

# Why Business Rules Are Critical for Retail Success

## Five strategies for building customer-centric marketing

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With customer centricity the rallying cry for today's retailers, CIOs and CTOs are called on to create the systems that support instant, highly personalized and targeted decisions across multiple channels. Key to successful customer-centric decision making is sharing consistent insights and business rules across all business functions that touch the customer.

*Business rules management systems provide the "wiring" that connects customer transactions to customer insights and actions, data to decisions. For any retailer seeking to build a framework for individualized marketing, a BRMS is the secret weapon.*

Creating this infrastructure at scale requires a business rules management system. By implementing business rules as the base platform for marketing and merchandising operations programs, technology leaders can execute five strategies for operationalizing customer centricity. This paper explains how leading retailers such as Coca-Cola and Dell are building a customer-centric infrastructure for sharper marketing.

» **INSIGHTS**» **What Makes the Bottle Cap Bounce?****CASE STUDY****Challenge**

A global leader in media and entertainment needed a better way to prepare pricing quotes for magazine advertising. Accurate quotes depended on a large number of variables.

**Solution**

FICO™ Blaze Advisor® manages the pricing process. Sales reps enter the advertiser's requirements and quickly receive a price for the ad.

**Benefits**

It takes significantly less time to quote ad placement. Business users can easily change pricing rules.

A traveler at a crowded terminal drops the red cap of his Coke down a staircase. Every busy person watching the cap bounce along sees a different treasured item bouncing away: a flat-screen TV, a guitar, an icebox filled with more drinks (Cokes, presumably). When the cap finally stops, a mob pounces on this seemingly worthless object.

Coke's clever TV ad for their MyCoke Rewards program illustrates the soft drink king's genius at customer-centric marketing. It sends a clear message: You can turn a bottle cap into the stuff of your dreams—and every individual has a different dream.

While the ad is smart, smarter still is the program Coca-Cola has created to match those millions of bottle caps and codes to individual wish lists, and create a powerful way to build brand loyalty and increase sales. The whole program rests on the MyCokeRewards.com website, powered by an engine of customer centricity that has so far collected information and built profiles on more than 5 million consumers.

The MyCoke Rewards program is one of many bar-raising examples of customer-centric marketing that have retail CEOs and CMOs saying "I want that." For CIOs and CTOs, the challenge is to discover what kind of engine powers these groundbreaking programs.

The answer, in the case of Coke and many other programs, is a business rules management system, combined with advanced analytics. While the analytics tend to be custom-developed for the project at hand, the business rules management system (or BRMS) provides consistency across projects. In other words, master business rules management and you master customer centricity.

**The CIO's Secret Weapon**

What business intelligence systems are to understanding business performance, business rules management systems are to operationalizing performance. They provide the "wiring" that connects customer transactions to customer insights and actions, data to decisions. For any retail CIO seeking to build a framework for individualized marketing, a BRMS is the secret weapon.

Business rules management systems automate decision processes while enabling business users to control policies. Such systems reduce development costs for decisioning applications and accelerate deployments.

Business rules management systems are designed to efficiently develop, execute, and maintain business decision processes in automated applications. A BRMS provides an integrated development and deployment environment for creating and maintaining decision logic, such as policies, thresholds and segmentation schemes.

A BRMS separates the logic behind business policies and practices from the mechanics involved in carrying out the actions recommended in the decisions. As such, business decisions may be shared between different business processes and workflows without requiring them to be specified and maintained in duplicate systems. Decision logic can also be more easily defined, located and maintained when the context of the surrounding business process does not affect their construction.

## » INSIGHTS

## CASE STUDY

## Challenge

One of the world's largest distributors of electronic components was struggling to effectively manage its complex, frequently changing incentive programs.

## Solution

FICO™ Blaze Advisor® rules control an incentive management application, calculating compensation fees across the supply chain.

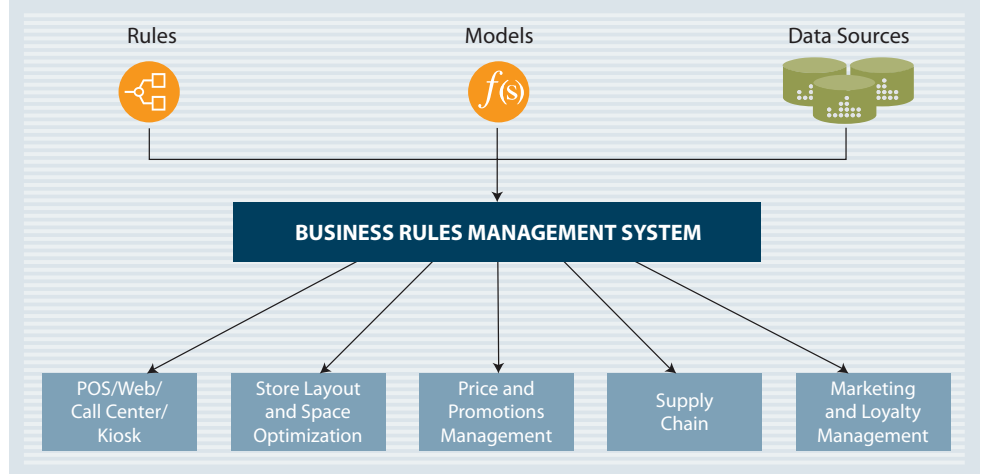
## Benefits

The solution completely automated incentive management and supports millions of applications per year—almost 2 million applications per month and tens of thousand per day.

This means that a BRMS answers some of the most pressing challenges for the technology organization:

- **Accelerate deployment of new applications and strategies.** Marketers and merchandisers must make frequent changes to their marketing campaigns and merchandising, respectively, as they study results and as new competition forces them to change tactics. In a BRMS, this is accomplished simply by changing the business rules that define segmentations, offers and actions. A BRMS provides tools to expose specific parts of business rules to non-technical users so that the rules can be added or changed in a controlled, secure and limited manner without programming or specialized training.
- **Leverage legacy systems and newer technologies.** A BRMS gives you the flexibility to maintain legacy systems while integrating newer technologies and moving toward a service-oriented architecture. That's because a BRMS doesn't replace legacy business systems. Instead, it simply replaces the most dynamic part—the decision making "brain." Rules management applications are deployable as decision services, which can be called by legacy systems whenever decisions are needed during a business process. This approach increases returns from these valuable investments and avoids the technical risk involved in trying to reprogram them to perform decisioning functions for which they were never designed.
- **Reduce development costs.** A BRMS reduces the time and cost of developing systems. Business users are able to do more of the work themselves or in conjunction with programming teams—diminishing the amount of effort and costs associated with specifications, retesting and iterative code development. And as noted above, development costs can be further reduced by renovating and extending legacy systems—giving them a new "brain" based on business rules rather than requiring development of completely new systems.
- **Implement advanced analytics.** Retail organizations are adopting more sophisticated analytics in order to develop a more complete picture of each customer and determine what action to take, what web page to load, and what offer to make to advance that customer's profitability and brand loyalty. This goes well beyond the descriptive analytics used in BI systems to measure business trends—retailers need to implement predictive analytics that make forecasts of customer behavior in order to shape a transaction that is happening in real time. A BRMS is ideal for this, as well-defined interfaces between a programmed model and the BRMS allow the calculations to take place automatically.

Figure 1: Connecting Decisions With a BRMS



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**Multiple Dimensions of Rules-Powered Personalizations**

What can business rules and predictive analytics do for your organization? Here are some of the uses retailers are finding for customer-centric applications:

- Delivering coupons at the POS based on predicted customer behavior.
- Optimizing store format and customer-segment merchandising strategies.
- Enabling the customer-centric supply chain.
- Creating multi-channel promotion plans.
- Managing loyalty points programs.
- Detecting online fraud.
- Delivering personalized product recommendations and page loads on websites.
- Determining the best pricing terms for credit.
- Allowing consumers to configure the product online.

**» Five Strategies for Building Customer Centricity****CASE STUDY****Challenge**

A cable television network needed to maximize advertising profit, despite ongoing schedule changes and unique contracts for many advertisers.

**Solution**

FICO™ Blaze Advisor® drives a scheduling system that captures the expertise of the network's best commercial schedulers.

**Benefits**

Advertiser's commercials can now be scheduled in minutes. Automatic rescheduling can be done when the program lineup changes.

A business rules management system is the most effective way to make customer centricity operational. Here are five things you can do with a BRMS to create the infrastructure for customer-focused marketing programs.

**1. Enable Collaboration to Gain Agility**

Rapid change is critical to the success of retail marketing and merchandising programs. A BRMS creates a more agile enterprise by enabling IT and business user collaboration.

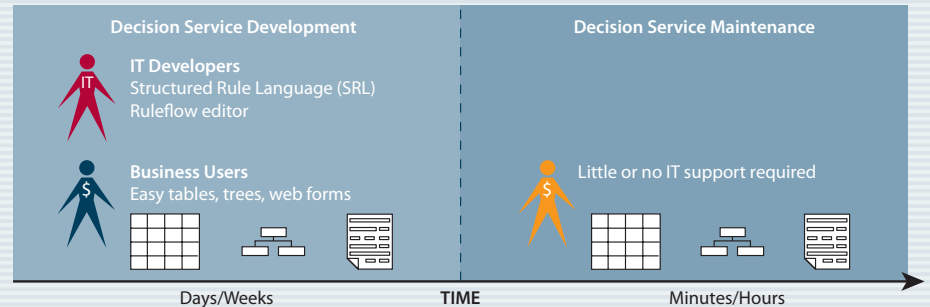
IT can develop new rules-driven applications quickly using a simple rule language, which is similar to the way business people express policies in spoken language. There's less translation involved, so there are fewer opportunities for error and no need for round after round of revision. IT can also accelerate development by providing business users with tools such as graphical trees, tables or web forms that enable them to write many of the rules themselves.

Developers no longer have to try to anticipate all requirements and conditions, since business rules can be changed easily after deployment, without disrupting the operations of the applications that use them. In fact, business users can make their own changes, every day if necessary, without IT assistance. The ease with which policies and other decisioning elements can be modified, and new ones added, provides companies with the agility to outmaneuver competitors.

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**Figure 2: Predictive Models Add Agility to Your Rules-Based Decisioning Applications**

**Predictive models can be added directly—without programming—to rules-based decisioning services**



## 2. Build Your Analytic Advantage

A BRMS focuses on the transformation of analytical model insights to value by driving day-to-day decisions; it is the enabler of repeatable, more precise customer-centric decisions in all operations.

Predictive analytics are critical to deriving deeper insights into customer behavior from data. A BRMS transfers that insight into action. It facilitates the adoption of predictive analytics by eliminating the need to program models into applications, and with it the backlog that typically occurs at IT as projects compete for your programming resources. A BRMS manages change impacts by delivering the analytical advantage seamlessly and transparently to ordinary business users, making them value-creation “super-users.”

Predictive models can be brought directly into rules management systems for incorporation into decision services. Application developers may insert analytic applications at any point of a decisioning process, combining them flexibly with strategy trees, calls to internal and external data sources and other decision elements. Business users clearly see where models are being applied and how they impact decisions, increasing control and understanding of decisioning processes.

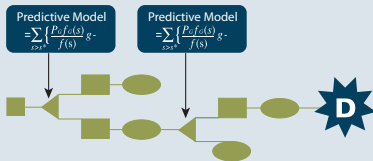
As your sophistication with analytics grows, you can use “decision models” to calculate the mathematical relationships between business objectives, actions, customer reactions, constraints and outcomes. These models, combined with optimization software, yield decision trees that can be implemented as rulesets within a BRMS.

## 3. Get Consistent

A business rules management system enables you to share rules, data and decisions across your customer touch point channels—stores/POS, online, call center, even direct mail. It enables enterprise scaling by automatically linking cross-functional dependencies in decision making, while simultaneously reducing complexity by abstracting the underlying systems.

Business rules management systems promote customer-centricity by giving various channels and systems (legacy and new) a common set of rules, accessed through a decision service. A decision service isolates the logic behind these business decisions, separating it from business

**Predictive models can be added directly—without programming—to rules-based decisioning services.**



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## CASE STUDY

## Challenge

A multi-billion dollar global retailer needed to increase traffic, basket size and category closure rates, and support an overall effort to be more customer-centric.

## Solution

A comprehensive marketing decision engine delivers precisely targeted purchase recommendations using advanced FICO analytics and FICO™ Blaze Advisor® to execute decisions.

## Benefits

Results include a 2,000% increase in the percent of customers buying in new product categories. The solution has enabled the retailer to build deeper customer relationships and increase the number of customer visits and size of baskets.

processes and the mechanical operations of procedural application code. Treating decision logic as a manageable enterprise resource in this way means you can reuse it across multiple applications in many different operational environments.

## 4. Eliminate Hang-Time

Customers demand instant decisions in a retail environment, whether online or offline. For retailers that face a trade-off between speed and precision, business rules management systems deliver both. Analytics executed in real time by a decision service maximize the speed of the transaction, lowering hand-off costs between systems and between people. This is ideal in situations where the retailer is making the sale and extending credit simultaneously, as the retailer can instantly set the most beneficial terms, increasing customer satisfaction while managing credit risk exposure. Using business rules management systems generally creates 5% to 50% improvements in decision speed, accuracy and consistency, which can lead to both qualitative and/or quantitative ROI.

## 5. Lower Your Decision Costs

A decision service can be used to provide a “brain” to your composite applications. Composite applications are an effective way to assemble existing, working functionality to serve a new business purpose. You can put together bought, built or legacy components and create new applications more quickly, at lower cost. Development time is generally reduced by a factor of 4–10, with resulting cost savings of 25% to 80%.

By automating more decisions, you can also make your marketing and merchandising systems less reliant on people for decision-making, and increase the percentage of customer interactions executed automatically, without requiring a salesperson or customer service representative. Rules-driven decisioning can automate up to 85% of many business processes, which reduces labor costs or frees up staff to focus on higher-value work.

Rules-driven decisioning enables the enterprise to sustain knowledge capital in system-maintained rules—rather than system users—to simplify training and the speed to competence.

Figure 3: Deploying Business Rules

## A BRMS can be deployed in stages:

- 1. Capture decision logic as flexible business rules.** Using a BRMS, developers create the data model, map external data objects to the model, then write the rules and rule sets (which automate a series of rules) using a Structured Rule Language (SRL). Since the SRL's syntax is very similar to the way business users express policies in written and spoken language, it leaves little opportunity for misinterpretation. Graphical rule flow editors enable developers to control the sequence with which rules and rule sets execute. The resulting decision service can be called as a service by new and legacy applications.
- 2. Empower business users to author and maintain their own rules.** Advanced rules solutions like FICO™ Blaze Advisor® business rules management system come equipped with tools (“rule set metaphors”) that make working with rules very easy. These include spreadsheet-like interfaces, scorecard tables and graphical decision trees. IT users can also rapidly create custom web forms that facilitate specific rules authoring or editing tasks. While in most cases business users will take responsibility for rules after deployment, these tools also provide the opportunity for IT users to be involved in development.
- 3. Establish an enterprise rule repository.** A shared repository enables developers in different lines of business and decisioning areas to accelerate their work by reusing rules and other decision elements. In addition, rule changes can be made once, with automatic updates to all the decisioning applications where they've been used.

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Figure 4: Operationalizing Customer Centricity

<b>Choose Which Customers to Focus On</b>	Analytics can identify not only the current high-value customers, but also the future high-value customers, as well as those prospects who are likely to respond to an offer or other action.
<b>Clear, Insightful Customer Segmentation</b>	Business rules management systems support micro-segmentation driven by predictive analytics, so that the most effective customer segmentation is applied to all decisions.
<b>Winning Value Proposition for Each Segment</b>	The use of decision models and optimization ensures that the most compelling value propositions are identified quickly, tested scientifically and deployed easily within a business rules management system.
<b>Deep Alignment Across the Enterprise</b>	A business rules management system enables retailers to align customer treatment decisions by creating an infrastructure for sharing, managing and deploying decisions across the enterprise.
<b>Define and Track Key Segment Performance Metrics</b>	Integration with reporting and performance management—combined with effective logging of actions, rules fired and analytics—ensures that the performance of segments can be tracked and measured.
<b>Process for Continuous Learning and Improvement</b>	Business rules management systems allow for “champion/challenger” testing of parallel treatment strategies.

» **Case Study: How Dell Built a “Universal Decision Engine”**

Does your company manage customer decisions using multiple systems for marketing, billing, fraud and collections, for example? This is a common scenario, and business rules management systems are ideally suited to working across these systems to deliver a holistic customer experience.

At a FICO conference, Brian Burdick, senior risk manager at Dell Financial Services (DFS), explained how Dell met this challenge by creating a “universal decision engine.” The challenge began as an assignment to make the computer company’s originations and pricing system more flexible to keep up with the company’s growth.

Since it was founded by Dell Inc. and CIT in the spring of 1997, Dell Financial Services has experienced tremendous growth. Each year since its inception, it has achieved impressive double-digit gains. Focused on loans and leases for consumer and small/medium business, DFS has a portfolio of more than \$4.5 billion, has originated more than \$18 billion in finance transactions and has expanded their customer base to more than 40 countries worldwide.

The challenge was getting its originations system to grow with it. Applications were processed by a single, custom-coded system with added custom features. Trying to get the system to adapt to their changing needs resulted in a number of problems, related to the system’s agility:

- The system was inflexible when trying to add new scoring models.
- Data was only available through extracts with no visibility using standard query tools, and there was little confidence in the accuracy of the available data.
- The business was completely reliant on IT for all changes in decisioning logic, making changes more difficult and time-consuming.



» INSIGHTS

CASE STUDY

Challenge

A large global hospitality company wanted to boost revenue through cross-promotions.

Solution

A FICO™ Blaze Advisor® cross-sell engine collects data during the reservation process, and uses rules to derive brand-specific, seasonal and destination-specific offers. Rules leverage individual historic offer responses when possible.

Benefits

Marketing initiatives are much faster and easier to deploy, update and improve, since rules are executed online and in real time.

These inefficiencies created a system that was inflexible. If the marketing team wanted to go to market with a new offer, the entire process could take six to nine months. DFS needed a system with greater agility in order to facilitate its business growth. Rather than doing a system upgrade, DFS decided to “cast the net a little wider” and take a broader look at the various decision systems and originations systems that were available. DFS chose FICO to help it complete its vision for an efficient, automated solution.

The shared vision of a new platform became the plan for the “Universal Decision Engine.” The UDE is powered by the FICO™ Blaze Advisor® system, which links systems for fraud detection, credit bureau data access and other functions.

One of the real obstacles Burdick faced was that his current system made it too hard to make changes to the pricing rules, so he couldn’t create new pricing offers fast enough. “Everything was hard-coded,” says Burdick. “So even a simple score cutoff change would require IT intervention. With Blaze Advisor, I can do it as fast as I want to, knowing that I still have the proper discipline in the form of QA test and release management. But business users are making these rule changes now. That’s the beauty of Blaze Advisor.”

Another key to the success was bringing in more sources of data to make the dynamic pricing scheme more robust. The new system pulls in the total relationship with the customer, including the promotional history, as well as the credit history from the credit bureau.

DFS reported that the system enables it to make much more precise decisions in areas such as fraud and pricing, where an advanced risk-based pricing system delivers “continuous pricing” of credit applicants. Most impressively, DFS says it can reduce the time needed for marketing to introduce a new offer from six to nine months down to less than two weeks.

Figure 5: Dell Financial Services Benefits

Precision	More precise measuring of fraud risk will allow for more automated decisioning and reduce the high number of applications that require manual review.
Consistency	Improved analytics and scoring models will ensure that customers receive consistent treatment across channels. In addition, the decision engine will make Dell’s decision logic and other functionality available to multiple product lines.
Agility	Dell can use the new system to roll out new offers in less than two weeks, rather than six to nine months. In addition, they can quickly add new scoring models.
Speed	By replacing manual reviews with automated decisions, Dell can respond quicker to customer requests.
Cost	Reducing the number of manual reviews will also drastically reduce the staff hours needed to decision applications.

DFS has realized immediate gains in its originations process, including an 11% increase in approval rates, and a 16% increase in originations. More importantly, the company has built an infrastructure for smarter customer decisions throughout the business. “I wanted marketing, originations, fraud, prescreen, account management and collections to share one brain,” Burdick says. “So it’s not disparate silos—there are common rules, a common data model and common case management in the system.”



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**Are You Buying Software or Service?**

There's no question about it: When you buy a business rules management system, you're buying software. But as with any technology investment, sometimes the critical difference is the ability of your vendor to ensure you get the most from your investment. That's especially true when you need to turn the software into a high-performance application, such as a customer-centric marketing engine.

Key traits to look for in a business rules management system vendor include:

- **Experience.** How many clients does the vendor have, and how many projects have their consultants undertaken?
- **Domain expertise.** Does the vendor understand the special requirements of the retail industry, including the need for real-time decisions?
- **Integration.** Does the vendor have experience integrating BRMS into your technical platforms? Does the vendor understand how to integrate BRMS with your analytics to execute real-time decisions powered by real-time analytics?
- **Depth of consulting staff.** Does the vendor have both technical consultants who can advise on systems integration and business consultants who can advise on best practices for creating and testing rules and strategies, and integrating rules with analytics?
- **Education.** Does the vendor have a sound process for transferring knowledge to your staff?
- **Support.** Does the vendor have its own consulting team or does it outsource?

» **Conclusion**

The insights and best practices from this white paper are based on our work with leading retailers around the world, including such top brand names as Wal-Mart, Marks & Spencer, Best Buy, Littlewoods, Target, Dell and Walgreens. And we provide the Decision Management technology behind the MyCoke Rewards program discussed at the start of this paper.

Learn more about how business rules and analytics can improve your customer centricity.

- Insights paper: ***Top Retailers Compete with True 1-to-1 Marketing***
- Case study: ***Dell Financial Services creates a Universal Decision Engine with FICO***
- Case study: ***Boosting sales and site traffic, Coca-Cola breaks ground in customer loyalty***
- Case study: ***Best Buy plugs into the power of customer centricity***
- Download a ***trial version*** of the FICO™ Blaze Advisor® business rules management system

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