

Behavioral Economics and the Design of Systems Engineering Measures

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Abstract. The design of measures is an art and a science. Taking a systems thinking perspective in designing a measure requires considering how the measure will be used, what it means, what kind of behavior it will produce, and the results of that behavior. Treating the implementation of a measure as a move in a game can give new insights into what will happen when the measure is introduced. Measures may be ignored if it is not clear what they mean, or if there are no standards or goals for the measure. Measures that are published, evaluated and used to determine performance levels of people and groups, and which have standards, norms and goals, in turn affect behavior and are subject to gaming. It is these measures which must be analyzed for unintended, or worse yet, adverse consequences. Short of finding perfect measures, the practice of balancing measures can be used to mitigate such consequences.