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BUSINESS RULES, OK?



Jim Sinur, Gartner Research VP and distinguished analyst

Business rules technology is not new, so why has it recently won a seat at IT's top table? Jason Stamper reports, in Part One of a two-part investigation.

It is strange to think that the last 15 years have probably been the most dynamic ever in terms of enterprise technology developments. After all, Tim Berners-Lee only announced the birth of the World Wide Web in 1991, and the Netscape browser was not launched until 1993. Ten years ago, email was a luxury, no-one used Windows as a serious server operating system (remember Windows NT Advanced Server?), Linux was little more than a twinkle in Linus Torvalds' eye, 'mobile' phones were not truly mobile, and simultaneous company-wide ERP roll-outs were thought to be a good idea. How much has changed.

The trouble is, if you consider almost all of these fairly radical shifts in enterprise IT architectures, few of them meant the replacement of exist-

ing systems. In nearly all cases, new technologies were simply thrown into the IT melting pot. The result has been that IT architectures have become more and more complex, with even the most modern IT systems having to co-exist with legacy systems that are often older than the CIO or IT director that oversees them. At the same time, business users have been demanding more and more from the IT department.

From business re-engineering projects of the 1980s, to widescale ERP initiatives of the 1990s, IT has had to respond to demands for increased business efficiency and agility. But again, in nearly every case the new technologies have been lacking in flexibility and ease-of-use, and so have had to remain firmly under the auspices of the IT department. If a busi-

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ness person wants a change to an application, system or even one of their own business processes, then the chances are that they will need to ask the IT department to help them make that change.

Increasingly, both business leaders and the IT department themselves are trying to break this cycle by putting business change back in the hands of the business users. Business users want this because they do not have time to wait for IT to respond to the constant change requests, and even where they do, they want more control of their business processes. The IT department wants this just as much – or if it does not it should do – because tackling constant business change requests is diverting IT's attention from what should be its primary role, optimising the IT backbone.

Lagging behind

If proof were needed that IT is not keeping pace with the constant business process change requests, it comes in the form of a survey from Gartner Group of 620 CIOs, which found that 15% are 'fighting for survival', while 69% are merely 'maintaining competitiveness'. Only 16% were considered to be 'breaking away'.

To be more competitive, IT needs to hand control of business processes back to the business. It is for that reason, with pull from the business users as well as push from the IT department, that business rules engines are garnering renewed attention in enterprise IT. The technology is not new, but it solves a challenge that has become far more pressing recently.

So what are these business rules? According to independent standards body The Business Rules Group, from a business perspective, "...a business rule is a directive, intended to influence or guide business behaviour, in support of business policy that has been formulated in response to an opportunity, threat, strength, or weakness." That sounds rather broad, and intentionally so, because business rules govern almost every aspect of business today. There is a distinction here, however, between the business rule itself, which should be thought of as technology-independent, and any business rules engine or indeed broader business process management system (BPMS).

Similarly, from an IT perspective, The Business Rules Group says that



Pierre Haren, Ilog chairman and CEO

"...a business rule is a statement that defines or constrains some aspect of the business. It is intended to assert business structure, or to control or influence the behaviour of the business."

These rules come in widely-differing shapes and sizes, from the most basic to extremely complex rules, that often rely on interdependencies with many other business rules. A basic business rule often follows the format "If... / Then...". So the rule might be, "If a prospect gives me their business card, Then it is followed up by the sales team." Or "If I win a new customer, Then I automatically offer them a loyalty card."

Business rules quickly become more complicated, however: "If a salesperson beats their target three months in a row, And achieves 80%+ in customer satisfaction surveys, Then they receive a holiday for two to Paris, Unless 60%+ of their sales were discounted below list price, And they are based outside of the EMEA region."

These kinds of business rules have been used by businesses since businesses have existed. But until the evolution of business rules engine soft-

ware, they have either been enforced in a purely manual, human way (business people use their judgement to apply the rules and the exceptions to the rules), or they have been hard-coded, usually in legacy systems running Cobol, for example.

Intuitive and responsive

So if rules are not new, and are often already automated by legacy systems, why consider a business rules engine? Going back to the demand criteria discussed earlier, the trouble with legacy systems is that they lack flexibility and are not intuitive to use by business people. When a business rule changes, for instance when an insurance quotes system requires new age categories in order to set different pricing levels, the business user responsible for that change will need IT to effect the change.

A business rules engine, on the other hand, separates the logic of the business rule from its underlying implementation. But just as importantly, it displays the rules in terms that business users should be able to understand. They should clearly be able to see the "If...Then" relationships, making it far easier for them to effect business process change without having to ask the IT department. Of course, life is never quite that simple: the vendors of rules engines have made excellent progress but more work is needed on the user interfaces still.

In very basic terms, a business rules engine, then, is software that is able to enforce these business rules. As well as being more intuitive and hence possible for business people to understand, the other key advantages of a business rules engine over proprietary, hard-coded application logic are three-fold: cost, time to market, and visibility.

Quick change

The cost of paying a mainframe programmer to make legacy application logic is sure to outweigh the licensing cost of a business rules engine in the hands of a business user. Changing even a basic business rule that is hard-coded – on a mainframe, for example – may take days, depending on the resources employed to manage change requests. Changing the rule in a business rules engine can take a matter of moments, depending on the complexity of the rule and any related interdependencies that may need to be tested before the new rule can be deployed.

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Finally there is the question of visibility. With hard-coded business logic, the IT department should have a reasonable idea of what the business rules are. But they are unlikely to have the same knowledge of how the rules should look as a business person. In many cases, the hard-coded rules actually cut across numerous business processes, so even if an IT person has good contact and advice from a line-of-business manager in logistics, they may not realise that changing the rules also affects business rules within manufacturing or finance, for example.

Meaningful language

Likewise, business people have limited or even non-existent visibility of their own business rules. IT may assure them that they are implemented and working correctly, but because any reports are output in IT terms – reflecting transactions per minute, various routings of processes and possibly response times – they do not tell the business people whether the business rule is effective, or if it is in fact defective.

With the addition of monitoring, reporting and analysis to business rules engines, business people should finally be able to see whether rules have been implemented correctly, and whether they are having the desired effect. Business rules engines should report on such metrics in language that the business user understands, because they are designed to abstract the rules from the underlying technology implementation.

The result, if all goes well, is the ability to fine-tune business processes so that they maximise customer profitability, employee productivity, and so on. If a rule process proves not to be successful, it can be modified or even retired. Those that work well can be replicated into other areas or promoted over other rules.

Outstanding ROI

But what is the real-world experience of using packaged business rules engines? According to Jim Sinur, VP and distinguished analyst in Gartner Research, the evidence is not looking good, it is looking superb. “We looked at 154 projects, and based on those results we have upped our projections of ROI to greater than 15%,” he says. “In that survey, 78% saw ROI of over 15%. But just as importantly we have not seen any major blow-ups. 95% of

projects were successful, in other words meaning they got their ROI and the project was on time. More stark than that, 85% got their ROI within six months or less, and 50% within four months or less.”

But Sinur is cautious about the approach, should businesses be considering business rules engines. “Enterprises need to be careful which rules they are going to focus on,” he says. “If you try and tackle everything at once, well that’s like standing on jello.” Sinur recommends doing what he calls a ‘rules volatility analysis’. This is designed to establish which business rules remain more-or-less constant, and which change regularly. “You go through looking for the things that are volatile. This is where a rules engine can really help to restore some sense of order and prove great ROI.”

But rules engines are not new. In fact they saw great hype in the early

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1980s, around the same time that people talked about artificial intelligence (AI) and case-based reasoning. These were – if you believed the hype – going to change the world, enabling computers to think for themselves and solve even the most complex problem. As Sinur says, “Rules technology was in a trough of disillusionment from the late 1980s until around 2000. It was too difficult, too complex, and you practically needed to be a rocket scientist.

“Since then there have been two things driving rules engines, a push and a pull,” continues Sinur. “Business people have needed to change things faster and there is a push from technology to make things easier so they perform well and play well with other technologies. Rules engines help to do that.”

According to Sinur, in many cases it is actually the business that is driving the move towards business rules engines. “Business users have been able to justify these projects based on real business benefits, such as agility, the ability to deal with legal and regulatory compliance, and even using fewer people in production. They

realised that when they need to make a change, they need to do it faster than they used to.”

“Business people buy what you might call soft benefits more than IT people,” says Sinur. “Business people see the value in rules engines, and only later go back and prove to management that it has saved money. They are more willing to roll the dice.”

According to Sinur, there are 123 companies in business process management, many of whom have their own business rules engine. The market is not yet large enough to sustain this many vendors, however, and he predicts a big wave of consolidation. The market will nevertheless grow, however, with total sales of around \$500m expected to double by 2007.

Market players

Most of the rules engines companies could not exactly be described as industry giants, although there are some bigger names among them: players include Fair Isaac, Computer Associates, Ilog, Haley, ESI, Everest (a Pink Roccade company), Knowledge Partners and many, many more.

Recently, BEA Systems added credence to the market when it announced that it has chosen French business process management and software optimisation vendor Ilog’s business rules technology to provide key functionality for its BPM application development framework, WebLogic Workshop. IBM has incorporated rules into some of its software, yet other packaged applications vendors are considered laggards in the rules engine space. With the market expanding, and pull from business users as strong as push from IT, it may not be long before they realise the need to partner or acquire to give themselves the right tools for the job in hand.

CBR OPINION

Rules engines, according to the analysts, hold great promise for automating business rules in a more manageable, reusable and intuitive fashion than is possible with proprietary application logic. ROI is proven and impressive. But there are a number of questions that remain: if business rules are as much a business enabler as an IT project, how can business rules roll-outs be funded, managed and sponsored? What have been the experiences of companies that have used some of the latest business rules software, and do business rules engines really put power back in the hands of business users? CBR will tackle these and other questions in Part Two, next month.



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