

A Framework for Relating Business Constraints to Information Systems

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Abstract. Many previous attempts at classifying business rules rely on over-simplistic frameworks that conflate business concerns with technical features. Such frameworks hamper traceability between information systems and business needs and can lead to paradoxes that are difficult to reconcile. This paper offers an alternative framework for business constraints, including those that can be embodied in information systems. We assume that such information systems are likely to be automated, but the proposed scheme does not rely on any automation. The paper uses several examples to illustrate the issues that arise with current classification frameworks and the benefits that a more realistic framework can provide.

1 Introduction

The capture, modeling, and management of business rules has been a major concern for two decades. More recently, there have also been several initiatives aimed at defining standards relating to business rules.

A persistent interest has been the desire to classify rules into a number of categories. As was shown in [1], however, a recently popular categorization scheme used in SBVR [14], classifying rules according to the modal-logic categories “alethic” and “deontic”, leads to some serious and intractable paradoxes, such as:

- the anomalies of the idea “alethic business rule”;
- being forced into the anomalous expedient called “enforcement levels”.

This scheme also contributes little help to the problem of providing traceability of business concerns, between different expressions or artifacts classifiable under it.

But it is not only this categorization scheme, as such, that leads to such paradoxes and issues. A deeper analysis shows that an over-simplistic but common assumption about information systems and their development frameworks leads to these problems. On the other hand, a more realistic and flexible approach to these matters effectively resolves these problems.

Section 2 of this paper explores a more generic approach to frameworks and their construction. In section 3 we elaborate consequently a more-flexible framework for business-constraint capture and modeling, which remedies the built-in, over-simplistic assumption inherent in traditional frameworks and causing the above problems. In section 4 we locate, within this framework, the native “levels” or domains of several