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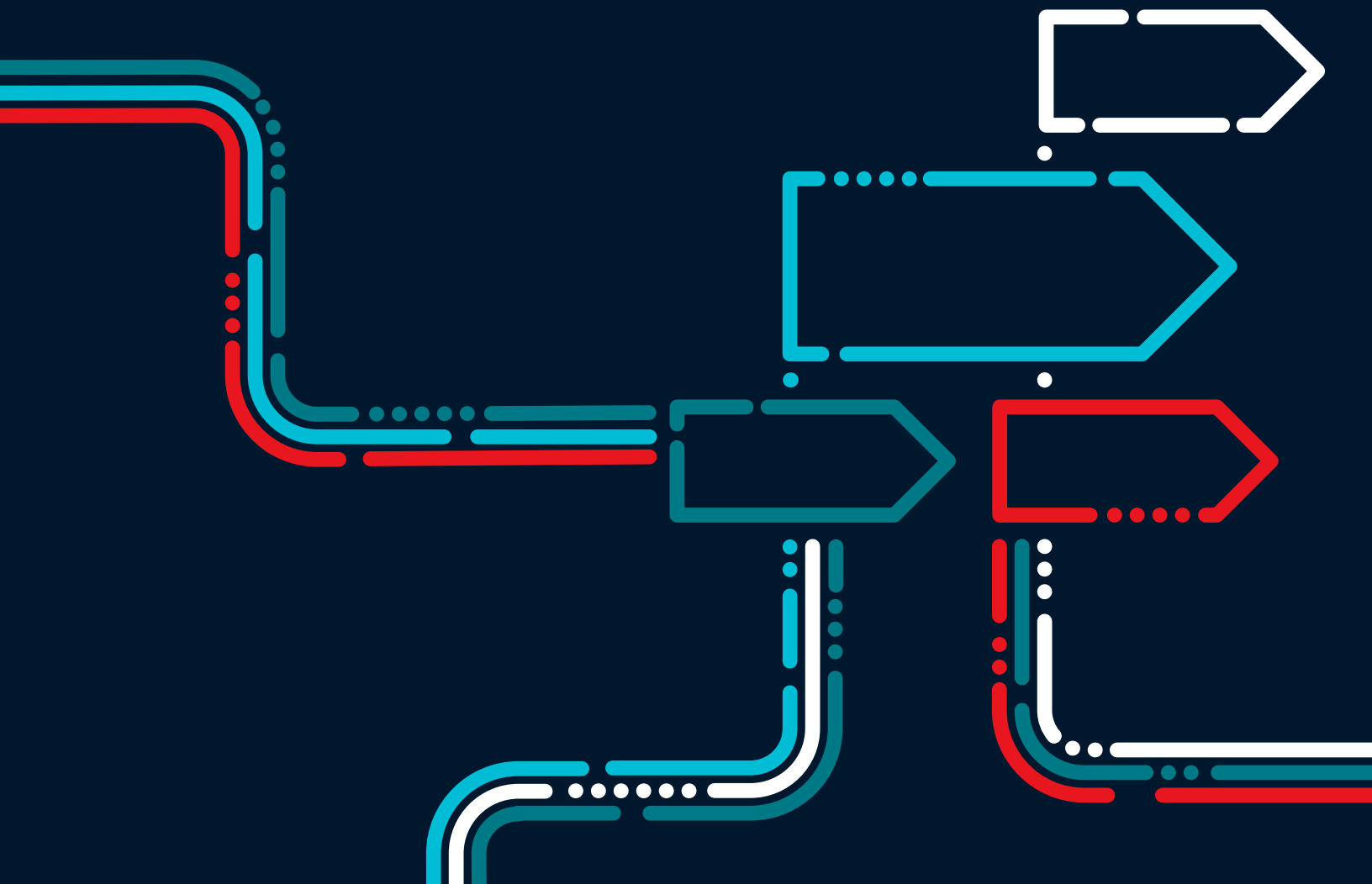
The Future of Decision-Making

How Decision Intelligence technology powered by high-quality data could transform the way companies make decisions



Organizations succeed or fail on the strength of their decisions. Yet the act of making decisions is becoming more difficult in an increasingly complex world. Unmanageably high volumes of data which could affect the outcome of a decision are being produced every day. While many managers ignore the data altogether and make decisions based on their experience or "gut instinct".

In the last few years, forward-thinking companies in Europe, North America, South America and the Asia-Pacific region have found a competitive advantage which is making their decision-making more accurate and effective. They have adopted ***Decision Intelligence***, a very practical application of Artificial Intelligence (AI) which uses data to support companies with commercial decisions–or even make the decisions for them. The field is growing rapidly and **Gartner** predicts that over a third of large organizations will have adopted Decision Intelligence by 2024.

Exciting though this technology is, its recommendations can only be as effective as the data powering it. Inaccurate or unreliable data will lead to equally inaccurate and unreliable decisions, no matter how advanced the technology. In this White Paper, we look at how companies can overcome this challenge–and how Nexis® Solutions can help by supplying the high-quality, enriched data that companies need to leverage Decision Intelligence to make the best possible decisions.

DECISION-MAKING: THE KEY INGREDIENT IN ORGANIZATIONAL SUCCESS

Decision-making is the most important task of any CEO or senior leader. The success of any major company can be traced back to a handful of key decisions that were made. Apple's emergence as the leader in the technology sector is often attributed to Steve Jobs' decision to prioritise and simplify product design. Similarly, bad decisions explain countless corporate bankruptcies. It should therefore be little surprise that a **Bain study** found the effectiveness of decisions correlates by 95% to firms' financial performance.

However, the evidence indicates that decisions made within companies tend to be excessively slow and consume a substantial amount of staff time. A **McKinsey survey** of more than 1,200 executives found that managers at Fortune 500 companies waste on average 530,000 days a year combined making decisions. Moreover, the way most CEOs make decisions has barely changed over the last century, with "gut instinct" often a primary reason for a course of action.

In the modern world of business, this means of decision-making is no longer fit for purpose. That's because decisions have become more complicated to make than they were a decade ago. There are five main reasons for this:

1. THE EXPLOSION OF DATA

The digitization of business–and the world–means that data is constantly being generated, and companies need to find relevant insights from this data to support their decisions. These high volumes mean it is no longer possible to carry out data analysis manually, or for individual leaders to read all the relevant data to inform a decision.

2. COMPLEX SUPPLY CHAINS

Decisions taken by multinational companies require an understanding of the contexts and risks of every sector and jurisdiction in which their company and its third party partners operate. But globalization has led to supply chains which often link together hundreds of entities across multiple countries.

3. ESG EXPECTATIONS

Traditionally, executives made decisions by answering one question: will this increase our profits without breaking the law? This is no longer satisfactory, because consumers, employees and investors want to buy from, work for and invest in companies who act ethically and benefit society. Reputation and ESG impacts must therefore be weighed in the decision-making process.

4. CONSUMER DEMANDS

CEOs not only have to make more decisions, but they must make them at speed. Modern consumers expect instant decisions on, for example, an application for a bank loan or credit or insurance application. While social media users and journalists expect companies to respond to allegations against them in hours or minutes, not days.

5. SHOCK EVENTS

Globalization also means that an event in a single city can have knock-on effects on the rest of the world. Just look at the blockage of the Suez Canal in 2021 which was forecast to cost global trade up to **$10 billion**, or the discovery of COVID-19 in Wuhan triggering global lockdowns and remote working. External shocks like these can force companies to rethink many of their decisions, and rapidly make new ones based on uncertain and evolving information.

> "To deal with unprecedented levels of business complexity and uncertainty, organizations must make accurate and highly contextualised decisions more quickly."
>
> **Gartner Research**

“People become overconfident because they never bother to document their past track record of wrong predictions, and then they make things worse by falling victim to the dreaded confirmation bias—they only look for evidence that confirms their preconceived hypotheses. The only protection against overconfidence is to systematically collect data, especially data that can prove you wrong.”

Richard Thaler, Nobel Prize-winning economist

HOW DECISION INTELLIGENCE CAN HELP ORGANIZATIONS OVERCOME BARRIERS TO EFFECTIVE DECISION-MAKING

Decision Intelligence is among the most promising solutions to the growing complexity of corporate decision-making. Gartner identified it as one of last year's top strategic trends , while Forbes Magazine recently asked: "Is Decision Intelligence the new AI?"

In fact, Decision Intelligence is not the new AI but a novel application of AI to concrete problems and decisions faced by companies. A company sets a specific objective and feeds the system with the right data. Then decision mapping, AI, Machine Learning and automation technologies combine to model different approaches. The outcome of Decision Intelligence is a series of practical and easy-to-understand recommendations.

Decision Intelligence can be adopted by companies to varying extents:

DECISION AUGMENTATION

Some companies simply use the technology to assist staff to make decisions through data analysis and alerts.

DECISION RECOMMENDATION

Others ask Decision Intelligence to analyse the data then make recommendations or predictions. Executives review these outputs and decide what to do next.

DECISION-MAKING

Some companies trust the machine to automatically make and implement decisions.

How should companies decide which model is best for them? Certain decisions which are sensitive and could affect the public's trust in a company should be reviewed by management before being implemented. While simpler and more repetitive decisions are ideal for being delegated to Decision Intelligence. A company might choose to empower Decision Intelligence more over time as it observes its results and learns how it works.

Many firms have also used the predictions and recommendations from Decision Intelligence as a useful challenge and counterweight to inform Board discussions and the decision-making process. A recent **academic paper by Dr Floris Mertens** suggested that "while only a handful of companies worldwide have attempted to appoint a robo-director, the general use of AI in corporate governance has proven to rationalize board decision-making, challenge groupthink and strengthen the independence of directors."

Decision Intelligence has countless use cases, including:

- Identification and management of risks facing an organization and its third parties.
- Investment analysis and asset allocation.
- Sales and marketing strategies.
- Supply chain intelligence and resilience.
- Customer relationship management and support.
- Research and development within academic institutions and companies.
- Pricing of goods and services such as credit, lending and insurance decisions.

Crucially, Decision Intelligence does not mean corporate leaders stepping back from decisions. Their role is critical in setting discrete questions which they want the technology to answer; and identifying, acquiring and feeding the machine with the datasets which will lead to the most useful outcomes. In a virtuous cycle, the time saved from analysing the data will help them to think more about those questions and the organization's overall strategy.

“Once, a leader convinced others to act in the absence of information. Today, there’s simply too much information available … Today’s leader doesn’t have all the answers. Instead, today’s leader knows what questions to ask.”

Alistair Croll, author

HOW COMPANIES ARE USING DECISION INTELLIGENCE TO GAIN A COMPETITIVE ADVANTAGE

Some of the world's most successful companies have already adopted Decision Intelligence for a wide range of use cases with promising results. From their experiences, we have observed six main benefits of the technology:

EFFICIENCY: Decision Intelligence saves employees time that would otherwise have been spent manually sifting data, and it provides recommendations and decisions almost instantly. This frees up executives' time to focus on other areas.

ACCURACY: Human error can easily creep in when individual members of staff are tasked with reading and analysing vast amounts of data. Decision Intelligence applies technology to parse the most relevant data then makes data-driven decisions. There is good evidence on the impact of AI on companies' decisions– for example, **McKinsey** found some firms using AI have enjoyed cost savings of 90% and a revenue increase of 70%.

CONTINUOUS IMPROVEMENT: Decision Intelligence applications include a closed loop feedback system which learns over time–both from new data it ingests and from employees reviewing the decisions it makes. The quality of decisions should therefore get better and better.

PRACTICALITY: While other AI technologies can offer insights to companies, it often requires a sophisticated knowledge of data science to use them and understand their outputs. In practice, this means these technologies are bought in by a company but then rarely used. Decision Intelligence avoids this pitfall by being highly practical: it provides a concrete recommendation based on parameters set by the user, who does not have to be a technology or data specialist.

WHOLE-COMPANY APPROACH: Decision Intelligence is designed to look across the entire portfolio of a company, rather than simply be given to one specific function. This overcomes a common problem of AI projects which is that silos within a company prevent them from being used effectively.

FORWARD-LOOKING: Decision Intelligence can analyse both historical data and current data to make predictions which are easy for users to understand and decide how to act on.

These benefits explain why organizations of all sizes in a wide range of sectors are already using Decision Intelligence. Examples include:

- A **British telecommunications firm** is using Decision Intelligence to improve the decisions it makes for its customers by tracking all their interactions with the company across the services they offer.
- A **technology giant in the US** uses data-driven software to improve the sustainability and resilience of their operations and supply chains, particularly their environmental impact.
- A **multinational consumer goods firm** has adopted Decision Intelligence to make faster decisions to improve supply chain resilience through forecasting and data analysis.
- A company in **Brazil's large agribusiness sector** augments farmers' decisions using data sources such as crop statistics.
- A **Chinese conglomerate** has set up an in-house "laboratory" for Decision Intelligence which aims to improve content recommendations given to users, and its pricing of goods and services.
- **One of the world's biggest technology firms** deploys 17,000 employees across its departments to work on Decision Intelligence.
- A **bank in Brazil** uses AI to make decisions around awarding credit, and making recommendations on financial intelligence for its customers.
- The **Canadian government** is employing AI to improve the efficiency of government programs and services, and it has drawn up a directive on automated decision-making to ensure this is carried out responsibly.

Mounting evidence shows Decision Intelligence can transform these businesses and organizations. For example:

- Decision Intelligence has helped an American National Football League team to increase revenue by 14%.
- A Danish transport company uses Decision Intelligence to forecast future demand of its services, leading to a 70% improvement in accuracy which facilitated a 14% increase in customer usage.
- A French utility company uses Decision Intelligence to comply with regulations and to monitor the maintenance needs of its equipment, which has generated savings of nearly €1 million per year.

Unsurprisingly, companies' use of Decision Intelligence is predicted to accelerate in the coming years. North America is witnessing the largest growth, but the trend is truly global–fuelled by companies' increasing familiarity with digital working since the start of the pandemic.

Research firms' predictions all point in one direction:

- The global Decision Intelligence Market will grow from $9.8 billion in 2021 to $39.3 billion by 2031 (a rate of 15.2% compound annual growth), according to Valuates Reports.
- Gartner estimates that over a third of large organizations will use Decision Intelligence by 2024, which is similar to the International Data Corporation's prediction of a third using it by the end of 2023.
- The market for Decision Intelligence in the Asia-Pacific region is expected to see annual compound growth of 18.3% between now and 2028, according to KBV Research.
- Adoption is also predicted to accelerate in Europe and Global Market Insights estimates the continent will account for more than a quarter of the entire market by 2032.

> "In five years' time those companies that have not made meaningful progress on Decision Intelligence will feel the same effects as those in consumer-facing businesses that were late to move online."
>
> International Data Corporation, 2021

THE DECISION INTELLIGENCE CHECKLIST

10 steps to successfully harnessing the technology's potential

Decision Intelligence's potential is exciting, but the technology alone is not enough for it to be successfully used by a company. Its potential lies in its ability to use diverse sources to make decisions based on the data that it ingests. If that data is incomplete, inaccurate, outdated or biased, the insights and recommendations that follow will likely lead to poor decisions. Companies therefore need to acquire the best possible data to fuel the AI technology they adopt. It is particularly useful if a broad range of sources can be accessed in one place, such as a technology application which aggregates high-quality data sources.

Companies considering implementing Decision Intelligence should follow 10 steps to improve its effectiveness:

1. DEMAND QUALITY

Better data leads to better decisions. Companies must prioritise sourcing and using data which is authoritative and high-quality–not data from unprovenanced, biased or ephemeral sources.

2. CAST YOUR DATA NET WIDE

Decisions must consider a wide range of factors, including reputational issues and ESG impacts. That means acquiring data from many areas–from company and legal data to news and online sources. Data sources should include both up-to-date information, and historical data to help generate better predictions based on past performance.

3. OPTIMIZE YOUR DATA

Invest in acquiring data that is enriched and optimized for delivery into Decision Intelligence technologies. If executives need to spend time cleaning and editing data sources, this is not only inefficient but may deter them from using it at all. Companies can acquire data via APIs, or Bulk downloads enriched by metadata.

4. TONE FROM THE TOP

New technology projects regularly fail because individuals are resistant to changing the way they have always worked. It is important that the C-suite explains the importance of and reason for adopting Decision Intelligence.

5. ETHICS AND TRANSPARENCY

There is a lot of mistrust around technology and employees are worried about the possibility of their jobs being replaced by a machine. Companies should communicate to staff how Decision Intelligence works, and share outcomes and visualizations of data-driven decisions to improve their understanding of the technology. Getting data from well-provenanced and reliable sources will also reassure regulators who are increasingly regulating AI governance and ethics and will expect companies to comply.

6. START WITH THE EASY WINS

While Decision Intelligence can be used across the whole business, it is sensible to begin by applying the technology to areas where it can quickly make an impact. Case studies can then be developed to demonstrate the technology's potential to other functions.

7. SET CLEAR PARAMETERS

You should start by identifying concrete questions you want to ask, or decisions you want to make. Then you should identify the data which will help inform your decisions and provide perspective. Only then should you apply Decision Intelligence technologies.

8. ALLOCATE ACCOUNTABILITY

AI-made decisions introduce complicated questions of who is responsible for them. Executives should take accountability for these decisions and report to the Board and other teams on their rationale and ultimately their effectiveness.

9. MONITOR DECISIONS

Companies should continuously monitor the results of decisions made with technological assistance. This will help to persuade others of the technology's value if the decisions are effective, and to decide on a change of course (or data input) if decisions appear not to be working.

10. TRAIN STAFF

Decision Intelligence is designed to be used across the whole of a company, so it is important that staff are given proper training to feel confident in using it. Existing staff should be trained regularly, and it should become part of the onboarding process for new hires.

“Data-driven decision-making is a cultural intervention which requires habit change from the leaders to the frontline employees.”

Harjeet Khanduja, author

DRIVE DECISION INTELLIGENCE APPLICATIONS WITH HIGH-QUALITY AND ENRICHED DATA FROM NEXIS® SOLUTIONS

Nexis® Data as a Service: A trusted data provider for Decision Intelligence solutions

Decision Intelligence, predictive analytics, machine learning algorithms and other AI applications won't run on empty. Nexis Data as a Service offers bulk, constant call data APIs and on-premises applications for delivering highly relevant, archival and current datasets to power your big data projects, whether that's advanced analytics, Decision Intelligence or another data need.

Nexis Data as a Service offers a range of benefits which meet the core needs of Decision Intelligence and lay a solid foundation for the technology to be successful:

Decision Intelligence NEEDS…	Nexis Data as a Service OFFERS…
Access to comprehensive data from a wide range of sources in one place.	Nexis Data as a Service provides an unmatched collection of enriched, global data that empowers your company to find insights that deliver a meaningful return on your technology investment—all from a single vendor.
Trustworthy and authoritative data that allows confident and defensible decisions.	In a world full of questionable data with dubious origins, you can trust the depth, breadth and integrity of Nexis Data as a Service. No other company can match the quantity and quality of our data, which includes 80,000+ news sources from 100+ companies, 1,400+ sources on global sanctions, and watchlists and company data on more than 165 million companies.
Flexible delivery for different technology applications.	Nexis Data as a Service pairs unmatched, trustworthy content with sophisticated, dynamic smart data enrichments, delivering them in a format that suits your unique needs.

Ease of linking relevant data together.	Every piece of content in Nexis Data as a Service's system is analyzed and categorized by subject, industry, organization, people and place to help transform data into decisions more quickly. Deep enrichments support more targeted data calls that yield more relevant results.
Understanding of the sentiment of different data sources.	Nexis® SmartIndexing Technology™ categorizes every piece of data by subject, industry, company, sentiment and more. This helps AI technologies to surface relevant trends and overall sentiments that affect the decision-making process.
Up-to-date data to ensure decisions are based on the latest available information.	Millions of documents are added to the Nexis DaaS system every day to help you unlock the most up-to-the minute insights. From predictive analytics and risk assessment to product development and competitive analysis, Nexis® Data as a Service offers you all of the data you need to transform insights into action.
Data which lets it look backwards to make decisions, and forwards to make predictions.	Nexis Data as a Service lets you conduct backward- and forward-looking analysis of news and company data to assess challenges and draw correlations between events and performance.

Ultimately, Nexis Data as a Service can help CEOs to accelerate revenue, inspire innovation, identify risk and stay ahead of the competition by finding insights faster and applying them effectively. It helps you to make decisions that are quickly calculated, carefully considered and rigorously defensible.

Are you ready to leverage Nexis Data as a Service to power technology to manage risk and find new insights and opportunities?

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