EFFECT OF WEBSITE QUALITY, ARGUMENT QUALITY, AND NEED FOR COGNITION ON INFORMATION ASSESSMENT

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UNDERSTANDING ATTITUDES

• Attitudes as Object-Evaluation Associations of Varying Strength (Fazio 2007)
  • Attitudes are a summary of prior learning with respect to the outcomes produced by a given object.
  • Our attitudes trigger a relatively thoughtless evaluation of the objects and situations we encounter.
• On-line Trust: Concepts, Evolving Themes, a Model. (Corritore 2003)
• Online Trust Defined
• Relationships between people and computers can be modeled using previous understanding of trust
  • People look for social and visual cues from websites
    • Professional Images
    • Freedom from grammatical errors
    • User Reviews
• (Lowry 2013)
• The Elaboration Likelihood Model of Persuasion (Petty and Cacioppo, 1986)
  • Individuals differences
    • Need for cognition
  • Argument Quality
    • Strong
      • “Special Chemically formulated coating eliminates nicks and cuts and prevents rusting”
    • Weak
      • “Floats in water with a minimum of rust”
PROBLEM STATEMENT

• We evaluate information using our previous attitudes and the cues that are given to us about that information.

• Unknown source credibility + unknown information = ???

• Will participants evaluate the article based on its strength or based on the cues of the source (website design)
H1: Participants will rate a well-designed website as more credible than a poorly designed website.

H2: Evaluations will favor the article that has strong supportive elements more than the article with weak supportive elements.

H3: There will be a greater difference in evaluations of the strong and weak arguments in the poorly designed condition than in the evaluations in the well-designed condition.

H4: Participants with a high need for cognition will be more critical of the article quality than participants with a low need for cognition.
MATERIALS

• Argument Quality
  • Strong
    • Data from the University of Virginia, where comprehensive exams were recently instituted, indicate that the average starting salary of graduates increased over $4000 over the two-year period in which the exams were begun.
  • Weak
    • Data from the University of Virginia show that some students favor the senior comprehensive exam policy.
MATERIALS

• Website Quality
  • Good
    • Easy navigation
    • High contrast text color
    • Well formatted images
  • Bad
    • Poor navigation menu
    • Low contrast background and text
    • Low resolution images
Our first commitment
Improving the standards of higher education

Senior Comprehensive Exams
The National Scholarship Achievement Board recently revealed the results of a five-year study conducted on the effectiveness of comprehensive exams at Duke University. The results of the study showed that since the comprehensive exam has been introduced at Duke, the grade point average of undergraduates has increased by 31%. At comparable schools without the exams, grades increased by only 8% over the same period. The prospect of a comprehensive exam clearly
BAD WEBSITE
• Scales used in final model:
  • Article Evaluation ($\alpha = 0.91$)
    • 4 questions directly after reading the article
    • “To what extent did you like the communication?”
      • 0 (not at all) to 5 (very much).
  • Need for Cognition ($\alpha = 0.94$)
    • 18 questions (9 reverse worded)
    • “I find satisfaction in deliberating hard and for long hours”
      • 0 (extremely uncharacteristic of me) to 5 (extremely characteristic of me)
  • Disposition to Trust ($\alpha = 0.97$)
    • 12 Questions
    • “I generally give people the benefit of the doubt when I first meet them.”
      • 0 (strongly disagree) to 7 (strongly agree).
PARTICIPANTS

• There were 169 total participants (mean age = 20.26, SD = 3.82, 51 men, 115 women, 3 declined to disclose gender).

• Sampled from undergraduate students from a private college in the Midwest
  • Randomly assigned to conditions.

• Some participants were offered extra credit in an undergraduate course as compensation for their time.
  • Participation in this study was not required of any individual to obtain a passing grade in any class.
PROCEDURE

• Online Survey (via link in email)
  • Low pressure
  • No time constraints
• Informed consent
• Random Assignment
  • 1 of 4 conditions

<table>
<thead>
<tr>
<th>Good Website</th>
<th>Good Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strong Argument</td>
<td>Weak Argument</td>
</tr>
<tr>
<td>Bad Website</td>
<td>Weak Argument</td>
</tr>
<tr>
<td>Weak Argument</td>
<td>Weak Argument</td>
</tr>
<tr>
<td></td>
<td>Beta</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>--------</td>
</tr>
<tr>
<td>(Constant)</td>
<td>3.348</td>
</tr>
<tr>
<td>Argument Quality</td>
<td>0.241</td>
</tr>
<tr>
<td>Website Quality</td>
<td>0.297</td>
</tr>
<tr>
<td>Need for Cognition</td>
<td>0.102</td>
</tr>
<tr>
<td>Disposition to Trust</td>
<td>0.181</td>
</tr>
<tr>
<td>Argument Quality X Website Quality</td>
<td>0.019</td>
</tr>
<tr>
<td>Argument Quality X Disposition to Trust</td>
<td>-0.013</td>
</tr>
<tr>
<td>Argument Quality X Need for Cognition</td>
<td>0.225</td>
</tr>
<tr>
<td>Website Quality X Disposition to Trust</td>
<td>-0.029</td>
</tr>
<tr>
<td>Website Quality X Need for Cognition</td>
<td>-0.025</td>
</tr>
<tr>
<td>Need for Cognition X Disposition to Trust</td>
<td>0.152</td>
</tr>
<tr>
<td>Argument Quality X Website Quality X NFC</td>
<td>-0.191</td>
</tr>
<tr>
<td>Argument Quality X Disposition to Trust X NFC</td>
<td>-0.222</td>
</tr>
</tbody>
</table>
RESULTS

• The was a three way interaction of Website Quality, Argument Quality, and Need for Cognition ($b = -.191$, SE = .077, $F(1, 156) = 6.130$, $p = .014$, $\eta^2_p = .038$)
  • High NFC & Weak Argument: Website Quality was significant ($F(1,156) = 7.37$, $p = .007$, $\eta^2_p = .045$, mean difference = .888)
  • Low NFC & Strong Argument: Website Quality was significant ($F(1,156) = 14.58$, $p < .001$, $\eta^2_p = .085$, mean difference = 1.064)
High NFC & Weak Argument: **Website Quality** was significant (F(1,156) = 7.37, p = .007, η²_p = .045, mean difference = .888)
Low NFC & Strong Argument: **Website Quality** was significant (F(1,156) = 14.58, p < .001, $\eta^2_p = .085$, mean difference = 1.064)
• There was another three way interaction between **Argument Quality**, **NFC**, and **Disposition to Trust** (\(b = -.222, \ SE = .071, \ F(1, 156) = 9.85, \ p = .002, \ \eta^2_p = .059\))
  
  • High NFC & Low Disposition to Trust: **Argument Quality** was significant \(F(1,156) = 23.67, \ p < .001, \ \eta^2_p = .132, \) mean difference = 1.402.
High NFC & Low Disposition to Trust: **Argument Quality** was significant. 
\[ F(1, 156) = 23.67, \ p < .001, \ \eta^2_p = .132, \text{ mean difference } = 1.402 \]
RESULTS

• Two way interactions
  • Need for Cognition X Argument Quality (b = .225, SE = .072, F(1, 156) = 9.77, p = .002, $\eta^2_p = .059$)
  • Need for Cognition X Disposition to Trust (b = .152 SE = .069, F(1, 156) = 4.797, p = .030, $\eta^2_p = .030$)

• Main Effects
  • There was a main effect of Website Design (b = .297, SE = .070, F(1, 156) = 17.80, p < .0001, $\eta^2_p = .102$)
  • There was a main effect of Argument Quality (b = .241, SE = .069, F(1, 156) = 12.169, p = .001, $\eta^2_p = .072$)
CONCLUSION

• All hypotheses supported
• Low NFC individuals rely more on website design when evaluating strong arguments
• High NFC individuals rely on website design when evaluating weak arguments
• Those with low disposition to trust and high NFC pay closest attention to argument quality.


