

SEMANTICS OF SEMANTIC

The word “semantic” in computer science generally refers to the application of mathematical logic in programs or functions, while in linguistics the term is used to describe the study of meaning in language.

“By attempting to rigidly classify ethereal concepts..., we end up debating semantics to the point where we entirely miss the obvious.”

— Dan Brown

Da Vinci Code Q & A.

Computer scientists apply the work of linguistics through the universal language of mathematics, particularly in the specialized field of natural language processing, which deals with the convergence of these two disciplines.

The meaning of the word semantics in broader society involves such a variety of contextual intent that it can obscure or misrepresent the underlying science and technology, which can then damage the integrity of the term and slow the adoption process of essential innovation. This is particularly problematic when overly promoted by evangelists to highly informed knowledge workers and their organizations.^{1 2 3}

In one commonly observed example, the misuse of the word “semantic” is interchangeable with “academic” as a synonym for “meaningless”, which is directly opposite of the formal definition, highlighting just one point of confusion related to broader adoption.

DEFINING SEMANTIC ENTERPRISE

The word “enterprise” is defined by Merriam Webster as a “project or undertaking that is especially difficult, complicated, or risky”; the “readiness to engage” in such action; and/or “a unit of economic organization or entity”.

“The prudent see only the difficulties, the bold on the advantages, of a great enterprise; the hero sees both; diminishes the former and makes the latter preponderate, and so conquers.”

— Johann Kaspar Lavater
(1741-1801)

Within the information technology cluster the word “enterprise” generally refers to systems, architecture, process, and functionality of the economic unit or organization.

The broad definition of semantic enterprise would approximate the study of the meanings within the economic unit. In computer science, the definition would be more specific, perhaps: the mathematical logic found in programs or functions representing the meanings within the organization.

1 [Hype Cycle Indicator](#) from Gartner.

2 The Standard: The tech industry's most baffling [buzzwords: A brief guide](#).

3 Pingdom: Current trends for [Web terminology and buzzwords](#).

“One of my philosophies is that you have to be pragmatic – if you bring dogma or religion into this thing it will go wrong.....”
— Paul Wybrow., CIO/CTO,
Vodafone

SEMANTIC PROCESS

We view the semantic enterprise as an essential means to an end, which is to increase innovation and productivity in the short term, while achieving the state of the learning organization on an ongoing basis.

The process in creating a semantic enterprise is to collect and embed essential intelligence within the normal work patterns so that higher performance levels are achieved. The rich data is then manipulated to provide coded metrics for the benefit of individuals and work groups while providing invaluable analytics that enable far more informed decision making.

PRAGMATIC CONSIDERATIONS

It matters little whether enterprise systems are labeled as BI, KM, BPI, ERP, semantic, or some other, but rather what specific functionality and value are created by the architecture.

In our view, the optimal enterprise system should return an affirmative answer to the following questions:

- ✓ Does the architectural design align the specific interests between the knowledge worker and organization?
- ✓ Is the quality and quantity of data easily manageable to achieve the desired productivity yield curve?
- ✓ Will the data gathered provide answers to your essential analytical queries?
- ✓ Does the system include precision information retrieval?
- ✓ Are performance metrics sufficiently rich and readily available at every level of the organization?
- ✓ Is the system design fully adaptable to your constantly changing environment?
- ✓ Does the architecture integrate with your pre-existing productivity and security applications?
- ✓ Is the system truly interoperable?
- ✓ Does the architecture prevent 'lock-in' that enables future vendor abuse of the relationship?
- ✓ Is the economic relationship between the vendor and client organization sustainable?

“A learning organization is an organization that facilitates the learning of all its members and continually transforms itself.”
— Pedler et al

CONCLUSION

“.....poor translation always
leads to misunderstanding
between cultures.”
— *Ted Kerasote*
Merle's Door

While the term semantic web may have been an unfortunate choice for public adoption beyond the academic culture, the fuzziness of the word semantic within broader society should not be confused by decision makers with the precision definitions required in computer science that are essential to their organization's mission.

Kyield

Understanding the Semantic Enterprise

September 2009
Author: Mark Montgomery
Phone: +1.505.629.5433
Email: markm@kyield.com
www.kyield.com

Copyright © 2009, Kyield. All rights reserved.
This document is provided for information purposes only and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission.