

Partnering for Success

SAPIENS

We already have a Business Rules Management System.

Why should we consider a Business Decision Management System?

For more information please contact us at info@sapiens.com



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To deploy The Decision Model in your existing environment, you should consider a system that can handle the models ...

Large organizations typically have at least one BRMS to execute their business rules, and at least one BPMS providing process management service. Many organizations have multiple different kinds of these technologies. Why would they invest in a Business Decision Management System (BDMS)? This white paper explores the transformative capability that a BDMS such as Sapiens DECISION brings to the Enterprise, particularly those that have already invested in business rules and process technology.

Sapiens DECISION does not replace your

- *Business Rule Management System(s) (BRMS), nor your*
- *Business Process Management System(s) (BPMS)*

Sapiens DECISION empowers these technologies to achieve and exceed their promise

- *Stronger Business Governance*
- *Greater clarity in process and rules*
- *Greater quality in rules and logic*
- *Greater productivity from specification/change to production.*



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1 The Patterns of Use of Rules and Process Technology in the Enterprise

Business Rule and Business Process technologies have become ubiquitous in recent years, enabling the rapid development of application systems to meet the changing demands of the evolving business environment.

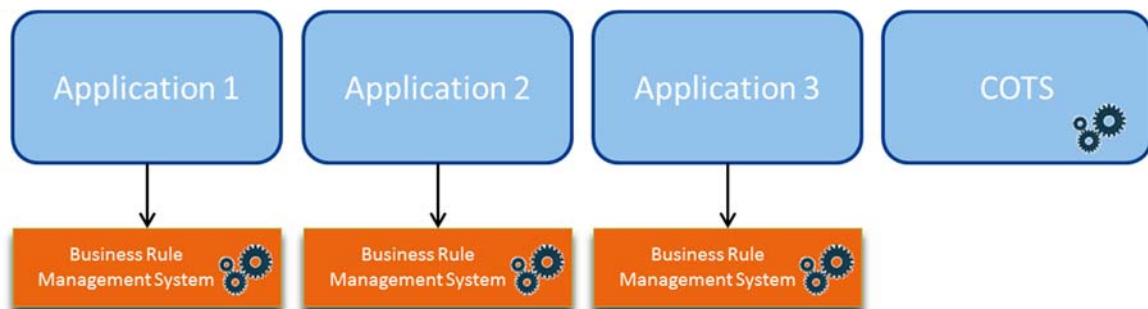
Many large organizations, particularly in complex, and highly regulated industries have at least one Business Rule Engine (BRE), or Business Rule Management System (BRMS). It is also usual to find multiple different Business Process Management System (BPMS) in these enterprises.

1.1 Business Rule Technology

The patterns of use of BRMS vary from organization to organization, but it is not unusual to see a specific BRMS acquired to develop a specific application system; over time this has led to enterprises finding themselves with several different vendors of BRMS – and some homegrown rules engines, each with competing methodologies and approaches to business rules.

In some cases, commercial off the shelf (COTS) applications contain their own, internal business rules engines for which business rules must be gathered and maintained.

Figure 1 Typical BRMS Implementations in the Enterprise



In other organizations, a BRMS is purchased with an eye to enterprise adoption, with the idea of centralizing rule services. Even in these cases it is usual to see projects from different business lines and organizational units use different instances of the same engine, not sharing common business rules, object models, or code. Frequently different

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projects will use different methodologies and coding approaches while using the same technology.

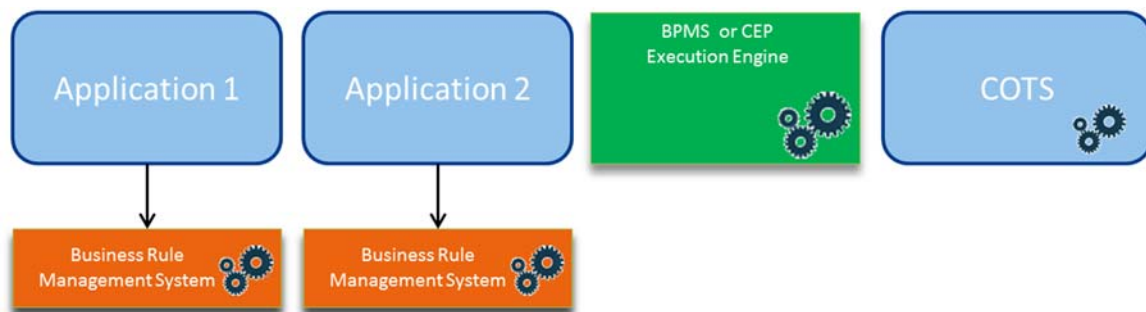
Only those enterprises with very mature rules management are able to overcome the challenges of governance and methodology across organizational boundaries that are implied by such sharing. Managing and governing at the level of business rules is a very challenging and costly undertaking.

1.2 Business Process Technology

Contrary to the business rules experience, it is more common to see a single technology and methodology across the enterprise – or across large groups of business units within the enterprise – in business process implementations. This is because the business process approach is aimed at achieving cross organizational boundary cooperation. But there is a splintering of the functionality of BPMS across various sub-categories of process modeling and management. So there may be separate document management, workflow and process tools, each of which overlaps in functionality with the other.

A common feature of each of these systems is that they have some form of built-in business rules technology, ranging from the simplest if-then statement constructs, to full blown BRMS sub-systems. While theoretically possible to integrate these systems with existing BRMS systems, the default behavior has been to use the integrated rules capabilities because of the difficulties implied in integrating different technologies.

Figure 2 Typical implementation of a BPMS



1.3 Legacy Approaches

Today, despite the widespread adoption of BRMS technology, by far the largest quantity of business rules in the enterprise still remains embedded in legacy code in which the

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expression of the business rules is purely technical – and often BRMS adoption does not improve this situation.

1.4 The Opacity of Business Rules in the BRMS/BPMS

A further difficulty in the classic BRMS/BPMS technology is that it is extremely difficult for the business to understand the logic as expressed in the technology. Typically the language is highly technical and it is very difficult for the business to match to requirements. The solution is for the project team to “expose” the rules to the business using a custom built interface for the user (but also proprietary to the BRMS product), allowing the user to review and make targeted changes to the rules. The utility of this approach is specific to limited cases. BRMS technology is essentially a technology focused tool, generally with some facility to allow business access to business rules “exposed” by IT to select audiences.

2 The Business Decision as a Solution

The evolution of these patterns of business rule and process management adoption has led to a veritable Tower of Babel in the management of business rules in the enterprise. This exacerbates rather than resolves the problems of complexity, regulation and agility. The situation arises out of two factors, being the proprietary nature of the business rules approach and related technology, and the fact that managing business rules is very difficult. The solution to these problems lies in the establishment of model of a higher order of business logic called a Business Decision.

2.1 The Proprietary Nature of the Business Rules Approach

Each BRMS vendor has its own language and its own approach to the form of business rules expression. This means that business rules implemented in one vendor’s BRMS (or BPMS) must be recoded for entry into another vendor system. Frequently the grouping, flow, or even the format of the rules has to be different from one technology to the other. This makes it difficult, or impossible, to maintain one representation across BRMS products or to migrate from one to another.

While some effort has been made in recent years for a standard form of expression of the business rule, none has been adopted by the industry.

2.2 Managing Business Rules is the Very Difficult

The failure to adopt a standard form of expression of the business rule that can be deployed across technologies could be attributed to the variety of ways in which logic

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may be expressed, the complexity of the semantics of logic. It is not here, however that the failure lies. The industry has developed a model of business semantics that can be used for the expression of business logic, “Semantics of Business Vocabulary and Rules” (SBVR). This did not give rise to transformative solutions to the problem.

2.3 Managing Business Decisions

The solution lies in the **granularity** with which the logic is managed. Given the number and complexity of business rules it is difficult, perhaps impossible, to manage single rule by single rule across the enterprise. It is also not profitable to try to group business rules by subject or type, or any form of categorization, as these soon prove to be artificial.

The solution lies in allowing the rules to be structured into a granular form that is natural to the management of the business, and, happily, is also natural to the flow of the logic of business rules. This structure is called a Business Decision.

The Decision Model is a widely accepted, normalized model of logic of a Business Decision, that is technology independent and also language-independent (its structure, not a procedural language, is sufficient for business understanding) – and therefore it can be used in and with any and all technologies. It represents the rules at a level of granularity that accords to how business thinks in terms of units of logic, and in a format that is easy for the business to understand. It is also devoid of any technical artifacts that are not needed for the simple representation of logic. (Technical artifacts connect to decision models but are not the subject of them, and are hidden from the view of the business user). The value of focusing on logic at the decision level is detailed in the attached paper titled “The Five Most Important Differences between The Decision Model and Business Rules Approaches.”

Object Management Group (OMG), an industry standards group, now recognize the difficulties associated with the Business Rules approach, and have initiated a process to define standards around decision models called Decision Model and Notation (DMN). This work is expected to result in a specification by the end of 2013. Barbara von Halle and Larry Goldberg, inventors of The Decision Model, are members of the consortium preparing this specification.

2.4 The Value of Business Decisions in Process

The Decision Model has a very well identified set of inputs it requires to execute the logic and a specific output; this is the ideal specification for a service interface for use by process tools. By clearly identifying the separation between the declarative logic and the

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procedural aspects of process, decision modeling theory promotes simpler process models and implementations.

Defining process logic in decision model forms improves process model implementation, as well as provides a solution to the management of the business rules underlying the processes being management in BPMS technology.

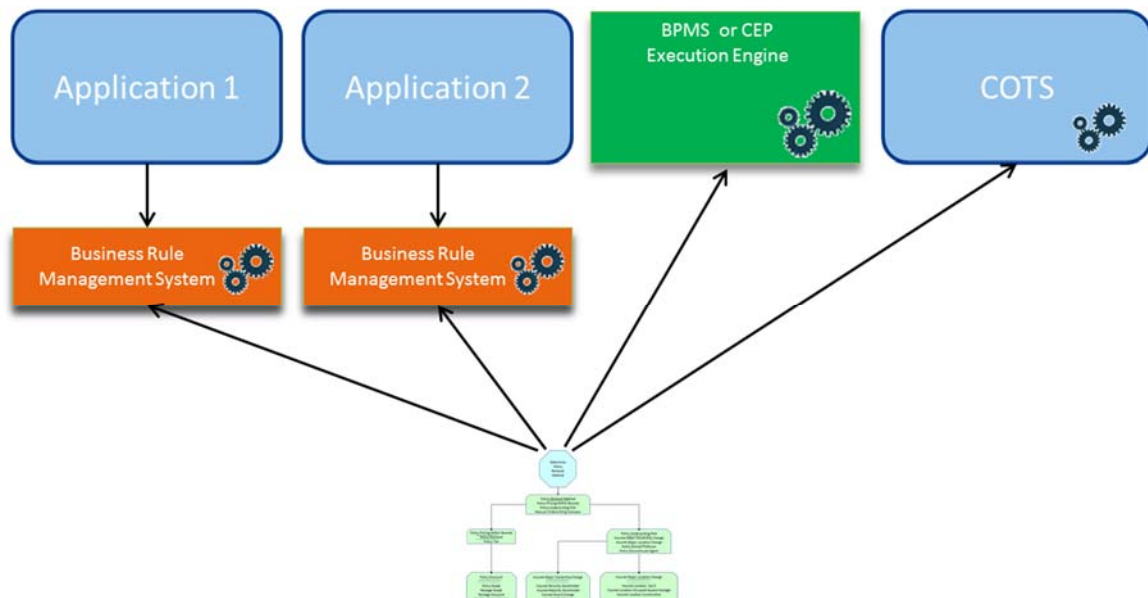
3 Implementing The Decision Model

The value that The Decision Model brings to the business can be manifold. Implemented properly it can resolve the disparate nature of the logic across the organization to provide an economic course toward enterprise management of logic. Because The Decision Model enables direct translation to most (and multiple) BRMS, BPMS and procedurally coded forms of business rules, the model can be used to manage the logic to be deployed in a wide range of technologies.

3.1 The Concept

This allows a single representation of the logic, regardless of the deployment of that logic. Referring to Figure 2 the conceptual result is shown in Figure 3

Figure 3 Demonstrating how a Single Decision Model may be used by Different Applications



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3.2 The Challenge

The idea behind the use of The Decision Model (and supporting technology) to manage and govern logic across the enterprise depends on many key capabilities. These requirements include the ability to:

- Manage an enterprise level federated glossary that can map to multiple disparate data models
- Rapidly create and model Decision Models, both graphically and in Rule Family Tabular form
- Create different customized views of the same decision model
- Compare entire decision models to each other in visual format
- Validate the Decision Models and Rule Families against the 15 decision model principles that ensure integrity of the logic
- Test the Rule Families and entire Decision Models in static and dynamic tests
- Integrate the logic assets into the development ecosystem of disparate technologies and workflow platforms
- Deploy the Decision Models to multiple different technologies i.e. convert the Decision Models and their glossaries (and mappings) to code that is directly deployable into business systems
- Provide a workflow around the modeling processes such that enterprise level governance can be enforced over the logic assets
- Integrate the logic into a business process management environment so that the process models can be simplified using The Decision Modeling methods.
- Represent complex business environments so that the business can rapidly and economically describe the logic at any level of customization
- Manage separate and reusable decision models for enforcing and changing Data Quality logic

It is these capabilities that we believe are necessary to implement Smart Systems, where business can adequately manage business logic in a real and agile fashion. These are the requirements that we set out to satisfy with Sapiens DECISION.

4 Why Sapiens DECISION

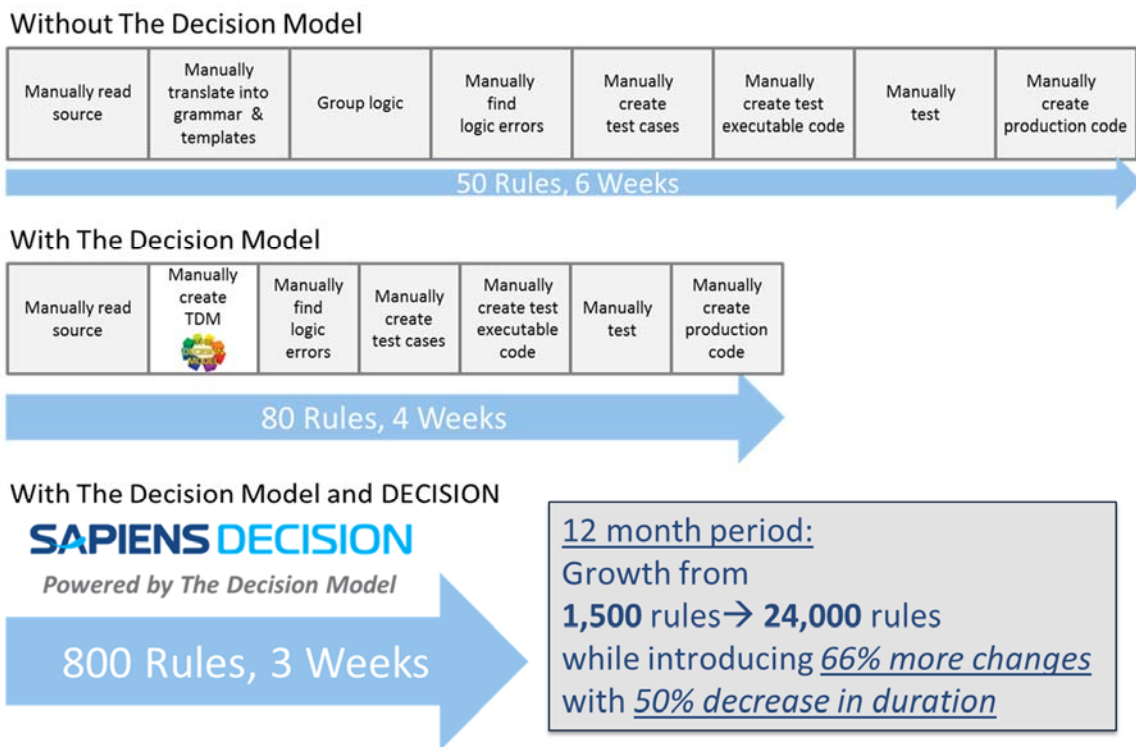
Sapiens DECISION is a Business Decision Management System (BDMS) designed to manage logic at the level of the Business Decision for enterprise management and governance, responding directly to the requirements detailed.

4.1 Productivity Improvement

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A key component of value of The Decision Model is the productivity which it fosters in the mining from code and/or the discovering and authoring of business rules in building the decision logic. Sapiens DECISION significantly improves this capability, and has been shown to be able to handle very large collections of business logic. The performance, measured by a Sapiens DECISION client, of The Decision Model and Sapiens DECISION is illustrated in Figure 4.

Figure 4 Productivity Benefits of The Decision Model and Sapiens DECISION

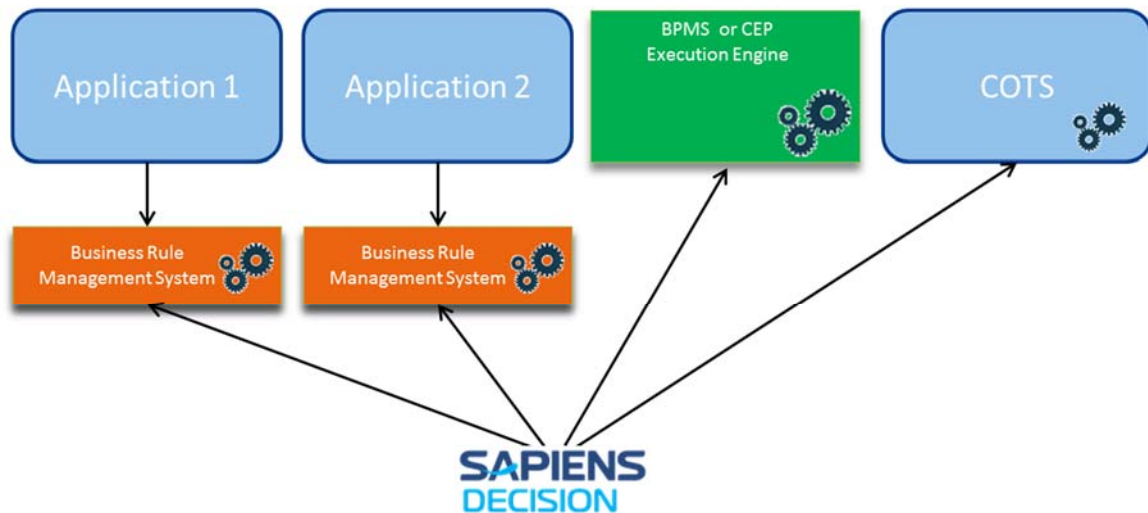


4.2 Design Once, Deploy Many

With Sapiens DECISION, the illustrative concept shown in Figure 3 can be implemented. Sapiens DECISION becomes the design and test tool, which then generates and deploys code to the BRMS and BPMS rule engines. This enables the business to manage a single source of truth, using enterprise level governance and all the productivity gains of Sapiens DECISION plus The Decision Model. This is illustrated in Figure 5.

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Figure 5 Sapiens DECISION Deploys Decision Models to Multiple Different Applications

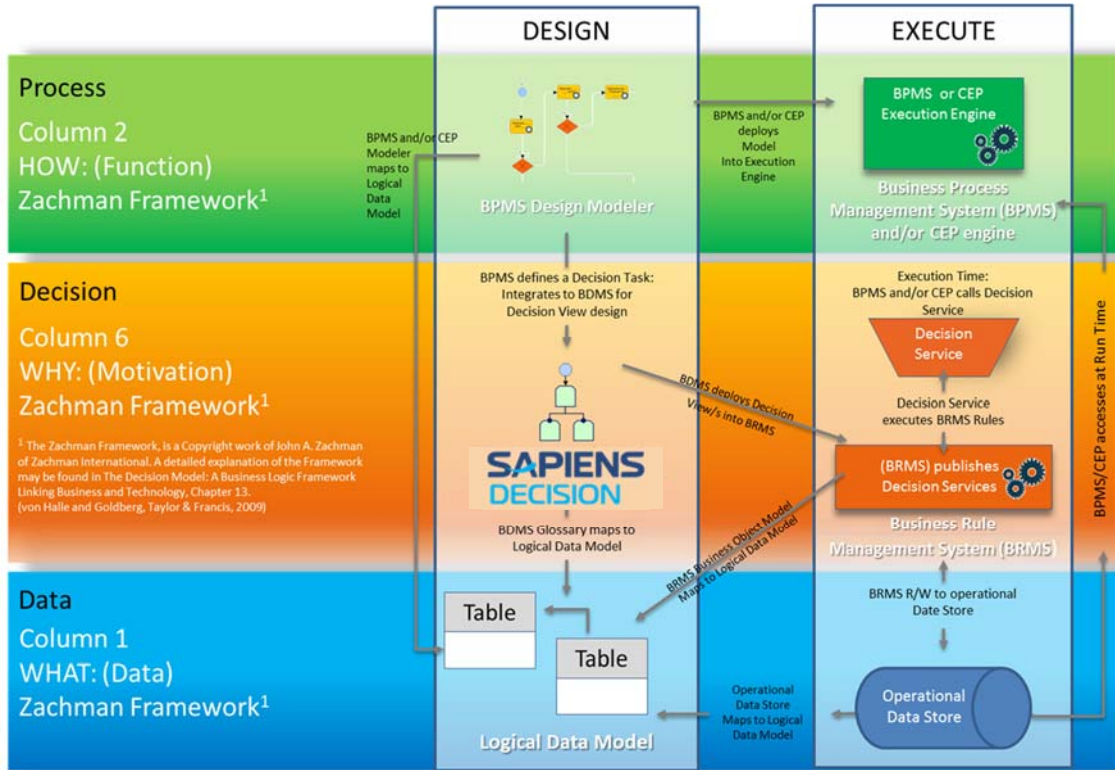


5 The Architecture for Success

While implementing Sapiens DECISION brings immediate benefit, ultimately the greatest benefit will be gained by adopting an appropriate Services Oriented Architecture (SOA) that is Decision – and Sapiens DECISION – enabled. Figure 6 is a high level depiction of this architecture, showing both the design time and the execution time technology stack.

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Figure 6 Design and Execute Time Stacks for Decision Management Enabled Architecture



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USA 395 West Passaic Street Rochelle Park, NJ 07662 Tel: +1 201-820-3500	Canada 10 Kingsbridge Garden Mississauga, ON, L5R 3K6 Tel: +1 905 507 9700	United Kingdom Perhead St., Cardiff Bay Cardiff CF10 4DQ Tel: +44 29 2044 8600/1	France 27, Avenue de l'Opera 75001, Paris Tel: + 33 1 70 38 53 21	Israel Rabin Science Park Rehovot, 76326 Tel: +972 8 938 2777
USA 4000 CentreGreen Way, Cary, NC 27513 Tel: +1 919 405 1500	Australia 111 Elizabeth Street Sydney, NSW 2000 Tel: +61 2 8222 3100	United Kingdom 1 George Street, Uxbridge, UB8 1QQ Tel: +44 1895 464 000	Belgium Schalienenhoedreef 20 B-2800 Mechelen Tel: +32-15-798800	Japan Queen's tower C 11F 2-3-5 Minatomirai, Nishi-ku Yokohama 220-6211 Tel: + 8145824777

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