

Business Rules Come First

Don't start an IT project until the company has written a clear set of rules about the way it does business.

By Ronald G. Ross

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Mr. Ross is offering his internationally acclaimed public seminars on Business Rules in Chicago, the week of June 25-29 through AttainingEdge (www.AttainingEdge.com). The week includes a 1-day event on Enterprise Design jointly with John Zachman and Roger Burlton, two of the world's foremost requirements experts.

Recently, we were talking to the chief software developer at a large client organization about progress on a major reengineering effort there. Our concern was whether the project team members could meet a deadline some nine months out for delivering a large-scale prototype. We'd just spent several intensive months developing a comprehensive business model, and they still had several months of system design left to complete.

This chief developer is very sharp—not one to commit to any answer lightly. For the longest while, he said nothing, lost in thought. Finally, eyeing the detailed business diagrams plastered on the walls all around, he said, “If we had already started coding, I would say we had no chance at all. But since we haven't started coding yet, I'd say the chances are pretty good.”

I had to run that by several times in my mind before I caught his meaning. “If we had already started coding, I would say we had no chance at all.”

I knew he thought that the application coding itself was going to be pretty tough. It would involve using a rules engine, a worldwide distribution network, graphical user interfaces and some significant middleware.

He was saying that if they had to resolve all the business issues while coding, they would never pull it off in time—or probably ever. However, since the

project team was tackling the tough business issues up front (including specifying the business rules), he thought they had a pretty good chance of completing the code by the target date.

In large measure, the business rule approach is simply about asking the right questions of the right people at the right times. There is only one way to honestly meet a deadline—and that's to solve the business problem *first*.

Business-Driven IT

In the early days of building business systems, the business side could essentially sit back and just let them happen. The advantages of automating were so compelling that you could do virtually no wrong. Now, for all practical purposes business and IT operate inseparably. When undertaking projects, the logical step then would be to put together seamless business/IT project teams and have them follow a business-oriented approach to developing requirements. Yet many companies are nowhere close to doing that today.

All too often, the business side still produces fuzzy, ill-focused “requirements,” and the IT side continues doing “requirements” only a notch or two above programming. How can this gap between business professionals and IT professionals in developing requirements be eliminated?

The answer is relatively straightforward. The business needs an organized approach that enables business professionals to drive the development of requirements. This approach must provide a roadmap that shows how to ask the right kinds of questions about the right things at the right times. What's needed is a business-driven approach.

In traditional development approaches, much is usually lost in the translation of up-front requirements to the actual running system. But writing a set of clear business rules improves communications between the business side and IT and provides a bridge between business analysis and system design. The business rule approach helps to close the requirements gap between the business side and the IT side.

Business Rules 101

So what's a business rule? From the business point of view, it's a directive intended to influence or guide behavior. Business rules are literally the encoded decision logic of your business processes.

In a way, everybody knows what business rules are – they're what guide your business in running its day-to-day operations. Without business rules, you'd always have to make decisions on the fly, choosing between alternatives on a case-by-case basis. Doing things that way would be *very* slow.

Rules are familiar to all of us in real life. We play games by rules, we live under a legal system based on a set of rules and we set rules for our children. Yet the idea of rules in business systems is ironically foreign to most IT professionals. Say "rules" and many IT professionals think vaguely of expert systems or artificial intelligence. There's little recognition of how central rules actually are to the basic, day-to-day operations of the business.

Not coincidentally, many business-side workers and managers have become so well indoctrinated in *procedural* views for developing requirements that thinking in terms of rules might seem foreign or abstract. Virtually every methodology is guilty in this regard, whether for business process reengineering, system development or software design.

This is unfortunate for two reasons:

- Thinking about any organized activity in terms of rules is actually very natural. For example, imagine trying to explain a game like chess, checkers, baseball or football without explaining the rules.
- Business-side workers and managers have the knowledge it takes to create good rules.

Sample Rules

Take a look at the sample rules below, and notice how every aspect of

operational control in a business system can be addressed by rules:

- **Restrictions:** A customer must not place more than three rush orders charged to its credit account.
- **Heuristics:** A customer with preferred status should have its orders filled immediately.
- **Computations:** A customer's annual order volume must be computed as total sales closed during the company's fiscal year.
- **Inference:** A customer must be considered preferred if the customer places more than five orders over \$1,000.
- **Timing:** A customer must be archived if the customer does not place any orders for 36 consecutive months.
- **Triggers:** "Send advance notice" must be executed for an order when the order is shipped.

Writing the Rules

Rules build directly on terms and facts. Terms – like *customer*, *shipment* and *invoice* – should have a precise, unambiguous definition in the business. For example, *customer* might be defined as: "An organization or individual person that has placed at least one paid order during the previous two years."

Facts are given by simple, declarative sentence patterns that connect the terms with a verb or verb phrase, such as: "Customer places order."

A "fact model" is a set of facts that describe the core knowledge produced by and/or needed to perform some business process(es). A fact model should serve as an initial blueprint for a data model, but its primary purpose is to capture and communicate knowledge in a structured form about the business, distilled from the business-side workers and managers who possess it.

Rules essentially add the sense of the words *must* or *must not* to the terms and facts, as in, "Orders on credit over \$1,000 *must not* be accepted without a credit check."

Rules should be expressed in clear, unambiguous, well-structured business English, starting with an explicit subject. Rules should have no fluff and no missing facts. Rules can be qualified, as in “A shipment must be insured if the shipment value is greater than \$500.” And rules can include timing criteria, as in “A student must be enrolled in at least two courses by the close of registration.”

Rule Independence

A business is very much like a human body. The knowledge (term and fact) structure is like the skeleton; the processes are the powerful muscles; and the rules are the nervous system providing control and coordination. All three are essential and interrelated, but separate. A basic principle of the business rules approach, as articulated by the Business Rules Manifesto (www.BusinessRulesGroup.org) is that rules are independent of processes and procedures. A fringe benefit of that “rule independence” is a huge simplification in the processes.

The result is a “thin process,” a long-standing goal of many IT professionals. By taking the rules out of the processes, you can produce processes that are relatively simple and can be changed as the need arises.

In the National Football League, if a play isn’t working for a team it will be gone from its playbook within a couple of games. The plays are essentially throwaways. Similarly, businesses need to view their own procedures as throwaways – cheap enough to discard and replace readily when the procedures no longer work well.

Throwaway procedures are a must for the business to be adaptable and competitive. This deceptively simple idea – made possible by the business rule approach – can revolutionize the way work is done and systems are designed.



About Ronald G. Ross

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Ronald G. Ross is Co-Chair of the 10th International Business Rules Forum Conference taking place in Orlando this October – www.BusinessRulesForum.com.

Mr. Ross is also Executive Editor of the *Business Rules Journal*, www.BRCommunity.com. He is Principal of Business Rule Solutions, LLC (www.BRSolutions.com). BRS provides consulting services, training, publications, *RuleSpeak*[®], and the *Proteus*[®] methodology. His popular public seminars on Business Rules are offered through AttainingEdge (www.AttainingEdge.com).

Mr. Ross is recognized as the “father of business rules.” He serves as Executive Editor of www.BRCommunity.com and its flagship publication, *Business Rules Journal*, and is the author of eight professional books, including *Business Rule Concepts* (2nd edition, 2005) and *Principles of the Business Rule Approach*, Addison-Wesley (2003).