2.3 of the literature review. And although, the rest of the scenarios are almost equally favored, with dominance of face-to-face reference being slightly lower, a meticulous examination of the follow up explanations of the respondents actually results in a firmer speculation that both types of reference service will be almost equally used in the near future.

For example the 2 respondents who initially chose face-to-face reference dominance, also stated that digital reference is already an essential part of their services and that they are moving towards promoting even greater use of it. Additionally, 2 of the 3 respondents, who initially chose digital reference dominance, underlined the need to market this service more, and implied that traditional reference is still there to fulfill the voids of a still to be and a long way to go digital reference service.

Overall, apart from the 3 respondents who stoutly chose the scenario of both types of reference service being equally used in the near future, another 4 share almost the same opinion, although they initially appeared slightly biased towards different scenarios. Thus, it could be argued that 7 out of 9 respondents believe more in a unitary and complementary reference future, rather than a dividing one, where new practices take over old ones.

Two of the respondents’ statements characteristically summarize this perspective:
“People will always like the human touch so face to face will continue though it may decline gradually. Digital will expand but only gradually as technology makes 24/7 and live chat more available across the sector”.

“Users will still wish to use face to face reference services particularly for research queries which may be more complex. Digital service [is] useful for remote students/distance learning”.

**Summary of Chapter 8**

7 out of 9 surveyed information professionals believe more in a unitary, rather than a dividing future of the reference services, where digital reference services will be developed in order to complement an existing face-to-face service.
Chapter 9- Conclusions and Recommendations

9.1 Introduction

After the advent of the World Wide Web and the ongoing transformation of traditional libraries into hybrid and ultimately into digital ones, that aim to facilitate access to resources from wherever and whenever and without the intervention of human intermediaries, a crucial question is raised: What is the present of personalized information services, such as reference services that have traditionally operated with the intervention of human intermediaries, and do these services have a future?

On the one hand, statistics show a general decrease in enquiry numbers received by traditional enquiry library desks. On the other hand, libraries worldwide and especially in the USA are moving towards a new type of personalized provision of information and reference services, the digital reference.

Therefore, the present study was conducted in order to investigate the current climate in reference work, and to attempt a sound speculation about the possible future of it, concerning specifically the UK academic libraries domain. It has focused particularly on comparing the traditional face-to-face/in person and the emerging digital reference services.

The study was based on the valuable opinions of the UK academic information professionals who have an experience in both types of reference service, and who work in the 21.4% of the total number of UK university libraries that offer a web form based reference service. Comparing in detail the several aspects of these two types of reference service, helped into understanding their features, advantages and disadvantages better, and into discovering the ways these are currently perceived by the key professionals of those services.
Taken into account this study’s findings, policy makers and implementers in the UK academic library domain can make more informed decisions about how to improve the quality of the reference services they offer, and front line staff can obtain both a broader and an in-depth picture over issues related to the daily interaction with university library users. They specifically can:

- Be informed as to the extent that there have been developed and used digital reference services in UK academic libraries, and as to the extent that traditional face-to-face reference services are used.

- Be aware of the differences and similarities of those two types of reference service, in terms of place and time, in terms of communication, and in terms of the four stages of the “reference interview”, and how information professionals feel that these differences and similarities affect the quality of reference transactions between library staff and library users.

- Learn what information professional speculate about the future of reference services.

9.2 The extent to which there have been developed digital reference services in UK academic libraries, and the extent to which traditional face-to-face reference services are used.

According to the observations and the results of the secondary search that was conducted for the purposes of this study on the web sites of 105 UK university libraries, according to the findings that emerged from the opinions of the UK information professionals, who work in the 21.4% of the total number of the UK university libraries that offer a web form based reference service, and in conjunction with the issues and outcomes discussed in the five closely related to the subject articles (see section 2.1), it can be concluded that:

Digital reference services made a solid beginning in the UK academic domain, in 2001, which is the median year of these services’ establishment,
and libraries are moving progressively, from 1997 to 2005, to more complex
technologies (from email to web forms, and from web forms to real time chat). Furthermore, digital reference services as a whole are widely used
(56.25%), and occasionally used (43.75%) by the 9 surveyed libraries, which reveals an optimistic attitude towards the use of these services, as none of the surveyed libraries reported that they are rarely used. Another interesting observation, worth taking into consideration by libraries wishing to increase the use of their digital reference services as a whole, is that the more the types of digital reference services offered by the 9 surveyed libraries, the more these libraries tend to report that these services are used.

This beginning of digital reference may be solid, as shown from above and as shown from the 41.2% of the total number (105) of the UK university libraries offering a web form based reference service to their users, yet, digital reference is still in its infancy in the UK academic domain.

This is evidenced by the fact that the 43.75% of the 9 surveyed libraries stating that their digital reference services are only occasionally used, reported that this is mainly because they have not publicized them widely. A fact that has also been revealed by searching the relevant libraries' web sites, where it proved difficult to locate the services, as a large number of them was not directly linked to the library's homepage. Low publicity of a service implies that the institution considers it a novelty or experimental and is not yet ready to deal with the issues and the implications of a wider service use, which will probably be the result of a wider publicity.

Another element, also indicative of the fact that digital reference is in its early stages, is that email reference service is more widely used (83.3%) than web forms (44.4%), although email has stopped being popular as a means of embarking on digital reference after 2002, by the 9 surveyed libraries. Email, firstly consists of a simpler technology with less financial, technical infrastructure and staff formal commitment demands, and
secondly, this alone does not announce a formal digital reference service to library users, as web forms or real time chat do.

Moreover, only a small proportion of the surveyed libraries and as it has been discovered by the relevant literature and the search on the libraries’ web sites, only a small proportion of the 42 university libraries that offer digital reference services in the whole UK academic domain, are experimenting with cooperative digital reference models. This also implies that libraries do not feel yet ready to commit themselves to the financial, technical and staff time obligations that such a cooperative endeavor may entail.

Overall, it can be concluded that UK academic libraries of 2005 are in the same digital reference climate that USA academic libraries were according to a survey conducted by Janes, Carter & Memmott (1999), in 1999.

Thus, UK academic libraries have lagged behind and the main reasons that the 9 surveyed libraries report about this are funding and staffing issues and constraints, resistance to change, and the fact that they serve many more on campus than distance learning students, in comparison to the USA libraries.

As for the current climate in face-to-face reference, this is somewhat ambiguous, and it cannot be argued with certainty that there is a change in enquiries numbers, that would allow for a sound inference as to the extent to which face-to-face reference services are used. However, findings from the comparison between face-to-face and traditional reference services, although not focused on estimating the extent of these services’ usage, indicate strongly that the first is very much valued by staff and users, as a means of quality reference communication. Nevertheless, this alone does not portray the extent to which traditional reference services are used in UK academic libraries.
Thus, although it did not become clear if there is a change in enquiries numbers, participating libraries that reported a decrease in the enquiries numbers, support that this is mainly because users have become increasingly independent in locating resources for themselves. This reason triggered certain questions: Is the familiar pattern in traditional reference changing, or has it changed already? And if this is the case, then what has it been transformed into? Can this still be called reference service in the broad sense?

Although the above questions can be the issues of the investigation of another study, it was thought that the reason that libraries reported is a significant indication of the general attitude of UK academic libraries towards reference work, that appear to shift from mere provision of information services to provision of information searching and information literacy tutorials. This indication is also apparent, not only on the libraries’ web pages, that offer numerous online instructions about library use and even a great number of online information searching guidelines and online information literacy tutorials, but also in the 9 respondents practices, when they conduct a reference transaction with the user. Their first choice is to instruct the user on how to find information rather than to provide her with the actual information, even when the transaction is conducted digitally. Although, this is a subject belonging to the next issue discussed, that of the comparison between face-to-face and digital reference transactions, it is worth mentioning it at this point, because it enhances this notion further and it is revealing about UK information professionals’ culture towards reference work.

Overall, considering a number of information reviewed for this study, as well as the findings of this study, it can only be speculated that traditional reference in the UK academic libraries, is probably taking or have already taken a form which resembles that of the reference services model discussed by Garner (1999) (see section 2.3), and in that sense it can be argued that reference as a whole, is widely used.
9.3 The Comparison of face-to-face and digital reference transaction

Objectives 2 to 4 of the present study were specifically focused on the comparison between face-to-face and digital reference transaction. There was examined separately in terms of place and time, in terms of communication, and in terms of the four stages of the “reference interview”, how information professionals perceive the differences and similarities of face-to-face and digital reference services in their daily practice and experience. Inferring from the respondent’s replies there was made an effort to find out how these differences and similarities affect the quality of reference transactions between library staff and library users.

A cumulative approach to the interpretation of the findings with regard to the comparison of the two types of reference services, allows for a synthesis of their several elements and results in a concise and more complete image. This complete image reveals that the vast majority of the surveyed information professionals favor overall more face-to-face reference transaction.

Thus, it can be concluded that face-to-face reference transaction is higher valued than digital reference transaction, as a means of offering high quality personalized reference services, by information professionals who work in the 21.4% of the UK academic libraries that offer both types of reference services.

The main reasons that result in face-to-face reference being perceived as a higher quality personalized reference service than digital reference are that in the respondents’ opinion and experience, the advantages of the human contact and live interaction which can take place between user and librarian only at the enquiry desk, facilitate and enhance the successful outcome of a reference transaction.

More specifically, the vast majority of the respondents agree that in a face-to-face reference transaction it is easier for users to express their queries,
and easier for librarians to understand a user’s initial query. All 9 respondents reported that in a face-to-face reference transaction it is also easier for both parties to clarify and negotiate a query, and finally the vast majority of the respondents feel certain that the query has been sufficiently answered.

The three most significant communication skills and attributes that can make this interaction between user and librarian easier, and therefore resulting in a richer and more in-depth contact, have been ranked by the majority of the respondents in the following order of importance: 1. Good verbal/oral communication skills (e.g. the ability to reflect feelings verbally and use encouraging language), 2. A desire for live interaction with people, 3. Good nonverbal communication skills (e.g. eye contact, gestures, posture, and facial expression). Consequently, information policy makers, and reference staff should also take into account the importance of these skills when recruiting staff or when deciding to upgrade existing staff skills.

Other factors that cause generally a more satisfactory outcome for both parties, in face-to-face than in a digital reference transaction, are the following:

Although all types of questions, as they have been identified for the purposes of this study, are asked by enquirers in both types of reference, respondents report that users are more likely to ask research and difficult questions, as well as to make requests for instruction, and opinion/evaluation in a face-to-face transaction. Moreover, respondents feel that the above 4 types of questions can be better handled face-to-face. Only frequently asked questions, quick reference and easy questions were thought to be more suitable for digital reference, although according to the respondents’ experience users ask these 3 types of questions almost equally in both types of reference.

Overall, the range of types of the questions librarians find more suitable for (4 types), and users are likely to ask face-to-face, either more (4 types)
than, or almost equally with (3 types) digital reference, is broader than the range of types of questions librarians find suitable for (3 types), and users ask in (3 types but equally with face-to-face) a digital transaction. Consequently, face-to-face transaction can be considered a higher quality service because more types of questions are asked which is satisfactory for the user and more types of questions can be better handled which is satisfactory for the librarian.

Another element that boosts the value of face-to-face reference service over digital reference service is that users can have an immediate answer to their question, in all 9 respondents’ experience. Furthermore, information professionals point out that the majority of users are not willing to undergo the time delay that email reference transaction usually entails.

Another merit of face-to-face reference, in most respondents’ opinion, is that users can access the recommended resources immediately, in case they are available only in print. An additional advantage of face-to-face reference is the fact that information professionals, although using overall significantly more electronic than print resources, when answering a query, they demonstrated a slightly increased tendency to use also print resources in face-to-face rather than in digital reference. This encourages the notion that users might receive a more satisfactory answer face-to-face, because they are more likely to be also directed by the librarian to the affluence of a library’s print collection, the quality of which should not be underestimated because of the trends of the electronic epoch.

However, digital reference, in most respondents’ opinion, is useful but mainly for distance learners, or when users are off campus and they have no alternative choice to be served. If there is an increase in the number of distant learning university students, and if libraries publicize their digital reference services more, this will probably be more favored by library users, in terms of time and place.
Additionally, 1/3 of the respondents seem to acknowledge that there is a number of users who may be better served through digital reference because they are not likely to approach the enquiry desk out of fear that they might look unknowledgeable.

For distance learners and for the above type of users digital reference has to be an alternative of equal quality with face-to-face reference service. Therefore, the majority of the respondents rank the most important skills and attributes an information professional has to exhibit when involved in digital reference work, according to the following order of importance: 1. Good writing skills (e.g. punctuation and use of descriptive vocabulary), 2. Good technical skills (e.g. email use and Internet use), 3. Awareness of the complexity of language issues

Moreover, all 9 librarians seem to believe that digital reference can remove some of the reference work load by the provision of a set of frequently asked questions on the library’s web page, although this is not a direct, but rather an indirect reference service, that only half of the library’s users will ultimately access, in the respondents’ opinion.

Finally, information professionals appear willing to answer quick reference and easy questions digitally, as the vast majority of them reported that these types of questions are more suitable for digital reference. Taken into consideration the complexities of email reference communication that prevented the majority of librarians from preferring digital reference in terms of communication and in terms of the four stages of the reference interview, one can understand why they mostly chose these types of questions.

Nevertheless, they could have well stated that quick reference and easy questions are more suitable for face-to-face reference, because emailing a user even an easily answered question, can be more time consuming than answering the question face-to-face. The fact that they did not stated that, in conjunction with the fact they find almost equally interesting, challenging and rewarding both types of reference, demonstrate a hint that libraries
acknowledge a need to start taking further steps with regard to this new service. This serves as a good occasion to proceed on the last section of this study’s conclusions which is about the future of reference services.

9.4 Information professionals’ speculations about the future of reference services

1/3 of the respondents foresaw that in the near future, digital reference will be dominant in their libraries and 1/3 predicted that both types will be equally used. 2 of the rest of the respondents felt that face-to-face reference will be dominant, and 1 of the respondents stated that use of both types will decline, and will be presumably replaced by commercial online information services.

There is no significant consistency in the respondents’ choices of the four different scenarios they were presented with in the survey. This fact apart from demonstrating what information professional believe for the future of reference in the libraries they work for, it also certifies to a degree that the future of reference is generally ambiguous. However, a meticulous examination of the reasons they gave for their opinions reveals that 7 out of 9 surveyed information professionals believe more in a unitary, rather than a dividing future of the reference services, where new practices can serve users’ emerging demands of the electronic era, and old practices can continue offering high quality personalized information services. A view which is worth taking into consideration when planning for the future of reference services.

9.5 Short term recommendations for the libraries

Ways of increasing the digital reference service’s usage:

- Libraries should publicize their digital reference services more widely, e.g. by using eye-catching services announcements and by linking these directly from their libraries’ homepage. Furthermore, they should provide users with
clear instructions as to what types of questions they can ask in order to avoid having users wondering if they should use the service or not.

- Libraries should consider offering more than one type of digital reference service. Additional digital reference services can be in the simple form of email which requires no significant technical infrastructure, and financial resources. However simple, if formally treated (formal commitment of staff and wide publication), it can be surprisingly efficient for distance learning users and for users when they are not on campus, or for those who are not likely to approach the enquiry desk because they prefer a certain degree of anonymity.

- Key information professionals should raise awareness among library staff of the importance of digital reference, at least for the above mentioned library users. Brief iterative sessions and involvement of as greater number of library staff as possible, because provision of personalized reference and information services concerns all staff in a library, could remove the fear for the new and help cultural shift.

Means of enhancing the quality of reference services:

- Libraries should pay attention to the importance of communication skills and other attributes suggested by the surveyed information professionals, when recruiting new staff or when deciding to upgrade staff skills, because these can lead to elimination of communication constraints among library staff and users in both types of reference transactions.

- Library staff should be aware of the stages, the features and the demands of the reference interview. Especially non-library staff, who delivers front line reference/enquiry services, should be given the opportunity through library learning activities (e.g. learning hours) to discuss their questions and difficulties and to be informed more thoroughly about certain important aspects of their work.
9.6 Long term recommendations for the libraries

- Libraries should work cooperatively for the development of common models of evaluation of reference services performance both for traditional and digital reference, which should not be based only on enquiries numbers. A cooperative model will enable consistency and credibility in the results and therefore libraries will always have an important tool to measure and demonstrate the value of the services they provide. Moreover, conducting regularly user satisfaction researches with regard to reference services will enable them to find out to what extent library users value personalized reference services and therefore set more precise and tangible goals to improve service provision.

- Among libraries’ main priorities should be to identify what model of reference services they provide and then to rebuild it in accordance with users’ demands who although they have entered the new electronic epoch, they are still served in a hybrid library environment.

- UK academic libraries should reconsider the benefits of the development of a domestic cooperative digital reference services model, following the example of UK public libraries.

9.7 Recommendations for further research

- Conducting a similar research by surveying users and recording their opinions with regard to both types of reference services, would enrich our understanding of users’ demands.

- An investigation comparing user satisfaction with regard to library information provision and commercial information provision would enlighten our understanding of what libraries do best or what libraries should do best in order to avoid being taken over by non-library services.
• Exploring how libraries could benefit from the practices and models that e-business adopt in order to build trust into their relations with customers with reference to personalized information services.
Bibliography


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### Appendix 1- The Framework for the Comparison

<table>
<thead>
<tr>
<th>Comparison Features</th>
<th>Traditional Reference</th>
<th>Digital Reference</th>
<th>Implications of the Differences</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Place/Time</strong></td>
<td>Transaction takes place: at the “enquiry desk” as physical place/ within the library’s working hours</td>
<td>Transaction takes place: at the “virtual enquiry desk” on the Web/ 24/7</td>
<td>Implications for the services’ use</td>
</tr>
<tr>
<td><strong>Communication</strong></td>
<td>Synchronous, conducted in speaking</td>
<td>Asynchronous, conducted in writing</td>
<td>Implications for the skills needed by the librarian and for the services’ use</td>
</tr>
<tr>
<td><strong>Reference Interview: Stage 1</strong></td>
<td>Dialogue initiated by the user’s enquiry, in speaking and in face-to-face</td>
<td>Dialogue initiated by the user’s enquiry, in writing and remotely</td>
<td>Implications for the types of questions asked</td>
</tr>
<tr>
<td><strong>Reference Interview: Stage 2</strong></td>
<td>Librarian collaborates lively with user to negotiate and clarify the query</td>
<td>User is expected to clarify the query on his/her own by understanding and following writing guidelines</td>
<td>Implications for the quality of communication</td>
</tr>
<tr>
<td><strong>Reference Interview: Stage 3</strong></td>
<td>Librarian answers the query in speaking and in face-to-face</td>
<td>Librarian answers the query in writing and remotely</td>
<td>Implications, for types of resources used, and for search &amp; answering strategies</td>
</tr>
<tr>
<td><strong>Reference Interview: Stage 4</strong></td>
<td>Receiving feedback from the user in speaking and in face-to-face</td>
<td>Receiving feedback from the user in writing and remotely</td>
<td>Implications for the satisfaction rate of both user and librarian</td>
</tr>
</tbody>
</table>
Appendix 2 – Cover email

Cover email title: An email survey about reference/enquiry services in UK academic libraries

Dear colleague,

I am an MA librarianship student at the University of Sheffield, Department of Information Studies, and I am investigating the differences and similarities between face-to-face reference work and digital reference work in UK Academic Libraries. Your library has been approached to participate in the project because we believe that it has had some experience of delivering both face-to-face and digital reference/enquiry services.

I would appreciate it if you could contribute your valuable opinion to help with my research. You are kindly asked to complete the attached questionnaire (questionnaire.doc) which includes 19 questions spread over many pages in order to make it easier to complete. Overall, it has been estimated that it takes approximately 35 minutes to complete and I would be grateful if you could send it back as soon as possible and not later than the 22nd of July 2005.

I also attach a participant’s information sheet (participant_information_sheet.doc) which gives further details of the project.

If you are aware of any other colleagues within your library institution that also have some experience with reference work (face-to-face and digital) and that would be willing to participate, I would be grateful if you could forward this email to them.

Thank you in advance for your help.
I look forward to hearing from you soon.

Foteini Efthymiou.
Appendix 3 – The Questionnaire

A Comparison of the Performance of Digital and Face-to-Face/In-Person Reference/Enquiry Services in UK Academic Libraries – an Email survey

We recommend that you complete this form electronically and that you SAVE your answers when you reach the end of each page – use FILE, SAVE AS… and then give your file a NAME, e.g. ‘questionnaire_response’

Q1. What type of digital reference/enquiry service has been established by your library?

Please place an X in the box next to option a), b) or c). You may choose more than one options.

a) Web Form [ ]
b) Email [ ]
c) Online Chat [ ]

Q2. When did your library start offering a digital reference/enquiry service to your users?

Please give the year for each type of service offered.

a) Web Form – [_______]
b) Email – [_______]
c) Online Chat – [_______]

Q3. To what extent is your digital service used by your library’s users?

Please place an X in the box next to option a), b), or c), according to your opinion.

If it is possible to quantify approximately the proportion of enquiries received by this route, then please add the % use next to the relevant box.

<table>
<thead>
<tr>
<th>Web Form</th>
<th>Email</th>
<th>Online Chat</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Widely used</td>
<td>a) Widely used</td>
<td>a) Widely used</td>
</tr>
<tr>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>b) Occasionally used</td>
<td>b) Occasionally used</td>
<td>b) Occasionally used</td>
</tr>
<tr>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>c) Rarely used</td>
<td>c) Rarely used</td>
<td>c) Rarely used</td>
</tr>
<tr>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>
Q4. If your digital service is **occasionally used** or if it is **rarely used**, then what you think are the reasons for this? *Please place an X in the box next to option a), b), c) or d). You may choose more than one options.*

<table>
<thead>
<tr>
<th>Option</th>
<th>Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Not widely publicized by the library</td>
<td>[   ]</td>
</tr>
<tr>
<td>b) Not liked by the users, although publicized by the library</td>
<td>[   ]</td>
</tr>
<tr>
<td>c) Users become increasingly independent in locating resources for themselves</td>
<td>[   ]</td>
</tr>
<tr>
<td>d) Other reasons (Please feel free to add any other reasons according to your point of view):</td>
<td></td>
</tr>
</tbody>
</table>

Q5. Has a change been observed in the number of reference enquiries received by your face-to-face/in-person reference/enquiry service, since your digital service has been available? *Please place an X in the box next to option a), b), c) or d) according to your opinion.*

If it is possible to quantify approximately the change, then please add the % change next to the relevant box.

<table>
<thead>
<tr>
<th>Option</th>
<th>Box</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Increase in face-to-face/in-person enquiries</td>
<td>[   ]</td>
</tr>
<tr>
<td>b) No change in face-to-face/in-person enquiries</td>
<td>[   ]</td>
</tr>
<tr>
<td>c) Decrease in face-to-face/in-person enquiries</td>
<td>[   ]</td>
</tr>
<tr>
<td>d) Don't know</td>
<td>[   ]</td>
</tr>
</tbody>
</table>
Q6. If there has been a change (increase or decrease) in enquiry numbers received by your face-to-face/in-person service, then what you think are the reasons for this?

*Please place an X in the box next to option a), b) or c). You may choose more than one options.*

a) Users prefer the digital reference/enquiry service of your library [ ]
b) Users become increasingly independent in locating resources for themselves [ ]
c) Other reasons (*Please feel free to add any other reasons according to your point of view)*:

Q7 (i). In terms of place and time, which type of reference service do you think is more convenient for the librarian?

*Please place an X in the box next to option a) or b) only.*

a) In terms of place and time, I prefer face-to-face reference service [ ]

b) In terms of place and time, I prefer digital reference service [ ]

According to your selection, go to Section a, or Section b only of Question 7(ii).
Section a of Q7 (ii).

Please place an X in the box next to the reason(s) why you prefer face-to-face/in person reference service.

● The reason(s) why I find face-to-face/in-person reference service more convenient, in terms of place and time, is/are:
  I like the sense of human interaction at the enquiry desk [    ]
  I typically find it less time consuming to answer to a query [    ]
  Other reasons (Please feel free to add any other reasons according to your point of view):

Please place an X in the box next to the reason(s) why you do not prefer digital reference service.

● The reason(s) why I find digital reference service less convenient, in terms of place and time, is/are:
  I typically perceive it as a solitary activity which does not suit me [    ]
  I find it is more time consuming to having to type an answer [    ]
  Other reasons (Please feel free to add any other reasons according to your point of view):
Section b of Q7 (ii).

Please place an X in the box next to the reason(s) why you prefer digital reference service.

- The reason(s) why I find digital reference service more convenient, in terms of place and time, is/are:
  - Workload can be distributed among staff [ ]
  - It allows more time to reflect on the query [ ]
  - Other reasons (Please feel free to add any other reasons according to your point of view):

Please place an X in the box next to the reason(s) why you do not prefer face-to-face/in person reference service.

- The reason(s) why I find face-to-face/in person reference service less convenient, in terms of place and time, is/are:
  - I find it more difficult to perform the service efficiently while the enquirer is present [ ]
  - I typically find it more time-pressured [ ]
  - Other reasons (Please feel free to add any other reasons according to your point of view):
Q8 (i) According to your experience, in terms of **place and time**, which type of reference service do you think is more convenient for **most users**?

*Please place an X in the box next to option a) or b) only.*

a) According to my experience most users seem to prefer face-to-face reference service in terms of place and time [ ]

b) According to my experience most users seem to prefer digital reference service in terms of place and time [ ]

*According to your selection, go to Section a, or Section b only of Question 8 (ii).*
Section a of Q8 (ii).

Please place an X in the box next to the reason(s) why you think users prefer face-to-face/in person reference service.

- I think that the reason(s) why users seem to prefer face-to-face/in-person reference service, in terms of place and time, is/are:

Users can have an immediate answer to their query [ ]

Users can access the recommended resources immediately [ ]

Other reasons (Please feel free to add any other reasons according to your point of view):

Please place an X in the box next to the reason(s) why you think users do not prefer digital reference service.

- I think that the reason(s) why users may not prefer digital reference service, in terms of place and time, is/are:

Users are not sure that their query will be read and answered [ ]

Users expect that the answer to their query might take longer [ ]

Other reasons (Please feel free to add any other reasons according to your point of view):
Section b of Q8(ii).

Please place an X in the box next to the reason why you think users prefer digital reference service.

● I think the reason(s) why users seem to prefer digital reference service, in **terms of place and time**, is/are:

Users are able to submit their queries wherever and whenever it is convenient for them [ ]

Other reasons (*Please feel free to add any other reasons according to your point of view*):

Please place an X in the box next to the reason(s) why you think users do not prefer face-to-face reference service.

● I think the reason(s) why users may not prefer face-to-face/in-person reference service, in **terms of place and time**, is/are:

Users find it difficult to locate the library’s enquiry desk [ ]

Users find it time consuming to visit the library’s enquiry desk [ ]

Other reasons (*Please feel free to add any other reasons according to your point of view*):
Q9. In your opinion what kind of personal, communication and other skills and attributes are needed most by the librarian for face-to-face/in-person communication with the user?

*Please rank them in order of importance, starting from 1 = most important*

<table>
<thead>
<tr>
<th>Rank</th>
<th>Skill</th>
<th>Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A desire for live interaction with people</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Good verbal/oral communication skills (e.g. the ability to reflect feelings verbally and use encouraging language)</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Good nonverbal communication skills (e.g. eye contact, gestures, posture, and facial expression)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Awareness of the complexity of language issues</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Sensitivity to cultural and individual differences</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Good writing skills (e.g. punctuation and use of descriptive vocabulary)</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Good technical skills (e.g. email use and Internet use)</td>
<td></td>
</tr>
</tbody>
</table>

**Other** (please specify):
Q10. In your opinion what kind of personal, communication and other skills and attributes are needed most by the librarian for communication with the user through digital reference service?

*(Please rank them in order of importance, starting from 1 = most important)*

<table>
<thead>
<tr>
<th>Rank</th>
<th>Skill Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A desire for live interaction with people</td>
</tr>
<tr>
<td>2</td>
<td>Good verbal/oral communication skills (e.g. the ability to reflect feelings verbally and use encouraging language)</td>
</tr>
<tr>
<td>3</td>
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<td>Good writing skills (e.g. punctuation and use of descriptive vocabulary)</td>
</tr>
<tr>
<td>7</td>
<td>Good technical skills (e.g. email use and Internet use)</td>
</tr>
<tr>
<td></td>
<td><strong>Other (please specify):</strong></td>
</tr>
</tbody>
</table>
Q11. **In terms of communication**, which type of reference service do you feel matches the following descriptions?

*Place an X in the appropriate boxes.*

<table>
<thead>
<tr>
<th>Q11(i) For me as a librarian it is:</th>
<th>Face-to-face communication</th>
<th>Communication through digital media</th>
</tr>
</thead>
<tbody>
<tr>
<td>More challenging</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More interesting</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More difficult to understand the user’s initial query</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easier to understand the user’s initial query</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More difficult to negotiate the query with the user</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easier to negotiate the query with the user</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Q11(ii). For the users it is:</th>
<th>Face-to-face communication</th>
<th>Communication through digital media</th>
</tr>
</thead>
<tbody>
<tr>
<td>More difficult to express their initial query</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easier to express their initial query</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More difficult to negotiate their query with the librarian</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easier to negotiate their query with the librarian</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q12. In your experience, which type of reference service do users seem to prefer in terms of communication? Please place an X in the box next to option a) or b). Then place an X in the box(es) next to the reason(s) why you think the users prefer this type of reference.

a) In my experience users prefer face-to-face reference service in terms of communication [ ]

The reason(s) why is/are:

They prefer live interaction [ ]

They find it easier to express their queries [ ]

Other (Please feel free to add any other reasons according to your point of view):

b) In my experience users prefer digital reference service in terms of communication [ ]

The reason(s) why is/are:

They enjoy working on their own [ ]

They are afraid they might look unknowledgeable if they ask for information in face-to-face contact [ ]

Other (Please feel free to add any other reasons according to your point of view):
Q13. In your opinion which type of reference service is more suitable for the following types of questions?
*Please place an X in the appropriate boxes.*

<table>
<thead>
<tr>
<th>Types of Questions</th>
<th>Face-to-face reference service</th>
<th>Digital reference service</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequently asked questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A request for instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A request for opinion/evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quick reference questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easy questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difficult questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify):</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q14. In your experience which types of questions are users more likely to ask during a face-to-face transaction and which types in a digital transaction?
*Please place an X in the appropriate boxes.*

<table>
<thead>
<tr>
<th>Types of Questions asked by users</th>
<th>Face-to-face transaction</th>
<th>Digital transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frequently asked questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A request for instruction</td>
<td></td>
<td></td>
</tr>
<tr>
<td>A request for opinion/evaluation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quick reference questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Easy questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Difficult questions</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other (please specify):</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q15. Which type of resources do you use most often to respond to a query?

*Please place an X in the appropriate boxes.*

<table>
<thead>
<tr>
<th>Type of resource</th>
<th>In face-to-face transaction</th>
<th>In digital transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Print</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Electronic</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Q16. Which of the following is your most preferred way of answering a query? (Please rank them according to personal preference, starting from 1 = most preferred)

<table>
<thead>
<tr>
<th>Ways of answering a query</th>
<th>In face-to-face transaction</th>
<th>In digital transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Directing the user to specific information resources that contain the desired information</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Developing a strategy by which the user will be able to discover sources of information independently</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Referring the user to another information professional and/or asking advice from another information professional who is presumed able to provide a better response to the query</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Q17. When a reference transaction has been completed, how certain do you feel that the user’s query has been sufficiently answered?

*Please place an X in the appropriate boxes.*

<table>
<thead>
<tr>
<th>I feel</th>
<th>In face-to-face transaction</th>
<th>In digital transaction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certain</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not certain</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Please explain why:

Q18. Which type of reference transaction do you find more rewarding?

*Please place an X in the box next to option a) or b) or both*

a) Face-to-face reference transaction [ ]  
b) Digital reference transaction [ ]

Please explain why:
Q19. In your opinion, which type of reference service will be **dominant in your library** in the near future?

*Please place an X in the box next to option a), b), c) or d).*

a) Face-to-face in person reference service will be dominant [ ]
b) Digital reference service will be dominant [ ]
c) Both types of reference service will be equally used [ ]
d) Use of both types of reference service will decline [ ]

Please explain why:

Thank you for completing the questionnaire.

Now, please place an X in the box below, next to the participant's statement of consent.

**I have read the participant’s information sheet and I agree to participate in this research.** [ ]

The participant's information sheet (participant_information_sheet.doc) is attached to the email message sent with this questionnaire.
Finally, please, **save** this file on your computer, **attach** it to an email and **send** the completed questionnaire to lip04fe@sheffield.ac.uk.

I would appreciate it if you could send it as soon as possible and not later than **8th July 2005**.

Alternatively, you can **print** out the questionnaire and **post** it to:

Foteini Efthymiou  
Victoria Hall (B.4.2)  
61 Eldon Street,  
Sheffield  S1 4GX  
.

If you are **also willing to be interviewed**, please complete the information requested on the following page and return it **as soon as possible**.  
The interview will take place not later than **22th July 2005**.

If you do not wish to participate further, you can ignore the next page.

---

**Thank you very much for your time and your cooperation!**

---

**Contacts for further information**

<table>
<thead>
<tr>
<th>Researcher (student)</th>
<th>Tutor (supervisor)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foteini Efthymiou</td>
<td>Professor Sheila Corrall</td>
</tr>
<tr>
<td>Victoria Hall (B.4.2)</td>
<td>The University of Sheffield</td>
</tr>
<tr>
<td>61 Eldon Street,</td>
<td>Department of Information Studies</td>
</tr>
<tr>
<td>Sheffield  S1 4GX</td>
<td>Regent Court, 211 Portobello Street</td>
</tr>
<tr>
<td>Email: <a href="mailto:lip04fe@sheffield.ac.uk">lip04fe@sheffield.ac.uk</a></td>
<td>Sheffield  S1 4DP</td>
</tr>
<tr>
<td>Tel  +44 (0)114 289 3404 (hall)</td>
<td>Email: <a href="mailto:s.m.corrall@sheffield.ac.uk">s.m.corrall@sheffield.ac.uk</a></td>
</tr>
<tr>
<td>07774 520 824 (mobile)</td>
<td>Tel +44 (0)114 222 2632</td>
</tr>
</tbody>
</table>

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**Interviewee’s Initial Contact and Informal Confirmation of Participation**

I informally confirm that I am willing to take part as an interviewee in the project entitled “A Comparison of the Performance of Digital and Face-to-Face/In-Person Reference Services in UK Academic Libraries” conducted by Miss Foteini Efthymiou, who is an MA Librarianship student at the University of Sheffield.

<table>
<thead>
<tr>
<th><strong>Personal details</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>First Name and Last Name: _____________________________</td>
</tr>
<tr>
<td>Give your Job title: _____________________________</td>
</tr>
<tr>
<td>I have experience in delivering: [Delete as appropriate]</td>
</tr>
<tr>
<td>– (traditional) face-to-face reference information services: YES / NO</td>
</tr>
<tr>
<td>– digital reference information services: YES / NO</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Contact Information</strong></th>
<th>Please complete one or more of the following:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Email address:</td>
<td></td>
</tr>
<tr>
<td>Work telephone number(s) and contact hours:</td>
<td></td>
</tr>
<tr>
<td>Mobile phone number(s) and contact hours:</td>
<td></td>
</tr>
<tr>
<td>Postal address:</td>
<td></td>
</tr>
</tbody>
</table>

How do you wish the interview to be conducted? [Delete as appropriate]

Face-to-face: YES / NO

Via chat: YES / NO

Please note that you are free to reconsider your choice.

Thank you for your time and for your informal confirmation of participation.
Appendix 4- Participant Information Sheet

A Comparison of the Performance of Digital and Face-to-face/In-Person Reference Services in UK Academic Libraries

The overall purpose of this research project is to expand our understanding of the present and possible future of reference work in UK academic libraries. We are interested in exploring:

- how digital and face-to-face/in-person reference work resemble or differ from each other;
- what the implications of these differences and similarities are for the library, its staff and users;
- how complementary these modes of reference service are for the library users’ needs and the libraries themselves.

This research project started on 20th May 2005 and will finish by 1st September 2005. The research involves a questionnaire survey of reference/enquiry staff in UK academic libraries. Your library has been approached to participate in the project because we believe that it has had some experience of delivering both (traditional) face-to-face and digital reference/enquiry services.

All data collected for this project will be regarded as confidential. It will be stored securely on the researcher’s computer and kept only for the duration of the study. All information appearing in the report will be anonymised so that participating individuals and their libraries cannot be identified.

You are welcome to ask for a summary of the project’s findings to be sent to you on completion.

If you decide to participate, you will be expected to complete a questionnaire, which should take no more than 35 minutes to complete. It can either be completed electronically and returned by email or printed out and returned by post. The questionnaire includes a section asking whether you are willing to take part in an interview.

Thank you for reading this.

Contacts for further information

<table>
<thead>
<tr>
<th>Researchers (student)</th>
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</thead>
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</table>