

Juggling with Information Sources, Task Type, and Information Quality

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Background



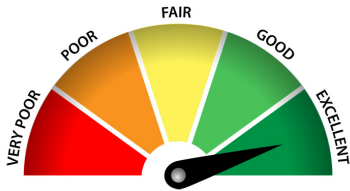
Accessibility

Physical distance
Format
Availability
...

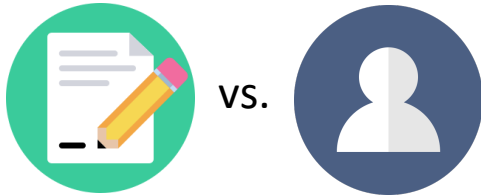
Quality

Accuracy
Adequacy
Relevance
Trustworthiness

Models of source selection & use: principle of least effort,
cost-benefit model, quality-driven model



How individuals judge the quality of information sources along four dimensions (accuracy, adequacy, relevance, and trustworthiness)?



The interaction between impersonal sources and interpersonal sources.



Source quality judgement in everyday life context, going beyond heavy information users.

Information Sources



Impersonal (nonhuman) sources: information seekers do not have any direct interaction with a person to get information (e.g., Websites, online databases, physical books).



Interpersonal (human) sources: information seekers get information from other people through a direct both-way communication, whether via face-to-face or technology-mediated interactions.



53 participants recruited
from Amazon's
Mechanical Turk



Four information
seeking tasks



Writing about
information seeking
experiences in an
online logbook



23 semi-structured follow-up
interviews via GoToMeeting

30
Wednesday

July 2014
Day-211-154 • Week-31

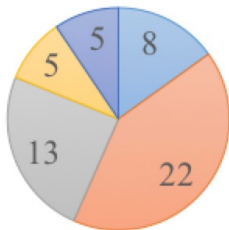
- Consulting at least three different sources
- Two-day limit
- At least one interpersonal source

Compensation: \$15 + \$10

Recruitment and Participants

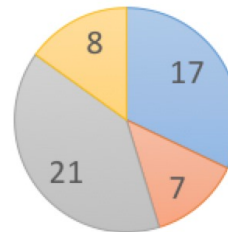
- MTurk provides access to one of the most diverse participant pools.
- All contacts and payments are mediated through the MTurk Website.
- Unfinished tasks will automatically be reopened for others to complete.
- Specific instruction was needed.
- Participation in the second phase was not guaranteed.

Age



■ 18-25 ■ 26-35 ■ 36-45
■ 46-55 ■ 55+

Education



■ High School ■ Associate
■ Bachelor ■ Graduate

- Software engineer
- Home maker
- Therapist
- Product Manager
- Full-time MTurkers

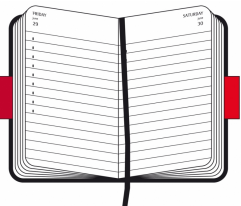


Decision making task: Suppose you are considering purchasing a hybrid car and want to compare the pros and cons of different manufacturers and models (e.g., Honda, Ford and Toyota). You also want your potential car to cost no more than \$25,000. Please find a hybrid car model that fits your budget and requirement.



Intellectual task: Suppose you are writing a report to discuss whether cell phones are safe. Please find at least five arguments to support that cell phones are safe and five arguments to oppose it.

Tasks classified by Li and Belkin's (2008) faceted classification



Sources and
methods

What they
found out

Ratings on four quality
dimensions and reasons

☀️ Three rounds of pilot tests.

☀️ Initially, participants were given five days.

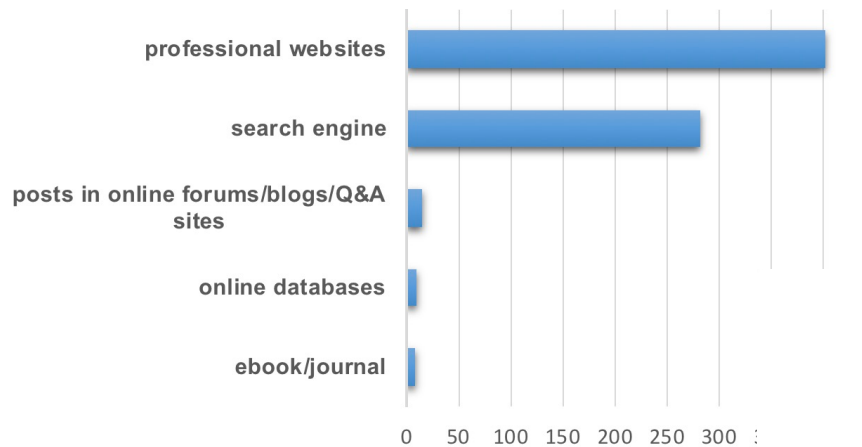
~~fast~~

☀️ Longer time limits were not useful if participants did not start the tasks right after accepting them.

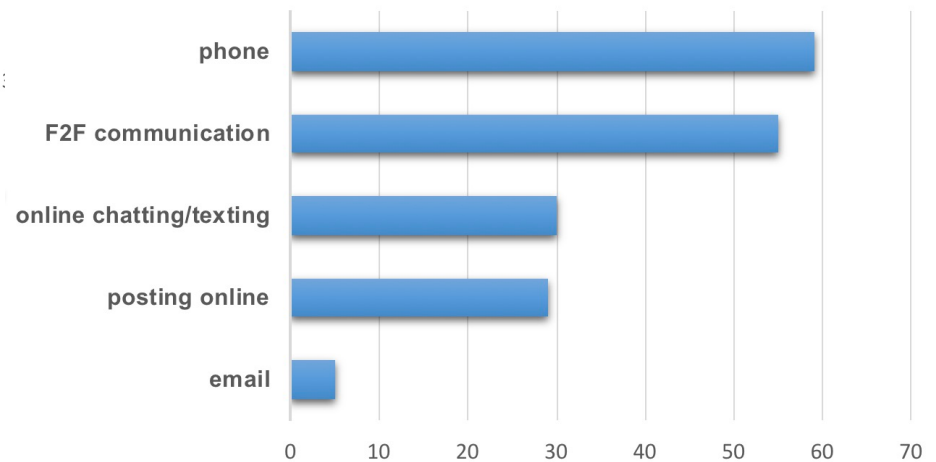


Information sources were classified into the categories by Agarwal (2011)

Impersonal Sources



Interpersonal Sources



- Ordered logistic regression: How did different information sources affect quality judgments?
- Qualitative content analysis of logbook and interview data: Why did participants make those judgments?

	Accuracy	Adequacy	Relevance	Trustworthiness
Face-to-face				
Chatting /texting				
Posting online				
Websites				
Search engines				

- Chatting/texting and posting online have negative effects on the ratings of all criteria when task type is not considered.

P51: I posted a question on a forum... There wasn't much information included with the person's answer and opinion, and the answer quickly went off topic.



P14: The online chat person wasn't really able to help me with anything. She just wanted to get my contact information and have someone follow up with me. I could have found the same information more quickly by searching the inventory myself.

- Face-to-face communication negatively affects all but trustworthiness.



P4: They (the employees at our company) mostly had Toyota Priuses so it was difficult to have a great understanding of the hybrid market and what exactly is available.

P1: This is simply anecdotal and based on his experience and earlier research. Without being able to check facts for myself, I cannot really confirm the accuracy of adequacy of the information.

- Participants tended to not trust anyone who were on the business side, though they frequently consulted salespeople.
- Trustworthiness vs. Accuracy

P50: *I never trust companies that do sales or that specializes with dealership things. It's just they are trying to sell and whenever people in companies try to sell, they can't afford to be accurate. They are going to exaggerate things and stuff like that. Automatically to me, that's just not as trustworthy.*



P06: *I trust her opinion on the matter, and believe her story. However, I think that it may be nothing more than anecdotal evidence.*

- Impersonal sources generally have higher ratings.
- Participants did not seem to be concerned about the quality of online information.

P13: I thought they (the numbers on the Website) would be accurate, 'cause I figured anyone who would be against that information would already brought up with them and made them correct it.



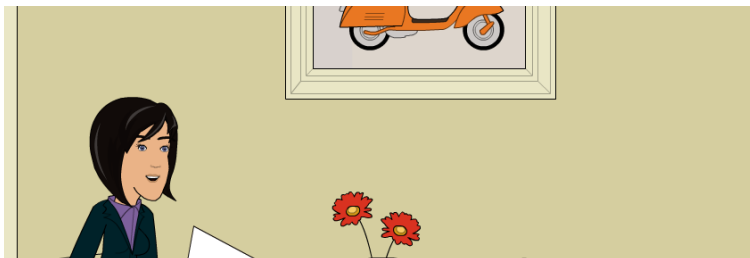
P10: I mean everything is outside verifiable. I can always Google the claim outside.

- Participants trusted Websites that cited outside sources, particularly peer-reviewed research articles.

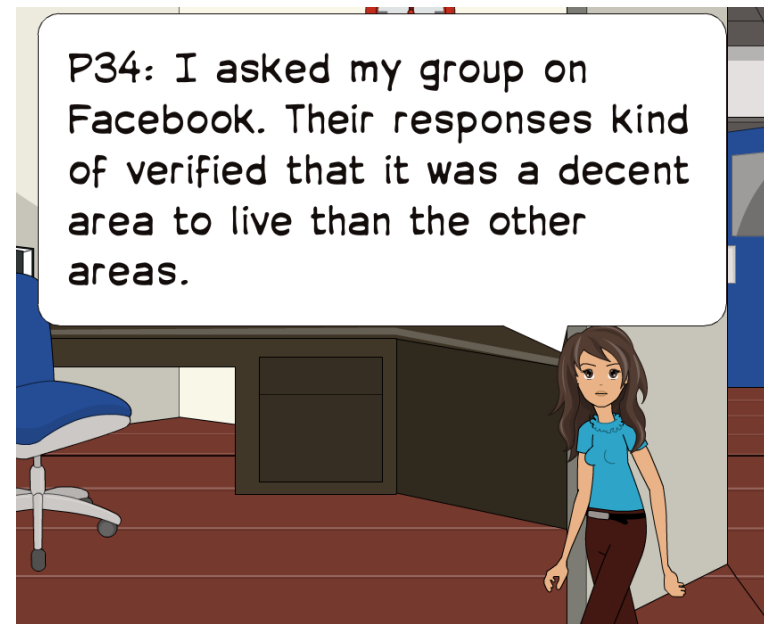
P14: It provides citations supporting each argument, with links to scholarly articles, scientific research, or legal opinions as justification – it's not just someone's opinion, but there is peer reviewed research you can use to support each argument.

P37: I noticed that the information that was on the site had a lot of outside resources cited and specifically linked to, and the resources that they had, I felt were very trustworthy.

- For intellectual tasks, participants thought other people's opinions were biased.
- For decision making tasks, participants did value the advice from other people.



P40: She only talked about the bad stuff. I generally trust my mother, but she's too biased in this situation to be a really good source, though she brings up some okay points.



- 💡 Interpersonal sources were perceived to have lower quality than impersonal sources.
- 💡 Impersonal and interpersonal sources serve different purposes in information seeking.
- 💡 Individuals were not concerned about the quality of online information, and they feel online information can be easily verified.
- 💡 Methodological implications.

- Four simulated tasks performed by the participants were related to their daily lives. This might have affected participants' information seeking behaviors in some scenarios.
- Two-day time limit prevented some participants from getting information from interpersonal sources.
- Participants were required to use at least three strategies and at least one interpersonal source, which might not reflect their real information seeking behavior.
- This study is based on participants' self-reported data, and as with other research with self-reported data, it is prone to some biases.

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Thank You

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