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GIGO: Garbage In, Garbage Out

Where Does the Fault Lie?

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Garbage in, garbage out—or GIGO—has been with us since the early days of computing in the 1960s. In the field of computer science or information and communications technology, says Wikipedia, GIGO “refers to the fact that computers, since they operate by logical processes, will unquestioningly process unintended, even nonsensical, input data (“garbage in”) and produce undesired, often nonsensical, output (“garbage out”).”

Wikipedia goes on to explore an expansion of the term to Garbage In, Gospel Out, “a sardonic comment on the tendency to put excessive trust in ‘computerized’ data, and on the propensity for individuals to blindly accept what the computer says. Since the data entered into the computer is then processed by the computer, people who do not understand the processes in question tend to believe the data they see.”

Needless to say, this is most unfortunate. The computer is often blamed for the failings of what is really a people-and-process problem. This is particularly true when decision-support systems are concerned and the input to computer programs derives from individuals or teams rather than from streams of accounting or other data.

GIGO is also used as a pejorative by persons who seek to undermine or deride use of advanced analytical and decision-support systems. I challenge this stand; GIGO can occur regardless of the system used—Excel documents are particularly

prone to GIGO, either by accident or malicious forethought. The same can be said for any input. It is not a device problem. It is a people problem; frequently a company cultural problem.

People make decisions. Analytics help people make decisions; hopefully good ones. The difference is often the decision process; specifically how to bring people together to improve the quality of their decision making.

The six principles of Decision Quality (DQ) offer a great starting point for minimizing garbage in. By training everyone who has input to the decision process in the six principles and by developing transparency around the decision process, politics can be minimized, objectivity maintained and garbage circumvented.

There are six principles of quality decision making: appropriate frame; creative, doable alternatives; meaningful, reliable information; clear values and trade-offs; logically correct reasoning; and commitment to action. The quality of your decision making can be assessed by visualizing the six characteristics on a “spider diagram” (see page 2).

DQ is a collaborative process, particularly in areas where the company is making heavy investments in uncertain futures, such as R&D, product development and innovation. To

“On two occasions I have been asked, ‘Pray, Mr. Babbage, if you put into the machine wrong figures, will the right answers come out?’ ... I am not able rightly to apprehend the kind of confusion of ideas that could provoke such a question.”

— Charles Babbage
(1864)
*Passages from the
Life of a Philosopher*

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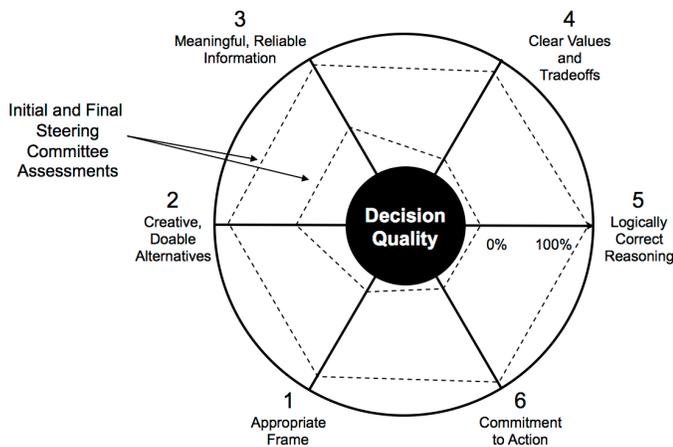


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preserve data and information integrity, key stakeholders need to be involved in producing the numbers and ranges of numbers around technical, market, cost and other factors that influence the development of quality decisions. Typically, a team might include finance, marketing, R&D, strategic planning and others with (a) domain knowledge and (b) a stake in the outcome.

To develop trust and avoid GIGO, decision support software systems for evaluation of business opportunities need to be intuitive, easy to access and provide capability for development of alternate scenarios by business users. Such systems provide sufficient analytic capability to guide decisions where there is uncertainty around factors critical to financial success, while not overwhelming users with unduly complex analytics that are not understood nor trusted by decision makers.

The challenge is to do as much as you can to assure the integrity of data input to the computer, thus avoiding garbage in and producing information that is trustworthy and actionable. You don't have to worry about garbage out if you have successfully achieved control over quality input.



Spider Diagram. How good are your decisions? The spider diagram enables you to assess the quality of your decisions. Pick a recent decision and place a dot that represents 0% to 100% along the line. Connect the dots to reveal strengths and areas for improvement. [Learn more about DQ.](#)

Meet Us at Upcoming Events

BEI: Back End of Innovation

BEI unites cross-industry leaders sharing challenges, lessons learned and best practices on commercializing new ideas and profitably executing your go to market innovation strategy.

David Matheson, SmartOrg CEO, will participate in two workshops: “Solving Your Million Dollar Problem” and “Work It: Keynote Translation and Application”.

Use code **BEI15SMARTORG** to save 20%.

21-23 October 2015 | San Jose, CA | [More information](#)

New Product Innovation & Development 2016 A Frost & Sullivan Executive MindXchange

This year’s Executive MindXchange revolves around the topic of driving revenue and accelerating growth within your organization. This event is uniquely collaborative in nature: wildly candid discussions between participants will generate ideas and insights you will not get anywhere else.

David Matheson will be leading an interactive session on Tuesday, January 12th during the Concurrent Collaboration Zones ThinkTanks. Focusing on “Improving the Odds of Winning in your Portfolio”, David will discuss how dynamic portfolio management can help your innovation projects rocket to success in the marketplace.

Use code **smartorg250** to save \$250 off registration.

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