

Strategic Business Intelligence Framework: A Method of Analyzing Normative and Descriptive Data Signals

Jon Browning, Benjamin Coleman, Anders Freiberg, Daniel Roman, and James Schreiner

Department of Systems Engineering
United States Military Academy
West Point, NY 10996, USA

Corresponding authors' Emails: Jon.browning@usma.edu, Benjamin.coleman@usma.edu, Anders.freiberg@usma.edu, Daniel.roman@usma.edu, James.schreiner@usma.edu

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Abstract: The United States Army Corps of Engineers (USACE) is the nation's lead engineering and construction management agency. The uncertain and complex environment of legislative authorities and appropriations require forward-looking data interpretation of the strategic environment to facilitate strategic decisions. A systems thinking framework which enables analysis of normative and descriptive data inputs is required to look across Scientific, Technology, Environmental, Economic, Political, and Social (STEEPS) domains. This paper will present a USACE Strategic Business Intelligence (SBI) Framework aimed at informing enterprise leadership about weak and strong indicators which might require further monitoring, research, or action through the application of normative Group Method of Data Handling (GMDH) analytics and a structured approach to capturing descriptive, expert-based assessments through Likert-scale assessments. Economic domain indicators such as energy, construction industry capacity, and critical construction commodity costs were examined; identifying several confirming data assessments requiring immediate action, and some divergent data warranting further study.

Keywords: Systems Thinking, Strategic Business Intelligence, U.S. Army Corps of Engineers, Group Method of Data Handling