Advocating Ackoff's Interactive Planning Concepts and Principles for Software Project Management

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Abstract

This poster extends the use of Ackoff's interactive planning concepts and principles to the domain of software project management. His criticisms of traditional operational research are highlighted and applied to current algorithmic cost models and preparation methods used for software estimation. A review of selected models is provided. These are evaluated through examining their estimation performance and explanatory capability. A limited survey of independent empirical research on the estimation performance of specific models is presented. Next, an archetypal cost model is matched against the top ten software risks in order to examine its explanatory capability. The survey and comparative study together indicate that over the last two decades there has been no significant improvement in software cost estimation. Several researchers have identified reasons for the lack of progress which can be linked with criticisms of traditional operational research. We conclude by showing how Ackoff's reconceptualisation of operational research and its supporting principles could guide future directions in software project management, with reference to the general approach to developing and applying algorithmic cost models and key meta-characteristics underpinning them.