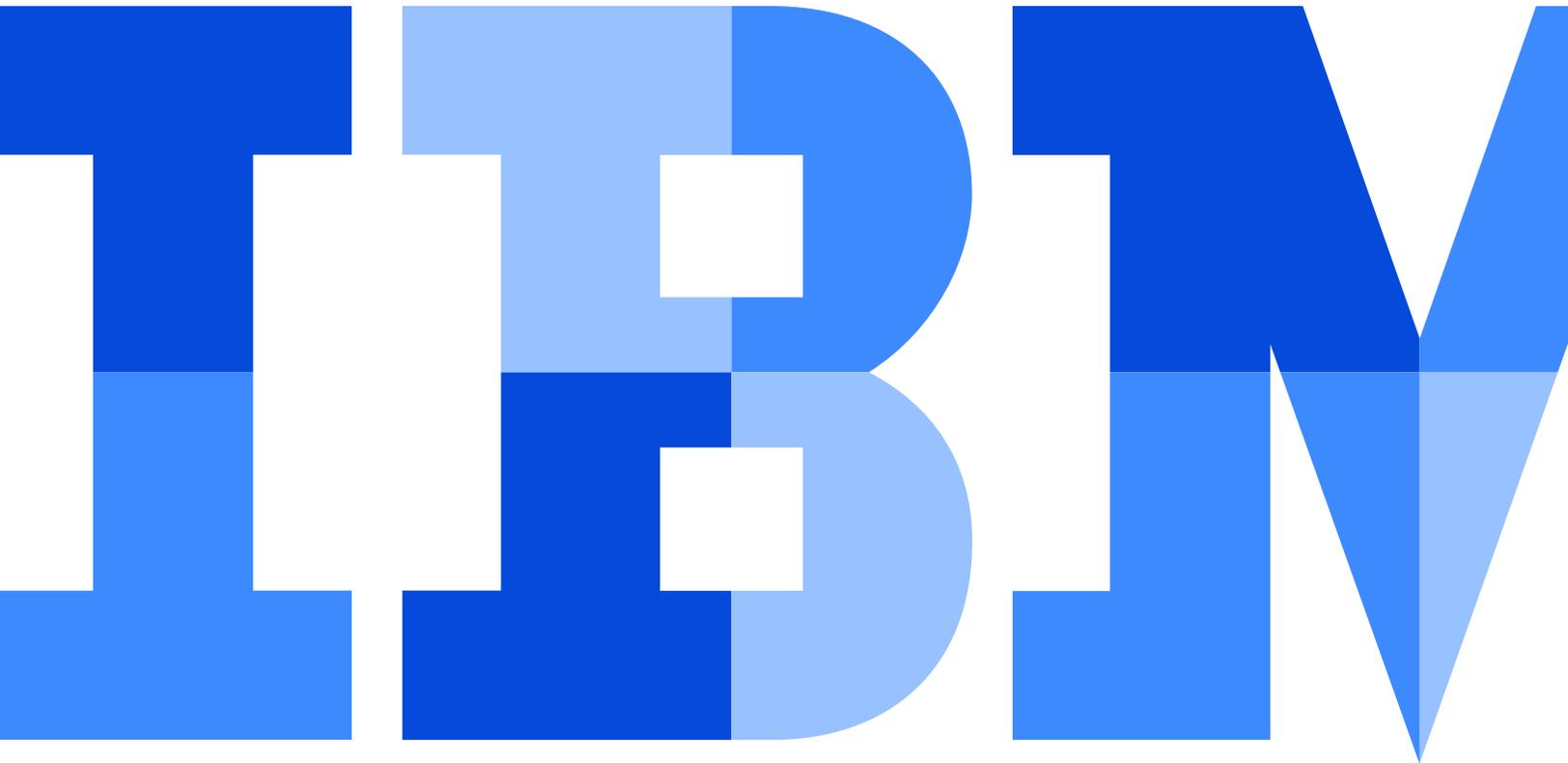


Innovation in insurance: Profit by focusing innovation on decision-making



Highlights

- **Setting the stage:** A perceived lack of innovation drives concern
- **Problem, challenge and impact:** Insights are not applied systematically and consistently
- **Opportunities:** Infuse every process and system with actionable analytics and data – driven decisions
- **Case study I:** Nearly a 20% hands-free processing rate
- **Case study II:** Increased upsell rates and better management of fraud and waste
- **Solutions and best practices:** Embed systematic decision-making and continuous improvement
- Success is a journey with three stages
- Recommendations and next steps

The most important decisions are made every day. Insurers that adopt a decision-centric approach to analytics and artificial intelligence are improving business outcomes.

Setting the stage

There has been a level of frustration and insecurity in the past few years about the fate of the insurance industry. At first, vendors and other service providers raised concerns. Then the voices of insurance professionals joined.

Changes outside of insurance such as new data sources, mobile app ecosystems and on-demand services are now converging with insurance practitioners' concerns, resulting in a chorus which many in the industry seem compelled to join: Innovate or die.

Much energy is being spent on innovation and transformation. Sadly, the overall results have been inconsistent and, too often, frustrating. In some cases, even counterproductive.

It's not that modernization and change aren't important – they're central to everything from efficiencies and profitability to risk management and customer experience. IBM® believes, however, that insurers can profit by focusing innovation on insurance business fundamentals – specifically on traditional decision-making.

Problem, challenge and impact

The two keys are analytics and artificial intelligence (AI). Most insurance executives believe it's critical to invest in analytics and AI and use those investments to drive digital innovation. Yet too few succeed. Multiple surveys show lots of interest and commitment but few successes and little transformation.

For instance, an Economist Intelligence Unit (EIU) survey of 448 senior U.S. executives showed that 70% of respondents thought analytics were very or extremely important. Yet only 2% said their analytics efforts have had a broad, positive impact.¹ In another study, over 80% of data and analytics leaders at global life insurance and property and casualty carriers said their analytics investments are not delivering high impact.²

When investments in analytics and AI don't show anticipated returns, which is bad news, the opportunity to lead and establish or sustain market leadership is also being lost, which is worse. The problem is not that the technology doesn't work, because it does, but that carriers are not in a position to take full advantage of it.

Investments are being made, analytic models and AI algorithms are being developed, but the decision-making at the heart of carriers' operations – how they underwrite and price policies, adjudicate and pay claims, handle subrogation, treat customers – is not improving.

The problem is that many new insights and data-driven approaches cannot be integrated into legacy decision-making approaches. Some, despite innovative potential, are added to existing approaches, which only complicates matters and adds inefficiency. Others are developed but applied ineffectively, proving too difficult to adopt in practice for better business outcomes. Three examples follow:

1. A superregional insurer developed strong actionable risk scoring capabilities using a combination of robust business intelligence insights and predictive models. The result was a five-tier rank scoring that was too hard to use when introduced to underwriters as an added step. Rather than streamline underwriting, the scoring capability added complexity. This scoring should have also affected pricing, but the underwriter and rater often failed to connect the process with these scores.
2. A major carrier developed a multi-tier provider fraud risk model and developed an easy web UI for it. Usage was minimal however because the claims adjusters' actual decision-making approach identified providers on a simple two factor basis: "smells bad," or "smells OK". Front line decision-makers couldn't match the multi-tier model to the way they decided in practice. The improved insights went unused.
3. An emerging market carrier developed analytics to identify potentially wasteful medical claims. Attempts to use reports showing these analytics made little progress. The reports had to be consulted manually during an already-stressful process that needed improvement throughout. As a result, claims were assessed as before, using judgment and rule-of-thumb, because the time required to check analytics slowed the process.

Opportunity – imagine if

Imagine if every decision that impacts your customers was made consistently, correctly, precisely and analytically. Imagine if the way you made these decisions was under business control and could be easily and methodically reviewed, analyzed and updated. Imagine if the rate of automated, straight-through processing was something you chose – to reflect the modern way you want to do business – and not a constraint imposed by your technology. What if you could straighten, widen and pave the winding road of your decision-making?

How would your business look if you could infuse every process and system with actionable analytics and AI? What if all your decisions were data-driven and continuously improving? These opportunities are happening today and the results are transformative.

Robots to the rescue

Some argue using robotic business processing (RBP) or robotic process automation (RPA) to bridge gaps and eliminate manual steps is a cure-all.

It certainly can add a great deal of value, but it can also be used as a band-aid for broken business decision making.

If the decision-making is poorly defined, inconsistent and manual - as much insurance decision – making is – then RPA is simply going to pave the long and winding path that legacy decision making has traditionally followed.

RPA and RBP in insurance are not meant to mask underlying broken and inflexible decision-making or to postpone a necessary redesign. RPA and RBP are optimally applied in a systematic and continuous improvement decision process.

Case study I

A claims team at a major life and health carrier has exceeded a 20% hands-free processing rate for medical claims. More importantly, they review the claims handling decisions made for every claim received each week to see why it was, or wasn't, processed automatically. They have a visual model of the decision-making and know exactly how each claim was dispositioned, and why.

As a result, the team can drill down to claims handled a certain way, compare different ways to handle them, simulate the impact of a proposed change against tens of thousands of real claims. They can also deploy one-click updates when they are confident of a better approach. The rate of hands-free straight through processing has increased steadily, without adding fraud or waste.

Case study II

A major carrier's marketing team continually refines the riders and additional products suggested as upsells for policies in their electronic submission application. As agents and prospective customers enter data into the e-submission application, analytics are applied to find the next best offer for the customer. Agents propose more and relevant options without selling anything inappropriate to the customer – and so maximize the value of the deal. Regularly refreshed analytic models continually refine which offer is made when. The outcome is that upsell rates have risen steadily.

Building decision services for continuous improvement

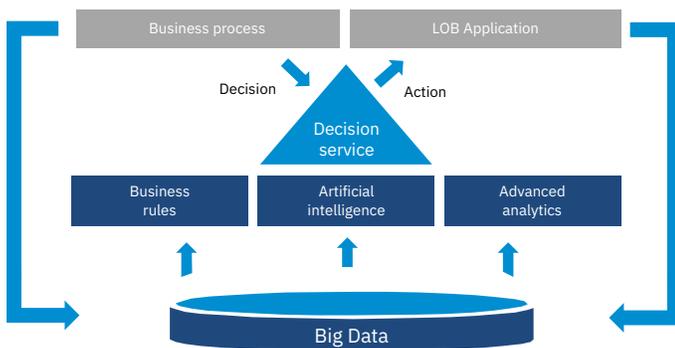


Figure 1. Decision services drive improved rules and better advanced analytics and AI, closing the loop for continuous improvement.

Solution and best practices

We don't suggest that analytics and AI innovation efforts should stop. Quite the opposite. What carriers need is to change is the approach they apply, and to bring constancy to the decision process. They need to rethink both operational aspects and attitudes on decision-making. Historically, decision-making is driven by strategy and management but also needs to extend from operations. The approach is supported by decision services.

Decision services

A decision service is a self-contained, callable service with a view of all the conditions and actions that need to be considered to make an operational business decision. It is a service-oriented component that answers the business question necessary to make a decision.

Examine how the organization decides about this customer, this policy, this claim. The processes, systems and policy manuals that drive insurance are full of logic that supports a traditional decision approach. The many manual steps and touchpoints serve to increase the amount of human decision-making. The result is often inconsistent and subjective rather than consistent and data-driven.

Advanced analytics and AI generate positive ROI when they impact the metrics that matter. They reduce loss ratios or increase offer acceptance rates. To move the dial on a metric, carriers need to change behavior – they must decide differently. Carriers that deliver improved results with analytics and AI understand which decisions impact which metrics and they re-engineer their approach to such decisions.

Successful insurers will consider this decision-making independently of the systems and processes that embody it, and explicitly manage and improve the decision-making approach. They will apply analytics, AI and complementary technologies in a coherent, business- and decision-centric way.

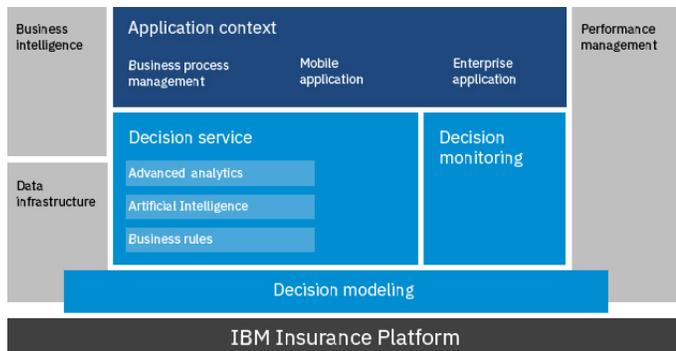


Figure 2. Analytics, AI and complementary technologies drive a decision-centric approach (graphic adapted from Decision Management Solutions)

Said differently, an insurance company that takes a more directed and scientific approach to decision-making will be able to:

- Optimize efficiencies
- Make more consistent underwriting and pricing decisions
- Plug in algorithmic insights to impact business decision-making
- Collect relevant data and measure results
- Provide meaningful real time operational analytics and continuous improvement

To maximize customer profitability, the insurance industry must first comprehend product profitability and at minimum be able to calculate the assembly and distribution costs of its various product (policies) and services. The IBM point of view is that decisioning methodology is at the heart of understanding each of these.

Ultimately, the entire landscape and ROI for operational performance metrics and ROI calculations would have context. Rather than trying to infer the cause and effect of various intelligence metrics, a re-engineered decision management approach affords management and staff grounded, actionable insights into their business.

IBM offers a rich set of technologies that support decision-centric management for insurers. IBM [Operational Decision Manager](#) (ODM) helps capture, analyze, automate and govern rules-based business decisions with high precision and automation. Anyone can work with it, from IT to business-line leaders.

[Watson Machine Learning](#) and [IBM Watson Studio](#) help infuse advanced analytics and AI into the business at scale. They use Watson™ cognitive capabilities to build and train AI and machine learning models to achieve greater data access and agility.

[IBM Cognos®](#) is a proven self-service analytics solution. It delivers critical reporting and monitoring capabilities for business users who want to easily create compelling visualizations and dashboards. IBM services are available to deploy solutions to a customer's preferred hybrid cloud environment.

The journey

Successful innovation with advanced analytics and AI drives improved business results. Profitable adoption of these powerful technologies is a journey with three stages:

1. **An explicit focus on decisions and a decision-centric approach**

This means running projects and making investments focused on decisions. It involves putting decisions first, before process or data. It requires an investment in understanding, agreement and documentation about how decisions are made. Valuable new techniques in decision modeling, design thinking and data visualization are available to support these activities.

2. **A decision technology stack involving business rules, descriptive analytics, predictive analytics and AI capabilities**

Instead of separate initiatives for each technology, the capabilities are treated as a mix-and-match set as necessary to solve business decision-making problems. The initiative centers on improved decision-making and the business results, not on adopting a specific technology.

3. **Change management including simulation, impact analysis with immediate and continuous feedback, learning and improvement**

Successful organizations know that that creation of a continuous improvement mindset and infrastructure is more important than the scope of the first improvement they make.

A successful journey moves operational decision management from back-office IT directly into the line-of-business front office. It puts business owners in control and delivers value in real time and at the front line. but also needs to extend from operations. The approach is supported by decision services.

What about business rules management systems?

A modern business rules management system (BRMS) serves as a perfect platform for decision automation and management. A BRMS is a baseline technology, necessary to automate and manage decisions at the heart of an insurance business but not sufficient to drive innovation. BRMSs let business owners control decisions, collect data about how decisions are made, simulate the impact of changes and demonstrate compliance. Integration of predictive analytic models and AI algorithms with the core decision-making rules allows insurers to drive innovation into their systems and processes.

New data, new insights

Some insights fuel incremental steps for small improvements in how decisions are made. Some offer the potential to revolutionize the traditional decision-making approach. An understanding of the decisions being changed helps define the incremental improvements and provides critical context even when decision-making is being “replaced.” Understanding of the organizations current approach sets up the necessary change management and allows for a scientific approach to transformation.

Compliance

Decision-making is central to compliance. Insurers are more likely to be asked to explain how they made a specific decision about a customer than anything else. Understanding and automating decision-making systematically delivers transparency and control. These are critical to ensure that decisions are made in a demonstrably compliant way. It also lets insurers track what data is used where – valuable because knowing exactly how consumer data is used has become essential.

Find out more about operational decision management from IBM.

Recommendations and next steps

To assess readiness for decision-centric improvement, insurers can ask themselves these questions:

- Do you know where your decisions are made?
- Who makes decisions?
- How are they made?
- How well are they made, and are they made consistently and accurately?

It is essential to modernize decision processes to benefit customers, enhance products and services and improve bottom lines. At this juncture, however, most insurers don't have the answers they need to improve the use of data, analytics and AI to drive a decision-based approach.

Why IBM

IBM delivers deep industry expertise and technologies for insurers. IBM Watson provides unique cognitive capabilities that deliver advanced analytics and artificial intelligence. With extensive experience in BRMS, RPA, decision management, automation, security and IBM helps insurance and financial services organizations modernize and optimize operations, become more competitive and unlock new business value.

For more information

Learn how [Operational Decision Manager](#) and [BRMS](#) solutions from IBM help insurers respond in real-time to the needs of the business.

Visit the [IBM Insurance industry solutions home page](#) to learn how insurers can become more competitive through digital transformation. [Decision Management Solutions](#) helps organizations harness data-driven decisions by applying analytics, business rules, AI and associated technologies.

Learnings from the field

- Business, IT, operations and analytics all must participate in changing decision-making – none can be excluded. Organizations need each of these areas to succeed and should begin by engaging all of them in the journey.
- Business needs must drive the definition of the decision-making. Efforts will not succeed if IT or package vendors own the core business definitions.
- Using a dashboard to make decisions rarely works well, but they are powerful tools for improving how decisions are made.
- Get control of decision-making first, then introduce innovation. Trying to jump directly to a completely new approach is high risk because broad change is more difficult to manage than incremental change.

Decision-making drives processes and systems but shouldn't be embedded in them. Think of decision-making separately.

The more advanced the analytics, the more value created by automated decision-making. Simple analytics can be delivered to people. Advanced analytics need to be embedded in systems.

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Footnotes

1. ZS Insights publication, "Broken Links: Why analytics investments have yet to pay off." <https://www.zs.com/publications/articles/Broken-links-Why-analytics-investments-have-yet-to-pay-off.aspx>

2. Ramnath Balasubramanian, Khushpreet Kaur, Ari Libarikian, and Noor Narula, "Raising returns on analytics investments in insurance." McKinsey & Company. <https://www.mckinsey.com/industries/financial-services/our-insights/raising-returns-on-analytics-investments-in-insurance>



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Produced in the United States
of America, November 2018

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