

: Can computerized decision support reduce information asymmetry?

by Dan Power

Editor, DSSResources.com

In multiparty decision situations, one party often has better information than another. These situations commonly involve a purchase/sales transaction or a principal agent situation where a person acts on behalf of another and the principal attempts to monitor and control the agent. Information symmetry means all parties in a decision situation have the same information. Information asymmetry involves decisions in transactions where one party has more or better information. Providing complete information symmetry or what has been called "transparency" is probably impossible, but the goal is often to strive for transparency and information symmetry. Supposedly with the same information, the decisions of the parties will be better.

Often decision making occurs in a social context. Multiparty competitive decisions and collaborative or bargaining decisions commonly involve intentional information asymmetry. In competitive decision situations, traditional game theory can help understand the desire for asymmetry. In collaborative or bargaining decision situations negotiation theory helps us understand the challenges. In multiparty situations, participants may frame or define the problem(s) differently, share or withhold information to gain advantage, and have different preferences. Some argue these situations are an "opportunity to jointly create greater value and reach a win-win solution." The acronym FOTE prescribes an approach for reaching this objective. FOTE stands for "Full, Open, Truthful Exchange" or "Full Open and Transparent Exchange" (cf., Raiffa). Potentially computerized support can assist in a full, open and transparent exchange of information.

Information asymmetry is a condition in which at least some relevant information is known to some but not all parties involved in a transaction. In many situations, reporting and disclosure rules exist and are needed because of information asymmetry, e.g. collective bargaining, financial transactions. Asymmetric information creates a difficult situation for one or more parties. The problem is harmful when one party has different information and/or better information than another. Deceit, obfuscation and misdirection are all part of the problem. A common example involves selling a car, the owner is likely to have full knowledge about its service history and its likelihood of breaking down. The potential buyer will have less information and may not be able to trust the car salesman. This explains why CARFAX (<http://www.carfax.com/>) was created and has been successful. The website asserts "Don't run the risk of buying a used car with costly hidden problems. Get a detailed vehicle history report from our nationwide database within seconds."

The CARFAX website provides some details on the company and its service. "CARFAX started with a vision - to be the leading source of vehicle history information for buyers and sellers of used cars.

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URL: <http://dssresources.com/faq/index.php?action=artikel&cat=&id=237&artlang=en>

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Today, CARFAX has the most comprehensive vehicle history database available in North America. Carfax.com is one of the top five websites that consumers turn to for vehicle information, and receives millions of visitors each month. In addition, thousands of auto dealers nationwide subscribe to Carfaxonline.com." Every CARFAX Report contains information that can impact a consumer's decision about a used vehicle.

According to Wikipedia, "In 1984 Carfax was founded in Columbia, Missouri by a computer expert named Ewin Barnett III working with Robert Daniel Clark, an accountant from Huntingdon, PA. Barnett was initially trying to combat odometer fraud. By working closely with the Missouri Automobile Dealers Association, in 1986 he offered the early version Carfax vehicle history report to the dealer market. These reports were developed with a database of just 10,000 records and were distributed via fax machine. By the end of 1993, Carfax obtained title information from nearly all fifty states. In December 1996, the company's website was launched to offer consumers the same vehicle history reports already available to businesses. In the fall of 1999, Carfax became a wholly owned subsidiary of R.L. Polk & Co.."

There has been some research on Negotiation Support Systems (cf., Power, 2007). Negotiations involve multiple interdependent, sequential decisions by at least 2 parties to the negotiation. Negotiation support may involve using a model-driven, data-driven, communications-driven, document-driven or a knowledge-driven DSS.

Anecdotal evidence and limited empirical research suggests that in some situations information and decision support technologies can reduce the disadvantage one party often has in a multiparty decision situation. Researchers have however devoted insufficient attention to multiparty decision making and especially to using information technology and decision support to reduce information asymmetry and assist in reframing these situations.

References

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Author: Daniel Power

Last update: 2012-04-29 07:28