Characterizing Business Rules for Practical Information Systems

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Abstract. The recognition of business rules as an important element of modern information systems has led to various proposals for business rule categorization schemes. In particular, a recent business rule standards proposal, the OMG standard for the Semantics of Business Vocabularies and Business Rules (SBVR) distinguishes between major categories of rule using a scheme derived from modal logic, based on alethic and deontic modalities. This paper examines some of the claims made for this categorization scheme in terms of the relationship with generally accepted logical systems, and identifies a number of problem areas. It further assesses the value of this modal logic classification scheme in the development and maintenance of information systems. Planned future work will look at an alternative scheme for practical categorization of business rules.

1 Introduction

Broadly speaking, business rules help to define the way that a business intends to operate. This can include discouraging or preventing undesirable activities, eliminating or correcting bad data, and so on. (Of course, rules can also be expressed in a positive way in terms of promoting desirable activities, etc.). The importance of business rules as first-class citizens in business information models was first described in the 1990s with the pioneering work of the Business Rules Group (BRG) [9]. The basic concepts have subsequently been refined and extended and documented in detail by several authors [1, 2, 3].

More recently, there have also been several initiatives aimed at defining standards relating to business rules. Potential advantages of standardized approaches include:

- improving industry understanding of business rules, through the clear definition of common core features;
- reducing the need for proprietary tools, languages, data structures, etc. that are limited to a single vendor;
- simplifying business analysis by providing a means of identifying patterns that are regularly encountered in business scenarios;
- reducing the cost of software development by encouraging common design techniques, community software libraries, etc.;
- facilitating the accurate transfer of business logic between systems and between organizations.

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