Intro to decision intelligence: Benefits, use cases, and key elements
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For the majority of organizations, decision-making is more complex than ever. The data needed to inform decisions is growing exponentially, and the circumstances surrounding each decision are evolving rapidly. Interestingly, the growth of information—of data—is both a complicating factor and an opportunity. After all, more data enables people to make better, more contextual decisions and drive business outcomes.

Unfortunately, the complexity of decision-making and the scale of data has long since passed the point where traditional methods can meet the challenge. It has become difficult, if not impossible, for the people who staff analyst teams to supply meaningful answers and actionable insights to stakeholders because they are equipped with tools that were built for reporting, not decision-making.

While advanced analytics offers some hope, technology alone does not lead to better business decisions. Technology needs to be integrated into organizational processes in a way that’s explainable and designed to help the people it’s intended to serve.
Decision intelligence is an emerging discipline that aims to improve how people make decisions by bringing together technology, process, and people. This guide will introduce you to decision intelligence and its three central elements. Additionally, this guide highlights use cases that demonstrate the impact decision intelligence can have on your organization.

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"The volume and velocity of data and increased complexities in decision making have become too much for a human being to handle without assistance." - Gartner

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**Decision-making is more complex than ever**

Decision-making is as old as humankind itself. Whether you’re hunting for food or hunting for new business, the decision process remains the same. An essential element to successful, informed decisions is data collection and information gathering, accounting for what’s known and unknown.
What is different about decision-making today is the pace of change itself. New political, economic, social, legal, environmental, and technological factors catalyze an unending stream of “new normals.” Practically, this means information gathering isn’t a one-and-done activity—it must be re-completed with every change. Additionally, decisions must be timely. If the decision-making cycle goes on for too long, it’s entirely possible that decisions will be overtaken by events.

Though the pace of change has undoubtedly complicated decision-making, the explosive growth of data has the potential to improve the efficacy of each decision. With more data comes the ability to account for more knowns (and more easily identify and subsequently address the unknowns) and answer more questions. This ultimately leads people to the right business decisions and pays organizational dividends in the form of metric (KPI, OKR, etc.) improvement.

“Fast-improving domains are concentrated in a few technological areas. The domains that show improvement rates greater than the predicted rate for integrated chips—42 percent, from Moore’s law—are predominantly based upon software and algorithms.”

MIT News

What is decision intelligence?

Decision intelligence is an emerging discipline with an evolving definition. Nevertheless, the elements of technology, process, and people stand out amongst all frameworks and research:

- **Technology** that augments all people with advanced analytics capabilities and helps teams operate at cloud-scale. Without technology, people cannot
fully analyze complex data or respond to the growing influx of requests from business leaders fast enough to influence decisions meaningfully.

- **Processes** must be defined and broadly adopted. Typically, this is related to decision modeling, business workflow integration, and decision tracking. Workflows of all types can be augmented with data—but changes to workflows can be costly and difficult, so it’s important to consider processes from the start instead of as an afterthought.

- **People** are an important—possibly the most important—aspect of data-driven decision-making. People deliver the expertise and contextual knowledge (including business acumen) that can’t be found in any cloud data warehouse table.

Decision intelligence helps organizations drive business outcomes by augmenting people with advanced analytics capabilities integrated directly into decision-making and operational processes. At Sisu, we have seen the transformation that results from bringing these three elements together. That transformation—and the broader mission to operationalize the world’s data—is what motivates and guides our team every day.

According to Gartner, decision intelligence is a “practical discipline used to improve decision making by explicitly understanding and engineering how decisions are made and outcomes evaluated, managed and improved by feedback.”

According to Eckerson Group, by “using ample doses of machine learning and artificial intelligence (ML/AI), decision intelligence tools do the heavy lifting that data analysts and other data experts don’t have time for. The tools comb through massive combinations of metrics and dimensions in operational data to find signals of impending business distress or opportunity.”
Technology: Augment people and processes with artificial intelligence and machine learning

For decades, organizations have invested millions of dollars in data and analytics initiatives to get to the point where every decision is powered by data, leading to the realization of business outcomes. Unfortunately, many of these investments have failed to pay off in the way that leaders had hoped. In the 2022 Data and AI Executive Survey, NewVantage Partners found that only 53.0% of organizations have formulated a strategy to realize business value from their data—and of those organizations with a strategy, 40.6% have yet to generate success.5

This is because business intelligence (BI) technologies (which currently dominate the final mile of the data value chain) aren’t built for cloud-scale data. BI only provides surface-level visibility into what’s happening with business metrics, such as whether or not revenue is trending up or down. Answering why these changes occur, however, is a slow, cumbersome, and altogether incomplete process with BI. Indeed, data scientists and analysts have to iteratively cycle through questions and incrementally explore dimensions, hoping to uncover “why” somewhere along the way. The result is a decision based on incomplete insights (at best) or entirely wrong insights (at worst).

At the same time, organizations know that data science capabilities are well suited to run the highly-dimensional analyses that cloud-scale data and today’s contextual decisions require. However, these skills and the use of artificial intelligence (AI) and machine learning (ML) remain out of reach for most organizations due to skills gaps and budgetary constraints.
Decision intelligence acknowledges this problem, positing that artificial intelligence and machine learning models and technologies can help. Organizations need to augment anyone with advanced analytics capabilities—in a distinctly no-code/low-code manner—so people can always know what’s changing with business metrics, diagnose why changes are occurring, and predict and forecast what happens next. By providing the business with better insights, decision intelligence enables anyone to make the right decisions. And with a series of right business decisions, organizations can finally achieve the outcomes they have been after for so long.

Process: Model, integrate, and track decisions

Every person in every organization makes decisions. Some decisions are strategic—for example, deciding whether to discontinue a previously well-performing product or service due to shifting customer preferences. Tactical decisions refer to how things will get done. Once the organization discontinues a product, tactics dictate what will happen (process) and when (timing). Finally, we are left with operational decisions related to day-to-day activities. Stores need to discard inventory from discontinued products, and people will need to make operational decisions on how to price those products, what promotions to run, etc.

There are many benefits to understanding how decisions are made. As it relates to the application of advanced analytics for data-driven decision-making, process mapping enables leaders to determine where decision support, augmentation, and automation can and should be adopted so the organization can pursue faster, more consistent, and higher-quality decisions at scale.
• **Decision support:** A human makes a decision supported by descriptive, diagnostic, and advanced analytics. For example, a system ran a fast, comprehensive analysis on cloud-scale data, informing a human that a 5.2% decline in profit was driven by a drop in digital revenue amongst 18–25-year-olds. The human uses this information to ask follow-up questions and, eventually, make a decision about how to pivot and recover.

• **Decision augmentation:** A system recommends a decision through predictive and prescriptive analytics; a human then reviews the recommendation and makes a decision. Continuing with the example from above, the system also provides a recommended action based on what it has seen in the past. In this case, the system suggests the human introduce a coupon code in digital channels from 11:00 am to 1:30 pm for 18 to 25-year-olds. Then, the human clicks a button to accept the recommendation, triggering downstream actions.

• **Decision automation:** A system uses predictive and prescriptive analytics to make a decision—in this case, a human is not in the loop. The system automatically applies the coupon code for the segment referenced above.
Organizations must also understand business workflows before adopting decision support, augmentation, or automation modes of operation. COVID-19 accelerated digital transformation by years for some organizations and decades for others. As a result, people have access to more digital tools in the workplace than ever before. But with this comes a new and rising concern that many organizations have reached the point of diminishing returns where the volume of tools is beginning to hamper worker productivity. To avoid becoming another cautionary tale in the saga of purchased but unadopted technology, decision intelligence must embrace the value of integration. In other words, information and recommendations must be presented within preferred business workflows—and the digital tools that are common to those workflows (e.g., Slack, Teams, Salesforce, ServiceNow, etc.)—so people can easily and quickly take action.

Every decision-making process comes to an end when a course of action is committed. At this point, however, the world does not stop spinning. Time continues uninterrupted, and the circumstances within which a decision was made may change. Unfortunately, many organizations don’t have processes in place to track and iterate based on those changes. Frequently, decisions are made with a fire-and-forget mentality—meaning, regardless of what happens after the fact, no intervention occurs.

To maximize the likelihood of achieving a successful outcome, decision monitoring and auditing processes need to be established. Decision tracking begins by capturing the decision itself (as a data point in a system of record or as text on a dashboard visualization, for example). From there, the decision must be monitored alongside key metrics in real-time, using advanced analytics.

For example, trend and anomaly detection capabilities enable organizations to be agile and resilient. If an unexpected trend occurs, perhaps a decision needs to be revisited, and a new course of action needs to be taken. Delayed-time information is equally important because it allows organizations to audit the effectiveness of decisions at predefined intervals (quarterly, semi-annually, or annually) so leaders can make process improvements.
People: Expertise and contextual knowledge

Designing and adopting processes to systemically capture mass amounts of data related to human context (i.e., the strategic, tactical, and operational decisions made by people) is no small feat, and the effort won’t be completed overnight. Additionally, we must recognize that decision intelligence is a novel concept. Almost all decisions ever made have not been documented, meaning they are data points that simply don’t exist and therefore cannot be analyzed to drive future decisions.

For some time, people will continue to hold expertise and contextual knowledge that can’t be found anywhere else. With this additional information and ability to comprehend more ambiguous data points, people are a critical part of the decision process and make up the third element of a decision intelligence platform.

We talk a lot about keeping a “human in the loop.” But, a question that’s often asked is, “Who are the people to which you are referring?” In other words, who is decision intelligence for? In short, decision intelligence is for everyone. Let’s take a closer look:

• **Decision makers** live across the organization—left and right (from information technology to the business), up and down (from strategic to operational tiers). Nobody has “decision maker” as a title, but everyone makes decisions as part of their job (e.g., to discontinue a product or service, to invest in new technology, etc.). A decision intelligence platform benefits these people by giving them access to comprehensive, actionable, and explainable insights, guiding them toward making the best decisions.

• **Analysts** also benefit from decision intelligence by gaining access to advanced analytics as well as iterative feedback loops. Data volume is exploding, and analysts are struggling to keep up with the demands of the business. Technology gives analysts a superpower, not just to inform the initial decision but to monitor the impact as time goes on.

There is also something to be said for capability building. Decision intelligence is an emerging discipline that requires new tools and techniques to be used amongst...
all people in an organization. As is the case with any transformational initiative, the workforce needs to be brought along for the ride, and skills development—especially in the areas of decision-making and data literacy—needs to be prioritized.

Decision intelligence: People, process, and technology in action

To better understand what decision intelligence looks like in practice, consider this omnichannel retail example. Every week, stakeholders meet to review key metrics, discuss progress against business goals, and define actions that need to be taken to drive organizational outcomes. Through the use of advanced analytics, decision makers have clarity about what’s happening, why changes are occurring, and what will happen next. With better data about the current state and future state of the business, business stakeholders can make better informed decisions about what actions to take—not after a lengthy, multi-week (or month!) data analysis, but right then and there.

The environment that surrounds the business changes rapidly, so metrics can’t only be looked at on a weekly basis. Stakeholders must be immediately notified of a sharp change in a metric (such as a dramatic increase in sales for a given product) as well as what market segments are driving the increase, how the change impacts customer satisfaction, supply chain ramifications, and more. With this contextual information, people can apply what they know about the business to make a decision.
Other common use cases for decision intelligence include:

- **Customer experience initiatives** aim to maximize the value and positive experiences customers have with your product and services in order to reduce churn and increase retention. However, understanding all the factors that impact customer health—and therefore retention—requires a comprehensive view of complex data. By embracing decision intelligence, organizations are able to capture and analyze churn, retention, and related metrics and their underlying factors so they can optimize and improve the overall customer experience.

- **Supply chain incidents** reduce efficiency, hurt customer satisfaction, and result in lost revenue. Visibility into key metrics within each layer of the supply chain requires a new approach to data and analytics, one that embraces transparency. Decision intelligence is at the heart of the transparency problem because it enables people to leverage all data and extract insights about “why” as a result.
Learn more about Sisu

The Sisu Decision Intelligence Engine augments everyone with AI/ML-powered automated analytics, delivering fast, comprehensive, and actionable insights on large amounts of data. With Sisu, it’s easy for anyone to use the full spectrum of analytics to make the right decisions and drive metric improvement across all workflows.

Sisu’s Customer Success team helps organizations drive business goals and outcomes with data by developing a decision intelligence strategy based on the three elements described in this guide: technology, process, and people. Read the decision intelligence playbook to learn how you can get started!

References


3 Gartner, Innovation Insight for Decision Intelligence, Anirudh Ganeshan, Gareth Herschel, 15 September 2021.


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