

DECISION  
MANAGEMENT  
SOLUTIONS

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# Delivering Customer Value Faster With Big Data Analytics

Tackle the challenges of Big Data and real-time analytics with a cloud-based Decision Management Ecosystem

Customer data is more widely available than ever, but leveraging that data to drive smarter decisions requires new thinking. As companies develop strategies for using Big Data to improve customer relationships, a Decision Management platform is becoming an essential ingredient.



Companies have made substantial investments in Business Intelligence and analytics to better understand their customers and their business. Reporting infrastructure, query tools, dashboards and advanced visualization have all helped business users visualize and use their data to make better decisions.

Now these companies are hearing about Big Data. More than just a trendy label, Big Data describes a dramatic shift in the data available to companies: Far more data, of many more types, arriving more quickly. Companies of all sizes and in all industries wonder if Big Data is a game changer for them as it is for others.

At the same time, these companies realize that the social, mobile and informed consumer requires different approach than in the past. They see competitors moving towards true cross-channel, real-time customer engagement. They worry that anything less will leave them behind in the race to acquire, develop and retain customers.

Many wonder how their existing approaches will respond to these new challenges. They need a way to meet these challenges, to take Big Data and use it to deliver more customer value, faster. They need a new approach and a new platform, one focused on using Big Data analytics to drive customer value.

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## Big Data Changes The Rules

It is tempting to see Big Data as just another buzzword, just another way for the technology industry to get companies to spend money. After all, many companies are already processing large amounts of data—their data warehouses are big, they have big reports. How much bigger can Big Data be?

Big Data is real not because companies have had only “small data” before, but because it describes a fundamental shift in the data environment. Big Data reflects the increased digitization of business and of life, the decreasing cost of storing data, and the increasing availability of third party data. Big Data changes the rules about data—rules about data volume, about data velocity and about data variety.

### The New Volume Rule

Companies have assumed that they could summarize and store all their data, and analyze all this data using reports and dashboards. Big Data involves a significant increase in data volumes and data that is more granular. Human interpretation using traditional business intelligence and analytic environments does not scale to these new volumes. To handle Big Data volume, systems that make recommendations, select the best offer and more will have to become the primary target of analytics.

### The New Velocity Rule

Companies also assume that they have time to store, clean, and integrate data before using it. Big Data arrives much more rapidly, often as real-time or streaming data, and needs to be used more rapidly: Real-time data only adds value if turned into real-time insight. This means that companies cannot rely on backward looking aggregations that are already out of date when they are calculated. To handle Big Data velocity, forward-looking, *predictive* analytics must be embedded in real-time systems that take action like routing high churn risk customers to better agents.

### The New Variety Rule

Companies are used to working with structured data stored in a relational database or data warehouse. Big Data includes new types of data, from call center notes to weblogs and social media posts. This explosion of data sources and data types means companies can no longer assume that they will be able to integrate all of this data and present it as a single whole. To get value from Big Data, companies will need to know which *decisions* will benefit from which data sources. They will need to bring different data sources to bear on different problems.

Getting value from Big Data requires a focus on decisions, especially on decisions automated in systems, and on predictive analytics to optimize these decisions.

## From Big Data to Customer Value

In all the discussion of Big Data it is easy to lose sight of a basic truism—that simply having more data will not deliver more customer value. Customer value results from new insights into customers and from building deeper relationships with them. Only from increasing the understanding of the value or potential of each customer and from proactively using this insight to treat them more appropriately, can Big Data propel customer value. Big Data must be the basis for new insights that result in better customer decisions.

### More than Big Data, Big Insight

Companies often talk about using data to make better decisions. They talk about becoming “data driven” or “speaking with data.” Yet it is not really data that they use, it is the *insight* that results from this data. Data-driven companies don’t just collect data; they use data to find new analytical insights about their customers.

*“There is considerable evidence that decisions based on analytics are more likely to be correct than those based on intuition.”*

**Thomas Davenport, Jeanne Harris** , *Competing on Analytics*, 2007

For instance, analytical insight is critical in effective risk management. Many companies acquire credit risk by making loans or extending services to consumers. To manage this risk more effectively, companies need insight about the riskiness of each consumer and each transaction. Many companies have used analytics to help answer questions like “how likely is this person to repay this loan” and so ensure that the risk acquired is compatible with the potential gain.

Companies also worry about fraud. Reducing fraud requires insight into how likely it is that a transaction, person or network is fraudulent. Companies use analytics to know how likely something is to be fraudulent and identify the right transactions to decline or flag for review, focusing audit and investigation resources appropriately.

To maximize loyalty and revenue when interacting with customers or prospects, companies also need to develop insight into which offers will provoke a positive response and how likely a customer is to accept an offer. Much more than a “360-degree view” of a customer, tying analytic insights together in real-time drives positive and effective customer interactions.

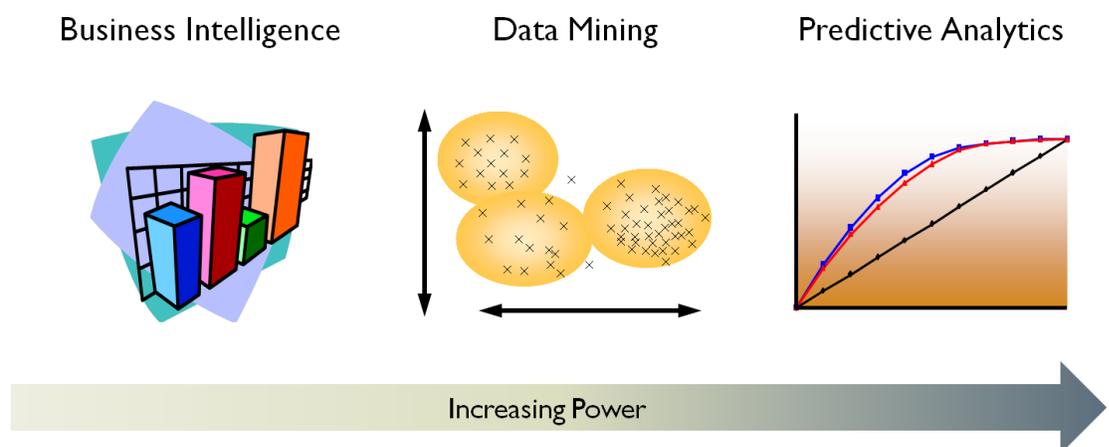
Delivering insight from Big Data is critical to driving customer value. Yet the volume of Big Data overwhelms the backward-looking reporting and dashboards common to most organizations.

These same tools focus on delivering insight to human users, yet the velocity of Big Data forces a focus on systems that make decisions. To get value from Big Data, companies must deliver forward-looking or predictive insight and do so in a way that supports real-time decisioning systems. They must increase their analytic maturity and close the insight-to-action gap.

## Increasing Analytic Maturity

Forward-looking analytics means increasing analytic maturity. Success with Big Data requires going beyond Business Intelligence tools to data mining and predictive analytics. These advanced analytic techniques turn very large volumes of data, and data of many different types and formats, into predictive insights for optimal decision making. Using granular historical data, these techniques make predictions about what is likely (or unlikely) to be true in the future.

**Figure 1: Increasing Analytics Maturity**



## Close The Insight to Action Gap

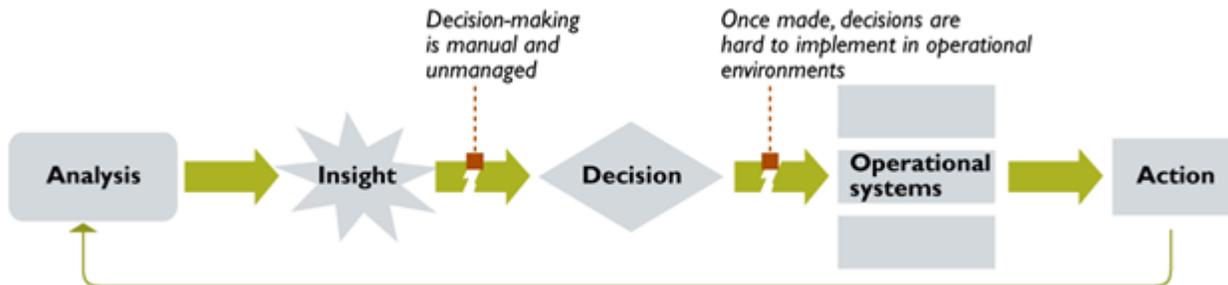
Just because an insight is predictive and actionable, however, does not mean it automatically adds value. Any predictive insight must still be used to make better decisions if it is to add customer value. Companies must take action on these insights to get value from them. The velocity of Big Data is pushing companies to make real-time decisions, decisions embedded in systems. In these circumstances, presenting predictive insight passively results in an insight to action gap. As Figure 2 shows, manual decision-making disconnects predictive insight from the operational systems that interact with customers.

*“Deliver the right information to the right person at the right time. Well yes but why? So that the right decision gets made – that’s the purpose of it all, that’s what adds value to the business.”*

**James Taylor**, Decision Management Solutions

Many companies have invested in pulling analytic insights from data, but far fewer have made progress in using those insights in better, real-time customer decisions.

**Figure 2: The Insight to Action Gap**



## Decisions Throughout The Customer Lifecycle

As consumers demand an increasingly personalized or tailored experience, the decisions a company makes about them take center stage. Customers expect the companies with which they interact to know them, to deliver personalized offers and solutions. They expect self-service applications that are likewise tailored, and they are willing to go to competitors or to complain (increasingly using social media) if they don't get them. Companies must now engage in a consistent, tailored and appropriate customer dialogue from acquisition to development, retention and beyond. Building an increasingly intelligent dialogue with the customer across channels, across product lines and over time requires better decisions everywhere.

*“As I talk to customers, partners, and employees, it becomes increasingly clear to me that the health of a company relies on the extent to which it creates meaningful and sustainable interactions.”*

**Denise Shiffman**, author of *The Age of Engage*

At each point in the customer lifecycle, decisions can be made to build this dialogue and maximize the value of the customer over time:

- ▶ How to acquire this prospect in a way that results in a profitable relationship?
- ▶ How to expand this customer relationship when they request service?
- ▶ How to retain this customer given their churn risk is high?
- ▶ How to gracefully exit this customer relationship?

Across all channels, every decision made about the customer needs to be based on actionable insight about that customer—insight increasingly derived from Big Data.

To put these analytic insights to work, to handle the volume, velocity and variety of Big Data, and to improve customer decisions across all channels and throughout the lifecycle, companies need a proven approach to driving analytic value into customer decisions—Decision Management. They need a Decision Management ecosystem.

## A Decision Management Ecosystem

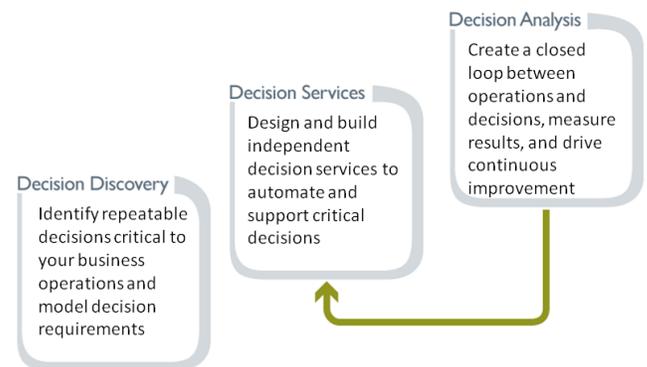
Decision Management is a proven approach to putting analytic insight to work managing risk, reducing fraud and increasing customer value. Decision Management embeds predictive insight into real-time, customer-centric systems to increase customer value. Decision Management also creates an environment to continuously improve their results over time.

## The Decision Management Lifecycle

Decision Management is a three-step process of Decision Discovery, Decision Services and Decision Analysis, as show in Figure 3.

Decision Management begins with a focus on the business problem to be addressed and the customer decisions that must be improved. Decision Discovery models these critical decisions separately from business processes and systems. Describing and visualizing decisions separately helps business stakeholders take ownership and enables explicitly links decision-making to business performance metrics.

**Figure 3: Stages of Decision Management**



At the heart of any Decision Management system are independent Decision Services that automate customer decisions. Decision Management builds these services to deliver decisions based on analytic insight to operational systems in real-time and across channels.

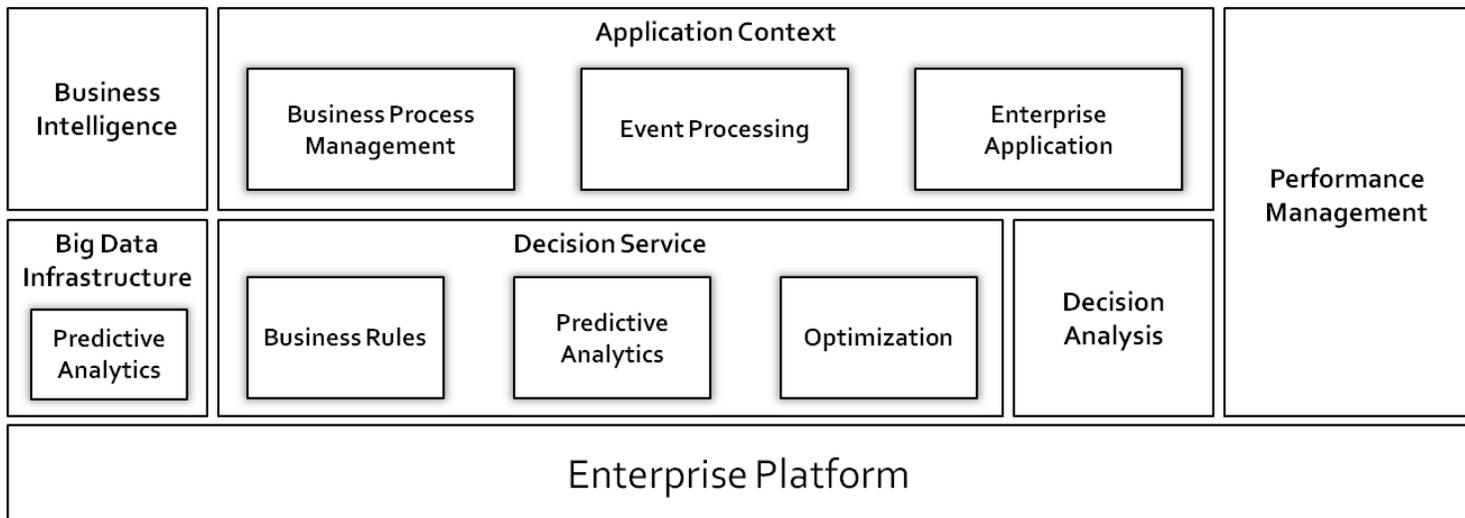
Managing decisions explicitly lets companies respond to changes and effectively monitor their decisions. Decision Analysis builds on this to monitor decisions, identify and fix problems, and systematically improve results. Focusing on both experimentation and continuous improvement, Decision Analysis closes the loop so the business can quickly respond to threats and opportunities.

## A Decision Management Platform

The building blocks of a Decision Service are business rules to handle the policies and regulations in decisions; predictive analytics to make these decisions more precisely and profitably; and optimization to maximize the value of constrained

assets and handle trade-offs. As shown in Figure 4, these elements exist in the context of a broader platform.

**Figure 4 : Decision Management and the broader enterprise platform**



Decision Services are not used in isolation, but are invoked for decision-making in an application context such as a business process, a business event, or an enterprise application. Decision Services rely also on a modern Big Data infrastructure that supplies granular operational data and supports the development of predictive analytics. Decision Analysis capabilities allow decision performance to be monitored using capabilities such as support for champion / challenger experimentation as well as integration with performance management dashboards.

## Delivering Decision Management

There are many ways for companies to deliver Decision Management:

- ▶ Acquire complete solutions that include decision management capabilities as well as an application context, performance management and data infrastructure.
- ▶ Acquire decision-only solutions that focus on a specific decision service, its management and improvement. These can be plugged into multiple application contexts.
- ▶ Develop custom solutions using core platform capabilities, potentially enhanced with templates and components to get started quickly. These might include only decision-making capabilities or both decision-making and an application context.

Regardless of the approach a company takes, a decision management ecosystem should allow them to manage Big Data; rapidly and effectively develop analytic insight; deploy this insight into real-time; operationalize customer decisions; and continuously management and improve their overall business performance.

## Decision Management In The Cloud

For maximum flexibility, a decision management ecosystem should allow deployment to a public or private cloud as well as on-premise. Companies should be able to get started quickly with a cloud-based approach and then transition to on-premise. It should be possible to use a hybrid approach where a decision service is hosted and delivered through the cloud while application contexts are deployed on premise. A cloud-centric Decision Management ecosystem offers a compelling value proposition and several strong use cases.

*“ Everything we need to make a loan decision is right at our fingertips. It has definitely simplified operations and made life easier.”*

**Beverly Pile**, Vice President of Consumer Underwriting, Prosperity Bank

## The Value Proposition

A cloud-centric ecosystem has a number of characteristics that make for a compelling value proposition for companies adopting Big Data, analytics and Decision Management.

- ▶ **Faster time to market**  
A cloud based solution requires no hardware purchase or configuration and less complex integration, speeding time to market. If components and templates are part of the ecosystem, development and configuration is also faster.
- ▶ **Rapid integration of multi-vendor solutions**  
Innovation and capability come from multiple vendors. A cloud-centric ecosystem delivers solutions, components and capabilities that have well defined integration points so that elements can be sourced from different suppliers.
- ▶ **Easy to try and easy to begin**  
A cloud-based ecosystem means there is no software to install, lowering barriers and making it easier to try and, easier to demonstrate the value of the approach.
- ▶ **Easy to scale**  
As companies change and grow and as consumer demand fluctuates, so demand for capacity in the systems a company uses changes. Integrating cloud resources into a solution allows capacity to expand and contract as necessary and scales pricing from entry-level to large scale in a steady, graduated way.

Regardless of how a company intends to deliver Decision Management Systems, a cloud-centric approach makes for a smoother on-ramp and more rapid acceleration.

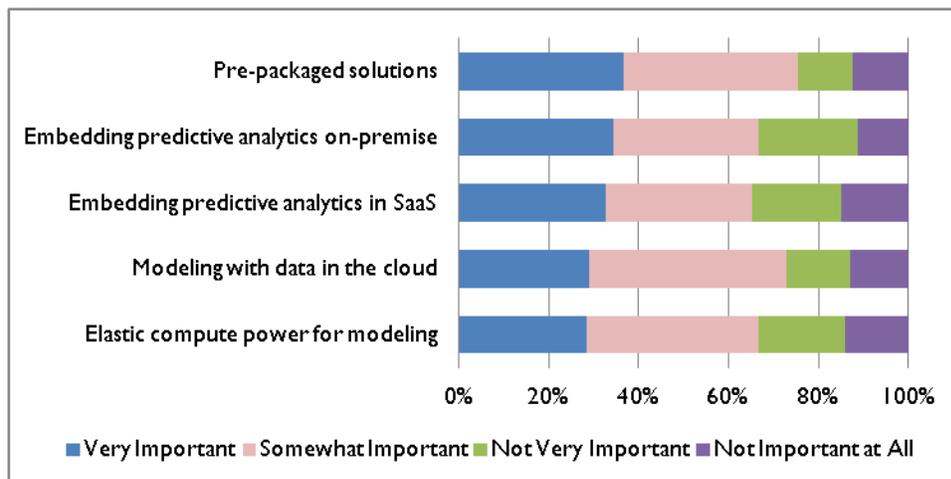
## Use cases for cloud

In a recent study, the author identified five distinct opportunities for cloud-based approaches to Decision Management and predictive analytics:

- ▶ **Pre-packaged cloud based solutions.**  
Complete solutions, delivered as cloud based or SaaS solutions, that provide decision-making based on predictive analytics as a core feature of the solution.
- ▶ **Predictive analytics for SaaS.**  
The use of cloud-based predictive analytics to inject predictive analytics into other software products that are also cloud based or delivered as SaaS.
- ▶ **Predictive analytics for on-premise.**  
The use of cloud-based predictive analytics to inject predictive analytics into disparate on-premise internal systems and multi-channel environments.
- ▶ **Modeling with the data cloud.**  
The use of cloud based predictive analytic solutions to respond to the increasing amount of relevant data available in the cloud rather than on-premise.
- ▶ **Elastic compute power for modeling.**  
The use of cloud technology to provide predictive analytic modeling solutions that can scale elastically to meet demand.

All five of scenarios were seen as potentially powerful solutions, with over 2/3 of survey respondents reporting that each of them has real potential (Figure 5).

**Figure 5: How important are the 5 scenarios**



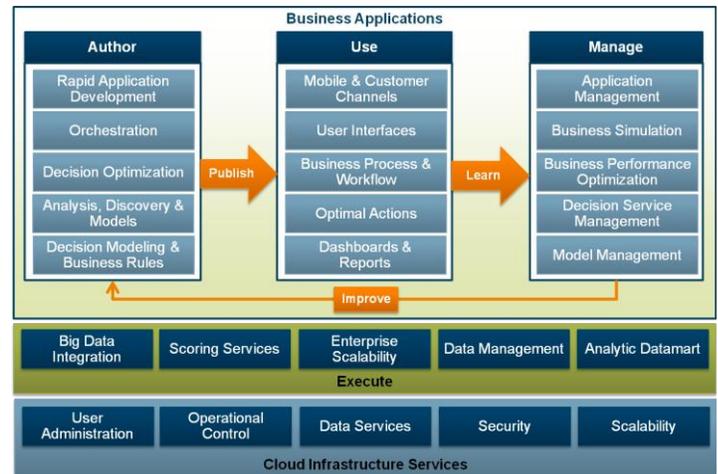
This same survey showed that Decision Management was clearly an important element for successful use of analytics. Those companies that had already seen significant positive results from predictive analytics were more likely to be tightly integrating predictive analytics into operations. Among those transformed by predictive analytics, nearly 2/3 (64%) said they tightly integrate their predictive analytics with day-to-day operations—a clear illustration of the power of decision management to generate customer value from predictive analytics.

## FICO's Decision Management Platform

FICO Decision Management Platform combines the proven agility and consistency of business rules management with Big Data analytics to drive more effective customer interactions. Available on-premise or in the cloud, FICO® Decision Management Platform gives business users the control they need to turn big data into actionable analytics without having to wait for IT, deploy to multiple channels including social and mobile, and deliver continuous, adaptive improvement.

To deliver a compelling customer experience across multiple touchpoints over time, FICO Decision Management Platform supports the rapid development and deployment of high performance decision services, and ongoing decision monitoring adaptive control to optimize and refine decision strategies over time.

**Figure 6:FICO Decision Management Platform**



Source: © FICO, 2013

FICO Decision Management Platform:

- ▶ Gives business users true control of their decision-making through intuitive tools to explore and simulate alternatives, conduct experiments and change decision strategies without the need for complex and expensive IT projects.
- ▶ Delivers value from Big Data by developing powerful analytics to predict risk, assess likely customer behavior and optimize customer treatment.
- ▶ Ensures continuous improvement by integrating test and learn or adaptive control approaches that create a rapid learning loop.
- ▶ Meets compliance and audit challenges through transparent execution of decision strategies and effective analytic model management.
- ▶ Delivers flexible, scalable solutions for 1:1 interactions with customers that leverage the cloud and mobile technologies to get to market faster.

### For more information

For further information visit [www.fico.com](http://www.fico.com) or [www.ficocloud.com](http://www.ficocloud.com) or contact FICO at [info@fico.com](mailto:info@fico.com) or 1-888-342-6336

## Next Steps and getting started

Big Data is transforming companies, offering the potential to dramatically increase customer value. Even as Big Data changes the rules about data, the need to drive forward-looking predictive insight into decision-making remains central to delivering customer value. Success with Big Data requires more than just managing that data, it requires a proven approach for putting it to work—Decision Management.

Companies that are new to Decision Management, or looking to expand existing Decision Management capabilities, need an effective ecosystem on which to build. This ecosystem should include solutions and capabilities, components and templates. It should take maximum advantage of the cloud and bring together the best multiple vendors have to offer. A cloud-centric Decision Management ecosystem will help companies accelerate their efforts to create customer value from Big Data.

Companies can best begin by focusing on the customer decisions that matter to their business. Understanding the decisions they make about customers, focusing on improving those decisions, and driving their Big Data strategy so that it delivers specific, meaningful value to these decisions is critical. Companies that begin with the decision in mind will find it easier to identify the right analytics, easier to pull together the Big Data they need, and easier to identify the right components in their Decision Management ecosystem.

*“Decision making and the techniques and technologies to support and automate it will be the next competitive battleground for organizations. Those who are using business rules, data mining, analytics and optimization today are the shock troops of this next wave of business innovation.”*

**Tom Davenport**, author of *Competing on Analytics*

### Contact Us

If you have any questions about Decision Management Solutions or would like to discuss engaging us we would love to hear from you. Email works best but feel free to use any of the methods below.

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