

Crowdsourced Reference: Steering into Uncharted Waters?

Marie L. Radford, Lynn Silipigni Connaway, and Stephanie Mikitish*

Introduction

Recent developments in digital and mobile technology have acted as both enablers and disruptors in the information services that libraries deliver to support users of heavily proliferating online resources. Most libraries have electronic reference services featuring email, chat, social media venues, and mobile access.¹ Despite the overall trend of growth and success of virtual reference services (VRS), cuts to library budgets have caused some to scale back or discontinue these.² Consortium services, such as OCLC's QuestionPoint have been one solution, and have been effective in offering high quality results and 24/7/365 service. Fiscal concerns, service staffing demands, and shifts in use patterns have become a cause for concern for future sustainability of standalone and consortia services.³ One innovative model can be found in that of social question and answer sites (SQA), such as Yahoo! Answers, which use crowdsourcing to provide expert (or not so expert) answers to questions, and advice or opinions. As opposed to one-to-one services, as traditional in physical and virtual reference, SQAs allow one-to-many responders, embracing a more collaborative and open spirit.⁴ Could traditional VRS learn from this model to make reference services more distributed and, ultimately to enhance quality and sustainability? The IMLS-funded project, involving collaboration between researchers at Rutgers University, and OCLC: *Cyber Synergy: Seeking Sustainability through Collaboration between Virtual Reference and Social Q&A Sites* undertook interviews with 50 VRS librarians and 52 VRS or SQA users.⁵ This three-year research project used the Critical Incident Technique (CIT)⁶ to structure the interview questions to discover what critical factors are in play that would enhance or limit exploration and implementation of collaborative efforts and heightened amount of referrals, such as those suggested by the SQA approach. A pressing question that arose was since SQA sites, such as Yahoo! Answers, allow anyone to ask questions and obtain crowdsourced answers, would academic librarians, concerned with accuracy and service excellence, hesitate to incorporate this approach to help answer questions in VRS?

Literature Review

Competing and increasing demands on professional librarians have resulted in development of service models that are moving away from the long-standing practice of always having a credentialed librarian with a Master's Degree staffing reference services. Some argue that this is unnecessary, since a majority of the questions are not that difficult or complex. For example, an earlier study at Stetson University estimated that approximately 90 percent of the questions from a sample of nearly 7,000 could be answered by non-librarians.⁷ Studies that apply the Reference Effort Assessment Data (READ) scale find that most questions are relatively simple and require a minimum of effort to answer.⁸ Others argue that ideally reference services should be staffed by librarians, but recognize that this practice has become too expensive in terms of human resources, which has prompted them to seek other solutions. If staff is trained and supervised, research indicates that quality can be maintained.⁹

* Marie L. Radford is Professor and Ph.D. Director at Rutgers University, mradford@rutgers.edu; Lynn Silipigni Connaway is Senior Research Scientist and Director of User Research at OCLC, connawal@oclc.org; Stephanie Mikitish is a Doctoral Candidate at Rutgers University, mikitish@scarletmail.rutgers.edu.

Alternate staffing models include scheduling part-time reference librarians,¹⁰ circulation staff,¹¹ and students, including undergraduates,¹² on the reference desk. These changes have been supported in part by the recognition that library users and potential users are willing to obtain information from non-librarians via the Internet.¹³ Furthermore, research has found that many of the questions answered by reference librarians can be answered accurately, completely, and verifiably by non-librarians on sites such as Wikipedia Reference Desk.¹⁴

Alongside online innovations, face-to-face (FtF) reference continues as a core service.¹⁵ A survey of 119 libraries found that 66 percent still have a physical reference desk, with 77 percent of these staffed by reference librarians.¹⁶ The continuing use of FtF services may be attributed to users being unfamiliar with the physical library's spaces and collections or seeking local information. A study of 1,852 questions over three years, found that about two-thirds were location based, and both these and subject-based questions (the second largest category), were usually asked FtF.¹⁷ Another study discovered that numbers of reference questions had declined across institutions, but increased in institutions investing more in electronic resources.¹⁸ The integration of new hardware, including use of tablets, enhances FtF reference experiences.¹⁹ Future outlook indicates that reference will be offered through a variety of modes, each with particular features that appeal to different users in different situations.

Virtual Reference Services (VRS)

VRS generally employ traditional one-to-one professional/provider models. Technological developments and librarian ingenuity have extended VRS beyond the tried and true. A survey of 362 institutions by found that 74 percent used at least one of the following: email, phone, chat, instant message, texting, and video chat.²⁰ Of these, nearly 50 percent offered chat reference. In usability studies, participants have expressed preference for chat reference due to information received, speed, convenience, and the minimal amounts of time and effort required.²¹ Perceptions of convenience are of particular importance in a user's information seeking choices.²²

While technology, such as reference via texting²³ and strategic pop-up chat windows in online resources,²⁴ have helped increase coverage and efficiency, users may be unaware of their existence, or that of live chat reference in general.²⁵ Library users and potential users increasingly are finding answers online, either visiting the sites themselves to ask questions, or by encountering the answers via search engine results.²⁶ SQA sites offer ways to use technology similar to VRS services, but the social and cultural aspects of these services are very different, and a vital question is whether librarians would see them as being at odds with traditional reference values and expectations.

Social Question and Answer Sites (SQA)

Web-based SQA sites provide users access to crowdsourced answers. The most widely known example is Yahoo! Answers, founded in 2005.²⁷ According to a study of VRS and SQA answers, most SQA research uses quantitative methods and focuses on answer quality and user satisfaction.²⁸ A study in 2010 asked 36 active users of Yahoo! Answers to evaluate the credibility of answers provided, and found that content related criteria was used more often than source related criteria.²⁹ A broader study that evaluated answer quality on multiple SQA platforms found that although Askville, WikiAnswers, Wikipedia Reference Desk, and Yahoo! Answers featured similar design, they varied significantly in answer accuracy, completeness, and verifiability.³⁰

Some studies asked experts and non-experts to evaluate the answers. One asked 10 reference librarians (experts) and 36 students (non-experts) to identify aspects of answer relevance, quality, and satisfaction in cognitive and social situational areas.³¹ Both groups identified topicality and validity most often. Another study asked librarians and nurses (experts) and other users (non-experts) to assess user generated answers to medical questions on Yahoo! Answers.³² Both the librarians and the nurses rated the quality of the answers similarly, while the user group rated the answers as higher quality. The study authors suggested that because librarians and nurses judged

the answers similarly they might be open to collaborating, but noted that librarians were more critical about source credibility. In addition to human evaluation of answers, researchers in one study developed an algorithm to predict which answers would be high quality using data from Yahoo! Answers.³³ The two main predictor categories were social features (e.g., interaction and feedback) and content features (e.g., textual and appraisal). The most predictive features focused on content, specifically positive votes, completeness, presentation, reliability, and accuracy. With the exception of positive votes, VRS answers also can be evaluated on those features.

Another SQA site, Aardvark, which was discontinued in 2011, attempted to match user questions with answerer expertise. Its algorithm used information on the question asker, the query, and potential answerers to push questions to those with the most topical expertise, closer connections to the asker, and actual availability. One of the few studies on Aardvark found similar percentages of Aardvark answers and Google answers were judged to be satisfactory, but that satisfactory Google answers took less than half the time to find at two minutes versus five minutes for Aardvark answers.³⁴ They noted that: “Long, highly contextualized, and subjective [questions]...are not well serviced by traditional search engines... [especially if answers require] opinion, advice, experience, or recommendations.”³⁵ Speed of response has been found to be an important aspect in evaluation of SQA, along with other advantages, including low cost and building social capital among users.³⁶

Comparison of VRS and SQA

VRS can be characterized as using the library paradigm and SQA as embodying the village paradigm.³⁷ VRS are dyadic, maintaining separation between asker and answerer, are top down, and institutionally supported, versus SQA, which are community based, allow askers to become answerers, and are bottom up. VRS and SQA sites could be combined in hybrid, “social reference” sites, which adopt characteristics of SQ, such as free use and crowdsourced questions.³⁸ Of course, VRS goes beyond question answering services, as librarians provide instruction and lead users to resources,³⁹ as reflected by an analysis of VRS chat transcripts, which discovered that subject and procedural questions were more prevalent than ready reference (fact) questions.⁴⁰

Some researchers view SQA and VRS as totally separate entities,⁴¹ although at times librarians⁴² or Master’s students⁴³ have answered questions or contributed to SQA sites. Research in VRS and SQA is investigating ways to answer questions more efficiently. For example, one study explored the possibility of making VRS referrals easier by combining chat reference and a library-wide instant messaging (IM) service.⁴⁴ Other studies sought to discover how finding experts on SQA sites could be easier.⁴⁵

The most significant difference between the two types of service involves who can answer questions. VRS are generally staffed by librarians who are part of a community of practice (CoP), that engenders trust in referrals and collaboration based on credentials, shared values, and professional standards.⁴⁶ SQA sites allow more people who may have no formal credentials to answer questions. Although one study of SQA answer quality found that more answers did not lead to more accurate answers, allowing more people to respond did make the answers more complete and verifiable.⁴⁷ The answering process could involve positive interactions, such as microcollaborations, where many people collaborate to solve or discuss a problem,⁴⁸ reciprocity between community members,⁴⁹ and the accumulation of social capital.⁵⁰ However, it also could involve negative interactions, such as arguments between SQA answerers.⁵¹

The literature review reveals significant gaps. The first is that original question askers and answerers do not usually evaluate the quality of the answers or the interaction, so question and answer context are lost. There has been relatively little work focusing on those providing answers on VRS or SQA sites, including librarians, that compares attitudes and behaviors. To address these gaps, the authors used qualitative methods to investigate asker and answerer experiences in VRS and/or SQA, rather than quantitative methods that concentrate analysis on large questions and answers data sets. Based on the literature review, the following research questions were addressed:

- RQ1: How do librarians and users describe successful VRS or SQA interactions?
- RQ2: How do librarians and users describe difficult or unsuccessful VRS or SQA interactions?
- RQ3: What are the critical factors affecting librarians answering VRS questions and users answering SQA questions as a member of an answerer community?

Method

To address these research questions in-depth phone interviews with 50 VRS librarians and 52 VRS and/or SQA users were conducted from August 2012 to June 2013. Interview questions were designed following the CIT⁵² for questions. The CIT asks participants to discuss their most recent or memorable experiences regarding the inquiry's topic.⁵³

Participants were recruited via professional listservs, personal contacts, and OCLC's QuestionPoint librarian blog. The interviewers used Survey Monkey to enter participants' demographic information and interview question responses. Responses were made anonymous by assigning numbers to participants, using L for librarians and VS for VRS/SQA users. Although the interviews were not recorded, the research team took in-depth notes and transcribed some responses verbatim. The research team analyzed the responses line-by-line, grouping like answers together, and identifying patterns, to elicit recurring qualitative themes following the Constant Comparisons Method.⁵⁴

Results

Tables 1 and 2 show participant demographics for VRS Librarian and VRS/SQA users.

TABLE 1 Librarian Demographics	
Total interviews	50 (Librarians)
Gender	Predominantly female (38, 76%)
Age	Most 35-54 (16, 32%)
Professional experience	12.7 years average; 10.5 years median
VRS participation	1-3 hours/week (17, 34%) or 4-6 hours/week (17, 34%)
Type of library employed by	Predominantly academic (32, 64%)

TABLE 2 User Demographics	
Total interviews	52 (VRS or SQA Users)
Gender	Predominantly female (36, 69%)
Age	Most 19-25 (33, 63%) or 26-34 (11, 21%)
Searches per day	Most more than 10 (19, 37%)
Search experience	Most very experienced (22, 42%)
How often do you find what you need	Very often (29, 56%)
Use VRS	Yes (20, 38%), No (32, 62%)
VRS usage rate	Most occasionally (14, 27%)
Use SQA	Yes (47, 90%), No (4, 8%), No response (1, 2%)
Answered question on SQA site	Yes (17, 33%), No (30, 58%), No response (5, 10%)
Site answered question on	Most on Yahoo!Answers (9, 17%)

Successful Critical Incidents—Librarians

The 50 librarian participants were asked to describe successful VRS incidents within their area of expertise: “Remember a time when you had a difficult face-to-face or virtual reference question that required subject knowledge within your expertise that you successfully answered. Describe this interaction and why you felt it was successful.” The most commonly occurring theme centered on ability to find/retrieve useful information (n=33, 66%), as exemplified by this response:

“It was successful because I was able to answer the question with my personal background on the subject and with the databases we had in our collection. He was a business student and had to do a paper on merger and acquisition activities, and I knew we had an M&A database, but the New York Times also published a M&A activities page, so he could get trended data back and very current information from the New York Times. I explained to him he could find a current topic of interest from New York Times and historical perspective from the database. I knew it was successful because the student told me that was exactly what he wanted. This guy was adamant that it was exactly what he wanted” (L-38).⁵⁵

Another theme that emerged was collaboration/partnership with users. Some questions were reported as more difficult because librarians did not have a specific source in mind. In these cases, it was important for librarians and users to form a partnership (n=11, 22%). As one librarian explained, “The patron appreciated that his question was difficult and it received time and attention up until he was able to walk away with an answer” (L-1). However, sometimes librarian expertise was more serendipitous, as in the incident recounted by L-16 below:

“A girl came in on VR Chat, asking about Lord of the Rings and mentioned that she wanted to learn Elvish. I happened to know that there [were] resources online and in print that I could recommend. She just sort of mentioned it in passing. When I showed an interest in helping she got very excited. She was embarrassed and I could reassure her that there were resources, it was a legitimate question, and I could help her out. I really sort of realized that there is no such thing as wasted knowledge. I know a lot about constructed languages... No matter where you learn things there is that practical application in reference work” (L-16).

The librarians with the business expertise and constructed language expertise also were able to confirm or infer that the users were satisfied or happy. More librarians described situations where users explicitly express satisfaction or thanks (n=18, 36%) as opposed to ones where they had to infer satisfaction (n=6, 12%), such as the one librarian who explained that during the chat “There were lots of happy faces, so the user seemed pleased” (L-09).

Additionally, some librarians mentioned that the critical feature in successful encounters was that finding the information was convenient, either because they were familiar with the topic or a library related system’s features or layout. Content related expertise was occasionally formal, as expressed by the business subject specialist librarian (L-38) above. Finding convenient information and having good relationships also allowed librarians to provide instruction. These types of critical incidents included the highest instances of instruction (n=21, 42%) of any of the CIT questions. As L-3 explained, “I felt like because I was familiar with the resource beforehand and show[ed] them pretty early on in the chat how to navigate and find what they were looking for. Because it took me less time to locate the information, I was able to spend more time in the teaching” (L-3).

Successful Critical Incidents—VRS/SQA Users

Only 20 (38%) of the 52 VRS and SQA users had used VRS. They were asked to “Please recall one specific virtual reference interaction that was in an area outside of your expertise that you would consider successful and describe. What in particular made this interaction successful for you?” In the critical incidents described, the most commonly cited factors of successful interactions were receiving good answers (n=8, 40%), or a book or article (n=4, 20%), and the speed the information was found (n=6, 30%). Users further explained that they received “reasonable answers” (VS-64), “more [information] than they expected” (VS-20), or clarification and explanation to information that the user had found previously. With regard to speed, VS-22 explained that his/her experience was “very successful because it’s so fast rather than searching on Google” (VS-22).

Convenience, such as late-night hours of availability for VRS, was another key factor to success. For example, one user said an interaction was successful because “it was late at night and [he/she/they were] in a bind and it was quick and convenient” (VS-66). Clarification and instruction were appreciated by a few users, but more frequently mentioned was the librarian’s attitude toward helping them learn. As one user explained, the session “was successful because [the librarian] wouldn’t stop helping [me] until [I] understood it and could reiterate it back to [the librarian]” (VS-6). Obtaining authoritative answers was the least commonly mentioned theme for users (n=1, 2%).

Librarians and users agreed that finding and retrieving relevant information was an important factor in successful VRS interactions. Convenience was an important theme, but librarians and users conceptualized it differently. Librarians tended to view convenience in terms of content, while users also viewed it in terms of library policy, such as the number of hours of service availability. Finally, both users and librarians mentioned incidents where the librarian provided instruction to the user as contributing towards, or being indicative of, success.

Unsuccessful/Difficult Critical Incidents—Librarians

Librarians then were asked to describe unsuccessful or difficult critical incidents, outside of their area of expertise: “Remember a time when you had a difficult face-to-face or virtual reference question which was outside of your area of expertise. Describe this encounter and what you did in this situation. What alternatives did you have, how did you decide to handle this question, and why?” The research team was interested in discovering what other avenues librarians would pursue in these situations.

Lack of specific content knowledge was a major theme in analysis of unsuccessful critical incidents. When describing what made the questions difficult, nearly two-thirds of the librarians (n=32, 64%) described being unfamiliar with the question’s content, most commonly medical or legal questions (n=5, 10%), exemplified by L-20’s response:

“[A] student had an invention and had successfully patented it. [They were] ready to pitch the invention to a company and needed information about the industry, the market, etc. I was able to give the student detailed data about the industry, companies in the industry, competing products, etc...The market information, however, required some very specific statistics from the medical/health care fields. I did a little searching, but decided that my colleagues at the Health Sciences Library would be better able to provide this information. I consulted with the director of the library, who also is an expert reference librarian, and she came through with exactly what the student needed” (L-20).

The theme of technological difficulties also emerged in difficult encounters for librarians (n=11, 22%), as also identified by VRS users, above. The librarians additionally discussed incidents where users made questions difficult to answer. If users lacked time, either because the assignment was due the next day or they were impatient, the interaction became difficult for librarians (n=10, 20%). Some librarians also cited users' unfamiliarity with libraries or resources, such as databases, as adding to the question's difficulty. One librarian described the following incident:

“[A student] came in frustrated, had been having trouble even logging in, [so] when he finally got in, he had a real sense of immediacy, [and] what he was looking for was going to require some effort on his part. He was irate and obnoxious all the way through. I brought him around. He was not very kind. It went on for so long I thought I'd lose him, but he stayed on. It's kind of challenging when the students don't even know how to use the databases and they're chatting with the librarian. They can become impatient” (L-45).

When faced with difficult questions, many librarians opted to refer the question or collaborate with another librarian. Librarians were more likely to refer or collaborate with a specific librarian (n=22, 44%) compared to a library (n=8, 16%) or other source (n=8, 16%). Technology facilitated collaboration and referring among librarians. One librarian related an incident where, “I saw that one of the librarians was on from the—graduate school, and... I had a student who was asking questions relating to that school. So it was easy to do, since she was online.” (L-19).

Unsuccessful/Difficult Critical Incidents—VRS/SQA Users

The 52 VRS/SQA users also were asked to “Please recall one specific virtual reference interaction that was in an area outside of your subject expertise that you would consider unsuccessful and describe. What in particular made this interaction unsuccessful for you?” Ten (50%) of the twenty participants that had used VRS services reported that all of their VRS sessions had been successful. Of the remaining ten users, the three most common themes in unsuccessful VRS sessions were: the user's question was not answered, they were negatively affected by time pressure, or wait times between librarian responses were too long.

Time was a factor in both absolute and relative terms. For instance, one user explained that their assignment was timed, and due to librarian unresponsiveness and possible system issues they could not get the information that they needed (VS-17). Another user admitted to “[waiting] til the last minute to...find references [for a term paper]” (VS-20), and felt that because the librarian only was referring them to one textbook they were not being attentive to the user's needs. One user described being upset when a popup appeared after the user asked the question saying that the librarian was busy and would be with the user shortly because the user thought that chat was “for fast responses, and [he/she/they] couldn't wait around the website all day” (VS-22).

Additionally, several users discussed system issues or being unable to access a particular resource. With regard to negative librarian behaviors, only one user described the librarian as dismissive when asking for a video that the user could not find, and making it seem like the user was “inconveniencing them by asking where it was.” (VS-68). Finally, one user mentioned that his/her/their lack of expertise was a factor in an unsuccessful VRS session (VS-50). When comparing the librarian and user experiences of difficult or unsuccessful VRS interactions a few factors were cited by both groups, including system related issues and time constraints, which caused the majority of problems.

Collaboration in Answering Questions—Librarians

To address the third research questions, the librarian participants were asked to: “Remember a time when you successfully sought help via collaboration with a colleague in answering a difficult reference question (either face-to-face or in VR). Describe what happened and what were the important factors that helped you decide that it was successful?” When explaining their motivations for collaborating, two main themes emerged, centering on librarians’ realizing that they lacked the knowledge to answer the question (n=25, 50%) or they felt that their colleague could give a more comprehensive answer (n=23, 46%). These motivations strongly indicate that VRS librarians form a Community of Practice (CoP) in working with each other to complete tasks and share knowledge.⁵⁶ Data analysis revealed that it was fairly common for librarians to collaborate with another librarian (n= 38, 76%) in order to give the user a more complete answer. As L-61 explained, “We kind of play off of each other so we come up with new things to try. I think it’s successful because we understand the need, the question, and trying different sources and keywords. It’s been my experience that if you bring in another reference librarian on a question, they won’t quit either” (L-61). Because librarians have defined areas of subject expertise, they indicated that it is acceptable to make a referral, even to those outside of their home institutions.

Collaboration in Answering Questions—SQA Users

Although the users interviewed were recruited because they used VRS or SQA, they were not required to have answered questions to have participated in this study. Of the 52 users interviewed, 17 (33%) had answered a question on a SQA site, with the majority contributing to Yahoo!Answers (n=9, 53%). The most often cited motive for answering questions was altruism, either practical (n=7, 41%) or emotional (n=2, 12%). Practical altruism refers to the answerer’s desire to “help the [asker] out” (VS-17) because they are certain that they know the answer (VS-22, VS-17). A few respondents also mentioned that they posted because another answerer had provided “the wrong answer” (VS68). Of the 17 users who had answered SQA questions, 5 (29%) mentioned that they felt that they had expertise in the question’s subject. In contrast, emotional altruism refers to the answerer’s desire to reassure the asker, even if no answer is given. One user explained her rationale for answering a clearly embarrassed young girl’s question about buying feminine hygiene products for the first time as: “I just thought, ‘This is so awful! This poor girl!’ and I thought just maybe she’d listen to my answer reassuring her” (VS26).

Like the librarians, some users also described that feelings of belongingness in either the SQA community (n=3, 18%) or the community inferred by the question topic (n=2, 12%) motivated them to answer questions. Some expressed the desire to “[return] the favor and [help] someone with their questions” (VS-50) and answer to “[try] to be a part of the community” (VS-32). Two of the communities inferred by question topic were aviation history buffs (V-S3) and new mothers (VS-42). In contrast to those feeling that they belonged to a community, an equal number serendipitously came upon a question that they could answer (n=4, 24%). One user described an incident where they “had been searching for an answer to a different question and the keyword that [they] had used to search for [their] question brought [them] another question” (VS-35) that they knew enough to answer. While a few (n=3, 18%) mentioned that a site incentivized answering, some users reported that this gamification (n=3, 18%) made them want to answer questions.

Discussion and Conclusion

Results from the analysis of these CIT questions found many similarities between VRS and SQA in terms of what the askers and answerers expect from the service and each other. Although a majority wanted and expected an answer to their question, they also recognized that the person answering the questions may be answering ques-

tions outside of their expertise areas. However, there were some inquiries that required more than just factual answers, also reported by another study whose findings suggested that the manner in which the answers were provided sometimes had to conform to certain socio-emotional values or expectations.⁵⁷ Reciprocity within the community also was found to be important. In VRS, librarians expected other librarians to have a collegial attitude about helping each other's users to find information, as a CoP, which an earlier analysis of the entirety of the librarian interview data concluded.⁵⁸ In SQA, the question answerers reported that they also were part of a community, although they did not discuss the idea of reciprocity between askers and answerers. This differed from another study in which participants explicitly described how those asking questions also were expected to answer questions, reward their answerers, or otherwise contribute to the community.⁵⁹

This research addressed the question, could traditional VRS learn from the SQA model to make reference services more open to wider distribution and, ultimately, to enhance quality and sustainability? Findings reported above reveal areas in which VRS could learn from the SQA model, perhaps adopting a more crowdsourced approach that leverages subject knowledge among a range of communities, including enhanced collaboration with other librarians or credentialed experts. System changes, such as pop-ups that appear in certain situations, including user login on a library website or a keyword search that does not yield any results from the catalog, can also conveniently link a user to a librarian when they would likely need one.⁶⁰ These results also resonate with findings reported by other studies that confirm the importance of convenience, content (information), as well as relational (relationship development) aspects of these encounters.⁶¹ Researchers in both VRS and SQA are working to identify best (or better) answerers and how to facilitate connections between the asker and the answerer(s). This is one area where VRS librarians can learn from SQA. VRS librarians prefer to refer users to, or to collaborate with, other librarians or subject experts that they know. However, in a time of diminishing human resources and budget constraints, SQA methods of finding experts, who may or may not be librarians, either by using a hierarchy of classifiers⁶² or algorithms that correctly identify expert answerers,⁶³ have the potential to benefit librarians who seek to enhance current services and expand their ability to give more complete and more nuanced answers. As suggested by Mathews, librarians need to think more like a startup entrepreneur and try "breakthrough, paradigm-shifting, transformative, disruptive ideas."⁶⁴ Ultimately, novel solutions, such as those explored here, must be considered more closely to meet the crucial goal of finding ways to engage users (and potential users) more fully in expanded use of all library services, to explore and embrace shifting communication and information behaviors, leisure, work, and study practices.

Notes

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