The Metaphysics of Internal Controls

Abstract:

One issue that continues to plague researchers in the development of a comprehensive business ontology, concerns the specification of normative business event (sometimes referred to as tasks) models for business processes. Business processes are aggregations of business events. These business events also map to state changes within these business processes. The PCAOB's Auditing Statement 5 indicate two types of review for these business event models. First, are the models designed appropriately, and second are they operating as designed. These two types of reviews are the basis for evaluating an organization's system of internal controls. Thus, a quality internal control system will result not only in an adequate design of the business event models, but will also ensure the proper functioning of the business events. There is also a requirement that sufficient information is available to evaluate the functioning of these models. Despite this relatively straightforward conceptual foundation for a system of internal controls, to date there are still only descriptions of sufficient results as opposed to necessary conditions for a quality internal control system. These sufficient results are not strictly of internal controls, but instead concern the quality of financial statements created from the corporate information system. This results in the evaluation of internal controls as a subjective review which may not be consistent from one reviewer to the next. The purpose of this paper is to integrate representations of internal controls with the REA Ontology. This includes a set of internal control axioms which are then mapped to integers using Gödel numbering.

Keywords: Internal Controls, Metaphysics, State Changes, Gödel Numbering