

DECISION  
MANAGEMENT  
SOLUTIONS


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# Decision-Centric, Intelligent Processes

## Improving Processes With Decision Management

Organizations can use a focus on decisions to develop more intelligent processes that are consumer-centric, dynamic, flexible, transparent and adaptive.

Organizations, both commercial and governmental, are increasingly focused on their business processes. By modeling, implementing and managing business processes these organizations improve control, reduce costs and increase efficiency. The use of graphical notations and business user-friendly modeling approaches make it easier for more people to be involved and ensure that process designs reflect best practices and business intent.



Yet for all the undoubted benefits of a process approach, many of the processes being modeled and implemented are not very “intelligent.” These processes are mechanical and repetitive, often relying too much on human decision-makers. They are internally focused, driven by the organization’s own view of its transactions and structure. Relying on these processes means that too few transactions run straight through, completing without manual intervention, while many cases end up in work queues awaiting action. Customers and citizens are frustrated by these processes because they make interaction more difficult while organizations struggle to adapt these processes to cope with business change and new regulations.

Organizations need a more intelligent set of business processes—more dynamic, more transparent, more adaptive, and fundamentally more focused on the consumer.

Building more intelligent processes requires a focus on decisions as well as processes. Intelligent processes are more decision-centric, using a focus on decisions to drive intelligence into the process.

This paper will summarize the need for more intelligent processes, explain what an intelligent process looks like and demonstrate that decisions are at the heart of developing more intelligent processes.

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## The Need For Intelligent Processes

CIOs and business executives are dealing with an increasingly complex and challenging environment. Several factors in particular are driving demand for intelligent processes. Organizations, both commercial and governmental, must cope with an increasingly rapid pace of change while still delivering organizational efficiency through automation. They must meet the increasing expectations of consumers, whether those consumers are customers or citizens. An increasingly complex and rapidly changing regulatory environment makes all this more complex. There is constant pressure to maximize the value of an organization's human assets and all of this must be delivered while simplifying IT.

### Rapid pace of change

While it can seem trite to say that the pace of change is increasing, it is also true. Executives consistently say that their companies are facing a more competitive environment than previously while the pace of innovation and the amount of information available are both growing rapidly—in the case of data perhaps growing exponentially. In the face of this high and increasing pace of change, organizations find themselves faced with a challenge: use information systems to handle the volume and response times a modern business requires, or use people to provide the flexibility to respond to the developing situation in which they operate.

Today this choice is a false one—systems must be used to handle the volume and velocity of business **and** those systems must be flexible enough to survive the pace of change. Organizations must be able to automate interactions yet still respond rapidly to changes in the environment. When new fraud cases are identified, systems must be changed to apply new rules to prevent future fraud. New regulations or court rulings must be immediately enforced, whether local, national or international. Organizations that cannot respond to change fast enough will face fines and penalties, miss opportunities and ultimately be overtaken by competitors.

### Consumer expectations

Consumer expectations are both a driver of this pace of change and a challenge in their own right. Consumers (or citizens, in the public sector) are not content with the service they used to get. They want and expect an increasingly personalized or tailored experience. They expect the organizations with which they interact to know them, to deliver customer-centric and personalized offers, solutions, proposals and more. They expect self-service applications that are likewise tailored, and they are willing to drop companies and go to competitors or to complain (increasingly using social media). Organizations must find a way to meet this demand also and do so at scale.

## Increasing regulation

Most organizations are no strangers to regulations or to the need to enforce those regulations. An increasingly international regulatory environment, however, means that even operations within a single country are governed by multiple layers of regulations. Those organizations operating in multiple countries often have many different combinations of regulations to enforce. Local political units, a national government, a multinational organization such as the EU, and multiple global organizations like the World Trade Organization may all have regulations that must be understood and correctly implemented if an organization is to avoid fines and other regulatory issues. This proliferation of layers is accentuated by the simple fact that regulation is increasing: each new crisis, each new international treaty, and each new election results in more regulation. Organizations must find new ways to implement compliant business processes if they are to operate in this environment.

## Leveraging people

It is often said that people are an organization's most important asset. Because people experience the growth and operations of the organization, learn from its mistakes and successes, see what works and what does not, they act as a critical repository of business knowledge and experience.

As the baby boomers reach retirement age, organizations risk losing critical experience if they have not managed to systematize and capture it. Baby boomers, are many of the most experienced and knowledgeable of an organization's people. They are going to retire in ever greater numbers in the coming years, taking their knowledge with them.

Empowering and supporting people with specialized knowledge so that they are able to work effectively on the highest value tasks possible is essential. Capturing and maximizing the value of this knowledge helps ensure that cases are managed and complex tasks critical to success are completed in a timely fashion despite the increasingly limited availability of experienced staff.

## Simplify IT

Meeting consumer expectations, making the most of human resources, and managing an increasing pace of change as well as increased regulation are all important goals. Yet CIOs must meet these goals while simultaneously simplifying their IT portfolio. Rationalizing existing applications, reducing the number of business processes and making those applications and processes that remain easier to manage is critical.

A focus on dynamic and adaptive processes that are more consumer-centric can add value and simultaneously simplify IT if those processes are also flexible and transparent. These are what we call Intelligent Processes.

## An Intelligent Process

When organizations implement more intelligent processes they focus first on making those processes more customer-centric or citizen-centric.

An intelligent process is a dynamic, flexible and transparent process focused squarely on the consumer that continually improves and adapts.

Putting the consumer at the heart of a process is central to making it more intelligent. However interacting with consumers requires more flexibility, driving organizations to build more dynamic processes that integrate elements of case management as well as traditional business process management. In an era where compliance and governance are essential, organizations must ensure these processes are transparent. This transparency is a foundation also for the adaptive, continuous improvement that ensures the process stays intelligent in the face of change.

### Consumer-centric

An intelligent process puts the customer or citizen front and center, not the organization's own product silos or departments. Instead of being defined in terms of the organization's objectives or its forms, an intelligent process is defined in terms of outcomes that matter to a consumer. Building such processes requires an understanding of the needs of those with whom the organization interacts. Instead of building a process for each permit or form, processes are designed based on the intent of a customer or citizen.

Even those processes that are not consumer-facing are focused on the objectives of the subject of the process—the needs and desires of a supplier, for instance. Instead of simply building multiple processes for signing up a supplier as one of several supplier types, the organization builds a process focused on what the supplier sees as *their* objective.

It is fundamentally easier to do business with an organization that has customer- or citizen-centric processes. The different parties that interact with the organization can see which processes they need, matching those processes to their own objectives. The status of any process can always be described in ways that make sense to those waiting for it to complete. The end result is improved customer service and increased satisfaction.

**PinkRoccade Local Government**

PinkRoccade Local Government (PRLG) provides innovative business software products and services that support the statutory duties of local authorities in the Netherlands. PRLG has a concept it calls GaaS (Gemeente-as-a-Service or Municipality-as-a-Service). This delivers a standard solution to municipalities but gives them the freedom to differentiate their behavior. A decision-centric, case-based and citizen first approach means that each municipality can control how decisions are made, applying business rules that represent local regulations for instance and varying the degree of automation based on what is appropriate for their organization. Intelligent forms and rules-based routing maximize efficiency and flexibility while other business rules check cases for completeness and prioritize them. The system offers citizens 24x7 access to their cases as well as a high degree of self-service and engagement in the process. Despite all this sophistication in the solution, municipalities make their own changes to the business rules that underpin the system, maximizing responsiveness and minimizing costs.

*“An important condition ... was that municipalities would not be dependent on an external IT supplier for a change of this kind. Accordingly, with Blueriq municipalities can make these changes themselves without the need for external knowledge.”*

**Mat Keijers**, Business Manager at PinkRoccade Local Government

**Dynamic**

Most organizations operate in an increasingly regulated and competitive environment. Changing regulations, new company policies designed to respond to competitive pressures, and constantly evolving consumer demands make for a very dynamic environment. No matter how good a process is when first defined, if it cannot change quickly and easily then it will rapidly fall behind. Intelligent processes, then, must be agile and easy to change. When new regulations are issued or when an organization feels a policy change is called for, it must be possible to rapidly update the process and its behavior.

To be timely and cost-effective, such changes cannot require complex and expensive IT projects but must be something the business can do for itself. When business people can make changes to systems themselves they also reduce costs by eliminating the need for constant manual “fixes” to cope with out of date systems. Empowering the business to make these changes reduces maintenance costs and decreases cycle time while releasing IT resources to focus on higher value innovation projects.

## Flexible

Large organizations often have many processes that are highly repeatable and very consistent. However processes that interact with individuals, whether customers or citizens, often require more options or flexibility. A more flexible approach, often described as “case management” rather than “business process management,” is required for these processes.

Such an approach allows an intelligent process to be assembled dynamically based on the demands of the specific transaction or consumer. In particular such a process must have the flexibility to deal with consumers and citizens across multiple product lines or regions. An intelligent process therefore is layered to support variation and localization rather than imposing a “one size fits no-one” template.

This combination of dynamic assembly and flexible layering allows an intelligent process to execute straight through most of the time and present a coherent case to a human user when it cannot.

## Transparent

A more intelligent process will act automatically on behalf of the organization more often. Fewer, higher value tasks are assigned to humans and more processes run “straight through.” Even when an intelligent process requires flexible, case management like functionality, it still strives to eliminate unnecessary human interaction. Because intelligent processes do more, it is essential that they record what was done, and why, at every step.

A transparent process, one where each action taken is recorded along with the reasoning behind that action, helps ensure compliance on the part of the organization. With a clear record of what was done, by whom and why, demonstrating compliance is straightforward. At the same time a complete record of the execution helps ease governance concerns, making it easier to decide when and how to change a process. The information collected by a transparent process is also an essential element in the drive to build more adaptive processes.

## Adaptive

Intelligent processes must be dynamic, so they can be changed in response to known changes. They also need to adapt and continuously improve. Especially when the process is flexible, when there are multiple options or different ways to complete the process, it is essential that the organization can assess which approach works best in each circumstance. The transparency of an intelligent process, combined with its focus on clear customer or citizen objectives, allows the relative success of different approaches to be considered.

### **Ministry of Defence**

The Netherlands Ministry of Defence is dedicated to ensuring peace and safety worldwide. With almost 70,000 employees, it is one of the Netherlands' largest organizations. Despite many common business processes across services and departments, the Ministry had more than 3,000 applications.

As part of an overall SOA/BPM integration effort the Ministry has taken a uniform approach to integration and streamlining applications. In particular the business logic from separate applications is now managed in a single location as business rules. These business rules represent internal procedures, instructions, regulations and more. Not only are these rules shared, managed once and used in many places, but the increased transparency offered by business rules drives continuous improvement. Because it is clear which rules are being applied where and when the Ministry is able to systematically monitor and improve them.

*“Thanks to the implementation of rule management, it is now much easier to make adjustments. It also saves us a lot of manual work.”*

**Jan van Es**, Ministry's head of Information Management & Architecture

As data is gathered about the relative success or failure of a process this data can be used to improve the process. The organization's metrics or key performance indicators can be used to assess how well a process is working—a process that is working or improving will result in positive movement in the metrics.

Combined with the flexibility and transparency of an intelligent process, this allows for a continuous improvement approach over time. When *business* performance drops off, or when better performance is required, an intelligent process can both provide the information needed for analysis and support rapid, low cost changes in response.

For organizations building dynamic, flexible, adaptive and transparent processes focused squarely on the consumer, a focus on decisions as well as processes is critical.

## The Critical Role Of Decisions In Intelligent Processes

Many processes assume that all decision-making requires a human. Instead of attempting to keep a process moving when a decision is required, these processes simply stop, pushing the decision on to a work queue for someone. The result is inefficiency, overloaded workers and stop-start processing. Other processes assume that decision making is the same as processing and attempt to define the decision making as part of the process. Complex nests of branches and conditions result making it hard to change the decision-making.

In contrast, intelligent processes treat decisions as peers. Decisions may require a human but an intelligent process will automate those that can be automated. Even when a decision cannot always be automated, or cannot be completely automated, an intelligent process will load share between the automated components and the human users. By maximizing the decision-making done by the system, human users are freed to focus on more complex and higher value activities. Even when a case exceeds the ability of the system to make decisions automatically, an intelligent process continues to monitor the case and make any decisions it can make, further helping the assigned case worker.

Decision-centric, intelligent processes make decisions and help others make decisions at every stage. By identifying and managing decisions explicitly, an intelligent process increases flexibility and becomes more dynamic because it is often decisions that must change. Explicitly managing and improving decisions allows for new ways to assemble and use standard process components, making for more adaptive processes. Separate decisions, managed using business rules, are an essential component in transparency. Making micro decisions, decisions about a single transaction, earlier in processes makes processes more citizen- or consumer-centric. Only by treating decisions and processes as peers can truly intelligent processes be delivered.

### Decisions Change

Intelligent processes must be flexible and dynamic. In many processes, however, it is the decisions that must be made flexibly because it is decisions that change all the time. The decisions within a process are high change components—they change when regulations change, when policies change, when competitors change. Decisions about pricing, for instance, change far more often than any process that might include a pricing decision. By managing decisions separately from the process, and by using a flexible technology like business rules to define those decisions, an intelligent process becomes more dynamic. Separate decisions also make for more flexible processes. Deciding which steps need to be included, and which do not, as well as deciding which variant of a process is required all help make processes more flexible.



**ABN AMRO Mortgage**

ABN AMRO Hypotheken Groep (AAHG) is one of the largest specialized mortgage providers in the Netherlands with three brands covering a variety of markets. Previously each brand had its own systems, increasing costs, slowing time to market and reducing reuse across the company.

AAHG developed a single platform using a decision-centric intelligent process that allows for repeatable, standard process with label- and market-specific decision making. The common decisions embedded in this platform support the various product brands using a combination of standardized business rules that implement corporate policies and national regulations as well as brand-specific business rules. Because a significant amount of expertise has been embedded into the decisions the new platform allows more decisions to be automated and so a much higher level of straight through processing. The new platform also allows new e-business developments, like funds transfer by mobile, to be added safely and simultaneously across all product lines because the critical decisions are well managed and controlled.

*“Another important factor in our selecting Blueriq was the way in which adjustments can be made to the system. With Blueriq, it’s not a question of programming, but of modeling.”*

**Karin Polman**, responsible for e-business at AAHG

**Adaptive decisions**

Intelligent processes need to adapt and improve over time. The actual tasks that can be performed, however, are hard to change. To add new kinds of tasks people will have to be retrained or new IT Services developed. However a process can also be adaptive if it learns what combinations of tasks work best in different situations. As a result it is often easier and more effective to learn what works in decision making and adapt that over time.

Data about process outcomes can be used to improve decision-making. This data can be used to decide which options should be included in a process execution. This data can also be used to segment more finely, identifying a subset of transactions where a particular set of tasks would work better. If decisions are separate and can be updated independently of the process the overall result can be a more adaptive process.

## Transparent decisions

Transparency is important in decision automation just as it is in the other elements of an intelligent process. Recording how and why a decision was made clarifies the execution of an intelligent process, explaining why specific tasks were carried out or why a transaction was referred for manual review. One of the key value propositions for a business rules-based approach to decisions is that it allows for this kind of explicit execution transparency.

### **Ministry of Economic Affairs**

Dienst Regelingen (DR) is the digital public service provider of the Dutch government. DR is primarily involved with subsidies and permits for agricultural businesses. It handles over 175 national and European regulations and must provide 24x7 access to their status for those applying. Historically DR struggled as cases moved between departments with processing handled by disparate systems and process steps known only to a few experts.

The new decision-centric process uses rules-based forms to simplify interactions. A standard process is executed, using business rules to make decisions based on the relevant regulations and legislation at each stage. The platform captures everything used to make a decision as well as any overrides. This delivers much higher rates of straight through processing and a more efficient process while simultaneously offering more and better insight into why decisions about applications were made.

*“DR wanted to design their processes in such a way that they would not have to redefine the structure for each regulation. After all, many regulations consist of similar or even identical process steps.”*

**Jan Husaarts**, Market Research & Acquisition Project Leader

## Micro decisions

Focusing on what are called “micro decisions” is perhaps the most dramatic way in which decisions influence processes. Many processes are designed to treat everyone, every transaction, the same: the same content is displayed, the same terms and conditions listed, the same discount applied. Such processes are not very consumer-centric as they ignore the very basic fact that each person is unique. Using business rules technology it is possible to manage a micro-decision and treat each customer or citizen uniquely based on what is known about them. Different tasks can be included in the process and different information presented, resulting in a process that seems, and in fact is, unique to them.

## Implementing An Intelligent Process

It is not the scope of this paper to provide a detailed approach to building decision-centric, intelligent processes. Nevertheless it is worth highlighting the three critical steps in delivering solutions of this type.

### Discovery

The first step is to discover and model both decisions *and* processes. It is important to consider these two elements as peers, to identify them, describe them and model them in parallel. While it is possible to identify and model processes first and then come back and retrofit decisions, this is less efficient and effective than modeling them at the same time.

Once both processes and decisions are identified and modeled the business and IT teams can work iteratively, keeping processes simple by moving complexity into decision-making, identifying the need for multiple process paths or sub-processes that will be triggered by decisions, and ensuring that the process can handle all the various decisions that might be made.

#### **ANVA Insurance**

ANVA is a market leading provider of software solutions for the insurance industry. ANVA has set itself the goal of developing optimized insurance industry solutions that enable insurance companies and advisers to compete and deal effectively with consumers' demands. ANVA had found itself with a large software package that had grown incrementally and become increasingly hard to change. While there are many processes that are common across the insurance industry the different agreements between underwriting agents, insurance companies etc. create complexity. The new platform supports a more decision-centric approach where decisions such as quoting, underwriting, paying claims, collecting payments can be specialized for each software installation even though the underlying processes are the same. In particular, as rates change the system can be updated, changes tracked and rates kept current automatically. This flexibility minimizes errors and maximizes responsiveness.

*“With Blueriq under the hood of our new ANVA package we can move forward with confidence. We’ll be able to innovate more rapidly and more intelligently allowing us to strengthen our market position and expand still further.”*

**Bas Holtzer**, ANVA’s Commercial Director

As the decision and process models are developed and extended, the tasks, documents and dialogues involved in the process will be identified. Similarly the

decision tables, decision trees and business rules required by the decisions will likewise be modeled.

## Construction

Once models of both processes and decisions are available an agile, iterative approach to building both decision services and business processes follows. For highly repeatable processes the process might be built as a single element but for more dynamic processes it will make more sense to develop process fragments that can be assembled later. Dynamic user dialogues and documents will be developed as process steps, or decisions, require them. Modeling processes and decisions helps draw automation boundaries and identify viable automation subsets. These can and should be delivered incrementally.

The separation of decision-making, and the use of business rules to define this decision-making, supports a highly iterative approach. The initial deployment of a process might be only lightly consumer-centric and might handle only some transactions without manual intervention. Over time additional business rules can be added, refining the decision-making. As the decision-making is improved the focus on the consumer and the rate of straight through processing both increase, all without having to change the process or re-train staff.

## Continuous Improvement

Once a usable iteration of the processes and decisions involved is available it should be put into production. Once an iteration is delivered, however, it is not done. Ongoing decision and process analysis is essential to drive learning and adaptation. The decisions and processes modeled will have been linked to the key business metrics they influence. This allows effective monitoring of both decision and process performance in terms of real business outcomes. Changes in the outcomes measured as well as changing business needs can be used to identify process or decision components that need to evolve.

In addition the transparency of a rules-based approach allows for highly granular monitoring of decisions and of the processes that result from those decisions. This granularity and clarity also drives evolution as it allows business owners to see into the processes and decisions that affect their customers, often for the first time.

## Next Steps

Organizations need to deliver intelligent processes, processes that are:

- ▶ Consumer-first, making individual decisions about consumers.
- ▶ Dynamic and responsive to new regulations or policy requirements.
- ▶ Flexible so they can support a wide range of scenarios.
- ▶ Transparent and open to analysis.
- ▶ Adaptive and continuously improving.

Building intelligent processes requires a focus both on processes and decisions. It also requires a platform suitable for developing intelligent processes. Such a platform should provide both decision-centric and process-centric capabilities.

Organizations need to be able to combine rules-based decision-making, high performance business process management and flexible case management capabilities in a single, coherent solution. IT and business users need to be able to collaborate, effectively defining such a solution together. Flexibility and performance, transparency and efficiency are all essential.

Using such a platform allows companies to deliver decision-centric, intelligent processes and:

- ▶ Offer self-service for consumers that is channel and location independent. Self-service that embeds explicit knowledge so that consumers can do what they need to do without interacting with a domain expert at every step.
- ▶ Deliver high levels of straight through processing for consumers and making sure that more transactions are handled right the first time with knowledge workers only handling exceptions.
- ▶ Improve customer service through more intelligent, decision-centric dialogues and forms that put customers, or citizens, at the heart of a truly cross-channel process.
- ▶ Dynamically manage complex cases, using both automated business rules *and* knowledge workers to effectively handle lengthy, complex and often unpredictable process situations.
- ▶ Manage all the rules involved in bringing legislation and policies to bear on operations in a sustainable, scalable, efficient and transparent way.

For too long organizations have made a false choice between highly scalable, automated processes that don't handle complexity or variability and flexible but manual processes that are over-reliant on human intervention. A focus on decisions and processes resolves this dilemma, allowing organizations to focus on their customers, or their citizens, and deliver a new generation of intelligent processes.

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