

Re: Hidden information question

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- *From:* shiling99@xxxxxxxxxx
 - *Date:* 26 May 2006 08:19:30 -0700
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Reef Fish wrote:

Jerry Dallal wrote:

Schizoid Man wrote:

Several coworkers would like to know their average salary.
How can they
calculate it, without disclosing their own salaries?

It's perhaps a semantic thing, but in the scheme proposed by you, and earlier by xhos. everyone disclosed their own salaries except YOU, who thinks you are smarter than the rest of them.

The proposed scheme is bogus.

If YOU can play the game of adding a random number to YOUR salary, then assuming that your are working in a think-tank that everyone can come up with the same idea, and adjust the average from his OWN fake noise (random or not is irrelevant).

That is, if EVERYONE enters $S_i + E_i$ where E_i is known only to person i , then nobody will ever know the true average salary. In order for the scheme to work, one has to make the tacit assumption that there is ONE, and ONLY ONE, smart donkey in the group, who thinks he is smarter than the rest, and the rest is indeed as dumb as he thinks by telling the truth of their salary when you think you are smart enough to fool them.

Even if everyone adds his noise as $S_i + E_i$
as long as E_i is independent of all S_i $i=1,2,3,.. n$

or more precisely,

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$$E(E|S)=0;$$

The average will be a unbiased estimate. For efficient estimate the second moment assumption may be needed.

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