12th ICCRTS

"Adapting C2 to the 21st Century"

Putting the science back in C2: What do the buzzwords really mean?

C2 Concepts, Theory and Policy, Cognitive and Social Issues, C2 Metrics and Assessment

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Abstract

Current command and control (C2) terminology is laden with buzzwords that may, or may not, be useful to helping advance the science of C2 (e.g., effects-based operations (EBO) or sensemaking). In theory each term was devised for a reason, however more often than not the reasons are lost and the terms are bantered about as "proof" of a good system, experiment, etc. We review some of the major terms and their history, as well as the potential evidence for their scientific integrity. Next we discuss how best to understand these terms by investigating their psychological (e.g., cognitive and social) as well as decision making roots. Finally we show how one may develop firstly experiments and then eventually systems that either test or use these terms as they were originally defined. We give examples of how we are attempting to test these ideas in the laboratory as well as how others may test them in the future. We conclude with some discussion about the usefulness of buzzwords in the C2 realm as well as ways to keep them effective exemplars of their original meanings thus helping to advance the theory as well as knowledge of C2 systems.

Outline

1) Introduction
   a. Why the buzzwords
      i. When they help
      ii. When they hurt
   b. Is there any way to test them scientifically?
2) An easy example – EBO
   a. What is EBO
      i. Historical context
      ii. Current context
   b. Cognitive / Social / Decision Making scientific foundations
   c. Can it be tested in an experiment?
   d. Real world validity?
3) A harder example – Sensemaking
   a. What is sensemaking?
   b. The psychological and decision making background
   c. Can it be tested in an experiment?
   d. Real world validity?
4) The hardest example – NCW
   a. What is NCW
   b. NCW background – Psychological/Decision Making/Computer Science
   c. Can it be tested in an experiment?
   d. Real world validity?
5) What good are the buzzwords?
   a. Are they needed?
6) The way ahead.