The Applicability of E-S-QUAL for Assessing the Service Quality of Libraries’ Social Media

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Libraries’ Social Media Services

Extent of Social Media Use in Libraries*

- Facebook: 85% (173)
- Twitter: 75% (155)

Users who follow Library Social Media*

- Max: 12,249
- Mean: 6,803

- Max: 1,109.5
- Mean: 1,039.3

*204 Research University Libraries (March, 2014)
Quantifiable measures
- The number of Likes/Followers,
- Interactions with them, and
- Updated postings

Evaluation of libraries' social media service quality from a user perspective in order to improve service strategies and meet user needs
Adopted Assessment Tool: E-S-QUAL

- Parasuraman, Zeithaml, & Malhotra (2005) developed the E-S-QUAL instrument.
  - Efficiency (8 items)
  - Fulfillment (7 items)
  - System availability (4 items)
  - Privacy (3 items)

- Applied to e-retail, e-banking, e-government, social commerce, services in US, UK, Greece, Turkey, Ireland, Spain, China, India, and others.
To explore the applicability of the modified E-S-QUAL instrument to assess the quality of libraries’ social media services

Research Questions

1. To what extent does the modified E-S-QUAL instrument measure the user-perceived service quality of social media in the library context?
2. To what extent do the E-S-QUAL dimensions include features of libraries’ social media services?
3. To what extent is E-S-QUAL affected by different user characteristics?
4. To what extent is E-S-QUAL able to measure the importance and performance of each statement for evaluating service quality by users?
5. To what extent is user survey on social media feasible to recruit participants?
Research Design

- **Pretest**
  - Focus group interview
  - Modification of E-S-QUAL items

- **Pilot Test**
  - User Survey: Facebook service (June, 2014)

- **Two Case Studies**
  - Facebook and Twitter services (September, 2014)
Research Framework

E-S-QUAL Dimensions

Efficiency
System availability
Fulfillment
Privacy

Perspectives

Users

Providers

Relevant Variables

Overall Service Quality

Perceived Value

Loyalty Intentions

Demographic Characteristics

Age
Gender
Education level

Selected Social Media Services

Facebook
Twitter

Survey Response Rates

Usage frequency

Social Media Usage

Facebook
Twitter

Survey Response Rates
- Online information processing
- Information services offered by libraries
- Social media as platforms

<table>
<thead>
<tr>
<th>Item</th>
<th>Modified Item</th>
<th>E-S-QUAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>EFF1</td>
<td>This service makes it easy to find library information that I need.</td>
<td>This site makes it easy to find what I need.</td>
</tr>
<tr>
<td>EFF3</td>
<td>It enables me to get to library information quickly.</td>
<td>It enables me to complete a transaction quickly.</td>
</tr>
<tr>
<td>EFF6</td>
<td>Library information at the social media site is simple to use.</td>
<td>This site is simple to use.</td>
</tr>
<tr>
<td>FUL1</td>
<td>This service delivers timely information.</td>
<td>It delivers orders when promised.</td>
</tr>
<tr>
<td>FUL4</td>
<td>It provides information that I’d like to receive.</td>
<td>It sends out the items ordered.</td>
</tr>
<tr>
<td>SYS1</td>
<td>The social media site is always available for this service.</td>
<td>This site is always available for business.</td>
</tr>
<tr>
<td>PRI1</td>
<td>The library does not share information about my behavior (browsing pages, clicking links, etc.) on its social media account with others.</td>
<td>It protects information about my Web-shopping behavior.</td>
</tr>
</tbody>
</table>
Pilot Test
User Survey

- An academic library’s Facebook service
  - Service Since June 2009 (about 5 years)
  - Updated 4-5 postings per week
  - About 1,250 Like

- To test
  - The understandability of the modified items
  - The feasibility of using Facebook to recruit participants
Advertisements
- June 25, 2014 – July 18, 2014 (3 weeks)
- 12 different Facebook pages related to the participating university such as graduate student groups (10,738)
- A Twitter account (67)
- Email to library staff members (150)

Response rates
- 88/10,955 (0.5%)
- 88/400 (13.8%)

<table>
<thead>
<tr>
<th>Total # of people</th>
<th>10,955</th>
</tr>
</thead>
<tbody>
<tr>
<td>Click the survey link</td>
<td>400 (3.7%)</td>
</tr>
<tr>
<td>Partial responses</td>
<td>262 (2.4%)</td>
</tr>
<tr>
<td>Analyzed responses for SQ</td>
<td>88 (0.8%)</td>
</tr>
</tbody>
</table>
## Findings

### Applicability 1

- **Factor Analysis: 4 Factors**

<table>
<thead>
<tr>
<th>Item</th>
<th>Mean</th>
<th>SD</th>
<th>EFA loadings (after varimax rotation)</th>
<th>Eigen values</th>
<th>% of Variance</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Efficiency</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>EFF1</td>
<td>3.39</td>
<td>1.146</td>
<td>.837</td>
<td></td>
<td>11.519</td>
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<tr>
<td>EFF2</td>
<td>3.41</td>
<td>1.263</td>
<td>.830</td>
<td></td>
<td>52.360</td>
</tr>
<tr>
<td>EFF3</td>
<td>3.36</td>
<td>1.163</td>
<td>.852</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EFF4</td>
<td>3.36</td>
<td>1.166</td>
<td>.838</td>
<td></td>
<td></td>
</tr>
<tr>
<td>EFF5</td>
<td>3.84</td>
<td>1.180</td>
<td>.432</td>
<td>.636</td>
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<td>3.77</td>
<td>1.159</td>
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<td>1.256</td>
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<td>EFF8</td>
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<tr>
<td><strong>System Availability</strong></td>
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<td></td>
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<td>SYS1</td>
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<td>.861</td>
<td>2.664</td>
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<tr>
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<td>4.16</td>
<td>1.200</td>
<td></td>
<td>.887</td>
<td>12.111</td>
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<tr>
<td>SYS3</td>
<td>4.18</td>
<td>1.167</td>
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<tr>
<td>SYS4</td>
<td>4.16</td>
<td>1.180</td>
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<tr>
<td><strong>Fulfillment</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>FUL1</td>
<td>3.86</td>
<td>1.025</td>
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<td>.650</td>
<td>1.916</td>
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<tr>
<td>FUL2</td>
<td>3.52</td>
<td>1.191</td>
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<tr>
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<td>3.41</td>
<td>1.226</td>
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<td>3.41</td>
<td>1.300</td>
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<td>4.32</td>
<td>1.095</td>
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<td>.855</td>
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<tr>
<td>FUL7</td>
<td>4.43</td>
<td>.974</td>
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<td>.854</td>
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<tr>
<td><strong>Privacy</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PRI1</td>
<td>4.16</td>
<td>1.238</td>
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<td>.632</td>
<td>1.083</td>
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<tr>
<td>PRI2</td>
<td>4.30</td>
<td>1.173</td>
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<td>.747</td>
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<tr>
<td>PRI3</td>
<td>4.07</td>
<td>1.265</td>
<td></td>
<td>.713</td>
<td></td>
</tr>
</tbody>
</table>

- **Efficiency** = the ease and speed of accessing and using the service
- **System Availability** = the correct technical functioning of the platform
- **Fulfillment** = the extent to which the service’s promise about dependable and accurate information delivery is fulfilled
- **Privacy** = the degree to which the platform is safe and protects user information
Convergent Validity
- The item loadings measured by factor analysis for each dimension of the scale are over 0.5

Discriminant Validity
- High correlation between FUL and other three dimensions, especially with EFF (0.7).

Predictive Validity
- Only EFF has significant positive relationships with three criterion variables.
- The group of all items has significant relationships with Overall Quality and Loyalty.
Findings

Gap Analysis

- Radial graph
1. Modifying statements including services and functions
2. Confusions of understanding modified statements
3. Further revisions of the statements
4. Fulfillment items ‘factor analysis
5. Available to answer the statements
6. Participants’ use of the service
7. Low response rate

- Source of Error
  - Small sample size
  - Timing of survey
  - Participants’ familiarity with social media
Conclusions

- **Values**
  - Introduce a tool to assess user-perceived service quality of social media services, which goes beyond usage statistics
  - Evaluate the modified statements in the library context
  - Test Facebook to deliver a library survey

- **Plans**
  - Further modification of statements
  - Two case studies in Fall: Facebook and Twitter
Thank you!

- Questions?