Why Government Agencies Need Decision Intelligence to Reach Data-Driven Objectives

Decision Intelligence helps government agencies to unify their data and improve mission-critical decision-making to drive better services.

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In today's data-driven world, expectations and challenges are at levels not seen before by government agencies. Being data-driven is no longer an aspiration, it's a necessity. Government agencies need to digitally transform, build data resiliency, and get more out of legacy technologies.

Being able to unify data, address risk, and run agencies more efficiently is paramount. This is why, in a landscape that is in constant flux, solutions that work with existing data environments to make more informed decisions are so important.

At its core, mission stakeholders in the public sector face the challenge of helping their agencies to make more effective decisions, including:

Strategic decisions define what an organization wants to achieve in the future. These are long-term decisions that provide the "what" and the "why" for organizations.

Operational decisions are the day-to-day calls that must be made to implement the plan and achieve the strategic outcome. These decisions define *how* and *when* the work is actually done.

Tactical decisions make the long-term strategic vision possible by breaking it down into a more short-term strategy. These show how the work should be done. [i]

One of the biggest obstacles for public sector agencies in making any of these types of decisions is **fragmented and siloed data**, which prevents leaders from seeing "the full picture." Agency leaders want to be in a position to allow automated, accurate decision-making where necessary, but they need the full data picture to make properly informed decisions when a person needs to make the really difficult calls.

Today, government agencies must be able to pivot quickly to meet evolving challenges that ensure a level playing field, detect and prevent fraudulent acts, secure borders, prevent terrorist threats, and deal with any of the multitudes of problems public sector agencies deal with every day. The ability to meet these challenges, and ultimately provide better services to citizens, relies on having a complete and contextual view of your data to enable swift, accurate decision-making.

"Decision intelligence in government is a practical discipline that improves decision-making by explicitly understanding how decisions are made, and how their outcomes are evaluated and improved by feedback. To support that, it systematically adopts data-driven technologies such as artificial intelligence and advanced analytics at each stage of government activity. This shifts government agencies from the dashboard reporting of lagging indicators to predictive decision support, and will help decision-makers — from front line to executives — make better, context-based, operational decisions in real time."

Gartner, "Top Trends in Government for 2022: Decision Intelligence"

25m

(in GBP)

The amount the UK central government taskforce will spend to crack-down on fraudsters.

10bn+

(in USD)

The amount identified by the IRS in 2021 due to tax fraud and financial crimes.

At Quantexa, we help public and private organizations overcome the challenges of complex and poor data quality by helping unify their data, address risk and compliance, and see monetization opportunities.

One of the keys to achieving mission success is for government agencies to become truly data-driven. To realize this goal, data and decision-making must be employed responsibly and holistically. Contextual Decision Intelligence (CDI) delivers on these objectives.

CDI helps organizations to transform their data, which may contain inconsistencies or errors from manual inputs, into accurate and complete data that can be trusted.

From a strong data foundation, government agencies can build context through networked relationships, in addition to using machine learning (ML) and artificial intelligence (AI) to automate and improve decision-making.

Automating repetitive decisions is one of the steps governments are taking to better utilize their resources. Here's why it's so important.

Streamlining Decision-Making Through Automation

Big data presents a major challenge for governments who see their non-unified data repositories filling at exponential rates. The opportunity for public sector agencies, however, lies in being able to use these growing databases to better serve citizens. But how do they get there?

Effective and efficient decision-making is a delicate balance between people, processes, and technology. Automating the process for decisions that are presently repetitive and devour precious human resources to manage is one of the major solutions forward-leaning governments are beginning to explore, but it needs to be examined with the understanding that the process always works better when automation and people-driven decision-making work together.

As Gartner describes, Decision Intelligence (supported by automated decision-making) enables governments to:

- Shift the focus of service delivery from reactive to proactive using live data in contextually appropriate situations.
- Free up knowledge workers by reducing the effort spent doing repetitive administrative tasks or collecting data available by other means, so they can broaden their value.
- Improve the quality, consistency, and timeliness of their services and decision-making." [ii]

of government CIOs say AI and machine learning (ML) capabilities were either **already in place or would be deployed within 24 months***

*Government CIOs responding to the Gartner CIO and Technology Executive Survey 2022

Quantexa's Decision Intelligence (DI) platform enables organizations to leverage low-code data fusion to unify data, build single views of entities, and use graph analytics to generate networks, and scoring and alerting frameworks, that help identify risk and opportunities at a massive scale by connecting billions of data points across internal and external data sources.

The Cabinet Office is using Quantexa's powerful technology to join datasets together and reveal hidden connections to surface suspicious activity and help in efforts to pinpoint fraud activity.

Cabinet Office

The UK Cabinet Office has leveraged Quantexa's DI platform to help the UK Government detect fraud in the COVID-19 loan schemes and assist in the fight against financial crime.

Getting to the point of accomplishing far more with technology is not without its challenges, however. Here are some of the stumbling blocks governments worldwide are contending with.

The Challenges Public Sector Agencies Face

Data Inaccessibility

At present, data in many public sector agencies is not easily accessible. This results in employees having to manually review large amounts of data to find actionable intelligence. In addition to being painfully slow and wasting valuable hours, relying on manual reviews can easily lead to missed data points that may be critical to solving problems and promoting better decision-making.

Data on any single citizen may also reside in multiple systems depending on which branches of government they've interacted with. At the same time, newly digitized services are coming online that may be totally separate from existing infrastructure, making connections between data pools even more difficult.

Poor Quality Data

Many public sector agencies realize that the quality of the data they have is marginal, but in many cases, there is a mistaken belief that they can't do anything about it and that it may take years to get their databases in shape. This perception needs to be flipped so that agencies realize that instead of a roadblock, the vast data lakes they control can be a valuable asset when put in the proper context to yield higher-quality data.

Information Sharing Barriers

Interestingly, while many governmental agency organizations embrace their uniqueness and independence, many want solutions that can help drive efficiency in their processes through data sharing across agencies. While legislation often prevents certain datasets from being brought together, there is a strategic need for more tactical one-on-one datasets for solving crimes or supporting particular programs and payments.

In the private sector, financial institutions can draw from the various databases within their own organizations to build profiles of people. This allows them to make better marketing decisions about these people and to feed them into other programs that are further downstream in their organization. They're using technology to generate revenue, obviously, but a public sector agency might use these same solutions to solve crimes, reduce fraud or money laundering, or prevent human or drug trafficking across their borders.

Changing Constituent Needs:

Government agencies constantly wrestle with how to enhance their constituent's user experience when using government services online. While "know your customer" (KYC) is a common term in banking and the private sector, "know your constituents" is a role that public sector agencies for the most part have not yet embraced because they don't have a full visualization of who their constituents are, what their needs are, and how they might better serve them. Constituent needs also change constantly, requiring the flexibility to interpret what is needed at a given time.

Cultural Inertia

Throughout many government agencies there is resistance to organizational change. Disruption to a particular way of using data is not readily embraced, despite modern solutions that could easily be deployed within legacy infrastructure to greatly reduce the man hours currently spent on process-oriented work to divert more resources to intelligence-oriented work. Ultimately, this would enhance a public sector agency's ability to use the huge data resources they control more effectively and efficiently.

Digital Maturity

Most governmental agencies use large dashboards and business intelligence tools for reporting. They may even be applying analytics tools to try and decipher their data. What they lack, however, is the ability to render quality information from their databases. This requires a solution that can ingest vast quantities of data across all systems, to provide a data-rich visualization of an individual or a business entity. Having this complete data picture allows governments and agencies to make better decisions based on a richer dataset or what we define as "Decision Intelligence (DI)" not just a few key data points sitting on a dashboard.

Where Public Sector Agencies Can Put Decision Intelligence To Work Right Now

Quantexa's goal is to help governments automate their decision-making process and use DI to run agencies more efficiently. Here are some real-world examples where DI can help.

Financial Intelligence Units (FIUs)

FIUs are dealing with deceptions that range from simple mistakes to advanced strategies to obfuscate fraudulent activities and other tactical diversions that are costing governments billions of dollars annually. Analysts need to quickly determine if a Suspicious Activity Report (SAR) is related to an existing case or intelligence. CDI powers government investigations with unique capabilities to:

- Achieve a more unified, cohesive and dynamic view of data
- Gain a 360-degree view of data to uncover hidden insights
- Drive analysis through trusted data and holistic views
- Make better decisions based on reliable data in context

Money laundering, estimated at billions of dollars per year, has been a huge problem for the Canadian government. The problem had become so bad that the Canadian government assigned a commission to investigate; headed by the Honourable Austin F. Cullen as Commissioner (the Cullen Commission).

A New York Times article described one example in which, "Rich gamblers from China flew in, wheeling hockey bags stuffed with tens of thousands of Canadian 20 dollar bills to play baccarat at private salons inside Vancouver-area casinos. The money was suspected to come from loan sharks connected to Chinese criminal gangs and drug traffickers. The loan sharks laundered their drug money by lending it to the gamblers, who would, in turn, repay them with clean money deposited to bank accounts in China or Hong Kong."

Based on its findings the commission has made a number of recommendations for tighter governance affecting financial institutions, virtual assets and cryptocurrency, casinos, real estate, luxury goods, professional services and enforcement.

Tax Services

One of Quantexa's customers in tax services now collects an additional $1 billion per year using Quantexa's Decision Intelligence solution, simply because they can find the problems relating to tax fraud earlier, before refunds are distributed.

Customs And Borders

Being able to assess risks quickly is critical for customs agencies. For example, a customs agency might be importing goods within a country, and they want to ensure they're not importing any risky items—goods linked to forced labor, dangerous components, contraband, or anything that is not allowed in the country.

Quantexa's platform allows customs personnel to take the declarations related to the imports in real time, link the declaration to all the historical data, and then create a risk score. This creates alerts for declarations where there is a very high score or high risk for a particular shipment.

Social Services

When governments are addressing risks within a payment or program, they often say there is a tradeoff between processing a payment quickly and efficiently versus addressing risk and checking to ensure the payment has been made to the right person for the right amount. With modern technology, however, there doesn't need to be a trade-off.

Government agencies can use Quantexa's platform to process payments quickly, while ensuring payments are going to the right person for the right amount. In the past, it used to add time to make a payments if officials had to do checks and balances, and verification. Modern technology streamlines that process, so agencies can do things fast, in parallel.

National Health Services

Improper payments in US Healthcare programs alone are estimated at over $200 billion annually. Recently, the Department of Justice (DOJ) announced criminal charges, "against 36 defendants in 13 federal districts across the United States for more than $1.2 billion in alleged fraudulent telemedicine, cardiovascular and cancer genetic testing, and durable medical equipment (DME) schemes."

In one case recently prosecuted by the DOJ, "The operator of several clinical laboratories, who was charged in connection with a scheme to pay over $16 million in kickbacks to marketers who, in turn, paid kickbacks to telemedicine companies and call centers in exchange for doctors' orders. As alleged in court documents, orders for cardiovascular and cancer genetic testing were used by the defendant and others to submit over $174 million in false and fraudulent claims to Medicare—but the results of the testing were not used in the treatment of patients. The defendant allegedly laundered the proceeds of the fraudulent scheme through a complex network of bank accounts and entities, including to purchase luxury vehicles, a yacht, and real estate. The indictment seeks forfeiture of over $7 million in United States currency, three properties, the yacht, and a Tesla and other vehicles."

Having the ability to see a single view of data can help reduce:

- Fraudulent providers re-enrolling repeatedly with slight variations of their data
- Phantom providers billing for services that they haven't provided using stolen patient data
- Poor pre-payment screening, resulting in claims being paid without risk assessment

Fraud, Waste, And Abuse (FWA)

Finding ways to better use taxpayers' funds is front of mind for every public sector agency because constituents hate the idea of any waste or misuse of what they consider "their dollars." For example, the US Government Accountability Office reported that "agency-reported improper payment estimates for fiscal year 2019 totaled about $175 billion, based on improper payment estimates reported by federal programs, an increase from the fiscal year 2018 total of $151 billion."

To mitigate these challenges, agencies must implement tools to enable interoperable and connected data to reduce errors from manual inputs and inconsistent data across all sources. Quantexa's CDI platform empowers agencies to make better, more mindful decisions based on quality data to ensure that integrity is built into payments and programs to lessen opportunities for misuse or waste.

Key Questions Government Technology Leaders Should Be Asking

As public sector agencies look ahead, Gartner points to several key statistics on the horizon that will directly impact governmental decision-making:

By 2024, **60% of government AI and data analytics investments** aim to directly impact real-time operational decisions and outcomes.

By 2023, **more than 33% of large organizations** will have analyts practicing Decision Intelligence (including decision modeling.)

As Gartner suggests, "The ability to identify, prioritize, and then model and (re)engineer decisions for improvement (i.e., Decision Intelligence) will be critical competencies for a disruption-ready and resilient organization in the future.

"As decisions become increasingly automated and augmented, engineering decisions for precision, transparency, traceability, flexibility, reusability, and explainability will significantly empower governance. This will require improved data quality, which will in turn improve:

- Trust and confidence in government
- Ethical and appropriate use of data
- Compliance and adoption of regulations"[iii]

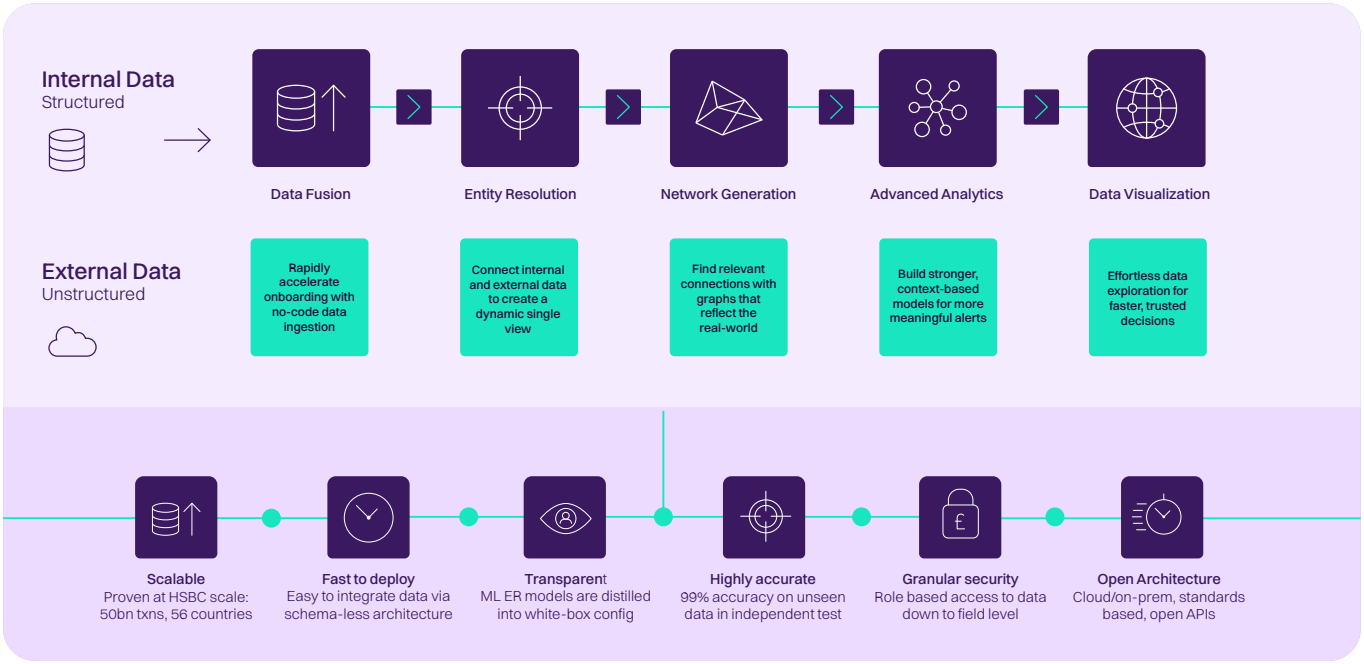
Key questions for government and agency leaders to consider include:

- What are you doing today to improve your data quality?
- What tools do you need to meet this challenge?
- How well equipped is your workforce to deliver on their mission to provide better-quality governmental services in the future?

Choosing a partner with the proper expertise and innovative solutions is critical to answering these questions. Here's how Quantexa's platform works.

A Platform For Success

Quantexa's Decision Intelligence (DI) platform is a new generation of software designed to automate or augment decisions – empowering operational teams to make faster, more accurate strategic, tactical, and operational decisions. The platform connects billions of data points across internal and external data sources, to provide a single view data hub enriched with vital intelligence about the network of relationships between people, organizations, and places.



Low-Code Data Fusion: Use Quantexa Fusion to rapidly accelerate complex data onboarding with no-code, scalable, high-performance data preparation and ingestion – and no complex ETL.

Graph Analytics: Create a dynamic view of the bigger picture, automatically compiling the most relevant and hidden connections, entities, and data for a specific decision.

Dynamic Entity Resolution: Connect internal and external data to create a single, complete view. Ingest once and resolve dynamically in real-time or in batch, for any number of use cases, without duplication.

Network Generation: Link resolved entities into a network view, handling the complexity of over- or under-linking of networks to reveal the context of how people, places, and organizations to find hidden connections that would be undetectable if viewed by themselves.

Analytics Framework: Empowers agencies to craft analytic models based on real-world expertise. This framework builds on tools familiar to data scientists, simplifying the use of entities and network context in features, rules, and models. These are easy to deploy and integrate into live services to make decisions or flag items for review.

Scoring & Alerting Frameworks: Generate more meaningful alerts with context for investigators based on scoring models that run in real-time, resulting in fewer false positives and faster, trusted decisions.

Sophisticated Search Capabilities: enable users to search individual entities (Search), or collections of entities (Bulk Search) of interest as a starting point to an investigation or analysis. The contextual results of a search can be presented as a network visualization for further discovery.

Explorer Module: Enables users to search and query big data to uncover themes or trends, highlighting records of interest as a starting point. It features interactive dashboards and a powerful query builder to slice and dice the data, or select a set to analyze further in a network view. It supports multiple use cases, such as transactions, customers, applications, claims, trades, and shipments.

Knowledge Graph View: Highlights where the risk or opportunity lies, providing an immediate understanding of the context and how it has evolved over time. Users can interact with the data visualization to perform an investigation or exploration to inform faster, more accurate decisioning. Additional visualization product modules are available to enhance UI capabilities: Investigations, User-Defined Intelligence (UDI), Connect, and Contextual Search.

Open Architecture: Allows Quantexa's platform to integrate seamlessly into existing IT ecosystems, with flexible deployment options: native, or containerized for private and public cloud.

Other solutions that can be added to address specific use cases include:

- Financial crime and fraud detection
- Contextualized data management solutions
- Solutions for individual agencies including tax authorities, health care, customs, border control, and FWA

Ultimately, Quantexa's CDI platform empowers public sector agencies to use their massive databases more efficiently by providing the means to:

- **Enhance Data Governance:** Ingest large external datasets while meeting security and data privacy requirements to maximize your data across multiple use cases with a single repository
- **Make More Informed Decisions:** Get a holistic view of an entity and its hidden connections to reduce false positives and make more informed and accurate decisions at every level – strategic, tactical, and operational
- **Increase Investigative Efficiency:** Reduce investigative workloads by using context to generate only high-quality alerts, reduce false positives, and reduce investigation time from weeks to hours
- **Scale with Simple Integration:** Augment and enhance in-house capabilities using an open architecture, which enables rapid scaling to accelerate risk detection across multiple public-sector agencies.

Optimizing data and processes to help public sector agencies operate more efficiently starts by finding the right partner. Here are some key points Gartner recommends for agencies to consider when searching for a service provider.

What to Look for in Decision Intelligence Provider

Choose a partner than can, "**Tie the business value and public benefit** of Decision Intelligence to the agenda of stakeholders by building a concise data and analytics strategy based on continual feedback between policy outcomes and decision-making."

Seek partners that can, "**Demonstrate the effectiveness and efficiency opportunities** of decision intelligence by conducting pilot projects that have immediate impacts on productivity or increased levels of trust in decisions."

Work with a proven organization that has the tools and expertise to help you, "**Build a roadmap for capability development** by assessing current AI and analytics capabilities across your internal and external stakeholders; this must include elevating maturity to ensure that governance is embedded in development and addresses risks."

Finally, find a partner that can help you, "**Build a data-driven organization** by establishing D&A (Data and Analysis) communities and data engineering as a discipline to increase data literacy, encourage collaboration, share learning, and develop sensitivity to ethical challenges."[iv]

Why Quantexa

At Quantexa, we're passionate about helping public sector agencies solve real-world problems. Our seasoned team of more than 500 software engineers, data scientists and domain experts, innovators, thinkers, solution-finders, and problem-solvers bring deep expertise to help agencies:

- **Protect revenues and payments:** find fraud and risk
- **Aid compliance:** detect risk, drive campaigns & investigate
- **Render value from data:** use all available data & analytics in your decisions
- **Build efficient operations:** automate decisions & more productive staff
- **Create a human-centric experience:** enable digital from across legacy IT

Our industry-leading **Decision Intelligence Platform** is live in more than **70 countries**, processing billions of records and transactions with **thousands of users worldwide** including the **UK government**, HSBC, Standard Chartered Bank, Bank of New York Mellon and many others.

Resources

[i] Better Govs
[ii] Gartner "Top Trends in Government for 2022: Decision Intelligence"
[iii] Gartner "Top Trends in Government for 2022: Decision Intelligence"
[iv] Gartner "Top Trends in Government for 2022: Decision Intelligence"

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