AN INVESTIGATION INTO ATTITUDES TOWARDS PERSONALIZATION IN THE MUSEUM AND LIBRARY SECTOR: A CASE STUDY AND SURVEY TO ASSESS THE LEVEL OF INTEREST IN THE IMPLEMENTATION OF PERSONALIZATION IN MUSEUMS AND LIBRARIES

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By

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Abstract

Background

The use of personalization within libraries and museums has so far only received a restricted amount of attention from researchers. The current study is therefore of value in that it addresses an area of research that has not been extensively covered. The available literature on personalization in libraries provides specific examples of the methods of personalization that are currently available to both sectors. In addition, the available literature also discusses various advantages and disadvantages of personalization in museums and libraries. The identification of the benefits and drawbacks of personalization can help provide an insight into the analysis of the responses to study.

Aims

The study aimed to assess the level of interest in the implementation of personalization methods in museums and libraries. Specifically, the study focused on a case study of Barnsley Central Library and a survey of Information students at the University of Sheffield.

Methods

A self-completion questionnaire to assess the level of interest in various methods of personalization was distributed to Postgraduate Information students at the University of Sheffield via an email list. A comparable self-completion questionnaire was distributed to staff at Barnsley Central Library. The responses to both questionnaires were amalgamated and discussed in the results chapter of the dissertation.

Results

The participants’ responses to both questionnaires revealed that they identified both advantages and disadvantages of the various available methods of personalization. These benefits and drawbacks were compiled into specific themes that reflected the participants’ level of interest in the various different methods. In the analysis of the responses, comparable themes emerged in the themes identified by the Information students and the staff at Barnsley Central Library.

Conclusions

Overall, the study contributed to the existent literature by providing an analysis of the level of interest in methods of personalization amongst information professionals. Participants in both questionnaires were inherently ambivalent in that they placed emphasis on both the advantages and
disadvantages of personalization. A useful area for further research could be to follow up the study with a either a semi-structured questionnaire or semi-structured interview to assess the participants’ regarding the study findings. In addition, a further area for future research could be to conduct further case studies of interest in personalization in public libraries and museums.
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Chapter 1: Introduction

1.1 Setting the Study in Context

The use of personalization within libraries and museums is an area of research that has so far only received a limited amount of attention from researchers. The current study is therefore of value in that it addresses an area of research that has not been extensively covered. At the same time, enough has been written about the topic to enable the current study into the level of interest in personalization in museums and libraries to be conducted. In addition, the existent research is detailed enough to form a good understanding of what personalization represents in a library and museum context.

The existent research into personalization in libraries and museums is complicated by the fact that it is a difficult concept to define. The literature is notable for its use of numerous definitions to allow for this issue. The research into personalization is also complicated by the fact that its significance varies according to the sector it is applied to. Thus, whilst museums and libraries constitute one particular context for personalization, other sectors include tourism, commerce, finance, and health. Research into the use of personalization in each of the sectors has a different understanding of the concept and each sector emphasises different attributes of the concept. As a consequence of the wide range of different contexts for the applications of personalization, the research background is extensive and is complicated by the fact that it covers many different sectors.

1.2 Rationale for the research:

The aim of the current study was to assess the level of interest in the implementation of personalization in museums and libraries. This aim was devised as a response to try and address a gap in the existent research literature. Overall, the current research into personalization shows that whilst it is becoming more and more apparent within the context of museums and libraries, very little has actually been done to assess whether or not personalization is something that library and museum professionals either want or need. It is with this gap in the literature in mind that the present study is being carried out.

The study was also conducted to address a general flaw with the available research into personalization in museums and libraries. A problem with the existent research into personalization
is that a large amount of the research into personalization in libraries and museums is essentially descriptive. Instead of assessing the value and necessity of personalization to library and museum professionals, much of the research that has been written is focused on describing the personalization technologies. As a consequence, the value of previous research to the current study is primarily restricted to identifying the various methods of personalization that are currently available to libraries and museums. Included amongst the most prevalent methods of personalization that have been investigated by researchers are segmentation, personalized web galleries, and personalized museum guides. Researchers have also looked at similar personalization techniques within libraries including collaborative catalogue tagging, personalized alerts, personalized information environments, and PDA’s and e-books.

The current research was also conducted as a response to the fact that there is relatively little available literature on personalization specifically in museums and libraries. The majority of the existent literature is instead focused on other sectors, in particular the personalization in e-commerce and search engines. The current research is therefore unique and could be used as a point of reference or starting point for future researchers looking at personalization in museums and libraries.

The study is comprised of a case study and a survey. Barnsley Central Library was chosen as a suitable case study on the basis of purposive sampling. In this respect, the library service at Barnsley is known to have an awareness of personalization methods both within the library and museum sector. This knowledge was obtained through first-hand experience of working at the library as a volunteer. As well as providing a library service, Barnsley Central Library is currently developing plans for the proposed Barnsley Museum and consequently the implementation of personalization within museums is of relevance to staff at the service. A further reason why Barnsley Central Library was chosen as a case study is that it is representative of a fairly typical public library service and can therefore be compared to similar library environments in future research. The specific research method used to conduct the case study was a self-completion questionnaire (Appendix 1, page 76). The rationale for choosing this method is given in the methodology in chapter 3.

In addition to a case study of Barnsley Central Library, the study is also comprised of a survey of postgraduate students from the Department of Information at the University of Sheffield. The participants for the survey were chosen on the basis of purposive sampling and were therefore likely to be aware of personalization as a concept and its potential uses within information based
professions. Furthermore, a number of the students were also likely to have worked or volunteered in library and museum contexts and to therefore be able to draw on this experience in providing their responses. The survey was comprised of a questionnaire (Appendix 2, page 82) comparable to the one given to the staff at Barnsley Central Library. The questionnaire was devised on the SurveyGizmo website (http://www.surveygizmo.com/) and disseminated to the Information students. This decision was made in order to account for the possibility that the case study may not provide sufficient data to enable analysis of the results.

1.2 Aims and objectives

Research Aims and Objectives

Aim

The aim of the study is to assess the level of interest in the implementation of personalization methods in museums and libraries. Specifically, the study is focussed on a case study of Barnsley Central library and a survey of Information students at the University of Sheffield.

Objectives

- To provide an outline of personalization and its application in a range of different contexts.

- To carry out a literature review of the available methods of personalisation in libraries and museums. The purpose of compiling this information is to obtain a list of the available personalisation techniques that can then be used as the basis of the case study and survey.

- To obtain an understanding of the concept of personalization specific to museums and libraries and to investigate the current and emerging methods of personalization in the library and museum sector.

- To investigate how staff at Barnsley Central Library rate the importance of providing a personalized information service and how they rate their confidence in being able to provide a personalized information service. Also, to investigate what they consider to be the main challenges of providing a personalized library service.
• To discover which methods of personalization the staff at Barnsley Central Library would like to see implemented into the library service. Also, to assess what they consider would be the main advantages and disadvantages of introducing the various personalization methods.

• To discover which methods of personalization the staff at Barnsley Central Library would most like to see implemented into the development of the proposed Barnsley Museum. Also, to assess what they consider would be the main advantages and disadvantages of introducing the various personalization methods.

• To assess how postgraduate Information students at Sheffield University rate the importance of personalization in the provision of an information service.

• To assess the level of interest amongst postgraduate Information students at Sheffield University regarding the implementation of methods of personalization in libraries.

• To assess the level of interest amongst postgraduate Information students at Sheffield University regarding the implementation of methods of personalization in museums.

1.3 Dissertation Structure

The dissertation is divided into five chapters, a bibliography, and a set of appendices. This chapter (Chapter 1) has introduced the context, rationale, aim and objectives of the study. Chapter 2 is comprised of a review of the literature on personalization in the museum and library sectors. The methodology for the study is outlined in Chapter 3. The findings of the investigation are presented and discussed in Chapter 4. Chapter 5 discusses how and to what extent the aim and objectives of the study were met. In addition, the contribution of the study to the existent literature is considered and suggestions for further research are discussed.
Chapter 2: Literature Review

2.1 Introduction

A problem encountered in compiling the literature review was the fact that relatively little has been written on personalization that is specifically focussed on personalization in museums and libraries. There is a notable imbalance in the literature on personalization in the various sectors and the majority of available literature is focussed on its usage and development in e-commerce and web search engines. Consequently, the current research represents a fairly unique study into the use of personalization. One potential use for the literature review is therefore as a reference or starting point for future research into personalization in libraries and museums. The literature on personalization in libraries and museums identifies that it is not exclusively limited to libraries and museums, but is also used in a range of different contexts including commerce, tourism, health, finance and education. The available literature also identifies that whilst museums and libraries have been relatively slow to make use of personalization, other sectors have more readily adopted the necessary technology. The bias in the available literature on the topic of personalization is recognized as being a consequence of the imbalance in the dissemination of the technology.

The problem of defining the concept of personalization is a recurring theme in the literature on personalization in libraries and museums. It is represented in the literature as a difficult concept to define due to the fact that it encompasses a wide range of different methods of implementation. At the same time, the literature emphasizes that an understanding of personalization that encompasses the range of available methods can be obtained by viewing the topic from a technological perspective. The literature asserts that interpreting personalization from this perspective enables the various different methods of personalization to be shown to be inherently alike.

A prominent theme in the literature on personalization in libraries and museums is the necessity of ensuring that the methods of personalization that are compatible with the needs and requirements of the museum and library patrons. The implementation of costly methods of personalization into a museum or library service is an unnecessary expense if there is not an actual demand for the technology.
The literature on personalization in libraries provides specific examples of the methods of personalization that are currently available to both sectors. In terms of personalization in museums, the main methods of personalization identified in the literature include segmentation, the personalized web gallery, augmented reality and portable museum guides. Methods of personalization in libraries that are identified in the literature include the personalized information environment, collaborative library catalogue tagging, personalized alerts, recommender systems and PDA’s and e-books. Whilst the methods of personalization identified in the literature review do not constitute all of the available methods, they have been highlighted as they represent some of the more common methods of personalization that are implemented in the library and museum context.

In addition to providing examples of specific methods of personalization in libraries and museums the available literature also discusses various advantages and disadvantages of personalization in museums and libraries. The identification of the benefits and drawbacks of personalization can help provide some insight into the potential responses to the questionnaire and survey. In this way, they can be seen complementing the findings of the study and will be drawn on in the results and discussion.

2.2 The Contexts for Personalization

The available literature on personalization in libraries and museums identifies that the use of personalisation is evident in a range of different contexts and that it is not exclusively limited to museums and libraries. Filippini-Fantoni (2003) emphasizes that personalization is used in a diverse range of different sectors such as commerce, tourism, education, finance and health. The literature on personalization in libraries and museums also identifies that the methods of personalisation that are implemented in museums and libraries are basic in comparison to other sectors. To highlight this fact Bowen and Filippini Fantoni (2004) outline some of the more advanced uses of personalisation in sectors other than libraries and museums. Bowen and Filippini-Fantoni (2004) describe how the online book retailer Amazon makes use of a sophisticated collaborative filtering system in order to provide personalized recommendations to each user. They also describe how the travel website UpMyStreet makes use of an advanced method of personalization. On visiting the website, the user is able to enter their postcode and obtain “personalize local information including a map, property prices, businesses, schools, local government contact information and statistics” (2004: 67). Bowen and Filippini-Fantoni (2004) also assert that sophisticated methods of personalization are a common feature of many search engines. They describe how the search engine Google monitors the websites that a user visits and uses these results, over time, to rank the results.
Bowen et al. (2004) support the view of Bowen and Filippini-Fantoni (2003) that the personalisation available in museums and libraries is currently basic in comparison to other sectors. Specifically, they argue that change is necessary and that science museums in particular should make greater use of personalization. The SAGRES project, now defunct, is provided as an example of personalisation in the museum field. The article concludes that a limited number of people are making use of personalisation features in museums and libraries because the technology is “not implemented in a clear and easy manner” (2004: 19).

2.3 Defining Personalisation: A Technological Perspective

A recurring theme in the literature on the subject of personalisation is the difficulty inherent in defining what is meant by the concept of personalisation. This is due to the numerous contrasting and often conflicting definitions of personalisation that have been proposed by academics in various different fields. At the same time, it is possible to obtain an understanding of personalization that is relevant to all the different sectors by viewing the concept from a technological perspective.

The literature on personalization contains numerous examples of research that has approached the problem of defining personalization by addressing the topic from a technological perspective. Wu et al. (2002) address the difficulty of defining personalisation and discuss a range of different definitions that interpret personalization from a technological perspective. For example, they describe McCarthy’s definition as the “the ability to customise each individual user’s experience of electronic content” (2002: 2). In addition, Wu et al. (2002) assert that Instone views personalisation as “any piece of software that applies business rules to profiles of users and content to provide a variable set of user interfaces”(2002:2). Kramer, Noronha and Vergo are stated as regarding personalisation as “an evolving set of tools that provide value to the end user” (2002:2). Wu et al (2002) themselves define personalisation as “a new system development for designing information systems that change configurations based on a user’s needs and preferences” (2002: 1). They add that it involves “the modification of all aspects of a website that are displayed to a user in order to match that user’s needs and wants” (2002: 2).

Sunnika & Bragge (2008) also discuss the difficulty in defining personalisation and tackle this difficulty by interpreting personalization from a technological perspective. Sunnika & Bragge (2008) assert that due to the range of different definitions that have been suggested and state that personalization is a phenomenon that “intrigues and confuses” (2008:1). They assert that different
fields of interest, such as information systems, computer science and marketing, emphasise different attributes of personalisation. At the same time, Sunnika & Bragge (2008) claim that the understanding of personalisation is becoming clearer as the technology is developing.

Overall, the various different definitions of personalization are alike in that they interpret personalization as involving the use of technology that tailors the provision of information to suit the requirements of the specific user.

2.4 Achieving a Balance between Personalization Technology and User Requirements

A recurring theme in the literature on personalization in libraries and museums is the need to ensure that the methods of personalization that are implemented are compatible with the needs and requirements of the museum and library patrons. In this way, the literature identifies that investing money in installing up to date personalization technology is counterproductive if there is not an actual demand for the technology. Pye and Yates (2003) address this issue and state that: “The impetus for implementing a new service must come from the library’s strategic plan and goals and objectives. Public libraries must strike a balance between newer technologies and backward compatibility, so that the maximum number of users can access their services” (2003:4). In addition, Pye and Yates (2003) assert as a case in point that that The Vienna State Library in Austria enables library users to access to the catalogue using mobile technology. They assert that to implement a similar method of personalization in a community where “only a modest percentage had access to equipment with that technology” would be a meaningless and unnecessary expense (2003: 384).

Pye and Yates’ assertion of the importance of personalization only being implemented if it is deemed necessary is supported by other instances in the literature. Hendrix (2010), for example, emphasizes that methods of personalization “should be evaluated based on their ability to meet user needs and not adopted merely because they are cutting-edge technology” (Hendrix2010; 5). Similarly, Bowen and Filipini Fantoni (2004) assert that: “It is important to remember that personalization should not be implemented for its own sake, but when and because it brings added value to the museum for a good percentage of museum visitors. Only then can the costs for investment and development be justified” (2004:19).

2.5 Specific Examples of Personalization in Libraries

A significant amount of the literature on personalization in libraries is descriptive in nature. Consequently, it is of help to the current study in identifying examples of the methods of personalization that are available to libraries. The literature can also be used to identify the respective advantages and disadvantages of the various personalization methods available to
libraries. The methods of personalization that have been identified in the literature are the personalized information environment, collaborative library catalogue tagging, personalized alerts, recommender systems and PDA’s and e-books.

Personalized Information Environment

Worcester (2003) identifies the Personalized Information Environments (PIE), also referred to as web portals, as a method of personalization available to the library sector. Numerous academic libraries and a limited number of public libraries now provide a “MyLibrary” resource which enables library users to logon to a library website and be provided with a personal web space. The library patron is able to customize the information presented on the basis of their personal requirements and interests. In addition, they are also able to add or remove links to databases and resources that suit their personal interests. Zhou (2003) provides the Finnish Networked Public Libraries Service as an example of a portal in a public library and asserts that it provides “a login for each user with very limited customisation” (2003:119).

In terms of the advantages and disadvantages of implementing a personalized information environment into a public library service, it would appear that the drawbacks currently outweigh the benefits. This interpretation is suggested by the fact that public libraries as a whole have been hesitant in implementing the necessary technology. Worcester (2003), for example, states that in contrast to academic libraries “public libraries have been slow to adopt personalized interfaces” and states that at the time of publication only three public library services in the U.S. had implemented a personalized web portal (Hennepin County Public Library, Toronto Public Library and The Public Library of Charlotte and Mecklenburg County). Winter (1999) draws attention to the major flaw of PIEs, namely the amount of staff time and effort that they require to establish and maintain. Winter (1999) asserts that the process involves “time, energy and planning. So it may not be for every library. Institutions with larger staff numbers will be more able to devote the time it takes to create a personalization site” ((1999: 65).

In spite of the slow uptake of web portals in public libraries, a recurring theme in the literature is the idea that their implementation is a necessary development in the future of library services. Worcester (2003), for example, asserts that “public libraries cannot continue to design and deliver services upon a traditional model; instead they must look for alternative models” (2003: 178).

Similarly, Jeevan and Padhi (2006a) state that the implementation of web portals in public libraries has the potential for “radically transforming the everyday delivery of services to users of libraries in the near future” (2006:574). In addition, Jeevan and Padhi (2006b) assert that the technology can
“take libraries beyond the current limitations of electronic resources in many different, and perhaps unexpected, directions” (2006: 681). An example of the direction the portal technology could take is outlined by Yiu-On et al (2009) who describe the MyLibrary Calendar at Hong Kong Baptist University Library. In essence, this enables library patrons “to collect and manage library events in their own calendar” (2009: 374). As Worcester (2003) maintains, it is the responsibility of each public library to “determine whether PIES fit their community’s needs, library’s budget, and staff’s ability to support the new technology (2003:180). The decision whether or not to implement web portal is dependent upon the individual requirements of each library service.

2.5.1 Library Catalogue Tagging

The process of collaborative tagging in library catalogues is another example of a personalization method that could become more widely available to public library services. Collaborative tagging allows users to add their own keywords to describe books in the collection. These words are then made available to library users who can use a tag-cloud of keywords to search. When aggregated into a tag cloud, the tags constitute a type of shared vocabulary referred to as a folksonomy. Examples of user based tagging in public libraries are provided by Mendes et al (2008) who assert that both Ann Arbor District Library and Darien Library in Connecticut have catalogues that enable users to add tags to library records. However, as Rolla (2009) states “user tags are still rare in a library environment” (2009; 176) and the majority of public libraries have yet to take advantage of this technology.

The advantages and drawbacks of implementing user tags in public library catalogues are themes that recur in the literature on the subject. Thomas, Caudle and Schmidt (2009), for example, outline the various disadvantages of collaborative tagging. They assert that ambiguity is a disadvantage with collaborative tagging as “one user may assign the tag ‘apple’ to a resource about Apple computer while another may use the same tag to refer to the fruit” (2009;414) Synonymy is another disadvantage as “users may use ‘Mac’, ‘Apple’ or ‘macintosh’ to refer to the computer” (2009:414). A further disadvantage is “basic level variation” whereby “one: one user may use ‘perl’ and ‘javascript’ while another tags the same resource as ‘programming’. As a consequence “someone searching for ‘programming’ would not find resources with the more specific term ‘perl’” (2009;414).A final disadvantage of user tagging identified by Thomas, Caudle and Schmidt is “lexical anomalies” including “singular versus plural, spelling variants, different punctuation and word order” (2009;414) Spiteri (2007), by contrast details the benefits of collaborative tagging in library catalogues. One benefit is that user tags are democratic and inclusive in that they “reflect the
vocabulary of the user, regardless of viewpoint, background, bias and so forth” (2009; 415). Secondly, in contrast to controlled vocabularies which “can quickly become outdated” collaborative tagging can “easily accommodate new vocabulary” (2009; 415). In addition, collaborative tagging can “bring out different aspects of a resource” as the user “does not have to make a decision and restrict the resource to just one or two formal terms from a controlled vocabulary” (2009: 415). Furthermore, as Rolla (2009) maintains, user tagging is of particular use to public libraries given that “their collections are often primarily popular materials” (2009:176).

2.5.2 Personalized Alerts

One method of personalization available to libraries is the use of personalized alerts. This involves the use of personalized messages that are sent directly to the library patron and can be sent by telephone, e-mail or SMS messaging. Common notifications communicated by personalized alert include informing library patrons of newly available materials, reminding patrons of scheduled library events, and notifying patrons of overdue books. In addition, SMS messaging can now be used to provide a reference service that enables patrons to submit reference enquiries via text and receive a response from a reference librarian. Kroski (2008) asserts that the use of SMS text messages constitutes the latest development in personalized alerts. Kroski (2008) describes how numerous libraries at American universities have implemented the use of text messages as a means to communicate with students. SMS is a particularly useful method of notification in university libraries due to the high percentage of the student population who possess a mobile phone. The Undergraduate library at the University of Illinois is cited by Kroski (2008) as an example of an academic library using SMS as a communication means. Students at Illinois are able to be informed by text when specialist research librarians are available to assist with research. In addition, the library at Illinois also uses text messaging to remind students about overdue items and to inform them when their items are due back.

Whilst the use of SMS has been adopted by university libraries, Kroski asserts that a number of public libraries are also beginning to use the technology. Orange County Library in Orlando, for example, notifies patrons via text when items are due and also when classes they have registered for are scheduled. In addition, Orange County Library has also established an SMS reference service that enables patrons to submit reference enquiries via text. Arriaga (2008) outlines the efforts that have been made by another American public library service to utilize SMS messaging. Denton Public Libraries currently use SMS to inform patrons when new items become available and also when borrowed items are due for renewal.
Stahr (2009) describes the various advantages and disadvantages for the librarian in using SMS messaging to answer reference enquiries from library patrons. In terms of the advantages, Stahr (2009) states that the use of SMS demonstrates that “the library is on the cutting edge of technology, and that it is interested in meeting the needs of all its users, including younger patrons who prefer to communicate via text” (2009: 13). In addition another advantage is that the library can “experience a corresponding public relations boost” (2009: 13). Stahr (2009) outlines the potential disadvantages of SMS messaging and states that answers to reference enquiries are “limited to 160 characters and some questions simply cannot be answered briefly” (2009:14). Other disadvantages include the potential for a heavily used SMS service to become an additional stress for staffing and the possibility that “some librarians may be reluctant to learn yet another new technology to answer reference enquiries” (2009: 13).

2.5.3 Recommender Systems

A potential method of personalization that may in future become available to public libraries is the use of recommender systems, incorporating similar technology to that currently used by the e-commerce site, Amazon. In essence, the implementation of a recommender system could potentially enable the library catalogue to automatically recommend books to library patrons based upon their borrowing history. For example, a library patron who has previously searched for texts by Shakespeare might be recommended books by other Elizabethan playwrights as well as books on relevant literary criticism. To date, there has been little effort made to introduce recommendation systems to public library catalogues. Nevertheless, as Mönnich and Spierling (2008) assert, “library services are well suited for the adoption of recommender systems, especially services that support the user in the search for literature in the catalogue” (2008: 1). This view is supported by Krotoski (2010) who states that the future library user might have access to “intelligent personalized searches that deliver quality content based on previous patterns of search activity” (2009: 633). Similarly, Ayre (2007) also considers the implementation of recommender systems to be integral to the future development of library catalogues and asserts that “libraries need to adopt the philosophies and techniques used by Amazon and Netflix” (2007: 1). Mönnich and Spierling (2008) describe a project carried out by the German Research Foundation (Deutsche Forschungsgemeinschaft DFG) between 2002 and 2007 to develop a recommendation system for library catalogues. The outcome of the project was the development of the BibTip recommendation system, a system that is based upon “behavioural patterns of users interacting with a library catalogue and the statistical evaluation of the data” (2008: 5). The BibTip recommendation system has already been implemented at several different libraries including The German National Library, Baden State Library and a number of
German university libraries. Mönnich and Spierling (2008) assert that the future development of BibTip could include the generation of cross-library recommendations and that this could be “of interest to libraries with similar user profiles, such as public libraries” (2008; 5). Mönnich and Spierling (2008) add that “in this way libraries with only small catalogues (or low catalogue usage) might also be able to provide recommendations to their users” (2008; 5).

The advantages of implementing a recommender system into a library catalogue are discussed by Mönnich and Spierling (2008). Focussing on the BibTip recommendation system, they assert that one advantage is user familiarity with similar systems in different contexts and state that “many of the library’s younger patrons are already accustomed to this type of service, because it is offered by webshops, YouTube and other Web 2.0 services” (2008: 2). Another advantage of the use of recommendation systems outlined by Mönnich and Spierling (2008) is that the recommendations “never become outdated” (2008:3). This is because the recommendations are “constantly re-evaluated and are dynamically adjusted to the changing usage of literature by a user” (2008:3). A further advantage described by Mönnich and Spierling (2008) is the fact that “recommendations are completely media neutral” and as a consequence recommendations can be made for any item in the in the catalogue “whether they are books, videos, audios or journals” (2008: 3). Finally, Mönnich and Spierling (2008) assert that the BibTip recommendation system is “very cost effective” as it “needs no staff to run it” (2008:4). However, at the same time as Mönnich and Spierling provide an overview of the potential benefits of recommender systems in library catalogues, Ayre (2007) draws attention to the fact that a major disadvantage of recommender systems is their impracticality. Ayre (2007) states that “many libraries do not have sufficient resources, time or expertise to develop bespoke recommender systems for their own library catalogues” (2007: 2). It is apparent from Ayre’s assertion that the suitability of recommendation systems is dependent on the capacity of each specific library to accommodate the technology.

2.5.4 PDA’s and E-books

A method of personalization available to libraries is the use of the PDA (Personal Digital Assistant) to provide library patrons with access to e-books (electronically based texts). This technology makes it possible for library patrons to access electronic texts on mobile devices that can be used as an alternative to the more traditional printed text. Dearnley, McKnight & Morris (2004) assert that the implementation of PDA’s and e-books in public libraries has been slow and that “the provision of e-book software and hardware devices has not become widespread, although there has been a degree of experimentation in e-book collection development” (2004: 176). A number of different reasons for the limited usage of e-books in public libraries are given by Dearnley, McKnight and Morris
(2004), including the financial cost of providing the necessary technology; the trend for e-book technology to become quickly obsolescent, and concern over whether the technology is user friendly. However, despite the slow uptake of PDA’s and e-books in public libraries, Dearnley, McKnight & Morris (2004) emphasise that it remains the duty of the public library to provide access to information via this increasingly popular and accessible form of technology to members of the community who would otherwise not have access.

2.6 Specific Examples of Personalization in the Museum Sector

Much of the literature on personalization that is focussed specifically on personalization in the museum sector is essentially descriptive in nature. It is therefore of use to the current study in identifying examples of the methods of personalization that are currently available to museums. In addition, the literature is also of benefit to the current study in that it can be used to identify the respective advantages and disadvantages of the various personalization methods. The methods of personalization that have been identified in the literature are segmentation, the personalized web gallery and portable museum guides.

2.6.1 Segmentation

Filippini Fantoni (2003) identifies segmentation as one form of personalization that is currently available to the museum sector. Through this method of personalization, visitors to a museum website can select a profile that most closely resembles their information requirements. The level of information provided by the website is tailored according to the chosen profile. An example of segmentation is provided by the Carrera Marble Museum website. Users are grouped into 3 categories namely tourists, art students and experts, and the system adapts the level of information provided accordingly.

Filippini Fantoni (2003) asserts that an advantage of segmentation is that it enables spaces on a museum website to be “allocated to different categories of users” the most common being “children, disabled people and professionals/experts” (2003; 6). However, Filipini Fantoni (2003) also outlines a number of disadvantages with segmentation that seem to outweigh its benefits. Filipini Fantoni’s evaluation of the user experience of using segmentation on the Carrera Marble museum website found that users found it “difficult to choose between one of the four profiles” (2003; 11). In addition, Filippini Fantoni (2003) asserts that “some users expressed disappointment with the profile chosen, causing them to try out other possibilities before finding the one that suited them” (2003; 12). Furthermore, in a number of cases the level of detail on the chosen profile “did not correspond to the user’s expectations” (2003; 12).
2.6.2 Personalized Web Gallery

Bowen & Filippini Fantoni (2004) describe the personalized web gallery as a second method of personalization available to museums. The personalized web gallery allows visitors to a museum website to select their favourite images and to then use these images to create their own personal gallery. An example of this technology is the My Met Gallery at the Metropolitan Museum of Art in New York which allows visitors to “collect up to fifty of their favourite images in a personalized gallery (2004: 9). Another example is the Ingenious project, a website co-run by the Science Museum (London), the National Railway Museum (York) and the National Museum of Photography, Film and Television (Bradford). As Bowen & Filippini Fantoni (2004) assert, registered visitors to the site can “save images and/or links from the debate areas” and can also “create a personal web gallery” (2004:10).

In terms of the advantages of personalized web galleries, Bowen & Filippini Fantoni (2004) assert that the images are presented “without a contextual bias, allowing the user to appreciate the items from a personal background” (2004:8). In addition, the website visitor is able to “discover the breadth and depth of the collection in a way that traditional, curated exhibits might not” (2004:9). Furthermore, Bowen and Filippini Fantoni (2004) assert that the personalized web gallery is an effective tool for “stimulating visitors to follow up from home what caught their attention during the exhibition” (2004: 10).

In addition to the advantages outlined by Bowen & Filippini Fantoni, the literature on personalized web galleries in museums also draws attention to the disadvantages of this method. Ho (2004) asserts that whilst the reproductions of images in personalized web galleries allow “visitors that cannot physically attend the exhibition to still enjoy the gallery” there is the danger that potential museum visitors may lose the desire to visit the exhibition and view the original artifacts because they have “already seen the representation” (Ho; 2004, p.16)

2.6.3 Portable Museum Guides

Filippini Fantoni (2003) points out that the portable museum guide represents one of the methods of personalization currently available to the museum sector. Through the use of the portable museum guide, visitors to a museum can be provided with a handheld guide which evaluates their preferences by observing their path through the museum. The database then selects suitable content tailored to the visitors’ specific interests from a database of resources including movie clips, audio and animation. Filippini Fantoni (2003) states that Tokyo University museum has developed a PDA that enables the visitor to specify aspects such as “the language used, the degree of specialized
Filippini Fantoni (2003) predicts that eventually PDAs will be used by museum visitors will be able to “create their own tour from a museum website, complete with different choices of narration, music, text, web links, images, video and a personal map of the galleries” (2002:25). Once a personalized plan has been devised, the visitor will be able to “download the tour onto the PDA and take it to the museum” (2003:25).

Filippini Fantoni (2002) also outlines various advantages of the portable museum guide. One advantage is that it “allows visitors to inspect the exhibition space according to his/her own interest” (2003:8). A second advantage is that visitors can use the PDA TO “choose their own paths through the museum and may skip some stops altogether” (2003:8). This has the effect of giving the visitor the impression that they are “in control of what they are seeing and are undergoing a more personal experience” (2003:9).

At the same time as Filippini Fantoni’s article draws attention to advantages of PDAs in museums, in particular their ability to enhance the visit through context awareness, it also outlines the findings of research into a PDA guide implemented at the Carrera Marble Museum, which shows the technology to be far from perfect. Filippini Fantoni (2003) asserts that research into PDAs at the Carrera Marble Museum obtained a significant amount of negative feedback from participants in the study, many of whom found that “the virtual guide was often repetitive and did not suggest relevant exhibits or adaptive tour proposals” (2003:14).
Chapter 3: Methodology

3.1 Introduction

The initial idea for the dissertation research was provided by a short description of a potential dissertation topic, which was itself suggested by Dr Paul Clough of Sheffield University. The subject proposed by Dr Clough was as follows:

“Personalised information access to museums, libraries and archives. The goal of this dissertation would be to explore the role of personalisation in online museums, libraries and archives. You could explore a range of topics within this area, such as evaluating a range of sites that offer personalisation.”

Planning for the investigation began with the submission of an initial dissertation proposal in March 2011. The initial proposal involved the development of a general plan and strategy for the dissertation and included elements such as the proposed title for the study; the name of any external organization to be involved in the study; a brief description of the problem being addressed in the study; brief notes on any ethical implications and an outline on the proposed methodology. The initial proposal was useful in that it provided a starting point for thinking about key areas in the dissertation process. At the same time, however, the initial proposal was not extensive enough to allow for any detailed research to be carried out. Instead, this opportunity was enabled by the final dissertation proposal, which was submitted in May 2011. This proved more useful for the research process as it included a literature review and a more detailed methodology that gave a clearer understanding of the topic being investigated.

The final dissertation proposal was based upon a study of the methods of personalization used on the National Railway Museum website. The study was focussed on investigating staff attitudes towards current personalization techniques and their views on the potential for the implementation of other personalization methods. In addition, a preliminary questionnaire was also developed to enable this research. Unfortunately, the questionnaire had to be abandoned as the National Railway Museum was unable to be involved in the research due to various staff commitments. Despite this initial set back, another suitable case study was found and the focus of the case study was changed to Barnsley Central Library. This was considered to be a suitable substitute case study as it enabled much of the research from the final proposal to be retained. The investigation was modified accordingly and was adapted to assess staff attitudes towards current personalization techniques at Barnsley Central Library and their views on the potential for the implementation of other personalization methods.
In addition to disseminating a questionnaire to staff at Barnsley Central Library, a questionnaire was also devised on the SurveyGizmo website. This decision was made in order to account for the possibility that the questionnaire given to staff at Barnsley Central Library may not provide enough data to enable analysis of the results. The question designed on SurveyGizmo incorporated a number of the same questions used in the case study questionnaire. This was done in order to facilitate the comparison of the results from both questionnaires. The SurveyGizmo questionnaire was disseminated to postgraduate students from the Department of Information at the University of Sheffield. Postgraduate students from the Information School at Sheffield University were invited to participate in the study on the basis that they were considered likely to be aware of personalization as a concept and its potential uses within information based professions.

3.2 Research Strategy

The research strategy used in the investigation was partly inductive in nature. As Bryman (2004) asserts, an inductive approach to research is one in which “theory is an outcome of research” and involves the process of “drawing generalizable inferences out of observations” (2004: 9). Mason (2005) expands upon Bryman’s definition of inductive research and states that it is a process where “theory comes last and is developed from or through data generation and analysis. If you are developing theory in this way, you will probably begin the process of analysis whilst data generation is under way. You will scrutinize your data so that you can develop explanations which appear to suit them” (180). The inductive approach stands in contrast to deductive theory whereby “theory guides research” (2004: 3). An inductive strategy was therefore deemed to be more suitable due to the lack of sufficient theory to form hypotheses to guide the research. At the same time, however, Bryman (2004: 8) asserts that the inductive and deductive approaches are not wholly separable from each other and that as a consequence the “inductive approach is likely to entail a modicum of deduction” (2004: 10). In this respect, whilst the investigation was partly inductive in nature, it also contained an element of deduction formed from the literature review. The literature review enabled a certain amount of deductive theory to be formed in terms of whether or not personalization is an attribute that museums and libraries in general would like to see introduced. As a whole, the literature review suggests that the potential disadvantages of implementing the various techniques of personalization would appear to outweigh the potential advantages. In addition, the literature on personalization emphasizes the fact that personalization should only be introduced if necessary and suitable. Whilst the literature review did not enable a set of hypotheses to be formed, it allowed comparisons and contrasts to be made between generalized views on personalization and the specific views of the participants.
A qualitative research strategy was chosen as the aim of the investigation was to obtain the opinions of participants and qualitative research is a useful approach for obtaining and analyzing opinion. Gorman and Clayton (2005) emphasize this attribute of qualitative research and assert that “the ultimate goal of qualitative research is to understand those being studied from their perspective, from their point of view” (2005:3) Another reason that influenced the decision to use a qualitative approach is highlighted by Miles and Huberman (1984) who assert that it enables the researcher “to focus on naturally occurring, ordinary events in natural setting” and provides “a strong handle of what real life is like” (1984: 17).

3.3 Sampling

The decision to include participants from Barnsley Central Library and the School of Information at Sheffield University was based upon purposive sampling. As Denscombe (2003) maintains, in purposive sampling the participants are “hand picked for the research” and the researcher “already knows something about the specific people or events” (2003:15). The decision to use Barnsley Central Library as opposed to an alternative local public library was influenced by the fact that I already knew many of the staff and was aware of the extent of personalization at the library through my experience of voluntary work at the service. Denscombe (2003) also states that in purposive sampling participants are selected with a “specific purpose in mind, and that purpose reflects the particular qualities of the people chosen and their relevance to the topic of investigation” (2003: 15). The participants chosen for both questionnaires were selected on the basis that they were all current or aspiring information professionals.

3.4 Methods of Investigation

3.4.1 Case Study

Denscombe (2003) provides guidance to researchers on choosing an appropriate method or methods of investigation and states that “when it comes to choosing a research method, researchers should be aware that it is a matter of deciding which is the most appropriate research method in practice, not of deciding that one data collection is superior to all others in any absolute sense” (2003: 132). For the investigation at Barnsley Central Library, a case study was considered to be the most suitable method of investigation for a number of different reasons. One reason for choosing the case study approach was that it enables the researcher to study things in detail (Denscombe: 2003). A second reason for choosing the case study approach was that data could be obtained without the need to devise an experiment, a process that could potentially take a lengthy period of time to plan and implement. As Denscombe (2003) asserts, the case study can take place in a natural
setting and there is therefore no need to set up an experiment. In this respect the case study is “particularly suitable in situations where researcher has limited control over events” (2003:134). Furthermore, the case study approach was chosen as it is an approach that is suited to research that involves a limited number of participants. Gorman and Clayton (2005) state that the case study method “tends to prefer small numbers, which are investigated in depth” (2005:51).

At the same time as a case study was chosen as the most appropriate approach, the disadvantages of the method were also kept in mind. Bryman (2004) asserts that one of the common criticisms of the case study is that “findings from it cannot be generalized” (2004: 51). This argument concerning the perceived limitation of the case study approach can be countered by the assertion that it is not really the purpose of the case study to generalize but instead to form a clear theory (Bryman:2004). A second potential flaw with the case study approach is highlighted by Denscombe (2003) who asserts that case study research can “flounder if permission is withheld or withdrawn” (2003:39). This disadvantage of the case study was encountered when the questionnaire devised for the National Railway Museum was turned down. Nevertheless, the problem was overcome by focussing on Barnsley Central Library as an equally relevant, alternative case study.

3.4.2 Questionnaire

It was initially decided that a combination of a semi structured interview and a self-completion questionnaire would be the most effective way of obtaining a data from both the staff at Barnsley Central Library and the Information students. However, in practice, various restrictions to the study meant that it was decided that the use of a well devised self-completion questionnaire would be a more efficient, if less desirable, form of data collection. A self-completion questionnaire was chosen due to time constraints and because staff at Barnsley Central Library were unable to provide interviews. In addition, the nature of the study meant that there were specific advantages of using a self-completion questionnaire. Firstly, it provided a cost-effective method of obtaining data as it did not necessitate any travel expenses. Secondly, the chosen method helped reduce the respondents’ answers being influenced by my own bias.

Devising well structured questionnaires was integral to enhancing the quality of the data obtained. Peterson (2000) identifies this link and asserts that the “quality of the information obtained from a questionnaire is directly proportional to the quality of the questionnaire” (2000:11). Consequently, a significant amount of time was dedicated to planning the structure and content of the questionnaires in order to try and improve the quality of results obtained. In devising the questionnaires, they were kept to a length that would take less than an hour to complete. This
decision was informed by Bryman (2004) who asserts that “shorter questions tend to achieve better response rates than longer ones” (2004:323). In addition, an attempt was made to ensure that the language used was kept simple and that the questions were clear and concise to avoid any confusion. Similarly, the descriptions of personalization methods in the study were also kept fairly simple and clear to help ensure that the participants were able to understand each description. The majority of questions used were open-ended as this was considered to be the most appropriate for obtaining qualitative data. The rationale for choosing mainly open end questions is outlined by Bogdan and Biklen (1982) who assert that open end questions enable the qualitative researcher to get as many details as possible. In addition, open end questions are also useful for qualitative research because they allow participants to answer questions using their own frame of reference as opposed to being restricted by the limitations of closed-end questions. In devising the questionnaires, thought was also given to their layout and structure. It was decided that text boxes should be incorporated to try and influence the length of the participants’ responses and encourage them to provide detailed responses. As Peterson (2000) asserts, the answer given to an open-end question “sometimes expands or contracts depending on the space allocated to it” (2000: 30).

3.4.3 Literature Review

The process of creating a literature review can be identified as a research method in itself and is therefore included in the methodology. Fink (2005) defines a literature review as a “systematic, explicit, and reproducible method for identifying, evaluating, and synthesizing the existing body of completed and recorded work produced by researchers, scholars, and practitioners” (2005:3). Similarly, Hart (1998) asserts that the process of conducting a literature review is a method of investigation that involves the collection of available documents so as to “fulfil certain aims or express certain views on the nature of the topic” to be investigated (1998: 13). The literature review constituted a significant part of the dissertation process in the respect that a substantial amount of time was spent in finding relevant documents to include and deciding which documents to omit. All of the texts used in the literature review were found online, a fact which is a reflection of the bias in the distribution of the available literature. A large range of online databases were searched to find the literature and an extensive range of different keywords were used. Differentiations in spelling were also taken into account, in particular the contrast between the American spelling “personalization” and the English spelling “personalisation”. The online databases that were searched were accessed through MUSE on the university of Sheffield website and included Emerald, LISA, ERIC, Library Literature and Information Science, Proquest and Web of Knowledge. Google Scholar, STAR, the University of Sheffield library catalogue were also used to search for relevant
information. The literature obtained was compiled into an annotated bibliography in order to facilitate the identification of recurring themes. Overall, the process of searching for relevant literature proved be time consuming due to the fact that the available literature on personalization methods in the cultural sector is limited. Once a sufficient number of documents had been found, the annotated bibliography was reviewed and the literature was organized according to themes. Consequently, the literature was divided into documents focussed on the use of personalization techniques in museums; documents focussed on the use of personalization techniques in libraries and documents focussed on the evaluation of personalization methods in general. Overall, the literature review proved useful in identifying current and recurring trends in the use of personalization in libraries and museums. In particular it helped establish the advantages and disadvantages of the various different personalization methods that were examined. The information obtained was then used to form the questionnaire and the methods of personalization feature in the questionnaire were combined with specific examples from the literature review. Having obtained the completed questionnaires from the participants, the literature review was used to help identify key themes that emerged in the data and also as a point of comparison and contrast with the key findings.

3.5 Analysis of results

Having obtained the results from the questionnaires, the data was subdivided into the constituent quantitative and qualitative data sets. This was done in order to facilitate the analysis of the data obtained. The quantitative data was then collated and displayed graphically in the form of pie charts. The participants’ responses to the qualitative questions, which formed the large part of the questionnaire, were then rearranged to enable the compilation of similar responses to each question. The qualitative data was compiled in this manner in order to allow a thematic analysis of the results. Through this process, an attempt was made to identify recurring themes in the data. Rearranging the responses made it easier to identify recurring themes and patterns as they were made more apparent. The process of analysis used was in keeping with Denscombe’s assertion that in analysing qualitative data the researcher should “be on the lookout for themes or interconnections” (2003: 134). Once key themes and patterns in the data had been established, an attempt was made to try and generate a set of theories to rationalize these findings. This decision was influenced by Denscombe (2003) who states that in analyzing qualitative data the researcher should “refine a set of generalizations that explain the themes and relationships identified in the data” (2003:135). At the same time, the responses to the open questions were also presented and
discussed in their raw form. This was done to correspond with Denscombe’s assertion that overly quantifying qualitative data through thematic analysis can cause the answers to become detached from their context or lead to elements of the responses being missed (2003: 135).

3.6 Presentation and Discussion of Results

The presentation and discussion of the results was influenced by the contrast in the amount of data obtained from the two different questionnaires. In this respect, the questionnaire given to the staff at Barnsley Central Library obtained a total of four responses and the questionnaire disseminated to the Information students obtained a total of ten completed responses. Furthermore, the participants from Barnsley Central Library chose to only complete the questions in sections one and two of their questionnaire. Consequently, they did not complete the questions focussed on personalization in museums in section three of the questionnaire. In the discussion and presentation of the results, the data from the questionnaire given to the Information students was looked at first as it produced more than twice the amount of data received from the other questionnaire. The data from the questionnaire disseminated to staff at Barnsley Central Library was then discussed in relation to the responses to the other questionnaire. The results were also discussed and presented in the order that the questions were asked and amalgamated with the questions from the questionnaires for the purpose of clarity.

3.7 Ethics

Informed consent was obtained from the participants in both questionnaires through the provision of a consent form at the beginning of the questionnaires (Appendix 3, page 98). This made explicit the option to withdraw consent at any point and provided assurances concerning confidentiality and anonymity. The form was accompanied by participant information sheet (Appendix 4, page 100) which outlined the purpose and scope of the research as well as the researcher and supervisor’s contact details, in accordance with University ethics guidelines. Only the researcher had access to the study data for the duration of the research project and all responses included in the final report have been anonymised.

3.8 Limitations

Through the course of the dissertation process, a number of different limitations to the study were encountered. Whilst these limitations were not sufficient to warrant changing the dissertation topic, they resulted in preventing certain actions that would have been carried out in an ideal study. One limitation of the study was the restricted amount of time allotted to conduct the study. The time spent devising a questionnaire for the National Railway Museum had the knock-on consequence of
preventing a pilot study being conducted at Barnsley Central Library. Bryman (2004) asserts that “it is always desirable, if at all possible to conduct a pilot study before administering a self completion study” (2004:159). Were the study to be repeated, time would be given to devising a pilot study in order to identify any problems with the wording of questions that could result in participant confusion and questions being missed.

A second limitation of the study is that the questionnaire disseminated to staff at Barnsley Central returned less data than had been anticipated. The participants failed to complete the questions in section three of the questionnaire that are specifically related to methods of personalization in museums. The reason given for the omission of responses in section three was that the participants did not feel confident enough to comment on the use of personalization in museums. However, in spite of the inability of participants to complete section three of the questionnaire, sufficient data was obtained from the survey of Information students to validate the results of the study. The results section in chapter 3 is comprised of an amalgamation of the responses to the two questionnaires. The responses provided in the questionnaire given to the Information staff are presented and discussed and then compared to each respective question in the questionnaire given to staff at Barnsley Central Library.

A further limitation of the study is that the questionnaire given to staff at Barnsley Central Library produced only 4 responses, a number which was half of the estimated 8 responses that the questionnaire would return. However, the low number of responses to the questionnaire given to staff at Barnsley Central Library was compensated for by the fact that the questionnaire completed by the Information students produced a good set of data. Consequently, in the analysis and discussion of the results the two sets of data were combined and compared in order to strengthen the validity of the study.
Chapter 4: Results and Discussion

4.1 Introduction

The results and discussion that follow have been anonymised through the use of coding. Participants in the questionnaire that constituted the survey provided to the Information students have been coded as “SP” as shorthand for “Survey Participants”. Participants in the questionnaire given to staff at Barnsley Central Library have been coded as “BCL”. The results are presented in the order that the questions were asked and the questions are included alongside the results and discussion for the purpose of clarity.

The results from the questionnaire given to the Information students are discussed first as they produced significantly more data than the questionnaire disseminated to staff at Barnsley Central Library. The responses from Barnsley Central Library are discussed alongside each question respectively. Question 2 does not include a discussion comparing the two questionnaires as it was omitted from the Barnsley Central Library questionnaire. Similarly, questions 10 to 13 do not include a comparison of the questionnaires as the staff at Barnsley Central Library failed to answer these particular questions.

A Questionnaire Designed to Evaluate the Need for Personalization in Public Libraries and Museums

4.2

Section 1

1a. In the provision of an information service, how important do you consider it to be for the information professional to have background knowledge of the individual library or museum user?

In the assessment of the perceived importance of the information professional having background knowledge of the individual library user, 10% (1) of the participants deemed it to be “very important”. 50% (5) of the participants asserted that it was important. 30% (3) of the users were ambivalent and stated that it was “neither important nor important”. 10% (1) of participants deemed it to be “unimportant”. None of the participants responded that it was “very unimportant” for the information professional to have background knowledge of the individual library user.
1b. Please explain why you gave this answer

A number of different themes emerge through the analysis of the participants’ responses to this question. The following themes can be identified:

**Ambivalence**

Analysis of the participants’ responses to this question identifies ambivalence as a theme. In general, the participants acknowledge that having background knowledge of the user is important, but also emphasize that it is not always possible or necessary. SP4 asserts that in an ideal world, the library user would always be provided with a response informed by background knowledge, but that as this is not a realistic expectation it is necessary to try and maintain "a good standard level of service". Similarly, SP1 maintains that background knowledge of the user is "essential" but also directly contradicts this assertion by stating that it is "helpful but not necessary". SP7 is also ambivalent about the possession of background knowledge and asserts that "it depends on the information being asked for". Furthermore, SP9 states that "In most instances it can be quite useful to have at least some amount of background knowledge of the individual library user".

**Disability**

Another theme that emerges through the analysis of the responses to this question is that background knowledge of the individual library user is especially useful in helping people with disabilities. It is felt that having prior knowledge of a user’s disability enables the information professional to adapt the information provided accordingly. SP6 and SP8 both specifically identify
autism as a disability that it is important for the information professional to be aware of. SP8 asserts that "If the user is on the Autistic spectrum, the information can be tailored to their needs". Similarly, SP6 states that "prior knowledge of whether the user has dyslexia or autism, for example, can affect the way the information is provided". Interestingly, SP8 also suggests that the user’s disability often becomes apparent during the course of the enquiry and that this negates the need to have prior awareness of the disability.

Tailoring Information

One theme that becomes apparent through the analysis of the responses is that through background knowledge of the individual user, the information professional is able to tailor the information they provide to suit the needs and requirements of the user. SP6, for example, asserts that prior knowledge of users allows the information professional to “tailor the service to individuals who may have a variety of unique and specific needs”. Similarly, SP2 asserts that "background knowledge can be very useful for adapting the information to the user’s needs and requirements".

Quality of Information

A further theme that emerges through analysis is that the quality of the information provided is often more important than the possession of background knowledge about the user. SP5, for example, asserts that "fundamentally the important thing is the information being provided". They add that "perhaps some information about the user may help inform the nature of the provision or the material provided" but that background knowledge "should not really be a necessary factor". Similarly, SP7 states that factors such as "the reason why the information is required and the quality of the response are often more important than background knowledge".

Treating Users Equally

A theme that emerges through analysis of the responses is that every user should be treated equally. The possession of background knowledge of certain users and not others is seen as threatening the provision of a consistent standard of service. SP5, for example, asserts that "every library user should be treated the same unless there is something which might hinder their learning". Similarly, SP8 states that "in professional information provision everyone should be treated equally".

Further Discussion and Comparison with Barnsley Central Library Case Study

In assessing the importance of providing a personalized response informed by pre-existing knowledge of the individual library user, all of the participants responded that it was “important”.
Figure 4.2 Importance of Personalized Response to User Inquiry (Barnsley Central Library Staff)

Please explain why you gave this answer

The responses provided by the staff at Barnsley Central Library to question 1b closely parallel the answers given by the Information students. In this respect, similar themes emerge in both sets of response. BCL1, for example, asserts that having background user of the user can be particularly advantageous if the user has "special needs". This corresponds with the importance the Information students place on background knowledge in providing information to users with disabilities. Similarly, the importance the Information students place on background knowledge in tailoring information is mirrored by BCL4, who states that "background knowledge often allows information to be tailored to the user's enquiry".

Overall, the responses to both questionnaires give the clear impression that having background knowledge of the individual patron is considered to be an important part of information provision. This would suggest that the implementation of methods of personalization in an information provision context would generally be viewed as advantageous as it would enable the information professional to improve their background knowledge of the enquirer. At the same time, the responses also indicate that there is a degree of uncertainty about the need to have background knowledge about every information patron. Factors such as the exact nature of the information required and the importance of providing a consistent level of service have to be taken into consideration when evaluating the importance of background knowledge. The identification of ambivalence as a theme ties in with the view expressed in section 2.4 of the literature review that the level of personalization should correspond with the user requirements. In this way, the
participants’ ambivalence mirrors the opinion in the literature that the possession of background knowledge is not always a necessary requirement of information provision.

The emergence of disability as a theme in the responses is surprising in the respect that the available literature does not identify this as related in any significant way to personalization. Future research into personalization in the information context could perhaps benefit from looking specifically at how methods of personalization could be used to benefit the disabled community.

4.3

2a. In your experience of using information services, how frequently do your enquiries require specific information that is tailored to your situation?

In the experience of using information services, 10% (1) of participants answered that they “always” required specific information tailored to their situation. 20% (2) of participants asserted that their enquiries “very often” required tailored information. The majority of participants, 50% (5), stated that they “sometimes” required a tailored response to their enquiry. 20% (2) of the participants answered that they rarely require a tailored response. None of the participants responded that they “never” require a response that is tailored to their situation.

Figure 4.3 Frequency of Tailored Response Being Required (Information Students)
2b. Please explain why you gave this answer

**Work Requirements**

A theme that emerges in the analysis of the responses is that the provision of information tailored to the user’s requirements is especially useful when the enquiry is work or study related. SP89, for example, asserts that "I require information for work purposes therefore it is very tailored to my situation". Similarly, SP4 asserts that the provision of tailored information is especially useful in helping with assignments and states that it is "most relevant when ordering journal articles rather than, say, a piece of fiction, for example." Similarly, SP3 asserts that "something like a dissertation or thesis can require information that is highly tailored".

**Staff Numbers**

A second theme that becomes apparent through analysis of the responses is that the frequency of users receiving a tailored response is restricted by staff numbers. SP6 identifies that they have experience of working in a library context and are able to answer the question from a library professional perspective. They describe how budget cuts and reduced staff number have made it difficult to dedicate staff time to providing tailored answers to users’ enquiries. They assert that "budget cuts mean that staff are often dealing with enquiries from afar and are unable to always provide a tailored response".

**Ambivalence**

It is possible to identify a significant degree of ambivalence amongst the participants’ responses to this question. This view is expressed that whilst certain forms of enquiry generally necessitate a tailored response, other types of enquiry do not. SP6, for example states that "sometimes my enquiries require information specific to my situation. Other times my needs are more general subject guides which can be answered by more general guides". Similarly, SP9 states that "Sometimes I require information specific to my situation, but sometimes a generic answer provides me with the information I need for the situation".

4.4

3. What do you consider to be the main challenges for a library or museum service in providing a personalized response to the information enquiries of a library or museum patron?
**Collection and Storage of Data**

A theme that emerges in the analysis of the data from this question is that the collection and storage of information of each user’s personal details and preferences presents challenge to the provision of a personalized response. SP1, for example, identifies the "lack of mechanism for storing and sharing data about an individual’s preferences" as a challenge to providing user enquiries with a personalized response. SP7 echoes this opinion and states that the "data collection and invariably its storage" is a challenge to the provision of a personalized response.

**Demands on staff**

The demands that the provision of a personalized response place on staff is considered to represent one of its main challenges. Specifically, SP3 identifies "time, money and resources" as being amongst the demands that library and museum staff face in the provision of a personalized response. SP8 supports the view and states that "available resources, primarily staff time" are amongst the frequently encountered staff demands. Similarly, SP8 maintains that "providing sufficient numbers of appropriately skilled staff" is one of the demands that library and museum staff face.

**Number of Enquiries**

The number of enquiries that library and museum staff have to process is identified by the participants as another challenge to the provision of a personalized response. SP3, for example, asserts that "the number of patrons that ask for assistance on a daily basis" can pose a challenge to the consistent provision of a personalized response. SP4 also views the number of enquiries that museum and library staff receive as making it harder to provide a personalized response and states that "it is difficult to build up personalized knowledge of every user, impossible in fact".

**Variation in User Requirements**

Variation in user requirements emerges as another challenge to the provision of a personalized response. SP10 asserts that "it is very difficult to provide a high level of personalization to everyone, without alienating general users who may not want a particularly personalized service". Similarly, SP5 draws attention to the variation in user requirements concerning personalization and states that "opinions and tastes vary too widely. What might be an interesting and useful response to one user may not be to another".
Further discussion and comparison with Barnsley Central Library

In their response to this question, all of the participants in the case study placed an emphasis on the number of user enquiries as a challenge to the provision of a personalized response. BCL1, for example, asserts that "in the central Library, which is busy, it is often difficult to have a detailed knowledge of individuals and their interests". Similarly, BCL4 states that with "such a diverse and large customer base it is difficult to get knowledge of user interests and requirements". SP3 mirrors this opinion and states that the staff "have contact with so many different people" and consequently "it is difficult to have pre-existing knowledge of many of them". BCL4 assumes a slightly different approach, but their emphasis still on the number of enquiries as a challenge to the provision of a personalized response. They state that due to the large number of enquiries, "different staff members" have "different information on individual customers" and that there is no "centralized" way of pooling this information.

Comparison of the responses to the two questionnaires suggests that the quantity of enquiries that information services receive is the most commonly recognized challenge. One way to try and increase the provision of personalized responses could be to try and deal more efficiently with the number of enquiries. Whilst employing more staff to deal with the enquiries would be an impractical solution, a more effective answer could be to implement methods of personalization. This could provide staff with a means of collecting and storing data and enable staff to increase their knowledge of individual user needs.

4.5

4a. In your own experience of providing an information service on a day to day basis, how confident do you feel in being able to consistently give a personalized response that is informed by pre-existing knowledge of each user enquiry?

In assessing their level of confidence in consistently providing an information service, 10% (1) of users asserted that they were “very confident” in being able to provide a personalized response. 10% (1) of participants answered that they were “confident”. 40% (4) of participants responded that they were “neither confident nor unconfident” and 40% (4) of participants answered that they were “unconfident”. None of the participants stated that they were “very unconfident” in consistently providing a personalized response to enquiries.
Figure 4.4 Confidence in Being Able to Provide a Personalized Response (Information Students)

4b. Please explain why you gave this answer.

Through the analysis of the results, it becomes clear that the participants’ responses to this question are generally quite negative. The results convey a sense of respondents being unconfident in their ability to provide a personalized response informed by prior knowledge. It is possible to identify a number of reasons why the participants feel unconfident. These reasons can be categorized as follows:

**Volume of Users**

Participants identify the volume of users as one reason for the low level of confidence in providing a personalized response. SP5, for example, asserts that "there are far too many users to provide a response based around pre-existing knowledge". Similarly, SP3 states that "unless one is working in a small library it is hard to know everyone personally enough". SP4 also identifies the volume of users as undermining confidence in providing a personalized response and asserts that "I worked at a library where there were a few thousand members and say 12 service staff".

**Difficulty of Obtaining Background Knowledge**

Another cause of the participants’ low confidence is identified as the difficulty in actually obtaining the necessary background knowledge. SP10, for example, reflects on their experience of working in a library service and states that they had "limited background knowledge of individual library users, aside from the information that they provided to me". SP9 gives a similar response and maintains that "I can only impart my knowledge on the basis of what I’m told".
Time Restraints

Limitations on the amount of time that can be dedicated to answering each user enquiry is identified as a cause of reduced confidence amongst information staff. SP5 asserts that there is "not enough time to build a relationship to know about any pre-existing knowledge".

Frequency of Visits

A further reason for reduced confidence amongst staff in providing a personalized response is identified as the frequency of visits of each user. SP4 asserts that "I don't think it's possible to provide a personal service to every member for practical reasons, such as people only using the library occasionally. Similarly, SP6 states that "you only really get to know certain patrons who visit the library counter regularly". SP1 maintains that they can "give a personalized response to enquirers I have previously dealt with through looking at prior correspondence trails and from memory". However, a problem implicit in this response is that a personalized response can only be provided to enquirers who have previously made use of the service. In this respect, the frequency of visits is a limitation that can be inferred from SP1’s response as they are unable to provide a personalized response to patrons who have not previously made use of the service.

Further Discussion and Comparison with Barnsley Central Library

In assessing their level of confidence in providing a personalized response informed by pre-existing knowledge of the individual library user, 25% (1) of the participants responded that they were “confident”. 75% (3) of the participants answered that they were “neither confident nor unconfident”.

![Confidence Levels Chart]
Figure 4.5 Confidence in Being Able to Provide a Personalized Response (Barnsley Central Library)

Please explain why you gave this answer

The responses to this question from the participants at Barnsley Central Library place are fairly uniform in that they all place emphasis on the frequency of user visits as influencing their level of confidence in providing a personalized service. BCL1 and BCL4 both answered the first section of the question with the response "neither confident nor unconfident". BCL1 asserts that "there are too many users for me to feel confident in providing a personalized response to every user" but adds that "I feel confident in my ability to provide a personalized response to those who frequently use the service". Similarly, BCL4 states that "I am confident with the users I know", indicating that the opposite is true for library users that they are unfamiliar with. BCL2 and BCL3 answered the first section of the question with the response "confident", but both their answers to the second section of the question indicate that this is only the case for the library patrons who use the service regularly. BCL2 states that "I am confident when I have knowledge of the person making the enquiry". BCL3 asserts that I feel confident in providing personalized recommendations to patrons who regularly use the library enquiry desk".

Through comparison of the responses from both questionnaires, it appears that the quantity of enquiries is the most commonly recognized cause of loss of confidence in providing a personalized response. This corresponds with the findings of the previous question which shows that the number of enquiries is also the most recognized challenge to providing a personalized response. Again, the reduced level of confidence in providing a personalized response indicates that the implementation of methods of personalization would be of benefit at Barnsley Central Library and within information services in general. This would enable staff to better accommodate the large number of enquiries and therefore increase their confidence in providing a personalized response.

Section 2: Personalization Methods in Libraries

4.6

The incorporation of personalization in the library sector has been promoted by the development of Personalized Information Environments. Numerous academic institutions now offer a MyLibrary resource. In a nutshell, this enables library users to login to library website and be provided with a personalized web space. They are able to customize the information presented on the basis of their personal requirements and interests. They are also able to remove or add links to databases and resources that suit their personal interests.
5a. Would you be interested in using this form of personalization in a public library?

In assessing their interest in the MyLibrary resource, the majority of participants, 70% (7), answered that they would be interested in using this form of personalization in a public library context. 20% (2) of the participants asserted that they would not be interested in using the MyLibrary Resource. 10% (1) of the participants answered the question with “don’t know”.

![Pie chart showing user interest in MyLibrary Resource](image)

Figure 4.6 User Interest in MyLibrary Resource (Information Students)

5b. Please explain why you gave this answer

In the analysis of the results from this question the majority of participants state that they would be interested in using the MyLibrary resource in a public library. The participants who said they would be interested in using this resource provide a range of different reasons for this choice. These reasons can be categorized as follows:

**Improved Accessibility**

SP6 identifies improved accessibility to the library service as an advantage of using the MyLibrary resource. They assert that it "would be very useful because it would make the service more accessible". Similarly, SP10 also identifies accessibility as an advantage of MyLibrary and asserts "it would probably improve the accessibility of the service" but adds that "I have never found libraries lacking for not providing the service".
Sense of Community

Another advantage of the MyLibrary resource identified by the participants is that it could help create an increased sense of community identity amongst those who make use of the resource. SP5 asserts that “I think a personalized site would make anyone feel a part of their public identity”.

Improved Organization of Resources

The potential for MyLibrary to improve the organization of library resources is identified as a further advantage. SP3 asserts that it would be helpful for enabling users "who are interested in a definite subject area" to find the relevant websites and resources.

Recommendations of Resources

The potential for MyLibrary to recommend useful resources to participants is also identified as a benefit. SP4 states that "it would be good to get recommendations for specific information and books to read".

User Control

A further advantage of MyLibrary that the participants identify is that it can provide the user with a sense of having a greater level of control over library resources. SP5 asserts that it could help give users the impression that “they have more control over the site and resources and this might encourage them to use the site more often”.

At the same time as participants identify advantages of the MyLibrary resource, they also highlight several disadvantages. These disadvantages can be identified as follows:

Cost

SP1 asserts that a major disadvantage of the MyLibrary resource is its financial cost. Speaking from their own experience of working in a library context, they assert that in order for the resource to be financially viable it would have to cost "less than £10,000 to initially implement. They also state that the annual fees would have to be "no more than £3,000".

Comparable Resources

Participants identify that they would be reluctant to use the MyLibrary Resource based on previous negative experiences of using comparable resources. SP8 asserts that they have used similar
resources and "wouldn’t be interested in the same in a library". SP7 takes a different angle and asserts that there are already "enough social networking sites to do this function" and emphasizes that it would not be necessary in a library context.

Further Discussion and Comparison with Barnsley Central Library

In assessing whether they would be interested in seeing a MyLibrary resource implemented in Barnsley Central Library, 50% (2) of the participants asserted that they would be interested and 50% (2) answered that they would not be interested.

![Figure 4.7 User Interest in MyLibrary Resource (Barnsley Central Library)](image)

Participants in the questionnaire at Barnsley Central Library were asked to summarise what they view as the advantages and disadvantages of the MyLibrary resource. The overlap between the responses provided in the two questionnaires is limited to the fact that both sets of responses identity the improved organization of information as a benefit of the MyLibrary resource. BCL4 asserts that it would enable library patrons to "use our services more easily as they would all be in one place". Similarly, BCL2 states that the improved organization of resources would enable the library "to market services to specific groups of users".

A notable way in which the responses to the two questionnaires differ is in the emphasis the participants at Barnsley Central Library place on inaccessibility as a disadvantage of the MyLibrary
resource. This is in contrast to the responses provided by the Information students who view increased accessibility as an advantage of the resource. BCL1, for example, states that if the MyLibrary resource were introduced "many users may not have access to a PC". Similarly, BCL1 asserts that the users would "not all have equal access. Furthermore, BCL3 states that access to the resource would be compromised by the fact that many library patrons would "not be able to use the technology".

Overall, the responses provided by both groups of participants supports the view expressed in the literature review which states that library services are generally hesitant about implementing the MyLibrary resource. Interestingly, however, whilst the literature review identifies the amount of staff time to establish and maintain the resource as a major disadvantage, this is not acknowledged as a drawback in the participants’ responses.

4.7

The process of collaborative tagging in library catalogues is another example of a personalization method available to library services. This allows users to add their own keywords to describe books in the collection. These words are then made available to library users who can use a tag-cloud of keywords to search.

6a. Would you be interested in using this form of personalization in a public library?

In assessing their interest in collaborative tagging, the majority of participants, 60% (6), responded that they would be interested in using this form of personalization in a public library context. 20% (2) of the participants asserted that they would not be interested in using collaborative tagging. 20% (2) of the participants answered the question with "don't know".
6b. Please explain why you gave this answer

As with question 6, the analysis of question 7 reveals advantages and disadvantages that the participants see as inherent collaborative tagging. The advantages identified by participants can be categorized as follows:

**Improved Information about Content**

An advantage of collaborative tagging identified by participants is that it could help improve the level of information that library catalogues provide about available materials. Participants identify that collaborative tagging can provide information specifically about the content of library books. This is in contrast to other forms of searches available on catalogue systems such as author, title and keyword searches. SP6 asserts that "I think it's useful as the usual search options (title, keyword etc) do not always make it easy to tell what a book is about especially if it covers a lot of subject areas or topics". Similarly, SP2 states that "it would be useful to have a system of user-provided information about content".

**Helping Other Users**

Another advantage of collaborative tagging identified by participants is that it can help facilitate the searches of users. In this respect it can reduce the amount of time and effort required by each user to find the necessary resources. SP9, for example, states that many library catalogue users "may not be able to think of searchable keywords on their own" and adds that the provision of collaborative tagging can "give them inspiration" in their searches. Similarly, SP6 asserts that collaborative tagging
can help "inform other customers" and therefore make searching for materials a less laborious task. SP5 takes a slightly different angle and maintains that collaborative tagging could help facilitate the searches of users by "broadening their interests" and also "pointing them in new directions".

**Improved Access to Disabled Users**

A further advantage of collaborative tagging identified by participants is that it can improve the accessibility of the library catalogue to disabled users. SP7 asserts that collaborative tagging is "especially useful to those with special learning needs".

In addition to the advantages identified by participants, a number of disadvantages of collaborative tagging also emerge in the analysis of the responses. These disadvantages can be identified as follows:

**Cost**

Addressing the concept of collaborative tagging from their own experience of working in a library context, SP1 asserts that the cost of implementing this method of personalization would have to be viable. They assert that "implementation of this would have to be cheap" in order for it to be a practical technology to adopt.

**Potential for Abuse**

A disadvantage of collaborative tagging identified by participants is its potential to be open to abuse by users. SP2 states that the implementation of the technology would have to make use of "a mechanism which meant that it was not open to abuse". The implication here is that users could add tags that were offensive or abusive.

**Monitoring**

A further disadvantage of collaborative tagging that the participants identify is the demand it places on library staff to monitor the actual content of the tags. SP4 states that collaborative tagging would be a useful resource but adds that "you would need to manage it and weed out the rubbish tags". The need to monitor the content of collaborative tags is also highlighted by SP8. They ask the questions "who supervises the tagging?" and "could it not be misleading sometimes, if wrong?" Furthermore, SP 3 also maintains that monitoring tags could be a potential disadvantage and states that collaborative tagging is "a good idea" but would require "an overall control".

**Aversion to Technology**
SP10 is the most critical of collaborative tagging in that they are inherently averse to using the technology. They state that they would not be interested in using collaborative tagging in any situation and assert that "I prefer to be searching items according to a standardized and predetermined collection of keywords".

Further Discussion and Comparison with Barnsley Central Library

In assessing whether they would be interested in seeing collaborative tagging implemented in Barnsley Central Library catalogue, 50% (2) of the participants asserted that they would be interested and 50% (2) answered that they would not be interested.

![Figure 4.9 User Interest in Collaborative Tagging (Barnsley Central Library)](image)

Participants in the questionnaire at Barnsley Central Library were asked to summarise what they view as the advantages and disadvantages of collaborative tagging. The responses overlap with those provided by the Information students in the respect that they identify similar potential disadvantages of implementing the technology. BCL1, for example, identifies the need for monitoring of content as a disadvantage of collaborative tagging and asserts that "if users are allowed to do this it could lead to inconsistent cataloguing which would have to be monitored". Similarly, BCL2 states that "key words would need to be checked in case users put spurious or incorrect words in". In addition, the participants at Barnsley Central Library also identify the potential for abuse as a disadvantage of collaborative tagging. BCL3 asserts that it would be "open to
abuse" as users may add "offensive tags". BCL4 supports this view and states that "it would be open to anyone wanting to put inappropriate comments". Aversion to the technology is also identified as a disadvantage of collaborative tagging. BCL3 asserts that "many people find the existing catalogue difficult to use and prefer to ask staff members to find them a book".

Interestingly, the advantages and disadvantages of collaborative tagging that are identified in the literature review are not reflected in the responses from either group of participants. This may be because the assumptions that the literature makes about the benefits and drawbacks are overly theoretical and do not match the practical situation.

4.8

Another personalization method available to library services is the use of personalized alerts. This enables the library user to be provided with personalized alerts about reserved or overdue materials, program and event reminders and also reference services via e-mail and text. Orange County Library, for example, currently provides SMS text messages to users reminding them of when their items are due for return and informing them of library events. It also provides an SMS text message service that enables library users to submit reference queries to librarians by text.

7a. Would you be interested in using this form of personalization in a public library?

In assessing their interest in personalized alerts, the majority of participants, 90% (9), responded that they would be interested in using this form of personalization in a public library context. Only 10% (1) of the participants asserted that they would not be interested in using collaborative tagging.
7b. Please explain why you gave this answer

Analysis of the responses reveals that that whilst 9 of the 10 participants state that they would like to use personalized alerts, they are also quite specific about the conditions in which they would consider personalized alerts to be appropriate. In this respect, a pattern emerges in the responses whereby participants acknowledge that personalized alerts are generally useful but speculate on scenarios in which this would not be the case. The following themes emerge through the analysis of the responses:

**Spam**

One disadvantage of personalized alerts that the participants’ responses identify is the potential for users to feel overloaded with unwanted messages. SP1 asserts that "spamming" might become an issue "if alerts were excessive". Similarly, SP3 also highlights the potential risk of personalized alerts to be overly used. They state that it would be useful to be reminded about events and overdue items but only provided that the user can be "very selective about the kind of alerts" that they receive. Furthermore, SP10 also expresses the concern that personalized alerts could be excessively used. They suggest that in order to prevent this occurring "users should be able to select the format and numbers of their alerts".

**Timing**

SP2 draws attention to the idea that the effectiveness of personalized alerts is dependent on the user receiving the alert well in advance of the scheduled event or item renewal date. SP2 states that personalized alerts are useful but only on the condition that "they arrive at an appropriate points notice".

**Anti-Spontaneity**

One disadvantage of personalized alerts that the participants identify is that it detracts from the ability of the user to be spontaneous in their choice of events. SP5 asserts that personalized alerts are especially useful for providing a reminder about overdue items. At the same time, they assert that they would not be interested in personalized alerts for being reminded about events because "this is the kind of thing I like to discover by myself".

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Figure 4.10 User Interest in Personalized Alerts (Information Students)
**Overdue Items**

A recurring theme in the responses is that personalized alerts are a useful means of being reminded of overdue items. SP6, for example, asserts that "it is always useful to be reminded of when books are due, wherever you get the reminders from". Similarly, SP7 states that "personalized text alerts are a good way of informing users about overdue items". SP9 claims to not have experience of having used personalized alerts but asserts that "many public libraries in the USA utilize this and it seems quite popular with library members as a means of being reminded about book returns". SP8 speaks from experience of receiving personalized alerts from their local library service and states that the reminders about overdue items are "great" because they have "saved me a lot of money".

**Further Discussion and Comparison with Barnsley Central Library**

In assessing whether they would be interested in seeing personalized alerts implemented in Barnsley Central Library, 50% (2) of the participants asserted that they would be interested and 25% (1) answered that they would not be interested. 25% (1) of the participants gave the answer “don’t know”.

![User Interest in Personalized Alerts (Barnsley Central Library)](image)

**Figure 4.11 User Interest in Personalized Alerts (Barnsley Central Library)**

Participants in the questionnaire at Barnsley Central Library were asked to summarise what they view as the advantages and disadvantages of personalized alerts. As with the responses provided by
the Information students, the staff at Barnsley Central Library identify that personalized alerts are advantageous for providing users with reminders of overdue items. BCL2 asserts that the technology would "help the library get items back" and that it would also "help the users avoid fines". Similarly, BCL3 states that personalized alerts would probably lead to "fewer overdue books".

In contrast to the Information students, the theme of "discrimination" emerges as a theme in the responses provided by the staff at Barnsley Central Library. In this way, the potential for the technology to alienate certain users is viewed as a potential disadvantage. BCL2, for example, states that "not all users have an email address and/r mobile phone so it wouldn't benefit all users". Similarly, BCL1 asserts that the technology "potentially discriminates against those who have no e-mail/mobile, such as many of the older library patrons".

The advantages and disadvantages of personalized alerts identified in the literature review differ to those that emerge from analysis of both sets of responses. The only notable overlap is the recognition in the literature that personalized alerts are of greater appeal to the young and the corresponding concern amongst the participants that the technology could discriminate against the elderly.

4.9

A potential personalization method that may soon become available to public libraries is the use of recommender systems similar to those used by the e-commerce site, Amazon. This would enable the library catalogue to recommend books to library patrons based upon their borrowing history. For example, a library patron who has previously searched for texts by Shakespeare might be recommended books by other Elizabethan playwrights as well as books on literary criticism.

8a. Would you be interested in using this form of personalization in a public library?

In assessing their interest in recommender systems, half of the participants, 50% (5), responded that they would be interested in using this form of personalization in a public library context. 30% (3) of the participants asserted that they would not be interested in using recommender systems. 20% (2) of the participants answered the question with “don’t know”.
8b. Please explain why you gave this answer

Analysis of the participants’ responses to this question reveals that opinion is divided as to how useful recommender systems are in a public library context. In this respect, the themes that emerge through analysis are related to the perceived and disadvantages of recommender systems. The disadvantages of recommender systems can be categorized as follows:

**Cost**

SP1 identifies the cost of implementing recommender systems in public libraries as a significant disadvantage of the technology. Speaking from their own experience of having worked in a library context they state that "to implement this via a library management system would be an exorbitant cost".

**Negative Comparisons with Similar Systems**

Participants identify negative experiences of using recommender systems as a reason why they do not consider the technology to be useful. SP2 states that whilst recommender systems are "okay in theory", the systems that they have used are "flaky at best". They add that "at best the systems often verge on spam" and state that Amazon’s "people who bought this also bought is amusing as much as it is helpful". SP4 also draws on prior experience of using recommender systems to explain why they do not consider the technology to be useful in libraries. They assert that "from my own experience of using the Amazon recommender system, I don’t think recommenders work very well". They assert that whilst recommender systems are a a as yet "not technically advanced enough".
Furthermore, SP6 also draws on previous experience of using recommender systems to question their usefulness and sceptically states "have you seen what Amazon recommends?!?"

**Anti-spontaneity**

A disadvantage of recommender systems identified by the analysis of the participants’ responses is that it can detract from the user’s ability to be spontaneous in their searches for material. SP8 asserts that "I think you could lose the spontaneity of customers finding new authors and subjects.

Analysis of the participants’ responses also identifies what they consider to be the advantages of recommender systems. These advantages can be categorized as follows:

**Serendipity**

SP9 states that one advantage of using recommender systems is that they provide "a nice tool for serendipitous searching". This statement is of interest in the respect that it is a direct contradiction of SP8 who claims that recommender systems detract from the ability for spontaneous searches.

**Positive Comparisons with Similar systems**

In contrast to the participants who identify having had negative experiences of using recommender systems, participants who report positive experiences consider recommender systems to be an advantage to the public library. SP6, for example, asserts that "I find the recommender system useful in Amazon so can’t see why I wouldn’t for public libraries". Similarly, SP5 states that "my experience of using the Amazon recommender system is that it helps broaden my searches and introduces me to new authors".

**Specific Search**

Both SP7 and SP10 identify a disadvantage of recommender systems as being that they are unhelpful when the user wants to conduct a very specific search and does not want to be provided with recommendations that are more generalized. SP7 asserts that recommender systems can be useful if the user "actually wants a recommendation" but that "sometimes people borrow books for very specific reasons". Similarly, SP10 points out that recommender systems can provide over-generalized results and asserts "I often take books out for a particular reason and wouldn’t be interested in other items just because they are related in some way".
Further Discussion and Comparison with Barnsley Central Library

In assessing whether they would be interested in seeing recommender systems implemented in Barnsley Central Library, 50% (2) of the participants asserted that they would be interested and 25% (1) answered that they would not be interested. 25% (1) of the participants gave the answer “don’t know”

Figure 4.13 User Interest in Recommender Systems (Barnsley Central Library)

Participants in the questionnaire at Barnsley Central Library were asked to summarise what they view as the advantages and disadvantages of personalized alerts. There is notable overlap in the themes that they identify with the responses provided by the Information students. BCL3, for example, establishes a positive comparison with similar recommender systems and asserts that “I enjoy seeing the suggestions on the Amazon website, so it might be useful for our borrowers - especially those who are familiar with the concept because they like Amazon”. BCL3 also views serendipity as an advantage of recommender systems and asserts that they could potentially introduce users "to materials they may not know we have". BCL1, by contrast, maintains that a potential disadvantage of recommender systems is anti-spontaneity and asserts that "If people only search for the same type of book or the same author/subject, they never discover new authors/interests". BCL4 makes a negative association with similar systems and maintains that "the quality of recommendations may be questionable as this is often the case with Amazon". Furthermore, both BCL3 and BCL1 identify cost as a potential disadvantage of recommender systems.
The responses provided by both groups relate with the advantages and disadvantages identified in the literature review to a limited extent. There is overlap between the literature and the responses in the respect that they both identify user familiarity with similar systems as a potential advantage of implementing the technology. Similarly, the literature also overlaps with the participants responses in that it identifies cost as a potential disadvantage.

4.10

A method of personalization available to libraries is the use of the PDA (Personal Digital Assistant) to provide library patrons with access to E-books (electronically based texts). Essex Public Libraries have made e-books available via PDAs that can be borrowed by library users.

9a. Would you be interested in using this form of personalization in a public library?

In assessing their interest in PDA’S and E-books, 40% (4) of the participants responded that they would be interested in using this form of personalization in a public library context. 40% (4) of the participants asserted that they would not be interested in using PDA’s and E-books. 20% (2) of the participants answered the question with “don’t know”.

![Figure 4.14 User Interest in PDA’s and E-books (Information Students)](image-url)
9b. Please explain why you gave this answer

Through analysis of the participants’ responses to this question, it becomes apparent that they identify both advantages and disadvantages of using PDA’s and E-books in public libraries. The following themes emerge from the data:

**Publication Restrictions**

A disadvantage of PDA’s and E-books that the participants identify is that the technology is currently limited by the range of available titles. SP1 asserts that "the range of E-books available is severely restricted by publishers at the moment".

**Alienation of users unfamiliar with the technology**

A second disadvantage of PDA’s and E-books that the analysis reveals is that it can alienate users who are uncomfortable with the technology. SP10, for example, expresses an aversion to PDA’s and E-books and states that "I’m not a fan of E-books so I’d always rather borrow a physical book. Similarly, SP8 shows a strong dislike for the technology and asserts "Reading a real book is infinitely preferable to a trendy PDA advice".

**Cost**

The financial cost of PDA’s and E-books is identified by the participants as a disadvantage of the technology. SP7 claims to have an interest in this method of personalization, but also adds that "in these times of severe cuts to services financially, these services could prove to be expensive”. SP3 also highlights the cost of the technology as a potential disadvantage and asserts "I think this would only be feasible if it was available at an affordable price. This does not seem likely to most services given the current economic climate".

**Potential to become increasingly popular in the future**

A theme that emerges from analysis of the participants’ responses is PDA’s and E-books have potential to become more popular as the technology develops. The popularity of E-books amongst the general population is seen as an indication that, given time, they will eventually become a useful and common resource in public libraries. SP2 states that "with the increasing popularity of Kindles I think this could become popular with public libraries". Similarly, SP1 asserts that whilst they are personally uninterested in PDA’s and E-books they also believe that from their experience of "speaking with people who work in public libraries this has the potential to become a very popular service".

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Novel Alternative to Traditional Books (Novelty)

SP5 highlights an advantage of PDA's and E-books as offering the library user with an alternative to traditional books and therefore broadening their level of choice. They assert that "this would be another way of reading which I'd enjoy". In addition, they state that the need to pay fines could be avoided if "after borrowing the book the E-book it expired".

Further Discussion and Comparison with Barnsley Central Library

In assessing whether they would be interested in seeing PDA's and e-books implemented in Barnsley Central Library, 75% (3) of the participants asserted that they would be interested and 25% (1) answered that they would not be interested.

![User Interest in PDA's and E-books (Barnsley Central Library)]

Participants in the questionnaire at Barnsley Central Library were asked to summarise what they view as the advantages and disadvantages of PDA's and E-books. There is a degree of overlap in their answers with the responses provided by the Information students. In this respect, similar themes are apparent in their responses. BCL1, for example, draws attention to a disadvantage of the technology as the potential to alienate users who are unfamiliar with the technology. They assert that PDA's and E-books "discriminate against those who do not have access to the technology". Another shared theme between the responses to the two questionnaires is the potential for the technology to
become increasingly popular in the future. BCL3 states that the "increased use of E-books is leading more and more people to assume that they can borrow them from a public library, so it might increase issues". Furthermore, both BCL1 and BCL2 identify the cost of implementing and maintaining the technology as a disadvantage.

In terms of the overlap between the participants' responses and the literature review, a few comparisons can be made. Firstly, both the literature and the responses identify cost as a disadvantage of PDA's and E-books. Secondly, the literature overlaps with the responses as it states that a disadvantage of the technology is the concern that it is not user-friendly; this relates to the theme of alienation of specific users that emerges in the responses. Finally, the literature relates to the responses in that they both acknowledge that the technology is becoming increasingly popular and is therefore likely to be implemented more frequently in the public library context.

Section 3: Personalization Methods in Museums

4.11

One personalization method available to the museum sector is the portable museum guide. Visitors are provided with a handheld guide which evaluates their preferences by observing their path through the museum. The database then selects suitable content tailored to the visitors' specific interests from a database of resources including movie clips, audio and animation.

10a. Would you be interested in using this form of personalization in a museum context?

In assessing their interest in portable museum guides, half of the participants, 50% (5), responded that they would be interested in using this form of personalization in a museum context. 20% (2) of the participants asserted that they would not be interested in using portable museum guides. 30% (2) of the participants answered the question with “don’t know”.

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Figure 4.16 User Interest in Portable Museum Guides (Information Students)

Please explain why you gave this answer

Cost

The cost involved in implementing this technology is considered to be a potential disadvantage. SP1 states that "I think the cost involved in using this technology would probably not be affordable by most museums at the moment". They also state that "larger museums may benefit" but that the technology would "have to be proven helpful in advance" in order to justify the financial expense. SP5 also draws attention to the cost involved in implementing portable museum guides. They assert that the usefulness of the technology "all depends on cost" indicating that in order for it to be of value to museums it must also be cost-effective.

Anti-Spontaneity

A second that emerges through the analysis of the responses to this question is the idea that portable museum guides could detract from the visitors ability to be spontaneous in their choice of exhibits. SP3, for example, states that the technology could be of interest but adds that it may also exert "too many influences on visitor choices" and cause them to "miss out on things that they may otherwise be interested in. Similarly, SP2 expresses concern that the technology could detract from the spontaneous museum visit. They assert that "I like to find my own way around museums and don't like to be told where to go". Furthermore, SP10 voices the same concern and states "I like to be able to explore museums in my own way".

Scepticism
A significant degree of scepticism as to the capacity of the technology to function effectively becomes apparent through the analysis of the responses. SP9, for example, states that "this sounds very interesting if it works correctly". SP6 expresses a similar level of scepticism and asserts "sounds like another thing that would be good if it worked". Furthermore, SP4's choice of words, "It sounds like a good idea", suggests that they are also sceptical about whether the technology would actually work in practice.

**Potential to detract from social experience**

One theme that emerges through the analysis of the responses is the concern that portable museum guides could detract from the social experience of visiting a museum. SP8 asserts that portable museum guides are "a good idea for people visiting museums on their own" but that they are of less value to "families and groups" as they are generally more interested in the "social experience" of the visit. Similarly, SP5 draws attention to the potential for portable museum guides to make the visitor "overloaded with information" and that this could "detract from the actual experience of the museum".

4.12

Another personalization technology available to museums is the use of segmentation. Visitors to a museum website select a profile that most closely resembles their information requirements. The level of information provided by the website is tailored according to the chosen profile. An example includes the prototype developed at the Carrera Marble Museum website. Users are grouped into 3 categories, tourists, art students and experts and the system adapts the level of information provided accordingly.

11a. Would you be interested in using this form of personalization in a museum context?

In assessing their interest in segmentation, half of the participants, 50% (5), responded that they would be interested in using this form of personalization in a museum context. 30% (3) of the participants asserted that they would not be interested in using segmentation. 20% (2) of the participants answered the question with “don’t know”.

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Analysis of the participants’ responses to this question reveals that they are ambivalent about the use of segmentation in the museum context. In this respect, the participants’ responses draw attention to perceived advantages and disadvantages of segmentation. The following themes emerge through the analysis of the responses.

**Restrictiveness**

A prominent theme that emerges in the analysis of the results is the idea that segmentation imposes categories onto the visitor that are restrictive. In this respect, the visitors’ identity and interests are reduced to a category that does not take into account that they may transcend this categorization. SP1, for example, is adamant about the restrictiveness of segmentation and asserts that "the different categories could not possibly the range of people who use the site". SP5, SP6 and SP3 also emphasize the restrictiveness of segmentation. SP3 asserts that "I am wary about museums making too many judgements about what different kinds of users will find useful". Similarly, SP5 casts doubt about categorization through segmentation and states "I'd like to think I can't be stereotyped". SP6 asserts that segmentation is restrictive because it represents "a form of dumbing down".

**Variety**

One theme that becomes apparent through the analysis of the participants responses is the idea that segmentation is good for providing museum visitors with the impression of variety. SP10 states that "being able to explore museums at different levels of detail would be good in many situations".
Scepticism

Another theme that emerges through analysis of the results is scepticism about the use of segmentation in the museum context. This is expressed through the belief that segmentation represents a good idea in theory, but that in practice it may not prove successful. SP7 states that segmentation "sounds good in theory" but adds that it could potentially "make the wrong categorization". Similarly, SP9 asserts that segmentation "sounds as though it has promise" but expresses the concern that in practice it would "have a lot of potential issues" including the fact that "most people do not fit into one category". Furthermore, SP6 states that "I would be interested but am not sure it would be very effective in practice". They add that "I would have to see examples of it before I could judge its effectiveness".

4.13

A further personalization technology available to the museum sector is the personalized web gallery. This allows visitors to a museum website to select their favourite images and use them to create their own gallery. An example of this technology is the My Met Gallery at the Metropolitan Museum of Art which allows visitors to collect up to fifty of their favourite images in a personalized gallery.

12a. Would you be interested in using this form of personalization in a museum context?

In assessing their interest in personalized web galleries, 30% (3) of the participants responded that they would be interested in using this form of personalization in a museum context. 30% (3) of the participants asserted that they would not be interested in using personalized web galleries. 40% (4) of the participants answered the question with "don’t know".
On analysis of the participants responses to this question a number of different themes emerge. Overall, the responses and the themes that emerge are generally critical of this method of personalization. The themes that are identified are as follows:

**Purpose**

The purpose of personalized web galleries is a theme that recurs in the participants responses to this question. In particular, they question the purpose of the personalized gallery and cast doubt on what this method of personalization was designed to achieve. SP1, for example, asserts that "I do not really see why anyone would want to collect images like this". Similarly, SP2 questions the purpose of the personalized gallery and asks "what would I do with the images after I had collected them?" Furthermore, SP4 also questions the purpose of the personalized web gallery and asserts: "A collection of my fifty favourite images online, I don't see the benefit".

**Novel Alternative (Novelty)**

Another theme that emerges through the analysis of the participants’ responses is that the personalized web gallery is of value in that it provides a novel alternative to the experience of visiting the museum in person. SP5 states that "I collect postcards when I go to museums so this would be a new way of collecting that kind of information". Similarly, SP3 also sees the novelty of
the personalized web gallery as a benefit of this method of personalization and states: "It sounds like a novel and constructive outcome to a website visit".

**Uncertainty about technology**

A theme that emerges through analysis of the participants responses to this question is whether the available technology is sufficiently advanced for the personalized web gallery to be a practical method of personalization. SP8, for example, asserts that the optimal web gallery would require "a decent resolution for the images". Similarly, SP6 states that it would potentially "be difficult to distil the information so it appears easily on a mobile phone". Furthermore, SP7 maintains that "I think the quality of the images may be compromised".
Chapter 5: Conclusions

5.1 Introduction

This chapter discusses how and to what extent the aim and objectives of the study were met. In addition, the contribution of the study to the existent literature is considered and suggestions for further research are also discussed.

5.2 Summary of Responses to Aim and Objectives

5.2.1 Overall Aim

The aim of the study to assess the level of interest in the implementation of personalization methods in museums and libraries was effectively met. Through combining the results from the questionnaires given to Information students and Barnsley Central Library the study was able to analyze and discuss key issues related to interest in personalization in museums and libraries. The participants’ responses to the two respective questionnaires were able to be compared and also related to the literature review. The limited responses provided by staff at Barnsley Central Library was an outcome that was compensated for in the results and discussion by amalgamating with the findings from the questionnaire given to the Information students. The findings of the overall aim of the study showed that the participants’ level of interest in personalization was divided between seeing it as a positive progression for information services and viewing it as a development that would bring many drawbacks. At the same time as the participants identified numerous advantages of the various different methods of personalization, they also identified a number of disadvantages that they associated with the technology. This recognition of the various personalization methods as having both advantages and disadvantages is reflected in the available literature on the subject and this was acknowledged in the results chapter.

5.2.2 Objectives

- To provide an outline of personalization and its application in a range of different contexts.

- To carry out a literature review of the available methods of personalisation in libraries and museums. The purpose of compiling this information is to obtain a list of the available personalisation techniques that can then be used as the basis of the case study and survey.
• To obtain an understanding of the concept of personalization specific to museums and libraries and to investigate the current and emerging methods of personalization in the library and museum sector.

These particular objectives were successfully met through conducting the research conducted prior to creating and disseminating the study questionnaires. The literature review meets these objectives in that it details the various uses of personalization in a range of different contexts and specifically outlines the methods of personalization available to libraries and museums. The literature review provides a concise description of the existent literature and forms the background for the current study.

• To investigate how staff at Barnsley Central Library rate the importance of providing a personalized information service and how they rate their confidence in being able to provide a personalized information service. Also, to investigate what they consider to be the main challenges of providing a personalized library service.

• To discover which methods of personalization the staff at Barnsley Central Library would like to see implemented into the library service. Also, to assess what they consider would be the main advantages and disadvantages of introducing the various personalization methods.

These objectives were met by devising the questions that form sections one and two of the questionnaire given to staff at Barnsley Central Library. The responses provided by the participants were able to be analysed thematically and compared with the respective responses in the questionnaire disseminated to the Information students. The themes that emerged in the participants responses were found to correspond with the themes that emerged in the questionnaire completed by the Information students.

• To discover which methods of personalization the staff at Barnsley Central Library would most like to see implemented into the development of the proposed Barnsley Museum. Also, to assess what they consider would be the main advantages and disadvantages of introducing the various personalization methods.

This objective was not met due to the failure of the participants to complete section three of the questionnaire. The participants’ omission of data in this section was compensated for by the corresponding responses provided by the Information students.
• To assess how postgraduate Information students at Sheffield University rate the importance of personalization in the provision of an information service.

This objective was met through analysis of the participants’ responses to section one of the questionnaire, specifically questions 1a and 1b. The quantitative responses to question 1a were displayed graphically and the qualitative responses to question 1b were analysed thematically. Through the thematic analysis of the data the following themes emerged as affecting how participants rate the importance of providing a personalized service: ambivalence; disability; tailoring information; quality of information and treating users equally. The participants responses to question 1a and 1b correspond with the answers provided by Barnsley Central Library and similar themes emerge. Overall, the responses to both questionnaires give the clear impression that having background knowledge of the individual patron is considered to be an important part of information provision. This suggests that the implementation of methods of personalization in an information provision context would be considered advantageous. At the same time, the responses also reveal a level of uncertainty about the need to have background knowledge about every information patron. It is recognized that the type of information required and the importance of providing a consistent level of service also have to be acknowledged.

• To assess the level of interest amongst postgraduate Information students at Sheffield University regarding the implementation of methods of personalization in libraries.

This objective was met through the analysis of the participants’ responses to section two of the questionnaire. The participants’ level of interest in the following methods was discussed: MyLibrary resource; collaborative tagging; personalized alerts; recommender systems and PDA’s and E-books. The participants were shown to identify both advantages and disadvantages of each particular method of personalization. Their responses were found to correspond thematically with the answers provided by the participants in the study at Barnsley Central Library.

• To assess the level of interest amongst postgraduate Information students at Sheffield University regarding the implementation of methods of personalization in museums.

This objective was met through the analysis of the participants’ responses to section three of the questionnaire. The participants’ level of interest in the following methods was discussed: personalized museum guides; segmentation and personalized web galleries. The participants’
responses were again found to highlight both advantages and disadvantages of each method of personalization.

5.3 Contribution of the Study and Suggestions for Further Research

Overall, the study contributes to the existent literature by providing an analysis of the level of interest in methods of personalization amongst information professionals. In addition, it draws attention to what the participants consider to be the advantages of and disadvantages of various methods of personalization available to museums and libraries. This is in contrast to much of the existent literature which is primarily descriptive and does not evaluate the actual level of interest in methods of personalization. A useful area for further research could be to follow up the study with a subsequent study. Denscombe (2003) asserts that as part of the process of thematic analysis the researcher should ideally “go back to the field to check findings of research against reality” (2003:135). In this respect, the findings from the questionnaire could be followed up by either a semi-structured questionnaire or semi-structured interview to assess the participants’ regarding the study findings. In addition, a further area for future research could be to conduct further case studies of interest in personalization in public libraries and museums. This would allow for a cross study of comparable studies and therefore provide more reliable results. Furthermore, as identified in section 4.1 of the study, future research into personalization in the information context could perhaps benefit from looking specifically at how methods of personalization could be used to benefit the disabled community. This would be of interest in that it could focus on a specific group of information service users.

Word Count: 21,117
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Appendix 1: Example of SurveyGizmo Questionnaire Given to Postgraduate Information Students

A Questionnaire Designed to Assess the Level of Interest in Personalization in Public Libraries and Museums

Section 1

1a. In the provision of an information service, how important do you consider it to be for the information professional to have background knowledge of the individual library user?

- Very Important
- Important
- Neither Important or Unimportant
- Unimportant
- Very Unimportant

1b. Please explain why you gave this answer.

2a. In your experience of using information services, how frequently do your enquiries require specific information that is tailored to your situation?

- Always
- Very often
- Sometimes
- Rarely
- Never

2b. Please explain why you gave this answer.
3. What do you consider to be the main challenges for a library or museum service in providing a personalized response to the information enquiries of every library patron?

4a. In your own experience of providing an information service on a day to day basis, how confident do you feel in being able to consistently give a personalized response that is informed by pre-existing knowledge of each individual library user?

- Very Confident
- Confident
- Neither confident or Unconfident
- Unconfident
- Very Unconfident

4b. Please explain why you gave this answer.

Section 2

Personalization Method One: MyLibrary Resource

The incorporation of personalization in the library sector has been promoted by the development of Personalized Information Environments. Numerous academic institutions now offer a MyLibrary resource. In a nutshell, this enables library users to login to library website and be provided with a personalized web space. They are able to customize the information presented on the basis of their personal requirements and interests. They are also able to
remove or add links to databases and resources that suit their personal interests.

5a. Would you be interested in using this form of personalization in a public library?

- Yes
- No
- Don't know

5b. Please explain why you gave this answer.

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Personalization Method Two: Collaborative Tagging
The process of tagging in library catalogues is another example of a personalization method available to library services. This allows users to add their own keywords to describe books in the collection. These words are then made available to library users who can use a tag-cloud of keywords to search.

6a. Would you be interested in using this form of personalization in a public library?

- Yes
- No
- Don't know

6b. Please explain why you gave this answer.

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7. Personalization Method Three: Personalized Alerts
Another personalization method available to library services is the use of personalized alerts. This enables the library user to be provided with
personalized alerts about reserved or overdue materials, program and event reminders and also reference services via e-mail and text. Orange County Library, for example, currently provides SMS text messages to users reminding them of when their items are due for return and informing them of library events. It also provides an SMS text message service that enables library users to submit reference queries to librarians by text.

7a. Would you be interested in using this form of personalization in a public library?

- ○ Yes
- ○ No
- ○ Don't know

7b. Please explain why you gave this answer.

8. Personalization Method Four: Recommender systems
A potential personalization method that may soon become available to public libraries is the use of recommender systems similar to those used by the e-commerce site, Amazon. This would enable the library catalogue to recommend books to library patrons based upon their borrowing history. For example, a library patron who has previously searched for texts by Shakespeare might be recommended books by other Elizabethan playwrights as well as books on literary criticism.

8a. Would you be interested in using this form of personalization in a public library?

- ○ Yes
- ○ No
- ○ Don't know

8b. Please explain why you gave this answer.
9. Personalization Method Five: PDA's and E-books
A method of personalization available to libraries is the use of the PDA (Personal Digital Assistant) to provide library patrons with access to e-books (electronically based texts). Essex Public Libraries have made e-books available via PDAs that can be borrowed by library users.

9a. Would you be interested in using this form of personalization in a public library?
- ○ Yes
- ○ No
- ○ Don't know

9b. Please explain why you gave this answer.

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Section 3

10. Personalization Method One: Portable museum guide
One personalization method available to the museum sector is the portable museum guide. Visitors are provided with a handheld guide which evaluates their preferences by observing their path through the museum. The database then selects suitable content tailored to the visitors' specific interests from a database of resources including movie clips, audio and animation.

10a. Would you be interested in using this form of personalization in a museum context?
- ○ Yes
- ○ No
- ○ Don't know

10b. Please explain why you gave this answer.
11. Personalization Method Two: Segmentation
Another personalization technology available to museums is the use of segmentation. Visitors to a museum website select a profile that most closely resembles their information requirements. The level of information provided by the website is tailored according to the chosen profile. An example includes the prototype developed at the Carrera Marble Museum website. Users are grouped into 3 categories, tourists, art students and experts and the system adapts the level of information provided accordingly.

11a. Would you be interested in using this form of personalization in a museum context?

- [ ] Yes
- [ ] No
- [ ] Don't know

11b. Please explain why you gave this answer.

A further personalization technology available to the museum sector is the personalized web gallery. This allows visitors to a museum website to select their favourite images and use them to create their own gallery. An example of this technology is the My Met Gallery at the Metropolitan Museum of Art which allows visitors to collect up to fifty of their favourite images in a personalized gallery.

12a. Would you be interested in using this form of personalization in a museum context?

- [ ] Yes
- [ ] No
- [ ] Don't know

12b. Please explain why you gave this answer.
Appendix 2: Example of Questionnaire Given to Barnsley Central Library Staff

A Questionnaire Designed to Assess the Level of Interest in Personalization in Public Libraries and Museums

Section One

1a. In the provision of an information service, how important do you consider it to be for the information professional to have background knowledge of the individual library or museum user?

Very Important

Important

Neither Important nor Unimportant

Unimportant

Very Unimportant

1b. Please explain why you gave this answer

2. What do you consider to be the main challenges for a library or museum service in providing a personalized response to the information enquiries of a library or museum patron?
3a. In your provision of an information service on a day to day basis, how confident do you feel in being able to provide a personalized response that is informed by pre-existing knowledge of the individual library user?

- Very Confident  □
- Confident      □
- Neither confident nor Unconfident □
- Unconfident    □
- Very Unconfident □

3b. Please explain why you gave this answer.
Section Two

Various online methods of personalization are now available to the public library. Please read the following descriptions of available personalization methods and complete the corresponding questions.

Personalization Method One: MyLibrary Resource

The incorporation of personalization in the library sector has been promoted by the development of Personalized Information Environments. Numerous academic institutions now offer a MyLibrary resource. In a nutshell, this enables library users to login to library website and be provided with a personalized web space. They are able to customize the information presented on the basis of their personal requirements and interests. They are also able to remove or add links to databases and resources that suit their personal interests. (Please see appendix 1 for an example of a Mylibrary page).

What do you consider would be the advantages of implementing this technology?

What do you consider would be the main disadvantages of implementing this technology?
Would you be interested in seeing this form of personalization technology made available at Barnsley Central Library

Yes ☐  No ☐

Please describe why you would/would not like to see this personalization technology made available at Barnsley Central Library

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Personalization Method Two: Library Catalogue Tagging

The process of collaborative tagging in library catalogues is another example of a personalization method available to library services. This allows users to add their own keywords to describe books in the collection. These words are then made available to library users who can use a tag-cloud of keywords to search.

What do you consider would be the advantages of implementing this technology?
What do you consider would be the main disadvantages of implementing this technology?

Would you be interested in seeing this form of personalization technology made available at Barnsley Central Library?

Yes □ No □

Please describe why you would/would not like to see this personalization technology made available at Barnsley Central Library

Personalization Method Three: Personalized Alerts

Another personalization method available to library services is the use of personalized alerts. This enables the library user to be provided with personalized alerts about reserved or overdue materials, program and event reminders and also reference services via e-mail and text. Orange County Library, for example, currently provides SMS text messages to users reminding them of when their items are due for return and informing them of library events. It also provides an SMS text message service that enables library users to submit reference queries to librarians by text.
What do you consider would be the advantages of implementing this technology?


What do you consider would be the disadvantages of implementing this technology?


Would you be interested in seeing this form of personalization technology made available at Barnsley Central Library?

Yes □ No □

Please describe why you would/would not like to see this personalization technology made available at Barnsley Central Library
Personalization Method Four: Recommender Systems

A potential personalization method that may become available to public libraries is the use of recommender systems similar to those used by the e-commerce site, Amazon. This would enable the library catalogue to recommend books to library patrons based upon their borrowing history. For example, a library patron who has previously searched for texts by Shakespeare might be recommended books by other Elizabethan playwrights as well as books on literary criticism.

What do you consider would be the advantages of implementing this technology?

What do you consider would be the disadvantages of implementing this technology?
Would you be interested in seeing this form of personalization technology made available at Barnsley Central Library?

Yes □ No □

Please describe why you would/would not like to see this personalization technology made available at Barnsley Central Library

Personalization Method Five: PDA’s and E-books

A method of personalization available to libraries is the use of the PDA (Personal Digital Assistant) to provide library patrons with access to e-books (electronically based texts). Essex Public Libraries have made e-books available via PDAs that can be borrowed by library users.

What do you consider would be the main advantages of implementing this technology?
What do you consider would be the disadvantages of implementing this technology?

Would you be interested in seeing this form of personalization technology made available at Barnsley Central Library?

Yes □ No □
Section Three

The following questions are devised to assess the potential for the implementation of personalization technologies at the proposed Barnsley Museum,

**Personalization Method One: Portable Museum Guide**

One personalization method available to the museum sector is the portable museum guide. Visitors are provided with a handheld guide which evaluates their preferences by observing their path through the museum. The database then selects suitable content tailored to the visitors specific interests from a database of resources including movie clips, audio and animation.

What do you consider would be the advantages of implementing this technology at Barnsley Museum?
What do you consider would be the disadvantages of implementing this technology at Barnsley Museum?

Would you be interested in seeing this form of personalization technology made available at Barnsley Museum?

Yes □ No □

Please describe why you would/would not like to see this personalization technology made available at Barnsley Museum
Personalization Method Two: Segmentation

Another personalization technology available to museums is the use of segmentation. Visitors to a museum website select a profile that most closely resembles their information requirements. The level of information provided by the website is tailored according to the chosen profile. An example includes the prototype developed at the Carrera Marble Museum website. Users are grouped into 3 categories, tourists, art students and experts and the system adapts the level of information provided accordingly.

What do you consider would be the advantages of implementing this at Barnsley Museum?

What do you consider would be the disadvantages of implementing this technology at Barnsley Museum?
Would you be interested in seeing this form of personalization technology made available at Barnsley Museum?

Yes □   No □

Please describe why you would/would not like to see this personalization technology made available at Barnsley Museum

Personalization Method Three: Personalized Web Gallery

A further personalization technology available to the museum sector is the personalized web gallery. This allows visitors to a museum website to select their favourite images and use them to create their own gallery. An example of this technology is the My Met Gallery at the Metropolitan Museum of Art which allows visitors to collect up to fifty of their favourite images in a personalized gallery.
What do you consider would be the advantages of implementing this technology at Barnsley Museum?

What do you consider would be the disadvantages of implementing this technology at Barnsley Museum?
Would you be interested in seeing this form of personalization technology made available at Barnsley Museum?

Yes ☐  No ☐

Please describe why you would/would not like to see this personalization technology made available at Barnsley Museum
Appendix 1: An example of a MyLibrary page at North Carolina State University.
Appendix 2: A search for “Shakespeare” and related tag-cloud at Glasgow University Library Catalogue.
Appendix 3: Ethics Consent Form

Participant Consent Form

Title of Research Project: An Investigation into Attitudes towards Personalization in the Museum and Library Sector: A Case Study and Survey to Assess the Level of Interest in the Potential for the implementation of Personalization Strategies in Museums and Libraries.

Name of Researcher: Paul Priestley

Participant Identification Number for this project: Please initial box

1. I confirm that I have read and understand the information sheet/letter (delete as applicable) dated [insert date] explaining the above research project and I have had the opportunity to ask questions about the project.

2. I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason and without there being any negative consequences. In addition, should I not wish to answer any particular question or questions, I am free to decline. The contact details for the researcher are as follows: lip10pp@sheffield.ac.uk; 07932969409

3. I understand that my responses will be kept strictly confidential. I give permission for members of the research team to have access to my anonymised responses. I understand that my name will not be linked with the research materials, and I will not be identified or identifiable in the report or reports that result from the research.

4. I agree for the data collected from me to be used in future research
5. I agree to take part in the above research project.

_________________________  __________________  __________________
Name of Participant         Date                  Signature
(or legal representative)

_________________________  __________________  __________________
Name of person taking consent Date                  Signature
(if different from lead researcher)

To be signed and dated in presence of the participant

_________________________  __________________  __________________
Lead Researcher             Date                  Signature

Copies:

Once this has been signed by all parties the participant should receive a copy of the signed and dated participant consent form, the letter/pre-written script/information sheet and any other written information provided to the participants. A copy of the signed and dated consent form should be placed in the project’s main record (e.g. a site file), which must be kept in a secure location.
Appendix 4: Participant Information Sheet

Participant Information Sheet

Research Project Title:
An Investigation into the Methods of Personalization in the Museum and Library Sector: A combined Case Study and Survey Approach

You are being invited to take part in a research project. Before you decide it is important for you to understand why the research is being done and what it will involve. Please take time to read the following information carefully and discuss it with others if you wish. Please contact the project researcher or supervisor if there is anything that is not clear or if you would like more information. You have the choice to decide whether or not you wish to take part. Thank you for reading this.

What is the project’s purpose?
The aim of the project is to investigate the use of personalization in the museum and library sector. In particular, the project is intended to assess whether there is a demand for personalization in libraries and museums.

Why have I been chosen?
Participants have been chosen using purposive sampling. In this way, participants already have some background knowledge of the investigated topic.

Do I have to take part?
It is up to you to decide whether or not to take part. If you do decide to take part you can still withdraw at any time without it affecting any benefits that you are entitled to in any way. You do not have to give a reason.

What do I have to do?
Participation in the research will involve the completion of either a self-completion questionnaire. Involvement in the research will last until its completion in September. Participation will be on one occasion only and should last no more than one hour. There will be no travelling expenses involved. Participants are required to complete the questionnaire or survey as fully as possible. The data obtained will be analysed using qualitative analysis.

What are the possible disadvantages and risks of taking part?
Potential disadvantages may include a conflict with work commitments and the possibility that you may not wish to disclose certain information related to your place of work.

**What are the possible benefits of taking part?**
It is hoped that the research will increase the participants’ knowledge of personalization methods in the museum and library sectors.

**What happens if the research study stops earlier than expected?**
If the research stops earlier than is expected, the reasons for this will be provided to the participant.

**Will my taking part in this project be kept confidential?**
All participants should consult the University of Sheffield’s Research Ethics Policy Note on ‘Principles of Consent’ for advice on what information to provide to prospective participants, available at: [http://www.shef.ac.uk/ris/other/gov-ethics/researchethics/policy-notes/consent](http://www.shef.ac.uk/ris/other/gov-ethics/researchethics/policy-notes/consent)

All the information that is obtained during the course of the research will be kept strictly confidential. You will not be able to be identified in any reports or publications’.

**What type of information will be sought from me and why is the collection of this information relevant for achieving the research project’s objectives?**
A combination of qualitative and quantitative data will be obtained. The collection of this information is necessary in order to enable the analysis of the data. It is valuable to the study as there is currently a restricted number of comparable studies.

**What will happen to the results of the research project?**
The results of the research will be included in a postgraduate dissertation that is to be published on the University of Sheffield website. A copy of the published results can be obtained by contacting either the researcher or the research supervisor at the University of Sheffield. Participants will be kept anonymous and will not be identified in any report or publication.

**Who has ethically reviewed the project?**
This project has been ethically approved by the School of Information department’s ethics review procedure

**Contact for further information**
If you would like to obtain further information about the project please use either of the following contacts:
Paul Priestley, lip10pp@sheffield.ac.uk, 07932969409 (Project Researcher)

Professor Nigel Ford, n.ford@sheffield.ac.uk (Project Supervisor)

Please retain a copy of this information sheet for your future reference.

Thank you for your participation in the research.