Quality of Health Answers in Social Q&A

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Background

2000  B.A. in Library & Information Science
      Seoul Women’s University, Korea

1999 -- 2001  Web Surfer in Yahoo! Korea
  • Yahoo! Directory Development
  • Search Engine Evaluation
  • User Group Interviews

2004  M.L.I.S. University of California at Los Angeles

2010  Ph.D. University of North Carolina at Chapel Hill
  • Personal Health Records (PHR) Management System Evaluation
  • Digital Library Curriculum Development
  • Social Q&A Research
Background

2010 -- present

• Assistant Professor
• School of Library & Information Studies, College of Communication & Information, Florida State University

• Research Interests:
  • Human Computer Interaction (HCI)
  • Human Information Interaction (HII)
  • Social Informatics
  • Health Informatics

• Teaching:
  • Digital Libraries (DLs)
  • Information Architecture
  • Advanced Online Searching
  • Advanced Health Informatics (Tentative)
Research Projects

• Social Informatics / Health Informatics
  • Motivations for Information Sharing in Social Media
  • Use of Social Media in Health
    • Undergraduate Students
    • Nurses
  • Disease-specific Information Needs & Use
    • Sexually Transmitted Diseases (STDs) (Sponsored by FSU)
    • Cancer
  • Quality of Health Answers in Social Q&A
    (Sponsored by First Year Assistant Professor Grant from FSU)

• Digital Libraries
  • Sonzogno Digital Library Project

• Personal Health Records Management (PHRs)
  • PHR System Evaluations
Quality of Health Answers in Social Q&A

• What is social Q&A?

• A web-based service allowing people to ask and answer one another in many different topic areas
• Free and easy to access and use
• People can benefit from the varying levels of knowledge, expertise, and experiences.

• Examples
  – Yahoo! Answers
  – AnswerBag
  – WikiAnswers
What is there to do around Wagga Wagga?

I am planning on studying abroad in Australia July-Nov in Wagga Wagga. Can anyone tell me about the town and what goes on? Any advice??

5 years ago

Best Answer - Chosen by Voters

It is the largest inland country town of NSW. Apparently Education is very good there and the town was the original town for many well known Australian sportsman. One being Mark Taylor our hero of cricket now he is a commentator. Wagga means crow so I guess there are plenty of crows there to give you an early morning wake up call. I have driven through but not found a reason to stay there. It is a typical town with plenty of shopping, botanical gardens, many sports clubs and 2 swimming pools.

5 years ago
What is the best thing to do to get your strength back after being down with a horrible flu bug?

18 hours ago - 1 week left to answer.

Answer Question

Answers (8)

Sophia
have lemon tea and green tea IS GREAT and make sure to take ur meds
Source(s): got flu last year
18 hours ago
1 person rated this as good

Lauren
Drink lots of OJ, take a multivitamin, eat healthy, and try to get some exercise.
18 hours ago
1 person rated this as good

Godsprob...
Rest, Chicken soup, Water, then exercise.
17 hours ago
1 person rated this as good
Quality of Health Answers in Social Q&A

• In the U.S., 41% of patients have consulted ratings, reviews, or comments related to health issues given by others in online news groups, websites, or blogs (Fox & Jones, 2009).
• Little is known about the quality of health information in social contexts and its influence on people’s health care decisions.

1) How good is the quality of health answers in social Q&A?

2) To what extent do librarians, nurses, and users differ in their assessments of the quality of health answers?
Quality Evaluation Criteria

• Quality of Health Information (Websites) on the Internet
  - Ambre, Guard, Perveiler, Renner, & Rippen (1997)
  - Health on the Net Foundation (HONcode) (1997)
  - Eysenbach, Powell, & Kuss (2002)

• Quality of Answers in social Q&A
  - Liu, Bian and Agichtein (2008)
  - Kim & Oh (2009)
  - Zhu, Bernhard, & Gurevych (2009)
  - Shah & Pomerantz (2010)

• Quality of Health Information/Answers in social Q&A
  - Stvilia, Mon, and Yi (2009)
# Health Answer Evaluation Criteria

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Statements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>The answer provides correct information.</td>
</tr>
<tr>
<td>Completeness</td>
<td>The answer includes everything. There is nothing to add.</td>
</tr>
<tr>
<td>Relevance</td>
<td>The answer is relevant to the question.</td>
</tr>
<tr>
<td>Objectivity</td>
<td>The answer provides objective information.</td>
</tr>
<tr>
<td>Readability</td>
<td>The answer is easily readable.</td>
</tr>
<tr>
<td>Source Credibility</td>
<td>The source of information is authoritative.</td>
</tr>
<tr>
<td>Politeness</td>
<td>The answerer is polite.</td>
</tr>
<tr>
<td>Confidence</td>
<td>The answerer is confident in the answer.</td>
</tr>
<tr>
<td>Empathy</td>
<td>The answerer expresses his or her empathy to the asker.</td>
</tr>
<tr>
<td>Efforts</td>
<td>The answerer puts effort into providing this answer.</td>
</tr>
</tbody>
</table>
Method

• Health Answers for the Evaluation
  o 400 health-related questions and associated answers from 25 Health categories, posted during April 2011 in Yahoo! Answers

  o Participants (Evaluators)
    o 40 Librarians
      o Medical Library Association
      o Ask-a-Librarian
      o Librarians in Florida and Georgia public or health science libraries
    o 40 Nurses
      o Advanced Nurse Practitioner Councils in Florida
      o Graduate students from the FSU College of Nursing
    o 40 Yahoo! Answers Users
      o Users who posted at least one health-related question during the most recent month (April, 2011).
Method

• 400 health answer evaluation with 10 criteria, scoring on a scale ranging 1 (lowest) to 5 (highest) with an option of Not Applicable.

• Online Survey Tool: SurveyApp

• Compensation
  o Librarians and Nurses: $30.00 Amazon.com Gift Card
  o Yahoo! Answers Users: $10.00 Amazon.com Gift Card

• A total of 119 participants (40 librarians, 40 nurses, and 39 users) conducted the quality evaluation of health answers and their evaluation results were compared across the groups.
Results

• Which criterion do you think is rated the highest?
• Which criterion do you think is rated the lowest?

☐ Accuracy
☐ Completeness
☐ Relevance
☐ Objectivity
☐ Source Credibility
☐ Readability
☐ Politeness
☐ Confidence
☐ Empathy
☐ Efforts
Results

- The overall ranking of quality criteria by mean ratings
  (Grand Mean = 3.16)

<table>
<thead>
<tr>
<th>Rank</th>
<th>Criteria</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Confidence</td>
<td>119</td>
<td>3.86</td>
<td>.72</td>
</tr>
<tr>
<td>2</td>
<td>Politeness</td>
<td>118</td>
<td>3.63</td>
<td>.69</td>
</tr>
<tr>
<td>3</td>
<td>Readability</td>
<td>119</td>
<td>3.63</td>
<td>.80</td>
</tr>
<tr>
<td>4</td>
<td>Relevance</td>
<td>119</td>
<td>3.58</td>
<td>.74</td>
</tr>
<tr>
<td>5</td>
<td>Empathy</td>
<td>118</td>
<td>3.15</td>
<td>.74</td>
</tr>
<tr>
<td>6</td>
<td>Objectivity</td>
<td>118</td>
<td>2.98</td>
<td>.89</td>
</tr>
<tr>
<td>7</td>
<td>Accuracy</td>
<td>119</td>
<td>2.97</td>
<td>.82</td>
</tr>
<tr>
<td>8</td>
<td>Efforts</td>
<td>118</td>
<td>2.92</td>
<td>.75</td>
</tr>
<tr>
<td>9</td>
<td>Source Credibility</td>
<td>119</td>
<td>2.46</td>
<td>1.02</td>
</tr>
<tr>
<td>10</td>
<td>Completeness</td>
<td>118</td>
<td>2.40</td>
<td>.82</td>
</tr>
</tbody>
</table>
Results

Mean Distribution of Quality Ratings across Librarians, Nurses, and Users
## Results

Mean Comparison of Quality Ratings across Librarians, Nurses, and Users (One-way ANOVA)

<table>
<thead>
<tr>
<th>Criteria</th>
<th>F</th>
<th>df</th>
<th>p-value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Accuracy</td>
<td>27.10</td>
<td>118</td>
<td>.000*</td>
</tr>
<tr>
<td>Completeness</td>
<td>29.03</td>
<td>117</td>
<td>.000*</td>
</tr>
<tr>
<td>Relevance</td>
<td>18.42</td>
<td>118</td>
<td>.000*</td>
</tr>
<tr>
<td>Objectivity</td>
<td>20.28</td>
<td>117</td>
<td>.000*</td>
</tr>
<tr>
<td>Source Credibility</td>
<td>34.79</td>
<td>118</td>
<td>.000*</td>
</tr>
<tr>
<td>Readability</td>
<td>15.81</td>
<td>118</td>
<td>.000*</td>
</tr>
<tr>
<td>Politeness</td>
<td>2.90</td>
<td>117</td>
<td>.059**</td>
</tr>
<tr>
<td>Confidence</td>
<td>3.54</td>
<td>118</td>
<td>.032*</td>
</tr>
<tr>
<td>Empathy</td>
<td>3.00</td>
<td>117</td>
<td>.054**</td>
</tr>
<tr>
<td>Efforts</td>
<td>13.08</td>
<td>117</td>
<td>.000*</td>
</tr>
</tbody>
</table>

* 95% confidence interval of the means (p < .05)
** 90% confidence interval of the means (p < .10)
Results

• Follow-up Tukey HSD Post Hoc Tests Results

  o Users rated most of the criteria significantly higher than both librarians and nurses (p < .05)

  o There were no significant differences in most of the ratings between librarians and nurses, except source credibility; nurses rated source credibility higher than librarians (p < .05)
More Results

• Quality Rating Distribution by Evaluators’ Characteristics
  o Gender
  o Age
  o Race
  o Level of Education
  o Working Experiences as Librarians & Nurses
  o Internet Experiences

• Quality Rating Distribution by Answer Characteristics
  o Answer Length (Number of Words in Answers)
  o Answer Topics
  o Presence of Source Information
    o Human Experience
    o Internet Source
Discussion

• Social nature of health answers
  o The nature of health answers differs from other kinds of health information available from health websites.
  o Health answers are dynamically created by people who are responding to others with immediate needs for health information.
• The value of socio-emotional criteria in assessing health answers
  o Confidence and politeness were the two highest rated criteria, overall.
• Experts vs. Users
  – Librarians as search experts
  – Nurses as medical experts
  – There was a gap between the two expert groups and the users in assessing the quality of health answers.
Implications

• Practical Implications
  o Educational efforts to reduce the gap between experts and users in evaluating health information should be made, helping users improve their health literacy and make better health decisions.
  o Librarians (information scientists) and medical experts would need to collaborate in order to serve their users and patients to access the quality of health information.

• Theoretical Implications
  o The quality evaluation criteria of health information on the web would need to be updated considering the social nature of information on the Web.
  o Social nature of information behaviors – both information seeking and providing – should be further explored.
Visiting CSU

• Common Areas of Research
  • Information Needs Assessment
  • Information Seeking Behaviors
  • Consumer Health Information Behaviors
  • Usability of Information Systems
  • Human Computer Interaction
  • Digital Libraries
Thank you!

• Sanghee Oh, assistant professor at Florida State University (FSU)

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