Engaging Library Users in the Age of Texting: Exploring Text Reference Service
An IMLS funded study | 2010-2012

Final Project Report

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I. Introduction

Today’s technology offers new ways for librarians and users to interact, while also providing new opportunities for libraries to collaboratively deliver services to broad and diverse audiences. Text messaging, or texting, is one such new technology that libraries are embracing. Texting allows the exchange of text messages on mobile phones. Each message can contain up to 160 characters (words, numbers, or alphanumeric combination) in length when Latin alphabets are used. In recent years, texting has become an increasingly significant venue for communication and social activities in people’s lives. The Pew Research Center’s Internet and American Life Project reported that 83% of American adults own mobile phones and 73% send and receive text messages. Young adults are the most frequent texters – mobile phone owners between the ages of 18 and 24 exchange a daily average of 109.5 messages (Smith, 2011). Recognizing the popularity of texting as a communication venue, a growing number of libraries are offering texting-based reference service, or text reference service in short, for users to seek information assistance from librarians via texting.

In 2010, Dr. Lili Luo, Assistant Professor at School of Library and Information Science at San Jose State University (SJSU SLIS), received an Early Career Development Grant from the Institute of Museum and Library Services to study the practice of text reference service, investigating how texting is being used as a new venue to offer reference service, and how text reference service can fulfill users' information needs and engage new users like teenagers, the fastest growing group of individuals using text messaging.

The project draws upon the rich pool of data available via My Info Quest (MIQ), the first collaborative text reference service participated by over 20 multi-type libraries across the nation. MIQ was launched in July 2009. It is self-organized and managed by volunteering member librarians. It offers service during the following hours (as of July 2012): Central Time Monday - Thursday 8:00 A.M. - 10:00 P.M.; Friday 8:00 A.M. - 6:00 P.M.; Saturday 9:00 A.M. - 6:00 P.M.; and Sunday 2:00 P.M. - 4:00 P.M. User may expect an answer to their questions within 10 minutes. Mosio Text A Librarian is used as the technology platform to manage questions and responses.

The project team also includes Lori Bell, lectuer at SJSU SLIS and former project coordinator of MIQ, and Emily Weak, SJSU SLIS graduate. In the two-year project period, the team conducted a number of research studies to examine text reference service from the following perspectives:

- Types of information needs of text reference users
- Competencies requisite for text reference service
• User perception and use of text reference service

• The collaborative text reference service model

This report details findings from the studies and discusses their implications. The in-depth analysis of text reference practice will help generate best practices guidelines, and therefore lead to an enriched view of texting’s affordance as a reference service venue. Libraries, benefiting from this project, will be able to make more informed decisions in service planning and implementation, and ultimately deliver a service that both aligns with the library’s mission and optimizes user experience.

II. Research Studies

2.1 A Fundamental Understanding of Text Reference Service

Before engaging in any empirical study of text reference service, it is necessary to review the published literature and develop a fundamental understanding of this reference environment, particularly how the service is technically delivered. The variety of delivery options discussed in the literature can be categorized into two models based on how libraries receive and respond to users’ text messages. One relies on a dedicated mobile device (usually a smart phone) and the other utilizes computer applications like email or instant messenger to process users-texted questions.

Model I. Mobile device based

The mobile device based delivery model is quite simple. A library only needs to purchase a cell phone with a monthly texting plan to enable text reference service. When acquiring the dedicated cell phone, there are several considerations. First of all, it is important for the phone to have a keyboard that facilitates typing. A traditional cell phone keypad can be difficult to use and will create more resistance among the reference staff, who may already be a little texting phobic. A full QWERTY keyboard or a touch screen is usually more intuitive for typing. Kohl and Keating (2009, p. 105) stated that “by selecting a cell phone with a full QWERTY keyboard, librarians were able to ‘type’ entire messages with their thumbs – a fast and user-friendly approach that made everyone comfortable.”

In terms of staffing, two methods were discussed in the literature:

1) The cell phone is stationed at the reference desk along with other reference service points during business hours and monitored by librarians covering the reference desk; it is stashed away when it is not in use. When the reference desk is busy, an information hierarchy of
importance is employed to determine question priority. Text reference questions come after in-person, telephone, and instant messaging questions (Kohl & Keating, 2009).

2) The cell phone is operated independently of any other service point; it is not kept at the reference desk and texting shifts are not connected to any other reference shifts. A different schedule is made for librarians to monitor the service, and the phone travels with the individual librarian when it is his or her shift. Librarians coordinate the handoffs among themselves rather than according to a formalized procedure. If the service extends to evening or weekend hours, the logistics of passing around the device will be more challenging; the difficulty in managing the device’s location and custody, as well as with standardizing shift transitions can be a road block (Profit, 2008; Pearce, 2010). An alternative is to designate one person to manage the phone and answer all text reference questions (Stahr, 2009). However, this will become unrealistic or unsustainable as the service grows.

Having a dedicated mobile device certainly has its own benefits and drawbacks. Since a cell phone is associated with a straightforward 10-digit phone number, users can easily store it in their own devices and text to this number without any special instructions. Librarians are able to communicate to users through the same technology and hence are able to experience the service from the user’s perspective (Pearce, 2010). Certain cell phones (e.g. smart phones like iPhone) display text messages in threaded mode, enabling librarians to see all the exchanges associated with a particular phone number. This establishes a context for each transaction, which helps librarians answer users’ questions better. Furthermore, cell phones can be set to vibrate or emit an alert sound when new messages arrive and thus lead to more timely responses. Regarding cost, it is relatively inexpensive to purchase a cell phone with a calling and texting plan (Kohl & Keating, 2009). Since the phone is used primarily for the purpose of texting, minimal calling minutes should be sufficient. As for the texting plan, libraries can choose what they need based on their budget and anticipated service traffic.

One of the prominent drawbacks of depending on a cell phone is that it cannot be integrated into any of the existing virtual reference services and thus poses extra work for librarians. They have to master yet another technology to deliver reference service and may be reluctant to embrace this new service venue. Meanwhile, typing on a cell phone keyboard, even the most user-friendly kind, is far less comfortable than typing on a computer keyboard and may slow down the service’s response time. Finally, as indicated previously, staffing can be a challenge when the cell phone is not stationed at the reference desk. Without effective staffing and shift management, it will be difficult to ensure consistent and reliable service quality.
Model II. Computer application based

For some libraries, the cons outweigh the pros of having a dedicated mobile device for text reference service. Instead, computer applications such as instant messenger or email are used to receive and respond to text reference questions, allowing librarians to work with a potentially familiar interface while offering reference service via a new venue. The learning curve is as flat as possible in terms of technology and hence text reference service will be greeted with a more positive attitude among librarians.

This model can be further divided into two approaches, depending on how text messages are converted into instant messages and emails. Pearce (2010) named these two approaches “do-it-yourself” and “commercially developed.” Using the former approach, libraries can choose a computer application that supports texting and interacts with text messages, and have users text their questions directly to this computer application. For example, AIM hack is a well-known “do-it-yourself” method in the library world. Users can text to a short code, beginning their first message with the library’s AOL Instant Messenger (AIM) screen name followed by a colon and then a question. The message will appear as an AIM chat message on the library’s computer; librarians can respond to that message as if answering an IM chat reference question (Weimer, 2010). Similar to AIM, Google’s Gmail is also texting compatible, allowing people to text to a Gmail address and receive replies as text messages on their cell phones.

The most appealing characteristic of “do-it-yourself” is that it is free of charge, and it is a great way for budget conscious libraries to explore new technologies for reference service provision. However, it usually requires special texting instructions (e.g. users have to text to a short code or an email address, and compose their messages in a certain way), which can be counter-intuitive and demotivating for users. However, there are emerging alternatives which do not require special instructions for the user. For example, librarians can connect a Gmail address with a Google Voice phone number; messages texted to the Google Voice number can still be received and replied to in the associated Gmail account. Having a 10-digit phone number is certainly more straightforward and attractive to users.

Another concern about free IM or email applications is privacy. It is known that Google archives all the data on its servers, which means users’ phone numbers and their text messages stored in a Gmail account can also be accessed by Google. Additionally, AIM and Gmail are general-purpose applications, lacking certain features useful for the specific purpose of providing text reference service. For example, Gmail, like other public email services, does not have an effective mechanism to note the arrival of new messages (Weimer, 2010) and may lead to delayed responses. Reference transactions cannot be easily organized and retrieved by users’ phone number when librarians need context to help answer a question, as is especially useful
when answering follow-ups to questions received in previous shifts. Furthermore, when a question is being answered, there is no indication in Gmail that the question is “claimed” and this could be problematic when the service is provided by multiple libraries collaboratively. Luo & Weak (2011), after examining over 3000 text reference transcripts from My Info Quest, noticed that some questions received duplicate answers. One possible explanation is that as one service shift transitions to another, the two librarians have a brief overlapping presence and both attempt to answer the questions that come in during the transitional period. Such mistakes could be easily avoided if a system is in place to mark the questions being worked on.

Although it is much easier to answer text reference questions on a computer than via a cell phone, librarians may still have to learn how to use an application such as AIM or Gmail if it is not already used by the library for chat and email reference service. More importantly, libraries have no control over these free service providers and are subject to whatever changes they make. In the long run, this can turn into serious sustainability issues. Despite the cost-free appeal of the “do-it-yourself” approach, its inherent problems have prompted libraries to choose the “commercially developed” route and use commercial software as a gateway to bridge text messages and a computer application.

One prominent advantage of such commercial software is that it allows text reference service to be integrated into the library’s existing email or chat reference service (Herman, 2007; Giles & Grey-Smith, 2005; Hill, Hill & Sherman, 2007; Profit, 2008; Weimer, 2010; Pearce, 2010). If the library already uses an application, such as Microsoft Outlook for email or libraryH3lp for instant messaging, to process reference questions, it can use the same application to receive and respond to text messages. This integration can help minimize technology training among librarians and keep the library’s virtual reference service suite (usually titled Ask A Librarian) streamlined with the new service addition.

Some software does limit the length of librarians’ responses to users’ questions (Giles & Grey-Smith, 2005; Jensen, 2010). Usually a reply cannot exceed 2 or 3 text messages (320 or 480 characters), and if it does, the extra part will be truncated and won’t be displayed on user’s phone. However, built-in features like a character counter and a URL shortener (Hill et al., 2007; Weimer, 2010) may also be available to help librarians to compose their responses concisely.

Most commercial software allows libraries to have a dedicated phone number that users can store in their cell phone. Generally, no special instructions are needed for texting to this number. More importantly, users’ privacy is better protected as the service is run on software vendors’ private servers and access to user information is strictly limited. Some software even masks users’ phone numbers and replaces it with a unique user ID in order to further alleviate privacy concerns.

**Choosing a service delivery model: Considerations**

Given the variety of delivery models for text reference service, libraries have a lot to consider before making the decision on which to choose. Lippincott (2010) listed some broad questions to consider when planning text reference service:

- What is the current state of mobile device deployment at your institution or for your population?
- What are your goals for providing service and what are your strategies?
- Who should you work with in your institution or service area?
- How will you know if you are successful?
- What is your strategy for the next two to three years?

These questions, according to Lippincott, are “fundamental questions that can assist libraries in framing and planning process” for text reference service (2010, p. 2). They can help libraries assess various service needs and therefore set objectives and policies properly. Once they have been answered and libraries have a general direction, there are some specific considerations that can be helpful to the service implementation process.

- **Budget**: How costly are the different service delivery models? What is financially feasible both in the short term and in the long run?
- **Staffing**: Should text reference service be integrated into existing virtual reference services (e.g. email, IM/chat) for question processing, or running as a separate service point? Is it preferable to maintain the current staffing schedule or to use a different schedule for text reference service? How much extra work is reasonable for librarians to adapt to the new service venue?
- **Usability**: What is the acceptable amount of instructions for users? When considering features of the service software (e.g. message organization and display, character limit per response, capability to accommodate collaboration among libraries, capability to send and receive graphics), what is important? What built-in tools of the service
software are necessary – character counter, URL shortener, new message alert sound, mechanism to claim questions, etc.?

In summary, clear service goals, a detailed picture of the library’s wants and needs, and a thorough understanding of what each service delivery model offers, are key for a library to select a proper model to implement and deliver text reference service.

Research publication

More details of the literature review can be found in the following article:


In addition to discussing service delivery models, this article also identifies characteristics of text reference transactions from the literature, and propose ideas of adherence to RUSA behavioral Guidelines in text reference service.

2.2 Types of Information Needs of Text Reference Users

To understand how people use text reference service to meet their information needs, it is important to examine the types of questions they ask. Content analysis was conducted among a random of 3103 questions submitted to MIQ in 2010. The unit of analysis was an independent question in a text reference transaction that represented a distinct information need. The coding scheme was developed from Katz’ reference typology (Katz, 2001). Table 1 presents the question distribution across the different categories. The majority of the questions appeared to be ready reference questions.

<table>
<thead>
<tr>
<th>Question Category</th>
<th>Percentage%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clearly Worded Questions</td>
<td></td>
</tr>
<tr>
<td>Local Library Related</td>
<td>13.3</td>
</tr>
<tr>
<td>Non Local Library Related</td>
<td></td>
</tr>
<tr>
<td>Ready Reference</td>
<td>69.8</td>
</tr>
<tr>
<td>Specific-search</td>
<td>9.2</td>
</tr>
<tr>
<td>Personal Knowledge Related</td>
<td>1.3</td>
</tr>
<tr>
<td>About My Info Quest</td>
<td>2.4</td>
</tr>
<tr>
<td>Out of Service Scope</td>
<td>1.5</td>
</tr>
<tr>
<td>Unclear Questions</td>
<td>2.5</td>
</tr>
</tbody>
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Table 1. Break-down of question type distribution
Local library related

All the questions related to users’ local libraries were grouped under this category. They can be further broken down into the following categories:

- About a known item. Some users sought to locate a known item in their local libraries. A known item is a specific document (book, article, film, etc.) that can be identified by citing certain features like author or title. For example,

  *do you have the 10-cent plague? It’s a history book about depression-era America banning comic books.*

- About library resources. Some users inquired about whether their local libraries had certain resources, and some others inquired about how to use certain library resources. For example,

  *How would I be able to do a computer search through magazines for a topic I need to write a long essay on?*

- About library policy and procedures. Some users were in search of information related to their local libraries’ policy and procedures. For instance,

  *I would like an appt. to learn how to do a lit search for my research project for my msn program. How can I arrange this?*

- About library services. Some users needed information about the various kinds of services provided at their local libraries. Library services may include book sales, reference services and computer literacy instruction. For example,

  *where is the Orinda library book sale being held today?*

Ready reference

Ready reference questions are defined as questions that require a single and straightforward answer, consisting of a specific and definitive piece of information. This type of questions can be divided in many different ways and across almost all subject areas. In this study, the subcategories of ready reference questions are established based on the nature of the information sought by the questions.

- Descriptive or explanatory information about events/phenomena/entities/concepts/processes. For example,

  *What is the airspeed velocity of an unladen european swallow?*
Do squirrels hibernate?

- Factual or statistical information about a historical or contemporary topic. Such information is usually simple facts and numbers. For example,

  Who won the 1955 superbowl?

  Lottery Results For Illinois on October 13th, 2009

- Information about people, including celebrities, athletes, scientists, literary figures and more. For example,

  who is callie Koziel

  what hockey team does sean avery currently play for?

- Information about places/addresses, including directions, location, contacts and other information about a particular place. For example,

  How do i get from the intersection austin st and pecan st to 1634 chestnut st in denton, TX?

  What is the phone number for comcast?

- Information about languages, including definitions of words, translation between languages, and other linguistically related information.

  what is the plurl for church?

  wut does comme d’habitude mean in French

- Weather information.

  what is the weather forecast for portland, oregon?

  Will it rain constantly in Peoria illinois today or will it let up?

- Culinary information.

  if you put sickerdoodle cookie dough in the fridige for an hr. will that make them soft cookies when u bake them

  What is the recipe for coca cola cake?
Specific-search

Unlike ready reference questions, specific-search questions are not answered with a particular piece of information. When handling this type of question, librarians provide information sources (e.g. Websites, books, periodicals or referrals) for users to review, synthesize, and ultimately conclude how to formulate their own answers.

Some of the medical or health-related questions fall under this category. These questions cannot be answered with well-established facts or generally known information. The answers usually depend on a number of variables such as personal medical history and personal beliefs, and hence require professional medical expertise. For example,

*Can strep throat medicine be taken for a UTI?*

*Are lilacs toxic to eat?*

Some questions require a comprehensive answer which would be difficult to present in a short and straightforward manner. Thus, directing users to specific information sources seems a more reasonable approach to fulfill their information needs. For example,

*Why are Redheads Fiery?*

*Why are arguments against stem cell research?*

Reader’s advisory questions are also considered as specific-search questions.22 Basically, users are asking what the best source is for their information needs. This “source” may be reading materials, as in a typical reader’s advisory question, or any other kind of information source. For example,

*Can you recommend a book or article my 10 year old son can read about taking responsibility in school or becoming a better student?*

*Where can I find the best online database of baseball statistics?*

Finally, some questions simply do not have an agreed-upon and definitive answer. Such questions are usually answered with information based on theories, philosophies, opinions and suggestions. Thus, answers to these questions can be subjective. When provided with information sources, users can examine them and determine how to best answer their questions with information from these sources. For example,

*If a tree falls in the woods and no one is around to hear it does it still make a sound*
Why are so many players in the world

Personal knowledge related

Questions under this category refer to those that require librarians’ personal knowledge to answer. These questions are usually word puzzles or mathematical problems. However, librarians do not necessarily possess the knowledge to answer all of these questions. For example,

ms.choo is replacing the floor in her kitchen. the plans for her house use a scale factor in which 1/5 inch equals 1 foot. if the plans for her kitchen is 2 inches by 2.5 inches what are the actual dimensions of the room

Do you know how to find the last term in the pattern? 2 3 6 1 8 6 8 4 8 4 8 3 2 3 2 3

About My Info Quest

Questions specifically seeking information about the service provided by MIQ are grouped under this category. Some of the questions were asked by curious users, for example,

Are you a computer, or a human?

does it cost me anything to use this program if i have unlimited text

And some were asked by library colleagues who would like to know more about the service, for example,

How can a library participate in this service

Can you tell me about your service? I am a reference librarian and am interested in providing such a service to our users.

Out of service scope

Not all questions received by My Info Quest are reference questions. Some of them fall out of the service scope and cannot be answered with specific information or information sources. A few patterns are identified for these out of scope questions.

- Spam messages.

- Inquiries about on-duty librarian’s personal life and personal information. It is likely that some users are just bored and want to chat with someone via texting. For example,
Hi! how is your fine evening going may i ask?

Is your name Tanner?

- Questions seeking on-duty librarian’s personal opinions. For example,

  Who do you think would win in a fight between a hotdog and a taco?

  hey im sick with a cough and a fever do u think ill be able to go to schol by Monday. Thankss

- Questions that are impossible or unethical to answer. For example,

  What color is my hair?

  Wats a good excuse to tell your parent about your not going to skool?

Some of the out-of-scope questions can be simply ignored, such as the spam messages, but some others can still be answered. For instance, for users’ personal inquiries, librarians can send back a polite reminder of what the service is about and what kinds of questions are answered by the service, and encourage users to use the service more properly. For questions seeking opinions from them, librarians can also direct users to information sources about the topic in question.

Unclear questions

Unclear questions are defined as messages that are worded unclearly or ambiguously, and are difficult for librarians to interpret. Such questions usually need to be rephrased and clarified in order for librarians to gain a clear understanding of them. It is likely that some of the questions are either test messages to try out the service, or mistakenly sent to My Info Quest. For example,

  What did the Green grape say to the purple grape?

  Runng late

Implications

This study shows that, most users use text reference for ready reference questions, whose answers are usually brief and straightforward. This is likely due to the 160 character limit of text messages. Since this type of questions seeks a specific piece of information, they are mostly unambiguous and do not involve a comprehensive reference interview.
To best answer ready reference questions, text reference librarians should be familiar with reference and information sources on the Web and how to effectively search and locate information within them. While the majority of ready reference questions take just a few minutes to answer, some of them may take hours of research (Katz, 2001). When encountering such difficult questions, it is important that librarians have a repertoire of strategies they can resort to in order to handle the questions as efficiently and effectively as possible. For example, as soon as user’s question is determined to be unanswerable within the promised response time, the librarian may immediately send a message notifying the user that it might take longer than expected to receive the answer, or may offer the option to email user the answer if there are other questions in queue.

A solid knowledge base of Web information sources and a network of colleagues to seek help from are critical in handling text reference questions. Thus, an easily accessible cheat sheet containing useful sources on the Web and information on how to consult colleagues will be of help to librarian providing text reference service. For instance, such a cheat sheet may include links to library policy/procedures, frequently used reference resources on the Web (both general and subject-specific reference sources), a list of texting lingo, and tools like URL shortener or character counter that could help librarians compose their messages concisely.

**Research publication**

More details of this study can be found in the following article:


In addition to the in-depth analysis of the questions, this article also explored other variables concerning text reference questions and answers, such as the level of interactivity in transactions, question completion status, initial response time, and repeat service use.

**2.3 Teens’ Perception of Text Reference Service**

Nowadays 72% of all teens, or 88% of teen cell phone users, are texters, which is a substantial increase from 51% in 2006. More than half of teens (54%) are daily texters, and one in three sends more than 100 text messages on a daily basis (Lenhart, 2010). Apparently, for teens, texting is a major communication channel. Thus, they have a huge potential to benefit from reference services delivered via texting. Understanding how they perceive and use text reference service will help libraries better conceptualize their information behavior and thus develop better strategies to fulfill the information needs of this crucial population and eventually create lifelong library users/supporters.
Focus group interviews were conducted among 36 teen library users to examine their awareness and perception of text reference service. The study subjects were recruited at four branches of the two public library systems (two from each) with the help of teen librarians. At each branch library, the teen librarian circulated a flyer about the study via multiple outlets such as signage in the teen area, gaming events, teen advisory group meetings and other teen-oriented programs, and provided space to accommodate the focus group interview. All interviews were recorded and transcribed. The analysis process was guided by the Constant Comparison Method developed by Glaser and Strauss (1967).

Out of all participants, only one was aware of the text reference service provided by the library. Despite her awareness, she had not used the service, and consequently none of the participants had ever used the service. In order for the participants to envision whether they would use the service and what they would use it for, they were provided with an explanation that text reference was a type of library reference service delivered via texting, where library users could send questions to librarians and receive answers via text messages. Confusion immediately arose and centered on three areas:

- They considered texting to be a private activity and wondered why libraries would use it to offer public services.
- They were uncertain about how they should be using the service, for example, what types of questions they could ask, whether they could ask multiple questions at once, and whether they could text librarians during school hours.
- They were curious about the mechanics of the service operation, such as whether they would be texting a machine or a real person, whether it would be anonymous, and whether the questions would be triaged.

After clarifications were given, participants discussed their willingness to use the service in their information seeking process. The opinions were evenly split among three groups: willing to use it, it depends, and would not use it.

The affirmative attitude stemmed from the following reasons:

- They could obtain authoritative and trustworthy information from the service, as one participant commented “you know most of the time when you go on Google, there's like, you ask the same question, there will be different answers on different websites”.
- They appreciated the convenience of the service, such as long service hours, the ability to make information inquiries remotely, the ability to receive information help when
their cell phones lacked access to mobile Web, and the ability to save received information for future references

- Texting was a communication venue they were familiar and comfortable with and it constituted a less intimidating way to ask for information help than calling or talking to a librarian

The “it depends” group offered three factors that would determine their use of the service:

- The service would need to provide an immediate answer

- Their information needs would have to be of the type they considered the service able to address: one participant commented that “I think it depends on like, do you really need the information? Is it like something you really need for school? Because in that case, it might be better to actually talk to someone face-to-face. You can get a better more accurate response, but I mean, you can text if it's something like you don't really need right away, like referring to a book or a link or something that you could get over time”, while another stated that “I might. If I ever was, like doing a project for school and I needed information”.

- They would have had to exhaust their preferred information sources first.

The group that indicated unwillingness to use the service identified three reasons:

- There were other preferred alternatives to ask for information assistance easily and quickly: since the libraries were located near the participants’ schools, they could walk or bike to the library and talk to a librarian and thus see no need for texting, as one comment revealed, “It would make it more complicated than necessary, like, send a text message where you could just talk to them”; in the meantime, calling or talking to a librarian would lead to a guaranteed response while texting might not, as one participant shared his concern “I honestly think that if you call them, you know, they'll answer it more quickly than texting. You know there's so many people that text now. But if you call, guaranteed, you know 80% sure that someone will answer the phone”; finally a simple preference to talking to a librarian face-to-face or being a self-sufficient information seeker rendered it unnecessary to text for help.

- They felt awkward texting a librarian because of the impersonal nature and the lack of knowledge about the appropriate etiquette, as indicated in the following comments, “You don't know who it is”, “You don't know if it's a man or a woman”, “while you’re texting them, can you use abbreviations, like if they’ll understand what you’re saying”,
and “if you were like sending a message, would you say like, dear person, blah, blah, blah”.

- They were concerned about privacy and did not wish to have their cell phone number known.

Regarding the types of information needs that could be fulfilled by text reference service, the prevailing view among the participants was that they would be seeking reference help from the service for school-related information needs. They would be texting librarians for recommendations on resources, guidance on search strategies, and ready reference help for their assignments, as indicated in comments like “if we’re looking for like a certain thing like hemoglobin, then, then we can ask them if they have anything on that certain subject”, “if I want to find something on a certain subject then, like, what to search on a database or something like that”, and “if you’re like sitting at home, writing a paper, I wonder, like, who did this or what the date was; you can just, like, text the librarian and be, like, what date did this person take over England?”

Although they envisioned themselves primarily using the service to help with school work, the participants considered it inappropriate to simply text their homework questions to librarians and request an answer. They alluded to the possibility of some people “using it as cheating networks”, but did not comment on whether they would use the service for that purpose.

Seeking answers to library-related questions was another expected use of text reference service. Most participants imagined they would text librarians for information about library hours, circulation (e.g. whether a book is available), facility (e.g. computer, study room) and book reservation, library events, and personal library accounts (e.g. holds and overdue books).

Overall, the participants’ intended use of text reference service was consistent with how they had been using other types of reference services. The sentiment was well characterized by one comment “I would mostly use the library thing for, like, library questions or homework questions.” In the meantime, the participants almost unanimously agreed that they would not text librarians for any personal information needs (non-imposed information needs that arise from personal interests and curiosity). Topics that are generally considered of personal interest to teens include pop culture, gaming, relationships, and sex. For questions on these topics, the teens agreed that they would prefer to search for answers on the Internet or send texts to non-library-based services like Chacha.

Despite their disinterest in using text reference service for personal questions (e.g. “I don’t think I would be asking how big Chris Brown’s foot is”), they acknowledged that other teens might be texting such questions to librarians. They were conscious that they were a group of
teens that visited the library frequently and had a relationship with the librarians there, and thus held different views from those who might not be using the library, as indicated in their comments “I think it's just the specific group that you're asking, because we are here a lot and we are more about school work, and not really about anything really else usually”, and “the kids sitting here are all part of the teen advisory board and we're like all spending a lot of time with the librarian, so then if you like took a poll of random kids off the street, they would be saying, yeah, we would use it”.

Some of them remarked that if other teens text questions about relationships or sex to librarians, it was likely that “those questions are a joke, just seeing if they could get a response”, or they were just bored and trying to spam the service. They felt that such questions should be blocked or ignored. Other participants were more understanding, recognizing that some teens might have a genuine need for information about relationships or sex but not feel comfortable discussing those topics with their parents. These participants acknowledged that texting a librarian might be a better alternative. In either case, they expected librarians to discern the difference between prank questions and serious questions, and to respond properly, as indicated in this comment “I think they will reply based on how important the question is because you could be a bored teenager at home who just wants to play tricks. And you know I think it’s up to the librarians to distinguish, which is what and which is not, you know? So I think it depends on how they perceive your messages or how serious your nature is”.

Increase awareness

Despite teens’ comfort and familiarity with texting as a communication venue, they are unaware of the availability of text reference services provided at their libraries. This echoes the findings of awareness studies on other digital reference services such chat reference (Naylor, Stoffel, & Van Der Laan, 2008; Connaway, Radford, & Williams, 2009). In order to better reach this demographic, libraries need to be more active in promoting the service to teens. Currently, the promotional efforts documented in the literature were targeting academic library users, primarily students, faculty and staff (Giles & Grey-Smith, 2005; Hill et al., 2007; Kohl & Keating, 2009; Pearce, 2010; Weimer, 2010). Some common outreach activities include:

- Announce the service on library Website, library digital signs, library blog and library pages on social networking sites like Facebook.

- Set up an information kiosk outside of student gathering places to distribute information about the service.

- Promote the service when interacting with students during reference transactions, information literacy instruction sessions and library orientations.
• Promote the service via campus media (e.g. publish featured articles in campus newspaper, have an interview on campus radio station, advertise on university Webpage).

• Hold a contest with prizes to encourage students to use the service.

• Distribute promotional material such as flyers, small business cards, scrap note paper, and posters (both large posters and small 3 X 5” table tents) across campus.

Public libraries are already engaging in some of these activities such as announcing the service on library Website or circulating promotional materials in the library (Avery, Docherty, & Lindbloom, 2010). More proactive approaches would be better in exposing teens to text reference service. Such approaches might include holding a contest with prizes, promoting the service at teen events like gaming and teen advisory board meetings, setting up promotional display in teen areas, having teen librarians introduce the service to teens in reference encounters or informal conversations, and engaging teen advisory board members in promotion campaigns to reach more teens.

Motivate use

Teens’ reluctance to consider text reference as a potential reference source is partially attributable to the fact that they view texting as a conduit for personal communications with family and friends; they consider text reference service provided by librarians as a rather impersonal platform for information assistance and they are unsure about the proper etiquette. They are also concerned about their privacy and worry about the consequences of releasing their phone number to a third party. In order for libraries to better motivate teens to embrace text reference service, they need to address these causes for reluctance.

For example, it is important to soften the impersonal nature of text reference service and establish a friendly, less formal image of the text reference librarian. To add the personal touch, libraries may consider creating a universal screen name for the service, or encourage individual librarians to conclude their responses with a signature. Equally important to personalizing the service is to ensure that teens understand how the service works and who answers their questions, and to welcome them to continue their regular texting style such as using abbreviations when they text a librarian. Teens’ uncertainty about proper text reference etiquette mostly results from their lack of knowledge about the service, and it is then crucial to educate them about the service, which can be friendly, personal, and informal, reflecting teens’ own perceptions of texting as a communication venue. Offering personalized details and maintaining the casual aspect of texting will help teens feel more comfortable and familiar when using text reference service.
 Unsolicited advertisement and texting spam have made teens conscious about their privacy and they are cautious when sharing their cell phone numbers with others than family and friends. Teen library users will not willingly use text reference service unless they can be certain that their phone numbers will be well protected and texting a librarian will not lead to the breach of confidentiality. Thus it is critical to make it clear to them that libraries take privacy issues seriously. Privacy protection should be highlighted in all promotional activities. Some text reference software automatically masks users’ phone numbers, displaying only an identification code to responding librarians. Libraries may consider adopting such software to buttress the privacy protection guarantee.

When teens already have a well-established relationship with other forms of reference services such as desk or telephone reference and consider their information needs sufficiently fulfilled via these services, it can be difficult to motivate them to accept a new service option. To draw them into trying out text reference service, it is essential to equip them with a solid understanding of what this service offers that is not necessarily available in other venues. For example, teens appreciate late service hours, and text reference service can be covered beyond the availability of desk or telephone reference during regular library hours, at least when provided as a collaborative effort among multiple libraries like MIQ. Those who experience social anxiety usually prefer socially interactive technologies over interacting face to face (Pierce, 2009), and texting constitutes a less intimidating alternative for them to seek help from librarians. The convenience of text reference not only allows teens to remotely communicate with a librarian without the hassle of accessing an Internet-connected computer, but also enables them to save the received information for future references.

Teens tend to associate reference services with information needs pertinent to only school work or library use. To best motivate them to embrace the idea of texting a librarian for various kinds of information needs, the following strategies may be considered:

- Emphasize and embrace the convenience, ease of use and casualness of texting as a means to communicate with librarians. This will help portray libraries as a “hip” and “trendy” place and thus soften the stiff image of libraries in some teens’ minds.

- Educate teens about the types of questions they can ask: both imposed queries and interest-based personal questions. As one study participant remarked, “some people just don't really know what they're looking for, so it'd be kind of cool for them to have a little list of base questions that you could ask them”. Especially in light of the developmental characteristics of teens, libraries should provide concrete examples of how exactly they may use the service. The anonymity of the texting platform should be explained, especially with regards to how it can allow them to seek information on
sensitive topics that they are interested in, but feel embarrassed or difficult to discuss with family or friends. This will encourage teens to realize that in addition to helping them with school, libraries can be a safe and comfortable place for their personal information needs.

- Reach out to teens who are not regular library users yet. This segment of the teen demographic may be attracted by the innovative idea of texting a librarian, and text reference service can serve as a segue into their further awareness and use of other library resources and services. Since they do not necessarily hold a previously formed view of libraries, they may be more likely to use the service for all kinds of questions, including those based on personal interest and curiosity. These teens may also provide work of mouth advertisement and encourage broader and more flexible use of text reference among teens.

**Research publication**

More details of this study will be published in the following article:


Other variables discussed in this article include teens’ use of library reference services provided via venues other than texting (desk, telephone, email and chat), teens’ texting behavior, and teens’ perception of the different aspects of the text reference service, such as response time, librarians’ communication style, and service limitation.

**2.4 Use and Non-use of Text Reference Service**

Evaluating text reference service from the user perspective is essential in determining how the service is fulfilling users’ information needs and assisting them in their information seeking process. The user-oriented approach is an important component in reference service evaluation. It helps the library administration and involved librarians understand whether this service is meeting its intended goals, objectives, and outcomes, and whether the expended resources are producing the desired results.

In order to develop an empirically grounded understanding of how library users perceive and use text reference service, a survey study was conducted to thoroughly examine its practice from the user perspective. Both online survey and print questionnaires were made available to users of seven participating libraries of MIQ. During the study period, the link to the online survey was posted on their reference service page of the library Website (usually the Ask A Librarian page); and the print questionnaires were disseminated at different places in the
physical library, such as the circulation desk and other high-traffic areas. A total of 303 valid
responses were received. Among the respondents, 255 (84.2%) never used the text reference
service provided by their library, and 48 (15.8%) did.

Non-use

The non-users of the service were asked about their reasons for not having used the service
and their interest in using it in the future. Most of them (59.8%) had not used the service by the
time of the study because they were not aware of it; 22.5% explained that they were not
texters, and therefore the service was not appropriate for them; another 22.5% considered
their information needs adequately met by receiving assistance from librarians via other venues
like telephone, email reference or coming to the reference desk; 15.7% stated that they
generally did not ask librarians for help because they were self-sufficient information seekers
and they were able to use library resources and other information resources independently;
and finally, a modicum of 2.4% offered the following reasons: they were too busy or too
forgetful to use the service, issues with their mobile phones such as a broken screen or
insufficient texting plan prevented them from using the service, and they lacked the knowledge
of what types of information assistance were provided by the service.

When measuring whether non-users would be interested in using the service in the future,
three options were listed – Yes, No and Maybe. More than half (58.2%) of the non-users
selected “Maybe”, depending on whether they have the need or not; close to one-fourth
(23.7%) opted for “No”; and only a mere 18.1% granted a positive “Yes”. Those showing no
interest in future use of the service were further asked to supply a brief explanation, and the
following reasons were identified:

- They do not foresee the need to use text reference service because their current
  information seeking venues are sufficient, as indicated by these comments: “I just ask
  my wife to look up stuff for me”, “I do my own research online, using SPL.org and many
  other websites”, and “I walk in and ask questions or call”.

- They do not text because they dislike texting, cannot afford it, or consider themselves
  old fashioned and not willing to engage in this “young” communication channel.

- They lack the knowledge of how to appropriately use the service, as one respondent
  commented, “I don’t really know what kind of questions would be good to ask. I have a
  lot of questions, but there are a lot of different ways to get them answered and I don’t
  know which are best referred to a librarian”.


• Their previous unpleasant experience with librarians via other reference venues makes them reluctant to use text reference service.

Use

Among the text reference service users, more than half (52.1%) only used the service once, and the usage frequency of the rest was evenly distributed between “two to five times” (22.9%) and “more than five times” (25.0%). They discovered the service by a number of different means, as shown in Table 2.

<table>
<thead>
<tr>
<th>How users discovered text reference service</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>I found it on the library Website.</td>
<td>41.7%</td>
</tr>
<tr>
<td>I learned about it in the library promotional material/events.</td>
<td>16.7%</td>
</tr>
<tr>
<td>I heard about it from someone I know.</td>
<td>6.3%</td>
</tr>
<tr>
<td>I heard about it from a library staff member.</td>
<td>37.5%</td>
</tr>
</tbody>
</table>

Table 2. How users discovered the availability of text reference service

Users indicated a high level of satisfaction with the service they received. When asked to rate their satisfaction level on a five point Likert scale (1 being not satisfied at all, and 5 being very satisfied), 87.6% selected “4” or “5” as their rating, and only 8.3% considered their service experience as “not satisfied at all”.

Regarding what motivated users to use the service, the most popular reason was “I wanted to see how the service works” (50.0%). Other motivations included “I needed the information immediately” (39.6%), “I needed help from a librarian” (31.3%), either because librarians are a valid and reliable source of information or because the question could only be addressed by a librarian (e.g. book fines), and “I didn’t have access to the internet” (8.3%).

What users liked about text reference service was investigated in order to identify the appealing characteristics of the service. Table 3 provides a break-down of the different aspects of the service that attracted users.

<table>
<thead>
<tr>
<th>What users liked about text reference service</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>It’s easy to use.</td>
<td>77.1%</td>
</tr>
<tr>
<td>It’s convenient.</td>
<td>66.7%</td>
</tr>
<tr>
<td>It’s fast to get an answer.</td>
<td>52.1%</td>
</tr>
<tr>
<td>I’m comfortable with it.</td>
<td>47.9%</td>
</tr>
<tr>
<td>Librarians are a reliable source of information.</td>
<td>4.2%</td>
</tr>
<tr>
<td>It’s cool and fun.</td>
<td>4.2%</td>
</tr>
<tr>
<td>It is useful when I have an idea of the question I want to ask but cannot form it into a specific Google search.</td>
<td>2.1%</td>
</tr>
</tbody>
</table>

Table 3. What users liked about text reference service.
Implications

The majority of library users have not used text reference service. There are three primary reasons for this non-use. First and foremost, the lack of awareness is prevailing. In order to make the service known to library users and encourage them to use the service, active marketing campaigns need to be implemented. The study found that users of text reference service mostly learned about it from browsing the library Website or from conversing with a library staff member. Since these are the two most effective venues to draw attention to the service, libraries can devise promotional activities that could take advantage of these two venues. For example, a prominent electronic banner displayed on the library Website can be eye-catching; when librarians interact with users in reference transactions, at library programs or through impromptu chats, it can be helpful to offer an interesting introduction to the service.

The promotion of text reference service should focus not only on increasing awareness of the availability of the service, but also on publicizing how to best use the service to fulfill their information needs. Some non-users of the service expressed reluctance to use the service because they did not understand how to appropriately use the service, for example, what questions are allowed to ask. Therefore, it is necessary to educate library users about the types of questions the service is best suited for. Libraries may make it clear that questions representing brief and straightforward information needs (e.g. ready reference questions) are most welcome and most likely to receive a quick and direct response. A list of exemplar questions may also be helpful to provide a concrete understanding of how to properly use the service.

The second major reason for non-use of text reference service is being a non-texter. Veteran texters are more likely to embrace texting as a venue to seek reference assistance, as they are already familiar and comfortable with it. Therefore, it will be helpful if libraries understand who the texting populations are and target promotional efforts toward them. For example, an anonymous survey can be conducted among library users to collect information about their demographics and their texting behavior, and then a demographic depiction of the texters can be achieved. This depiction can help libraries recognize the demographic clusters (e.g. based on age and gender) that tend to text more and therefore implement their text reference service marketing campaign with a better focus and clearer direction.

Thirdly, some non-users are self-sufficient information seekers or are able to have their information needs adequately met by using other reference venues like telephone, email or coming to the reference desk. To encourage them to try out text reference service, it helps to inform them about what this service offers that is not necessarily available in other venues.
Although only about 15% of the participants in the study used text reference service, they reported a high level of satisfaction, indicating that their experience with the service was positive and satisfactory. This is encouraging evidence for libraries interested in establishing text reference service. A number of appealing qualities of the service have been identified in the study: easy to use, convenient, fast, and being a reliable source of information. This knowledge helps libraries understand what users like about text reference service and what attracts them to use the service, and therefore devise appropriate strategies to highlight these qualities when promoting the service to their user community.

**Research publication**

More details of this study are included in the following article:


This article also examined library user demographics, texting behavior (e.g. texting frequency, mobile access and texting plan), and whether their use or non-use of text reference service is correlated with their texting behavior.

**2.5 Competencies Requisite For Text Reference Service**

To enhance professional development of reference librarians and better preparing them for text reference service, it is necessary to identify competencies requisite for successful delivery of reference service via texting. Competencies, defined by Griffiths and King (1986) as a combination of knowledge, skill and attitude, are an indispensable component in the advancement of librarianship. The ultimate goal of competency development is to facilitate training and education.

A three-round Delphi study was conducted in this competency identification study. Delphi study is a frequently used methodology in competency identification studies. It is a technique of gleaning and refining the subjective input from a group of people, usually experts, in an attempt to achieve consensus about some aspect of the present or the future. The opinions of participants are collected through questionnaires where anonymity is ensured. Usually, a Delphi study is an iterative process and has to go through three or four rounds since the goal is to obtain consensus from the group. Researchers summarize the results from each round by means of statistical analysis, such as frequency distribution, range, mean, and standard deviation, and return the summary of the group responses to each individual participant. Through the controlled feedback, participants have access to the overall picture of the group input and the distribution of different kinds of responses. In this way, individual participant can compare his/her own opinions with those of the rest of the group and then decide whether to
change it or not. Dalkey and Helmer (1963) discovered that opinions tend to have a large range at the beginning but in the following rounds the range is significantly narrowed and consensus starts forming. In a Delphi study, participants are asked to provide justification or explanation when their opinions fall out of the range of group consensus. Researchers can have a better understanding and analysis of the results by having participants state their underlying reasons to insist on their own opinions and remain outside the consensus range.

Since the Delphi study offers a consensus-building capacity in gathering professional opinions, it was selected as the research design to yield an agreed-upon list of competencies based on the collective experience and perception of veteran text reference librarians. Librarians with sufficient text reference expertise were selected as the study subjects. Sufficient text reference expertise was defined as having worked with text reference for at least two years or having published about text reference based on empirical experience. For subject recruitment, a call for participation was emailed to members of MIQ. Another email invitation was sent to authors of eleven articles about text reference service published in Reference Services Review and The Reference Librarian in the past four years. Thirty-eight librarians from the expert pool responded and expressed willingness to participate in the study.

In the first round, participants were asked to list competencies they think are essential for providing text reference service. A total of forty-nine competencies were parsed from participants’ responses and rank ordered by frequency of occurrence. In the second round, the rank ordered list of competencies were sent to participants, and they were asked to evaluate each competency’s importance to text reference practice on a five-point Likert scale, with one being not important at all, five being most important. In the third round, a final list of competencies rank ordered by the mean value of the importance rating was sent to participants. They were asked to decide whether or not they agreed with the aggregated group input and no disagreement was reported.

Table 4 presents the ten competencies with the highest importance ratings. As a result of the consensus building effort, the ten competencies exhibit a substantial degree of agreement among participants of the Delphi study. Representing the convergence of the study participants’ opinions, they should be carefully converted into learning objectives for education and training programs.
A closer look at the top ten text reference competencies reveals that they are inextricably connected to all the reference competencies identified in previous studies. Seven out of them are not specific to the text reference venue:

- **Ability to construct effective search strategies and skillfully search online information sources**
- **Ability to quickly evaluate information and determine the validity, credibility, and authoritativeness of sources**
- **Knowledge of information resources, especially online information resources**
- **Good communication skills, such as maintaining a friendly, respectful, helpful, and pleasant tone**
- **Familiarity with the software/platform used to provide text reference service**
- **Understanding of text reference service policies**
- **Customer service skills**

These seven competencies encompass areas where solid knowledge and exceptional skills are needed regardless of the service venue: online information resources, communication, service technology, policies and procedures, and customer service. Therefore, when developing text
reference training/education materials, much can be repurposed from training/education for other reference service venues. Strategies that have been proven successful in preparing chat reference librarians can be adopted and tailored to the need of text reference librarians.

The three other competencies on the top ten list, “Ability to compose answers to users' questions concisely, quickly and accurately”, “Ability to interpret users' information needs with limited context in text messages”, and “Ability to answer questions politely, intelligently and professionally, even questions that might be judged inappropriate due to language or content” are specific to text reference service because of the unique characteristics of texting as a communication channel, such as the 160-character limit per message and messaging cost. It is not practical to engage in in-depth reference transactions via the exchange of text messages, and hence librarians need to be perceptive and efficient in determining what users are looking for, and be clear and succinct in providing the information. This can be challenging as reference librarians are usually expected to be thorough and detail-oriented when assisting library users. Therefore, in text reference training, it is as important to help librarians understand the shift in expectation and make the proper mindset adjustment, as it is to equip them with requisite knowledge and skills. Topics such as how to use a character counter and URL shortener as well as how to write concisely without appearing brusque and impatient are helpful to include in the training program. It is also necessary to examine transcripts from existing text reference services, and analyze how users frame their questions in text messages. Common messaging patterns will help librarians better understand users’ texting behavior from the communication perspective, and thus interpret their information needs more effectively and precisely.

Due to the anonymity of texting-based communications, there is occasional inappropriate use of text reference service, which usually makes librarians uncomfortable. However, some authentic questions representing genuine information needs can appear improper when the topic of interest is relationships or sex. In order not to dismiss these questions alongside real pranks, librarians need to treat all seemingly inappropriate questions with professionalism and politeness. In text reference training, it is important to communicate this point to librarians and help them learn to professionally and calmly handle questions containing uncomfortable language or content.

**Research publication**

More details of this study will be published in following article:

2.6 Managing a Text Reference Collaborative

Similar to email and chat reference, text reference service can also be provided in a collaborative fashion. Multiple libraries may form a consortium and take turns to answer questions from users of all member libraries. MIQ is one such text reference consortium, with participation by both public and academic across the country.

Providing reference service collaboratively is beneficial in many aspects. Usually the driving purpose is to share resources and distribute staffing commitments between libraries. For a comparatively minimal investment, libraries are able to expand the number of service hours and increase the volume of transactions. Reference consortia not only allow libraries to make more efficient use of scarce resources such as materials, time, money, and staff, but also provide benefits from “network effects”, in which the value of a consortium increases as the number of members of that consortium increases. In addition, interactions amongst participating librarians can lead to better understanding, closer relationships, and even other opportunities to collaborate (Pomerantz, 2006). Given the budget constraints many libraries face nowadays, participating in a consortium is becoming an increasingly appealing and practical option for offering text reference service.

As the first nationwide collaborative text reference service, MIQ’s experience will help develop a better professional understanding of collaborative text reference practice. Libraries interested in initiating a text reference consortium will benefit from knowledge of MIQ’s operations. Therefore, interviews were conducted with key members of MIQ’s management team to investigate the challenges and lessons in managing a text reference consortium.

Launched in July 2009, MIQ is a self-organized and self-managed text reference consortium. Volunteers from participating libraries form the management team that oversees the different aspects of MIQ and handles various kinds of issues related to service operation.

Membership

There are no restrictions on becoming an MIQ member. Any interested library is welcome to join the consortium. During each calendar year, the MIQ project coordinator disseminates calls for participation to the library community via various venues such as professional conferences and email listservs. Information about MIQ is provided to potential participants, including details on project software and cost, website, governance and communication, publicity, hours of service and evaluation. Once interested libraries review the information and decide to join, they sign a form signifying their commitment to 1) staff the service an average of two hours per week, covering assigned shifts and locating substitutes when necessary; 2) promote the service by putting a link on their library website and sending information to their library users; 3)
appoint a staff member to attend the monthly online meeting of the advisory group; 4) attend training sessions and participate in practice sessions; 5) participate in evaluative activities; and 6) participate in project communications.

Currently all MIQ members pay the same amount of fees to cover the service software cost. Since it is not a graduated fee structure where payment is proportional to the size of library, an interviewee raised the concern that some small libraries may find the amount too significant even though it yields “a really good return on investment”.

Policies and Procedures

As mentioned earlier, MIQ is self-organized and managed by volunteers. Members volunteer to take charge of different aspects of project operations such as establishing service policies and procedures. A group of volunteers developed an initial document suggesting policies such as scope of the service (e.g. questions seeking private information as well as requests for medical, legal or tax advice are considered out of scope), service hours, and response time (10 minutes). As the project progresses, this document undergoes iterations of revision which reflect the evolution of the service.

The challenges surrounding MIQ policies and procedures originate not from the process of establishing them, but in making them known to member librarians. Policy and procedure documents are usually housed on the MIQ Website; however, the responsible volunteer team does not have administrative access to the Website and this causes a delay in making updates available to the MIQ community. One interviewee commented: “It’s a challenge for this kind of multistate collaborative service. I’m like the keeper of the policy and procedure document and someone else is the keeper of the official website. It’d be easier if I make a recording or update the policies and procedures, and then we upload it to some place that I have access to. So that people have immediate access, you know, as quickly as I get those recordings or revised policy and procedure documents ready to go. I can get it up on the web so that people can point to it. But getting it sort of into the more official website has been slow and kinda difficult. So, this kind of management issue becomes – how do you, in a collaborative service like this, empower people to, update slide sets and make recordings and other things that are beneficial to everybody?” A possible solution is to have a central location where documents can be shared, structured and organized easily. The same interviewee suggested, “Maybe it’s a wiki or some other kind of shared document space. You don’t want it to be too complicated. You don’t want people go in too many places. We want you to keep it kinda simple for people to upload and update especially various documents and whatnot”.

In addition to this technical challenge, it has not been easy to enforce policies and procedures among MIQ librarians. Jensen (2010), in his reflection on his involvement in MIQ, raised the
same issue, pointing out that the voluntary nature of MIQ makes it awkward for anyone to police participating librarians. Even if policies and procedures are well communicated and established, some librarians may still exhibit a lack of awareness or a lack of willingness to comply. Two approaches have been used to alleviate this problem. First, it helps to constantly remind the MIQ community about policies and procedures, especially when there is a discussion about how to respond in certain circumstances: a pointer to the documents of policies and procedures not only settles the discussion but also serves as a reminder of their existence, as indicated by this comment “we remind people that, well, we talked about that and we got policies and procedures that cover that. If it’s not covered the way you think it should be covered, let’s talk about that.” Secondly, Mosio Text A Librarian, the software currently used by MIQ, has a feature that allows librarians to privately comment on each others’ responses to users’ questions and offer suggestions for best practices.

**Staffing**

Each MIQ library covers the service for an average of two hours per week. Twice a year the MIQ project coordinator gathers information on each member library’s available hours, coordinates shift planning and makes the final schedule. Scheduling software is used to assist the process. During the pilot year, MIQ used PeopleWhere to manage the continually changing and evolving schedule that is inherent in a collaborative project. However, despite its advanced features in staff scheduling, MIQ decided to discontinue its use because much of its functionality was not applicable. For example, features like staff’s skill set tracking, schedule auto generating, and time off request processing are not what MIQ needed. Google Calendar, a simpler and more general-purpose calendar service, was then selected as the replacement to handle scheduling. Members share the same Google Calendar account, where they can view the established schedule and make edits to reflect agreed-upon changes.

All interviewees agreed that although it is time consuming and laborious, there is currently no better way to schedule service shifts than having the project coordinator collect members’ available hours and make the schedule manually. It is particularly challenging when multiple libraries compete for the same time slots, as one interviewee commented “there always seem to be challenges; people tend to want the same hours, and that’s challenging, and it’s challenging to schedule the nighttime and weekend, because not as many people want those.” Therefore, artful coordination is required to accommodate each member’s needs.

At the early stage of MIQ, there were always missed shifts. However, since MIQ is managed by volunteers, there is no real power to require accountability from librarians. One interviewee lamented, “there’s nobody to say ‘if you’re not doing this...you’re going to receive this sort of negative feedback’... It’s up to each individual institution to make it [showing up for MIQ shifts]
part of the fabric of their librarians’ work and have it affect them personally, and I don’t think we’re there with that yet”.

As MIQ progresses and the accountability issue is frequently brought up, librarians have become more aware of it and therefore made a conscious effort not to miss their shifts. When necessary, the MIQ Google Group is used to ask for help with shift coverage if a librarian has a last-minute schedule conflict. As a result, the problem with missed shifts has dissipated.

Service Software

There are three methods currently used by libraries to deliver text reference service – a stand-alone mobile device, a free IM or email application such as AIM that can receive and send text messages, and vendor-developed software. MIQ employs the third method. In the first 18 months of its operation, it used Altarama SMS Reference. With Altarama, users can text questions to a 10-digit phone number and librarians receive and respond via an email account (Altarama or any other specified email provider). Since the Altarama email system did not have a mechanism to easily differentiate questions or responses from different member libraries, MIQ chose Gmail as the alternative because its labeling feature allowed categorization of transactions. A three letter code was created for each library. When librarians finished a transaction, they would label it with their library code. Therefore, one could easily search within Gmail to locate all the reference transactions answered by librarians from a particular library. Users were asked to include the three letter code of their library in their text messages in order to help libraries identify questions from their own users. However, users did not usually remember to include it every time they texted: only a third of the questions contained the code.

Overall Gmail was easy to use, but it is not designed specifically for libraries and hence lacks certain features needed in reference service provision. For example, it has limited options regarding announcing new message arrivals, which can lead to delayed responses. Reference transactions cannot be easily organized and retrieved by users’ phone number when librarians need context to help answer a question, which is particularly necessary in follow-ups to questions received in previous shifts. Furthermore, when a librarian is researching an answer, there is no indication in Gmail that the question is “claimed.” This can be problematic if multiple librarians are logged in and unknowingly begin working on the same question. Finally, user privacy is a concern because Google archives all the data on its servers. In January 2011, MIQ switched to its current service software, Mosio Text a Librarian.

When it comes to choosing the service software, interviewees identified a few factors they considered important:
• Cost. It needs to be affordable, or in one interviewee’s words, “reasonably priced”, in the long run, especially if the service is launched with the support of a grant. Making the service financially sustainable is an important factor to consider.

• Flexibility. It is necessary to accommodate various kinds of needs. As an interviewee commented “it can't be a very rigid project that you could only do it one way and that's it. The vendor has to be willing to work with us to be able to make it easier for us to use it.”

• Ease of use. Having a friendly interface, being intuitive, and involving minimal training for service staff are characteristics highly valued by interviewees. For example, one interviewee commented on Mosio Text a Librarian’s character counting feature, “the idea that you could see, you know, how many characters were in the answer that you were typing as you were typing them, impressed me.”

• Statistics tracking. It is important to have statistic tracking features that could help libraries assess service usage.

• Reliability. Reliable performance reduces the likelihood of technical difficulty and enables the service to be technically sound.

• Vendor support. Vendor support is critical to ensuring all the technical issues are resolved timely and satisfactorily, and in buttressing the successful operation of the service.

Training

MIQ requests that every librarian who provides service first participate in an hour-long training session. The training session is designed and provided by a team of volunteer members. They determine the content and duration, prepare the material, set the schedule, and conduct the sessions. Each training session is provided via an online conferencing system. All sessions are recorded for librarians who are not able to participate live. The two main topics covered are a step-by-step technical demonstration of how to provide the service and an introduction of policies and procedures.

When determining what to cover in the training session, the trainers first put themselves in the place of trainees, asking questions such as “what do I need to do when I’m coming on shift? What do I need to do in the midst of my shift? What do I need to do at the end of my shift”, and then decided what kinds of knowledge/delivery methods would ensure successful mastery of the answers. An interviewee used the term “thought experiment” to describe this process. As a
result, MIQ training focuses on the “nuts and bolts” of service technology and provides an overview of policies and procedures.

Since MIQ members are geographically distributed, training is conducted online using Web conferencing software. The key to online training success is to never overwhelm people and to keep the session within one hour. As one interviewee commented “if you’re going to go longer than an hour, do so at your peril. Because a lot of people, their mind starts to wander or they're busy and they need to go some place; an hour is about as much as most people are able to or willing to commit to any kind of online event, whether it’s training or some other kind of event”.

There are other difficulties to overcome in conducting training for a national collaboration. The lack of nonverbal cues in online communications poses a challenge in making training engaging, as an interviewee commented “you don’t want it to be a dry kind of thing. And one of the challenges online is that it can be very difficult to, you know, provide nonverbal feedback like gestures and facial expressions that can make an in-person training session engaging.” Solutions to overcome the challenge, as suggested by interviewees, include employing interactive features of the Web conferencing software (e.g. conducting polls), encouraging text chat and responding promptly, stating the main points at the beginning and reiterating them at the end to reinforce understanding, and allowing time for trainees to have some hands-on practice and address questions arising from it. As MIQ’s geographic distribution crosses several time zones, it is difficult to select times that are convenient for everybody. Therefore, in addition to offering as many sessions as possible, recordings of each session are shared among all MIQ librarians so those not able to join any live session can view them at their convenience.

Training is a dynamic and fluid component of MIQ’s operation as the service itself is constantly evolving. On one hand, when there is an update in technology, policies and procedures or other aspects of service provision, it needs to be reflected in training. On the other, training does not end the moment the online session is finished, and ongoing support is necessary. It is important that trainees “feel empowered to ask questions and explore possibilities as they get into the routine of providing service”, and that they have “a community that’s helpful and willing to assist them as they work through some of these issues and learn some of these procedures”.

There is no formal assessment of how the training is received. According to some interviewees, anecdotal evidence suggests that trainees feel positive about their experience. Interviewees do consider formal assessment useful and think that it should be conducted if time and staffing allows.
Marketing

Marketing has two layers of meaning: MIQ marketing itself to interested libraries and prospective participants, and members of MIQ marketing the service to their library users. Volunteers responsible for marketing and public relations drafted the promotional material (e.g. flyers, brochures) and press releases both at the consortium level and at the local level. Members can help distribute the consortium-level material at conferences and other professional gatherings to attract potential participants, and they can also customize local-level material for their own marketing purposes. All marketing documents are stored on the MIQ Website for members to access. More detailed information about MIQ’s marketing approaches can be found in Avery et al.’s (2011) article on collaborative marketing at MIQ.

Regardless of the purpose of marketing, to recruit more member libraries or to engage more library users, interviewees all agreed that a variety of methods should be employed. One interviewee shared that according to a survey among MIQ libraries, “many of them found out about it through e-mail, list serves and through conference presentations”. Some particularly believed in the power of word of mouth advertisement and having a personal touch, as a comment about librarian-oriented marketing indicated: “what probably works the best is the personal touch, talking to people about it, giving presentations on it, getting out there so that people could see what’s going on with it and making those presentations”. Another important aspect of marketing is that it has to be a consistent and frequent effort. One interviewee explained: “we are certainly not the only institution to be hit with budget cuts and staff reductions resulting from those cuts, and so as for lessons learned from marketing, you absolutely have to do it. You have to do it consistently and frequently, and yet it’s really, really hard to do it, to weave it into all of our other responsibilities.”

A final challenge of marketing is brand confusion between MIQ and the service software it uses – Mosio Text a Librarian. An interviewee pointed out that co-branding with Text a Librarian may get MIQ “lost in translation”. The interviewee further commented, “How do we market MIQ when Text a Librarian is right there too; so it's an issue and it's not a resolved issue. It reminds me of how library systems are very challenged to market themselves. We're so behind the scenes. This thing about Text a Librarian and its own brand and how visible it is, you know we're just kind of becoming a collaborative way of doing Text a Librarian.”

Communication and Problem Solving

There are two primary venues for MIQ librarians to communicate with each other, identify issues that arise from the project and brainstorm how to tackle them. The first is the monthly online advisory group meeting. The advisory group consists of representatives from each member library, but the online meetings are open to all participating librarians. A few volunteer
members serve as meeting organizers and coordinators. They establish the agenda and act as
moderators. During each meeting, updates on various aspects of the project (e.g. policies and
procedures, membership, marketing and public relations, and training) are provided and
feedback is invited. If there are issues that need to be resolved, they are brought forth for
group discussion and solution. For example, the advisory group meetings produced decisions on
how to handle problem users and what to do when MIQ policies are in conflict with members’
own. Librarians who are not able to attend the meetings can access recordings at a later time.
Recently, upon requests from librarians, when each meeting recording is made available, main
decisions and action items are summarized and sent to the entire MIQ community as well.

The second venue is a Google group where MIQ librarians can communicate via email. Here are
a few exemplar uses of the Google group: 1) request emergency shift coverage; 2) seek help on
answering questions; 3) make announcements about MIQ related events; and 4) raise concerns
and propose ideas about the operation of MIQ.

All interviewees agreed that these two venues constitute an effective mechanism for
communicating and problem solving, as indicated by this comment, “I just think it’s a good way
to sort of share information and people can raise concerns. There’s a lot of camaraderie and,
you know, it’s a talkative or chatty group. It kind of amazes me that we never had an in-person
meeting and yet I feel like we are akin. And we do have a shared vision and we do feel like we
can work through many issues. And the fact that we’re able to transition from one service
software to another, you know, any transition in a library environment can be difficult and
wacky and bumpy; looking back on it, it wasn’t that bad that we’re actually able to steer
ourselves through that process quite well, I thought.”

However, a few challenges and lessons were also identified:

- At advisory group meetings, it is important to let participants “talk things out” as much
  as they want, “even if you feel that the decision has been made and that we’re going in
  one direction; people need to be able to feel comfortable talking things out.”

- Since the advisory group meetings are open to all MIQ librarians, there are many people
  with many voices, making it challenging to have a consensus. On the other hand, even if
  everyone is invited to the meetings, many do not attend or view the recordings later.
One interviewee lamented, “sometimes we can’t seem to agree what our best step is,
what the next step should be in order to deal with this issue that has come up. So I think
the group might be a little too large. But for the most part, there are times when I wish
everybody, who is part of MIQ, could be attending these meetings because there are a
lot of things that we do end up deciding that people then end up not hearing about, for whatever reason, and I wish they would.”

- It is challenging to follow up on the decisions made at advisory group meetings and move forward with actions. This is attributed to the fact that MIQ is a loosely structured and rather ad-hoc organization. The management team is not an elected or appointed body but consists of volunteers, making it difficult to “require” anything. Thus, as one interviewee pointed out, “there's some frustration because we bring the same things up over and over again, but I think that's part of the growing process.”

Assessment

The purpose of MIQ assessment is to identify best practices and improve quality of the service. Every month the volunteer responsible for assessment produces a report containing all the transactions (questions and answers, time stamps, user ID, librarian ID, etc.) from that month. MIQ members can use this report to examine questions from their own library users and responses provided by their own librarians. In addition, a research grant from the Institute of Museum and Library Services (IMLS) was awarded to the volunteer to conduct in-depth evaluation of MIQ, including 1) a thorough analysis of a random sample of MIQ transactions to determine the types of information needs fulfilled by the service as well as characteristics of the transactions such as responsiveness and interactivity; 2) focus group interviews among teen library users about their perception and use of MIQ; 3) surveys among MIQ library users about their use and non-use of MIQ; 4) survey among MIQ librarians about their experiences; and 5) a Delphi study among MIQ librarians to identify competencies requisite for providing text reference service. Results of the IMLS evaluation research will be used to develop best practices guidelines, to inform MIQ training and to help other interested libraries successfully implement text reference service.

Overall Project Operation

All interviewees identified the benefits of delivering text reference service collaboratively to be cost effectiveness in saving staff time and extending service hours as well as opportunities for professional networking/development, echoing the findings in virtual reference service literature. They also suggested ideas for service improvement and more effective project management. One popular idea was to expand the service to 24/7 through collaboration across more time zones. It is a shared belief that a true 24/7 service should be the goal of all collaborative services. One interviewee even envisioned an ideal model where the service does not operate on designated shifts but instead relies on the passion, dedication and sheer number of participating librarians. If the collaboration is at a scale large enough to always have a group of librarians voluntarily staff the service at any point of time, “the power of the
“collaborative” can help enhance localized service and facilitate distribution of subject expertise among librarians. In the interviewee’s words, “I think actually when we get back to efficiency and return on investment, we spend an inordinate amount of time worrying about the schedule, planning the schedule, enforcing the schedule, shift changes and swaps and what not; if you can cut through all that and get to a total different kind of service paradigm...there’d be a whole group of people on providing service, chatting amongst themselves between questions and when one comes in, one of them quickly picks it up and answers.”

Unlike other collaborative virtual reference services where a paid project coordinator coordinates, advocates and recruits for the service (Johnson, 2010), MIQ is self-organized and managed by volunteers, requiring significant commitment from member librarians. Additionally, because of the fluidity in MIQ’s membership, as libraries leave or join MIQ, there is usually a shift in the volunteer team, which may transpire into management sustainability issues in the long run. A remedy to this concern is to employ a full-time or part-time project coordinator. However, given the budget constraints faced by many libraries nowadays, this has become less likely.

When asked to provide a word of advice for libraries interested in providing text reference service collaboratively, interviewees offered three suggestions:

- Be sure that a collaborative service meets the needs of both library users and library staff
- Establish a sense of shared mission
- Join an existing collaborative service as a test ride to minimize the risks of experimenting with new service technologies

Apparently, MIQ does not fit in the traditional model of reference collaboration. It lacks two distinct characteristics of most virtual reference consortia: having a pre-existing collaborative effort (e.g. of cataloging or acquisition) as the foundation, and having a paid project coordinator that handles logistics of the service (Mon et al. 2009; Bodner, 2009; Johnson, 2010). Instead, MIQ is a ground-up initiative that is completely self-organized and self-managed. It does not have a strict administrative hierarchy but relies on volunteers to oversee the project operation. Interviews with members of the management team indicate that there are three things critical to MIQ’s success:

- A group of librarian volunteers who are enthusiastic about text reference service and dedicated to making the collaborative service work
• Effective communications among MIQ librarians via the Google Group and the advisory group meetings

• A goal-oriented and supportive community and a collective sense of commitment

Despite the difference in initiation and organization, the way the management task is distributed at MIQ is similar to other virtual reference consortia. Sachs (2004) pointed out that in collaborative chat reference services the task of governance is often shouldered by committees responsible for different aspects of the service. The same approach was employed at MIQ. The key members of the management team, most of who were interviewed in this study, each lead a group of volunteers and take charge of a certain area of MIQ’s operation (e.g., training, marketing, scheduling, etc.). Regarding how each service aspect is managed, no matter what the service venue is, the determining factors include what the service goal is, who the participating members are, how members communicate and work with each other, and what each member library’s staffing commitment is. Since chat reference has a longer history of collaboration, management of text reference consortia can benefit from successful administrative experiences in collaborative chat reference service. For example, tactics such as effective marketing campaigns and efficient member communication mechanisms can be transferred, thus avoiding redundancy of reinventing the wheel.

In addition to similar governance structure, MIQ also shares the challenges that are common in other virtual reference consortia. Two such challenges are effective scheduling/shift planning to improve accountability and establishing/enforcing policies and procedures to ensure consistent quality practice. MIQ’s solution to these challenges is constant communications. When issues in these challenging areas arise, they are acknowledged immediately and discussed via the different communication venues; then corresponding decisions are made and policies are updated accordingly. If they reemerge, a new round of discussion will take place to draw attention to them and to remind the group of related policies and procedures. Constant communications help raise awareness and reinforce understandings, and eventually lead to both a reduction of problems in practice and the enhancement of service performance. In the meantime, useful lessons of MIQ’s operation were also identified. Interested libraries will benefit from these lessons and develop a better understanding of different aspects of a collaborative text reference service, such as staffing, marketing, training, selecting service software, communicating and problem solving.

Research publication

More details of this study can be found in the following article:

**III. Conclusion**

In conclusion, this two-year IMLS project has yielded a detailed examination of text reference practice and enriched the professional understanding of texting as a reference service venue, which will help libraries make more informed decisions when considering offering this service. Findings of this project indicate that for library users, text reference service is a suitable venue for brief and straightforward information needs, their use of the service is contingent upon their awareness and perception of the service, and they appreciate the ease of use, convenience and speediness of the service; for librarians, it is important to comprehend the affordance of texting and master the skills to interact with users effectively and efficiently in this service venue, such as being able to compose answers to users’ questions concisely, quickly and accurately and interpret users’ information needs with limited context in text messages. These findings can be integrated into marketing and promoting the service to increase awareness and generate interest, as well as in designing training and educational content to prepare librarians for providing text reference service.

It is the project team’s hope that the library world will benefit from this multi-perspective depiction of text reference service produced by this research project. Professional organizations such as Reference and User Services Association may also take into consideration discoveries from this project when updating their behavioral and performance guidelines to incorporate the best practices of text reference. Ultimately, an enhanced understanding of library users in the age of texting will help library and information professionals gain a more grounded view of how to successfully assist users in their information seeking process using the texting technology, and help serve libraries’ missions of providing services for the interest, information, and enlightenment of all people of the user community in a world filled with constantly evolving technologies.

**IV. References**


