OVERCOME BARRIERS AND CREATE VALUE WITH DATA-DRIVEN DECISIONS

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"There is immense potential to fuel smarter, faster, and more impactful business decisions by turning information into actionable insights.

Yet, companies often face obstacles like poor data quality, cultural barriers, and underutilization of tools, which prevent them from unlocking this value. "

Matt Protopapas, PhD

Data & Analytics Consultant, Managing Partner

Some of the organizations Matt has worked with:

sanofi Unilever Deloitte. BARCLAYS EY GAC ppc Royal Bank of Scotland ONAN

How can Analytics & AI provide value for Small & Medium Businesses?

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Demand Planning

Analytics help growing businesses stay ahead of customer demand – not just season by season, but day by day.

Improve Personalization

Today's customers expect experiences tailored just for them – and analytics make that possible.

Optimizing Product Mix

Choosing the right products to stock can make or break your margins – and AI is now the secret weapon for getting it right.

Some Analytics use cases that have provided value for SMEs

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Improve Personalization

Today's customers expect experiences tailored just for them - and analytics make that possible.

Instead of relying on basic "people who bought this also bought that" recommendations, AI tools help predict who's most likely to buy, click, or respond to your offers.

For growing businesses, this means smarter marketing and higher conversion rates. With customer permission, AI can even factor in things like location, social media activity, or lifestyle data to deliver messages that truly resonate - helping SMEs build stronger, more personal connections at scale.

Automated Customer Contact

AI-powered chatbots are transforming the way businesses connect with their customers.

Instead of waiting on hold customers can now get instant answers, anytime, anywhere.

For SMEs, AI opens the door to better service and lower costs, provided quality is maintained by closely monitoring chatbot performance.

Advanced analytical methods can be used to both empower the customer in real-time and understand their requirements better.

Optimizing Product Mix

Choosing the right products to stock can make or break your margins - and AI is now the secret weapon for getting it right.

With analytics–driven assortment optimization, businesses can ensure that top-selling items are always on the shelf while reducing overstock and missed opportunities.

Even during disruptions, you can manage to keep your shelves stocked & customers happy.

For SMEs, these technologies are now more accessible than ever - helping you make smarter inventory decisions with less guesswork.

Demand Planning

Analytics help growing businesses stay ahead of customer demand - not just season by season, but day by day.

Leading retailers use AI to forecast demand for every product, in every store, every night.

While that may sound high-tech, safety stock and lead time calculations can help SMEs avoid stockouts, reduce excess inventory, and make better buying decisions.

Smarter Fleet Optimization

AI-powered analytics can help SMEs get more out of their fleets - from planning the most efficient delivery routes to cutting down on costly empty return trips.

By using advanced tools like AI and Operations Research, businesses can keep trucks full, streamline flow through distribution centers, and save on fuel and labor costs.

While major disruptions can still throw supply chains off balance, proactive companies can spot early warning signs, getting the chance to respond before small issues become big ones.

Insights from Video & Audio

From security footage to factory floor videos, today's businesses are surrounded by visual and audio data - far too much to process without AI.

AI now makes it possible to automatically analyze this content, spotting patterns, detecting motion or sentiment, and even identifying how people feel during an interaction.

For SMEs, this means turning everyday recordings into powerful business insights, whether it's understanding reactions, improving safety, or uncovering new opportunities.

The overall value of Analytics is mind-staggering…

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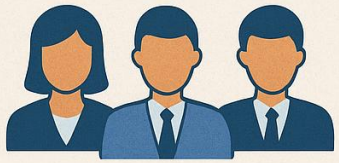
Over the years, I've worked with both large corporations and SMEs across Greece and internationally

And while the value of analytics is widely acknowledged, the reality is that very few organisations have truly unlocked its full potential when it comes to making smart, data-driven decisions



Entire ecosystems have formed around analytics, with thousands of experts employed specifically to help businesses turn raw data into actionable insights

AI and analytics together could unlock over

US$20 trillion

in annual economic value

Source: MGI

The value of data analytics, reporting & AI stems from the simple fact that business processes generate a large amount of data.

Those data need further consolidation, quality control, and analysis, to be useful for strategic, tactical & operational decision making.

A report created using inaccurate data leads to waste, re-work, and risks, not meaningful information. Consequently, a data model that consolidates information automatically and has quality controls in place can ensure quality, enable analytics and improve productivity.

And while advanced analytical techniques such as Econometrics, Simulation & Optimization have always been useful - e.g., a marketing mix model that estimates the impact on sales of price, place, promotions, and factors such as GDP trends & seasonality, can help you understand what affects sales and how to increase them…

.. Gen-AI tools nowadays can sometimes automate simple day-to-day decisions and streamline action directly from analytics results.

However, no rose petals line the path…

Barriers to Effective Data-Driven Decision Making

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Despite the promise, many companies still fall short in embracing data-driven decision making

Throughout my 15+ year of experience in business environments, I've observed consistent patterns,

... roadblocks that repeatedly limit progress, stifle insights and reduce the impact of analytics,

... no matter the size of the company or the enthusiasm of its people.

Lack of Focus and Actionability

An inability to clearly identify key drivers, understand their root causes, or determine the most effective actions, making it challenging to address relevant issues, maximize profits, and minimize risks.

Inadequate Information Management

Have you ever witnessed people in an executive meeting presenting different numbers for the same metric? Lack of clear definitions, or inconsistent and inaccurate data, undermine trust and hinder visibility and optimal decision-making.

Fragmented Data Architecture

Having the right data in a seamless way to create reports and perform analytics productively, requires consolidated datasets that are refreshed automatically, and platforms that enable teams to collaborate.

Underutilization of Modern Tools

Adoption and effective use of AI, BI & Analytical tools remain limited, while they are necessary to enable our people increase them productivity and unify data inputs to obtain insights.

Organizational & Cultural Barriers

...arise from centralized decision-making, resistance to change, and a lack of leadership commitment to a data-driven culture, which, combined with misaligned incentives, hinder proactivity, scalability, and coordinated action.

Decision Execution Gap

occurs when organizations struggle to act on available insights due to misalignment with business priorities and slow decision cycles, preventing timely and effective responses.

Lack of Focus and Actionability

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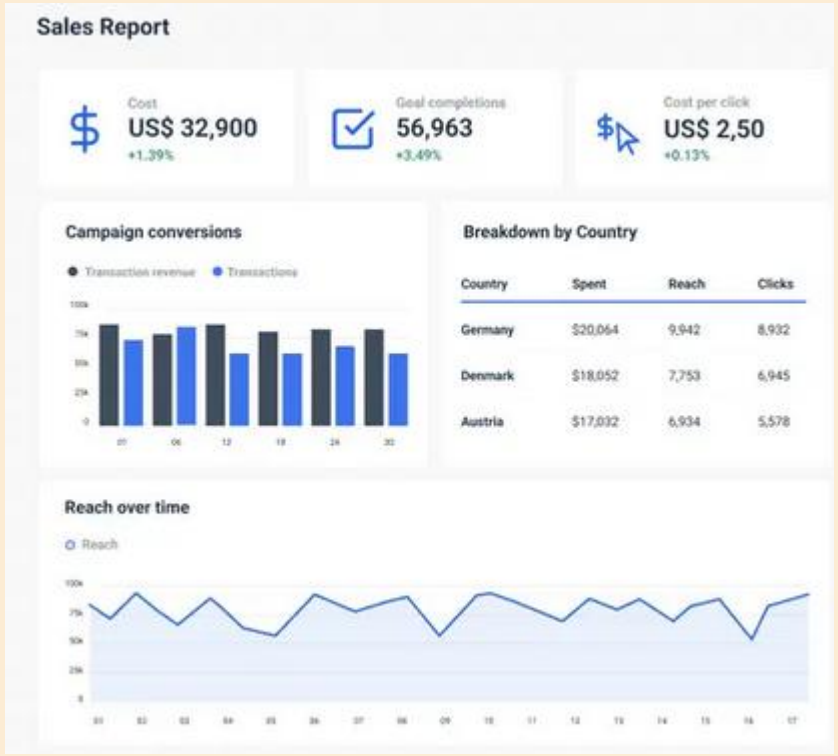

Lack of focus and actionability refers to the tendency of business reports to present data that is broad, generic, or disconnected from the decisions that leaders need to make.

Instead of highlighting the specific drivers of performance or providing clear, actionable insights, these reports often focus on surface-level metrics—like sales or costs—without deeper context or analysis.

For example, in the report above, the areas that need improvement are not evident, the reasons why are missing, and there is not a clear path to action.

Decision-makers are overwheimed with data but lack clarity on what truly matters

Key performance drivers are either unknown or poorly understood, making it hard to link outcomes (e.g., sales growth or cost increases) to specific internal or external factors

Reports highlight symptoms, not causes, limiting the abillty to identify the root of problems or opportunities

There's little guidance on what actions to take, which leads to indecision, inefficiencies

As a result, leaders struggle to:

- Prioritize effectively,
- Align teams around the most impactful levers of performance
- React swiftly to changing conditions, and
- Drive sustainable growth and risk mitigation

Ultimately, a lack of focus and actionability undermines the very purpose of reporting: to enable better, faster, and more informed decision-making.

...can be resolved with properly designed KPI's & Analytics

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Knowing the volume of your sales, or the numbers in the 'bottom line' is important but cannot help you decide what to do to increase them.

You need to focus on what drives sales, profits and value...

KPIs with clear targets, and a clear view on when targets are not met.

Then leverage analytics to understand why,

define proactive action plans to maximize performance,

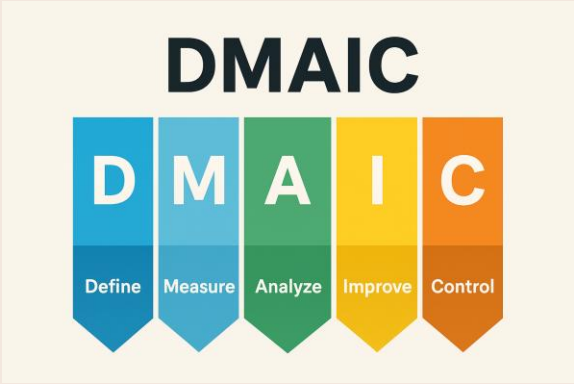
and put in place controls to trigger them.

Large companies have both business experts within the COO, CFO & CFO mandates, and access to management consulting firms, to determine KPI's and root causes for them.

SMEs on the other hand can either:

① Try to adapt what works within their business models

② Use a framework to help them identify what to measure and analyze information



When I was leading the BI & Big Data Team at PeopleCert, we worked together with a management consultant to model the entire set of business processes, and create a set of interconnected Power BI reports, for the senior stakeholders to review and decide how to move the business forward. We even made a summary video of the project:

Management Dashboard with System Dynamics

③ Use a structured problem-solving approach to identify & validate potential drivers.

For example, MECE logical trees, popularized by an ex-McKinsey employee, can be used to break complex problems into clear, non-overlapping parts that cover all possibilities, helping structure analysis, avoid gaps, and initiate analytical investigations, to support data-driven decisions.

Inadequate Information Management

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Data quality and governance gaps are undermining organizational decision-making.

Large enterprises struggle with entrenched data silos, while smaller businesses rely on ad-hoc, uncontrolled processes.

Inconsistent or inaccurate data erodes trust and limits actionable insights, while technical challenges in integrating multiple systems create fragmented processes and poor visibility.

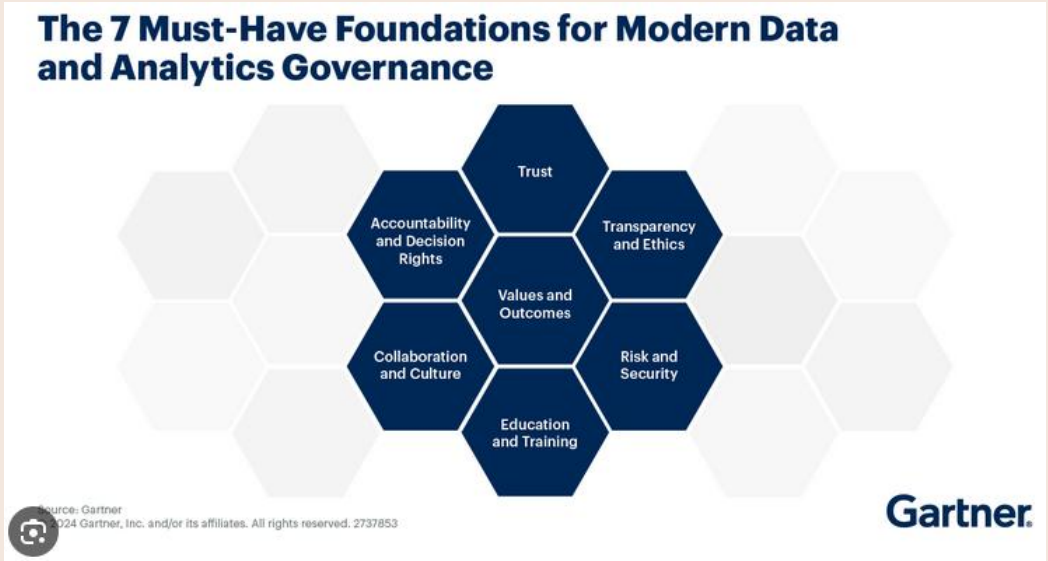
Without robust data governance, organizations risk inefficiency, missed opportunities, and strategic missteps, turning data from a valuable asset into a critical liability.

Organizations today face critical challenges in data quality and governance that directly affect their strategic decision-making.

In large enterprises, entrenched data silos prevent a cohesive view of operations, while smaller businesses often rely on ad-hoc, uncontrolled processes that leave data vulnerable to errors.
Across the board, inconsistent, incomplete, or inaccurate data erodes trust and limits the reliability of analysis, undermining confidence in key business insights.

The consequence is a lack of operational transparency and limited visibility into core business performance, which in turn restricts the ability to make informed, timely, and optimal decisions.

Without a robust approach to data governance and quality management, organizations risk strategic missteps, inefficiencies, and missed opportunities, making data not an asset but a liability in driving growth and competitive advantage.



Requires proper frameworks and processes,

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1 Data Governance Framework

A robust data governance framework is essential for consistent, reliable, and trustworthy data.

This involves clearly defining data ownership, responsibilities, and policies across the organization.

By setting standards for data creation, storage, and usage, companies can reduce inconsistencies and prevent data silos.

A governance council or steering committee ensures compliance, monitors performance, and addresses emerging data issues proactively.

Formal governance processes also make it easier to scale initiatives and maintain data quality as the organization grows.

2 Standardize Processes and Documentation

Ad-hoc processes introduce variability, errors, and inconsistencies.

Standardizing workflows, documenting data definitions, and formalizing business rules create clarity and consistency.

Clear documentation ensures employees know how to handle data correctly and maintain best practices.

Training teams on these standards fosters accountability and reduces reliance on informal knowledge, leading to repeatable and reliable outcomes.

3 Formalize Data Quality Management Practices

High-quality data requires proactive monitoring, validation, and cleansing.

Regularly profiling data to detect errors, missing values, or inconsistencies prevents unreliable insights and supports confident decision-making.

Automation can flag anomalies in real time, while KPIs track improvements over time.

Embedding these practices into daily workflows though automatic reports and AI tools, reduces costly mistakes and builds trust in analytical outputs.

… as well as effective data management from a technical perspective

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4 Leverage Technology and Integration Tools

Technical solutions are critical for harmonizing data across multiple systems.

ETL/ELT pipelines, Master Data Management (MDM), and APIs help ensure data is accurate, consistent, and integrated.

These tools reduce manual effort, streamline data flows, and create a single source of truth, enabling faster, more reliable decision-making.

Choosing scalable, flexible technologies also future-proofs the organization as data sources and systems evolve.

5 Break Down Data Silos

Data silos prevent organizations from gaining a holistic view of operations, leading to inefficiencies and inconsistent decision-making.

Breaking down these silos requires cross-department collaboration and shared ownership of data.

Implementing centralized data platforms, such as data warehouses or lakes, and standardizing data definitions ensures that all teams operate using the same “data language.”

This alignment reduces redundancy, improves transparency, and enables better analytical insights.

6 Implement Automated Data Validation and Monitoring

Technical controls such as automated validation rules, real-time monitoring, and anomaly detection are essential to maintain data integrity, accuracy, and timeliness.

Systems can flag missing, inconsistent, or duplicate data before it propagates through analytics or operational processes.

Advanced monitoring dashboards provide visibility into data quality metrics across all sources, enabling proactive issue resolution.

Integrating these tools with data pipelines ensures continuous oversight and reduces the risk of errors impacting decision-making.

A fragmented Data Architecture

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Fragmented data architectures prevent organizations from accessing accurate, consistent, and timely information.

Disconnected systems and manual data consolidation lead to reporting delays, inconsistent metrics, and unreliable analytics.

This undermines confidence in decision-making, increases operational inefficiency, and limits visibility across the business.

Without a unified, well-governed data foundation, leaders face greater risk of misinformed strategies and missed opportunities.

A fragmented data architecture is one of the most pervasive barriers to achieving reliable, data-driven decision-making in modern organizations.

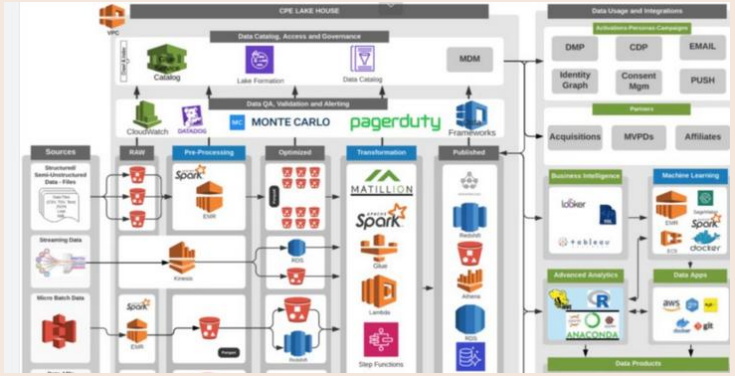
When data resides in disconnected systems, formats, or platforms, it becomes difficult to access, reconcile, and trust. Teams spend significant time manually consolidating datasets, often leading to inconsistencies, duplicated effort, and delays in reporting.

The lack of integration prevents the creation of a single, accurate version of the truth—causing discrepancies in metrics, dashboards, and analytics outputs.

As a result, business leaders make decisions based on incomplete or outdated insights, undermining confidence in data and eroding organizational trust.

Beyond analytics, fragmented architectures also increase operational costs, hinder collaboration, and make it challenging to implement governance and compliance controls.

Ultimately, without a cohesive and unified data foundation, the business struggles to achieve agility, efficiency, and strategic clarity in a data-driven world.



Requires an effective set of technologies working together,

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1 Adopt a Unified Data Platform

Fragmented systems can be consolidated by implementing a unified data platform, such as a modern data warehouse, data lakehouse, or cloud-native analytics environment (e.g., Databricks, MS Fabric).

These platforms centralize data storage, simplify access, and enable teams to work from a single, consistent source of truth.

A unified platform also supports scalability and performance, allowing organizations to integrate structured, semi-structured, and unstructured data efficiently.

This eliminates duplication and streamlines analytical workloads across departments.

2 Implement Automated Data Integration Pipelines

Manual data aggregation is prone to delays and inconsistencies.

By deploying ELT (Extract – Load – Transform) pipelines, organizations can automate the ingestion of data from multiple systems.

Automation ensures that datasets are refreshed regularly and consistently, reducing latency and the risk of stale information.

Well-designed integration pipelines enable near real-time reporting and analytics, empowering teams with up-to-date insights.

3 Standardize Data Models and Definitions

Inconsistent data structures and definitions are a common cause of fragmentation.

Establishing a standardized data model—with clearly defined dimensions, metrics, and naming conventions—ensures uniformity across systems and reports.

This alignment allows teams to interpret data consistently, reducing confusion and improving collaboration between business units, analysts, and data engineers.

databricks

Power BI

… as well as effective collaboration across people and systems

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4 Leverage APIs and Data Virtualization

Instead of relying solely on physical consolidation, organizations can use APIs and data virtualization to provide seamless access to distributed data.

This approach allows teams to query and combine data across different systems in real time without complex migrations.

Data virtualization creates a logical data layer that provides unified access and visibility, improving flexibility while maintaining governance and security controls.

5 Enhance Collaboration Through Shared Data Workspaces

Effective analytics requires teams to work together using common tools and interfaces.

Implementing collaborative data environments—such as shared BI dashboards, data catalogs, or cloud-based notebooks—fosters transparency and shared understanding.

These platforms also allow business users and data professionals to co-develop reports, annotate findings, and manage data assets collaboratively, reducing duplication of effort and ensuring consistent use of approved data sources.

6 Follow solid Data Architecture Management Practices

According to DAMA DMBOK, Data Architecture Management provides the structural foundation for aligning data strategy with business goals, ensuring that data assets are organized, standardized, and integrated to support enterprise information needs.

Applying these principles means designing an architecture that is metadata-driven, business-aligned, and governed through clear standards and stewardship.

It emphasizes the importance of defining data domains, relationships, and lineage—ensuring that the architecture supports not just analytics, but also compliance, interoperability, and long-term scalability.

By grounding data architecture in best practices, organizations can move from fragmented systems toward a cohesive, well-governed, and future-ready data ecosystem.

Why data unification matters now

AI is transforming how enterprises operate—but most businesses aren't ready.

60%
of all enterprise data goes unused for analytics[1]

59%
of leaders say organizational data is somewhat or completely siloed[2]

90%
of IT leaders believe that unifying the data lifecycle on a single platform is critical for analytics and AI[3]

Many enterprises are still operating on fragmented legacy systems that limit agility, increase costs, and slow innovation. Without a unified, governed data estate, AI ambitions remain out of reach.

1. Microsoft OneLake catalog.
2. Microsoft Purview Unified Catalog.
3. Global Survey, Cloudera 2024.

Source: Microsoft

Underutilization of Modern Analytical Tools

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Many organizations underutilize modern data, analytics, and AI tools, limiting their ability to make fast, informed decisions.

Despite the availability of advanced technologies, adoption remains low due to limited data literacy and reliance on technical specialists.

This dependence slows decision-making and reduces agility, while business users often lack the training to apply analytics effectively.

As a result, companies fail to unlock the full value of their data investments and struggle to build a truly data-driven culture that supports smarter decision-making.

Many organizations today struggle with the underutilization of modern tools in data, analytics, and reporting, despite the widespread availability of advanced technologies such as AI, machine learning, and automation platforms.

These tools have the potential to dramatically improve decision-making speed, accuracy, and strategic foresight.

However, adoption often remains limited due to a shortage of employees with strong data literacy and the technical skills needed to use these tools effectively.

As a result, businesses become overly dependent on data specialists, creating bottlenecks that delay insights and slow decision-making. Without sufficient training and empowerment, business users are unable to translate analytical capabilities into practical, day-to-day value.

This gap between technological potential and actual utilization prevents organizations from realizing the full return on their data investments and from developing a truly data-driven culture.

Is mainly a ‘people’ problem,

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1 Enhance Data Literacy Across the Organization

Develop structured training programs to improve employees’ understanding of data concepts, analytical thinking, and visualization tools.

Building data literacy at all level - especially among business users empowers teams to interpret insights independently and make informed decisions without relying solely on specialists.

2 Simplify Access to Analytics Platforms & Tools

Adopt user-friendly, self-service analytics platforms that allow non-technical users to explore data, generate reports, and build dashboards easily.

Reducing technical complexity increases engagement and ensures that insights can be produced quickly and collaboratively across departments.

3 Integrate Automation and AI into Business Workflows

Embed automation and AI capabilities directly into business processes to enhance productivity and decision-making.

Automating data preparation, reporting, and forecasting tasks reduces manual effort, allowing teams to focus on higher-value analysis and strategic actions.

… that requires collaboration, enablement and training

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4 Provide Continuous Training and Upskilling

Offer ongoing professional development programs tailored to different user groups—from data novices to power users. Encourage certifications, workshops, and mentorship initiatives to keep employees aligned with evolving technologies and best practices in analytics and AI.

5 Foster Collaboration Between IT and Business Teams

Bridge the gap between technical experts and business users through cross-functional collaboration. Establish “data champions” or “analytics ambassadors” within departments to facilitate communication, promote tool adoption, and ensure analytics align with real business needs.

6 Establish a Data Enablement Strategy

Create a dedicated data enablement function that focuses on maximizing the use and value of modern analytics tools.

This includes defining tool usage standards, ensuring integration with existing systems, and promoting a culture of experimentation and data-driven innovation.

A data-driven culture has tremendous value on itself

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The social interactions and norms within an organization, and in particular how decisions are made, are the main aspects of a data-driven culture - or the lack thereof.

Gut feeling is one way to make decisions, but is not very effective, and neither is scalable.

Culture is not about what we think we do; it is about what we actually do.
The type of behaviors that are expected, rewarded and reinforced in a group is what establishes a culture.

Hence the saying, 'culture eats strategy for breakfast'.

Even if we have the best of intentions, and have thought deeply about how to achieve the next steps…

… norms do not change overnight.

The value of the data depends solely on whether they are used in a way that creates value.

And that's all about whether the decisions made are realistic and justified or are just about nodding in agreement to the predispositions of authority.

Smaller businesses rely heavily on a few people.

Decisions remain centralized, limiting growth.

In larger companies, resistance to change is common, while overreliance on intuition over data is not uncommon either.

Lack of leadership commitment to foster a data-driven culture, and misaligned incentives between the various teams within the organization, lead to suboptimal and uncoordinated actions.

Without a data-driven culture, proactivity and scalability suffer.

Necessary aspects of a data-driven culture

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1 Executive Sponsorship

A data driven culture needs have 'executive buy-in'. If leadership is not aware of the value gains and the problems that need to be solved, then even the most persistent efforts to build an effective data-driven culture will fail.

The executive sponsor, is a leader that can align (and rally) the people towards a common goal. The benefits that employees gain when the adopt one set of practices instead of another, are defined by leadership. This plays a pivotal role on culture evolution, and the leader must demonstrate that data-driven decision is placed high in the set of company values.

The leader can also secure the necessary resources, such as the development of data & analytical assets necessary for generating value from data. They can provide funding and time for training and foster a 'safe space' for experimentation.

All these aspects are critical for a data-driven culture to thrive.

2 Pluralism: various roles and tools

An organization can have different modes of developing analytical value from data.

Corporate BI has been a centralized, IT driven way of creating reports and analytical data assets for decades, but the requirements for agility and speed has led to the adoption of flexible **business-led, self-service analytics** alongside the expensive data ware(-lake)houses and automatic reports displaying metrics in a consistent way, as per business definitions.

The agility and emergence of novel insights of self-service analytics, are now elevated even more with modern **AI tools** that can help analysts reach value even faster.

So, they are two forces at play: creativity and the need for consistency that must interwind together for value to be maximized: '**discipline at the core & flexibility at the edge'**, as per a famous quote used from many Microsoft employees.

3 Community of practice

An informal –and extensive- team of professionals within the organization that communicate and work together to develop assets, ways of working and value for the common good of the company, is a community of practice.

The community plays a pivotal role on the development of culture. If no such community exist, then the culture cannot be fostered in an effective way.

And while the technical tools that facilitate communication (chat, forums, e-mail lists, video channels, and a perhaps a central portal to host all those assets) are commonplace today, there is always the need for **champions** – people who promote and demonstrate the values of data-driven decisions and ways of working , and a **Center of Excellence** – a group of people who can guide the rest of the community through their expertise on either technical best practices on managing and analyzing data or making effective data-driven decisions.

Necessary aspects of a data-driven culture

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4 Motivation

Motivation and encouragement to use data-driven practices is also necessary. Intrinsic motivation – the joy we derive from doing the work itself in a creative way- is always superior to extrinsic motivation – bonuses, promotions and anything we are promised to gain if we perform it well.

Of course both are necessary, and it is important to link extrinsic motivators to following the values of the culture we want to build, otherwise those discrepancies can act as de-motivators. However, the creativity, sense of belonging to the community and mental health benefits that derive intrinsically can play the most drastic role in happiness and productivity.

Judging from myself, in various phases in my career, I gained more money in a project… not always it did translate on me being happier or feeling 'unstoppable' in regard to my creativity and productivity.

5 Training

The value of the availability of the necessary tools, and the necessary training to use them is apparent. Even a community of motivated individuals that receive guidance from the best experts cannot by themselves take the initiatives they need to take to structure their thinking and generate the insights they need to realize value from information.

Here the role if the executive sponsor is again evident, as (s)he should ensure all the necessary resources are in place.

6 Measuring Success

All the previous strategic and tactical steps – and the subsequent actions an organization needs to take- should always come along with the question: "how do we know it's actually working?". This is the only way we can progress towards the goal of building a data-driven culture.

A simple way would be to look at the number of people who are actively involved in ways that align well with the values of our data-driven culture. Of course that does not measure success – it measures usage. A more subtle way would be to evaluate whether the analytics that are required for people who need to make decisions to be able to make them in a timely and data informed manner, are there – or are evolving towards the desired state.

Finally, the most important measure – and perhaps the most difficult to attain- is value. The end value of the decisions made, and how they are better when they are based on data and information, instead of intuition, would be the measure of success with the most importance. It is of course difficult to attribute an increase in profits to specific analytical initiatives.

However, the importance of culture is that encompasses the entire organization. An no one can deny that culture, not strategy or indeed tactics, which are eaten for breakfast ☺ , provide the most impact on achieving every one of these goals.

Decision – Execution Gap

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A decision-execution gap occurs when organizations fail to act quickly on data-driven insights due to misalignment with business priorities and slow decision processes.

Valuable insights often remain unused, leading to missed opportunities and reduced competitiveness. Inefficient communication, unclear ownership, and fragmented workflows further delay execution.

Closing this gap requires aligning strategy with analytics, streamlining decision-making, and empowering teams to act on insights rapidly to drive timely, effective business outcomes.

Can be ameliorated with the right focus and the right tools

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1 Align Insights with Business Priorities

Ensure that analytics and reporting focus on the most critical business objectives.

This aligns well with the principle of a focused approach to what matters most.

Prioritize insights that directly impact strategic goals and operational performance so that decision-makers can act quickly on what matters most.

2 Streamline Decision-Making Processes

Reduce bureaucratic bottlenecks by clarifying roles, responsibilities, and approval workflows.

Empower teams with clear authority to act on insights without unnecessary delays, enabling faster, more agile responses.

Embed data and analytics into day-to-day processes through dashboards, alerts, and automated recommendations.

This ensures that insights are visible and actionable in the context where decisions are made, bridging the gap between analysis and execution.

3 Integrate AI into Operational Workflows

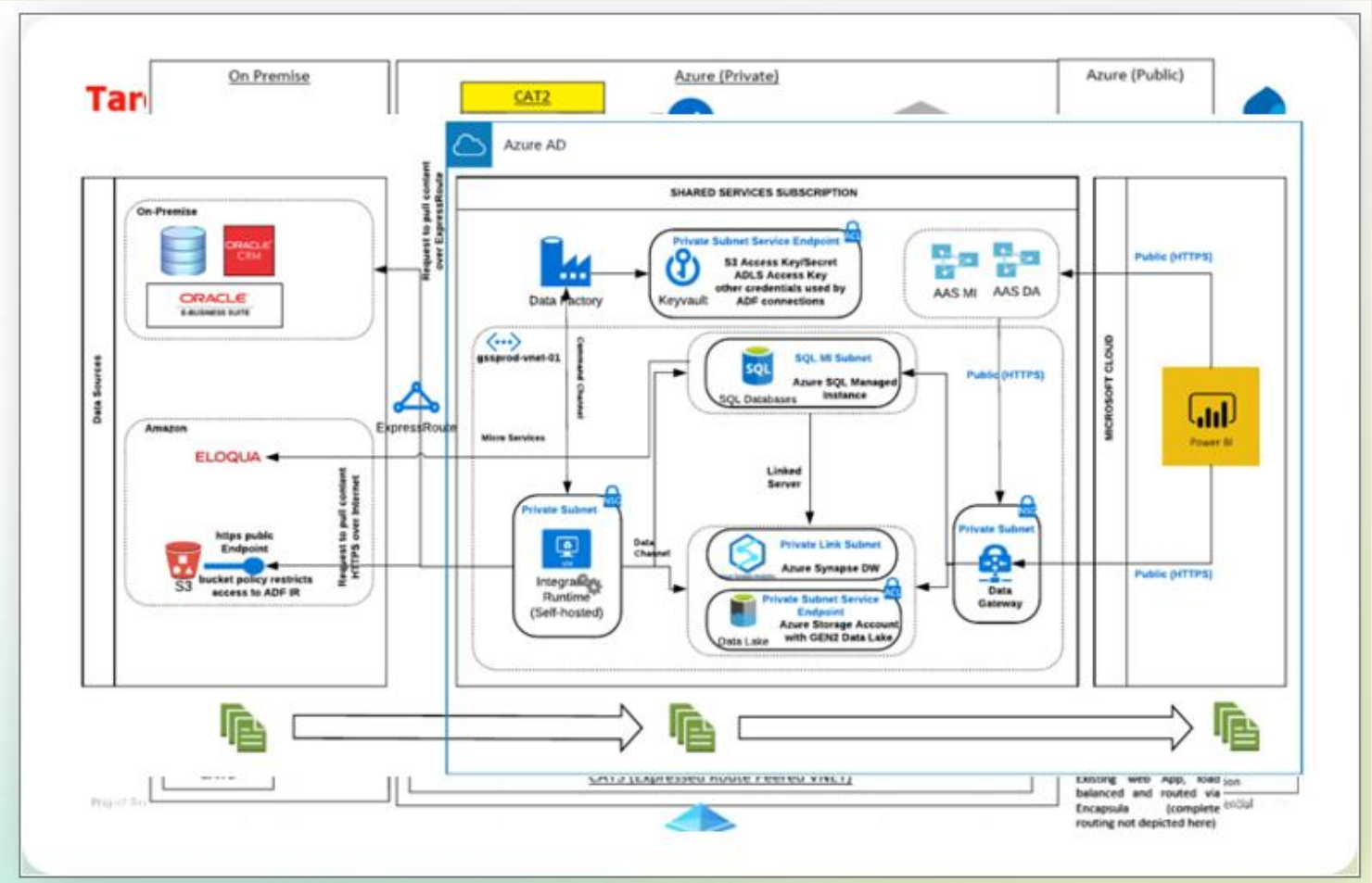
Modern AI agents and analytics platforms can embed actionable insights directly into operational workflows, making it easier for teams to act in real time.

For example, AI-driven dashboards can prioritize alerts based on business impact, automatically generate recommended actions, or even trigger workflow tasks without manual intervention.

Intelligent agents can summarize large volumes of data, surface key trends, and provide contextual guidance tailored to the user's role, ensuring decisions are informed and timely.

By integrating AI into routine processes—whether in sales, supply chain, marketing, or customer service—organizations reduce reliance on manual interpretation, accelerate execution, and close the gap between insight generation and decision-making.

To ensure you can generate value from all the modern technological capabilities, and go
from low analytics engagement, with fragmented, ‘ad-hoc’ reporting based on low quality data,
to high-value decisions powered by actionable insights and automated solutions that increase productivity and profits



You need to follow the right path…

You need to lay out the roadmap and perform the necessary steps.

That can be challenging…

…and support is important.

Matt Protopapas, PhD

Analytics Consultant, Managing Partner

KEDROS ANALYTICS
MAKE DATA DRIVEN DECISIONS

Matt has worked with global corporations, leading consultancies, and major universities, in various analytical roles, including BI Manager, Data Analyst, Data Scientist & Data Engineer, for over 20 years in total. He's been providing value to clients by developing automated reports, building data warehousing infrastructure, and empowering their analytical transformation; helping them foster a data-driven culture and leverage AI & advanced analytical tools.

20 +

Years of Data and Analytics experience

BI (automated) Reports
Data Lakehouses
Advanced Analytics & AI

30 +

Companies worked with in various sectors

Banking
Supply Chain
Pharma
Energy
Chemicals
FMCG
...

450 +

Power BI reports & Analytics deliverables

2000 +

Project Days in BI Development and Data Engineering

20 +

Professional Certifications

... and more

Some of the organizations Matt has worked with:

HSBC UK · sanofi · Deloitte. · BARCLAYS · FLEXOPACK · ΕΘΝΙΚΗ ΤΡΑΠΕΖΑ · Office line · ALPHA BANK · Groupama Ασφαλιστική · ATHENS UNIVERSITY OF ECONOMICS AND BUSINESS · LLOYDS · Unilever · Piraeus · ppc · gac · ονπαν · EY · PeopleCert · Royal Bank of Scotland · finartix · Code.Hub · ΠΟΛΥΤΕΧΝΕΙΟ ΚΡΗΤΗΣ

I can help you achieve tangible value through Analytics

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MAKE DATA DRIVEN DECISIONS

Focus on value from day 1

For a company in the initial stage of its data & analytics journey, the best is to focus on coaching your analytical team and generate value from day one.

A necessary first-step to any attempt to enable or improve data-driven decisions, is to overcome challenges when handling reporting and analytics in a manual (or ad-hoc) manner.

This approach not only delivers immediate value but also acts as a 'learning ground' for the team to better understand the company's context, **setting the stage for further value increases, through automation and through an agile, controlled, value-adding process.**

At the same time, **it helps surface** the aforementioned '**obstacles to data-driven decision making**' that might be relevant to your business…

and **make sure they are addressed before scaling** to automated solutions which offer even more business value, but at the same time require extra investment.

Foster a data driven culture

Culture eats strategy for breakfast…

And while a solid strategy with senior level support is essential, to progress through the stages of analytics maturity and create value,

It cannot succeed unless everyone in the organization is empowered to make the right decisions,

..using the right approach,

..the right information,

..and the right tools.

A community of practice, engagement and support, and a clear path, with measurable outcomes is essential, to boost progress and increase value at each step of the way.

- Three important aspects of demand forecasting
- How to 'prep' data for AI in Power BI (GR)
- Intro to Dimensional modelling
- Load data incrementally, into Power BI

Structure your path forward

Coaching and guidance of the team is essential to make success achievable as quickly as possible.

The structure should be there, and the path to achieve the goals should be clear,

but the way needs to be learned, and teams evolve gradually to reach their full potential.

By laying out a roadmap, tailored to what your company needs…

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Identify the current state your company is at

Stage 1 – Initial
•Data silos, inconsistent quality
•Ad hoc reporting, reactive insights

Stage 2 – Emerging
•Some governance, basic dashboards
•Use cases identified but limited adoption

Stage 3 – Scaled
•Integrated data platform, governed access
•Advanced analytics & AI in production
•Data-driven decisions in multiple functions

Stage 4 – Optimized
•Organization-wide data culture
•Predictive & prescriptive analytics embedded in processes
•Continuous value measurement & optimization

Follow a roadmap towards Valuable Analytics

Step 1. Define Vision & Value
•Align analytics to business strategy
•Prioritize high-value use cases
Step 2. Build Strong Data Foundations
•Improve quality, governance, and accessibility
•Establish scalable data architecture
Step 3. Enable People & Culture
•Drive data literacy & leadership sponsorship
•Create a collaborative, data-driven mindset
Step 4. Deliver Use Cases Iteratively
•Start with quick wins to build trust
•Scale to more advanced analytics & AI
Step 5. Institutionalize Governance & Processes
•Clear ownership, security, and compliance
•Agile delivery & continuous improvement
Step 6. Measure & Maximize Value
•Track ROI of analytics initiatives
•Embed insights into daily decisions & scale success

👉 ***Progression = reactive ad-hoc reporting → proactive, automated, actionable insights***.

By working with your team to build modern analytical capabilities…

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Streamlining next steps,

Depending on the maturity level, different priorities will be set.
While a basic level might require a set of reports to understand what has happened…

A scaled level would involve steps to maximize value from analytics.
Focusing on input data quality and ad-hoc analytics as Proofs of Concept are important.

Develop **Insightful Analytics**:
- Identify root causes, correlations, outliers
- Include business recommendations, not just observations

Progress through **Analytics Layers**:
- **Descriptive** (what happened)
- **Diagnostic** (why it happened)
- **Predictive** (what will happen)
- **Prescriptive** (what to do)

Use **Advanced Tools selectively**:
- Business Case for AI, OR & Econometrics
- Ensure explainability and business value

Self-service analytics guidance videos:
- Self-Service Analytics με AI εργαλεία
- Self-Service Analytics με απλό drag & drop

…will guide capability design

The end goal is always, a fully-automated set of tools to integrate available information, enable its curation, and make it available for analysis and decision making.

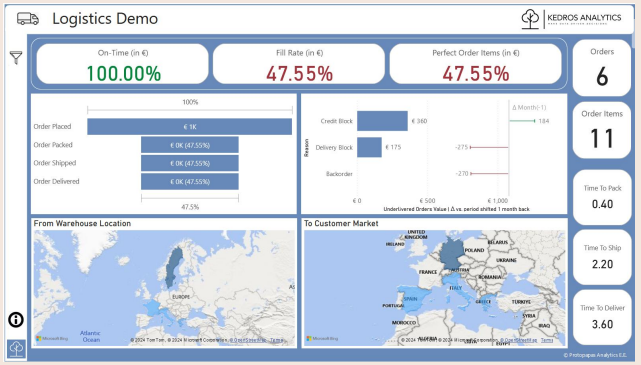
…and of course the right skill-sets, the right team cohesion and a strong data driven culture, to ensure actual value.

Reporting Solutions Design:
- Focus on valuable KPIs and visuals
- Proper Data Modelling – otherwise the rework, complexity and cost rise exponentially
- Design the 'back-end' (Data Mart/Lakehouse)

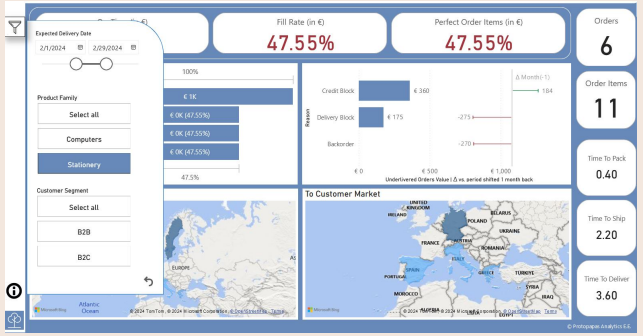
Self-Service Layer (good data models help here too)
- Increase business analysts' productivity > 90%
- Decrease speed to insight (and action)

Enhance the Value of Analytics Deliverables:
- **Operational Dashboards**: Near real-time KPIs (e.g., sales, inventory) with complex metrics (safety stocks, alerts & writeback capabilities
- **Analytical Dashboards**: Deeper diagnostic and predictive views on WHY & HOW
- **Executive Summaries**: Highly interactive dashboards: BYO KPI - customize each graph

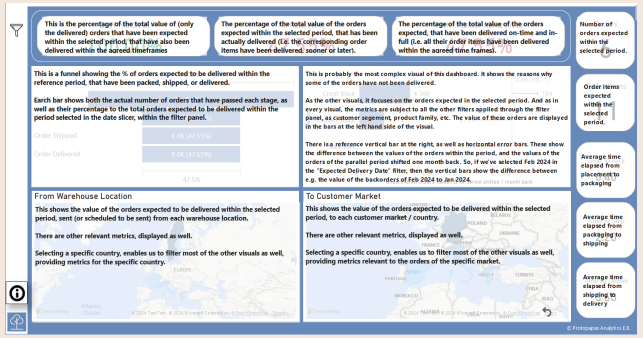
Logistics dashboard example



1. Actionable OTIF KPIs, with targets and capabilities to investigate across various dimensions.



2. Filter panel is only visible when needed, enhancing UX



3. Features explained clearly, by clicking the 'info' button.

And by helping you uncover insight to manage your organization

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MAKE DATA DRIVEN DECISIONS

aimplan

CompanyName: Demo Company Sweden AB | Year: 2024 | ScenarioName: 2024 Q1 Forecast | Cost Center: Stockholm | Main Project: All

	Budget	Actuals	Forecast											Forecast
			2024 Q1			2024 Q2			2024 Q3			2024 Q4		
	2024	2024	2024 Jan	2024 Feb	2024 Mar	2024 Apr	2024 May	2024 Jun	2024 Jul	2024 Aug	2024 Sep	2024 Oct	2024 Nov	2024 Dec	2024
New Office	**1,030,000**				**42,000**	**147,000**	**147,000**	**567,000**					**50,000**	**60,000**	**1,183,000**
New Office	**200,000**				**42,000**	**42,000**	**42,000**	**42,000**							**208,000**
New Office (other)	200,000				42,000	42,000	42,000	42,000							208,000
Refurbish	**700,000**					**105,000**	**105,000**	**525,000**							**735,000**
Refurbish (other)															
Office furnitures	500,000							525							525,000
Painting / carpenter	200,000					105,000	105,000		130,000	70,000	80,000	50,			210,000
Relocate	**130,000**													000	**240,00**
Relocate (other)									40,000			50,0			
IT equipment	40,000								90,000	70,000	80,000			000	150,00
Packaging and transportation	90,000														90,00
										60,000	60,000	100			240,00
										60,000	60,000				240,00
												90	30,000		80,00
										20,000	20,000		10,000		120,00
										30,000	30,000				40,00
								315,000		10,000	10,000				1,265,00
									400,000						400,00
								315,000	300,000						615,00
								315,000							315,00
									300,000						300,00
									250,000						250,00
									250,000						250,00

Run sentiment analysis on tweets and push results to a Power BI dataset
By Microsoft
Automated 3412

Trigger a flow with a Power BI data-driven alert
By Microsoft
Automated 49185

Send an e-mail to any audience when a Power BI data alert is triggered
By Microsoft
Automated 33826

Add rows to dataset in Power BI after approval on Microsoft Form submission
By Microsoft Flow Community

Update Power BI dataset when a SharePoint file is updated
By Microsoft Flow Community

Send e-mail from my personal Outlook.com to anyone on Power BI data alerts
By Microsoft
3772

Ask a question about your data

Try one of these to get started

top customer countries by revenue (GBP)

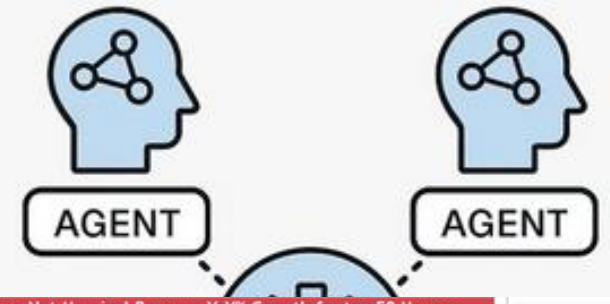
top customer countries by revenue (USD) PY

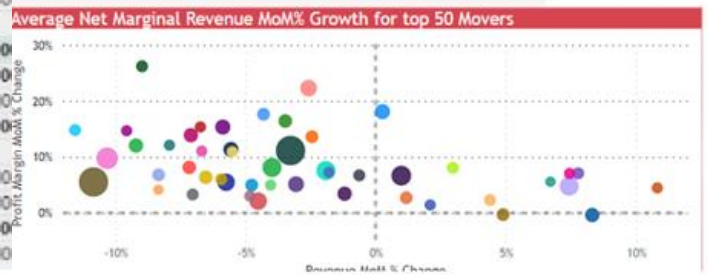
top customer countries by gross profit (EUR)

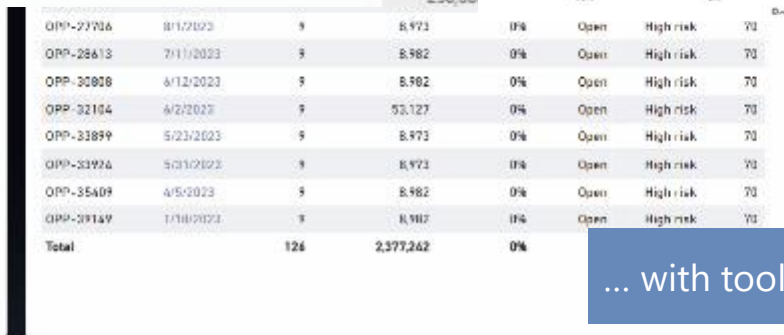
Show all suggestions

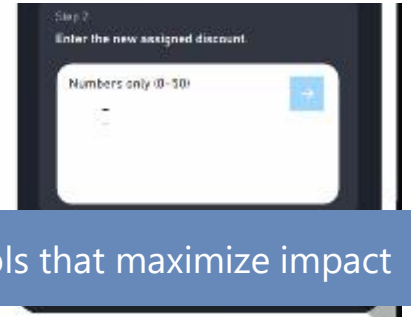
via email
data alert

Agentic AI









... with tools that maximize impact

Through automated reporting packs…

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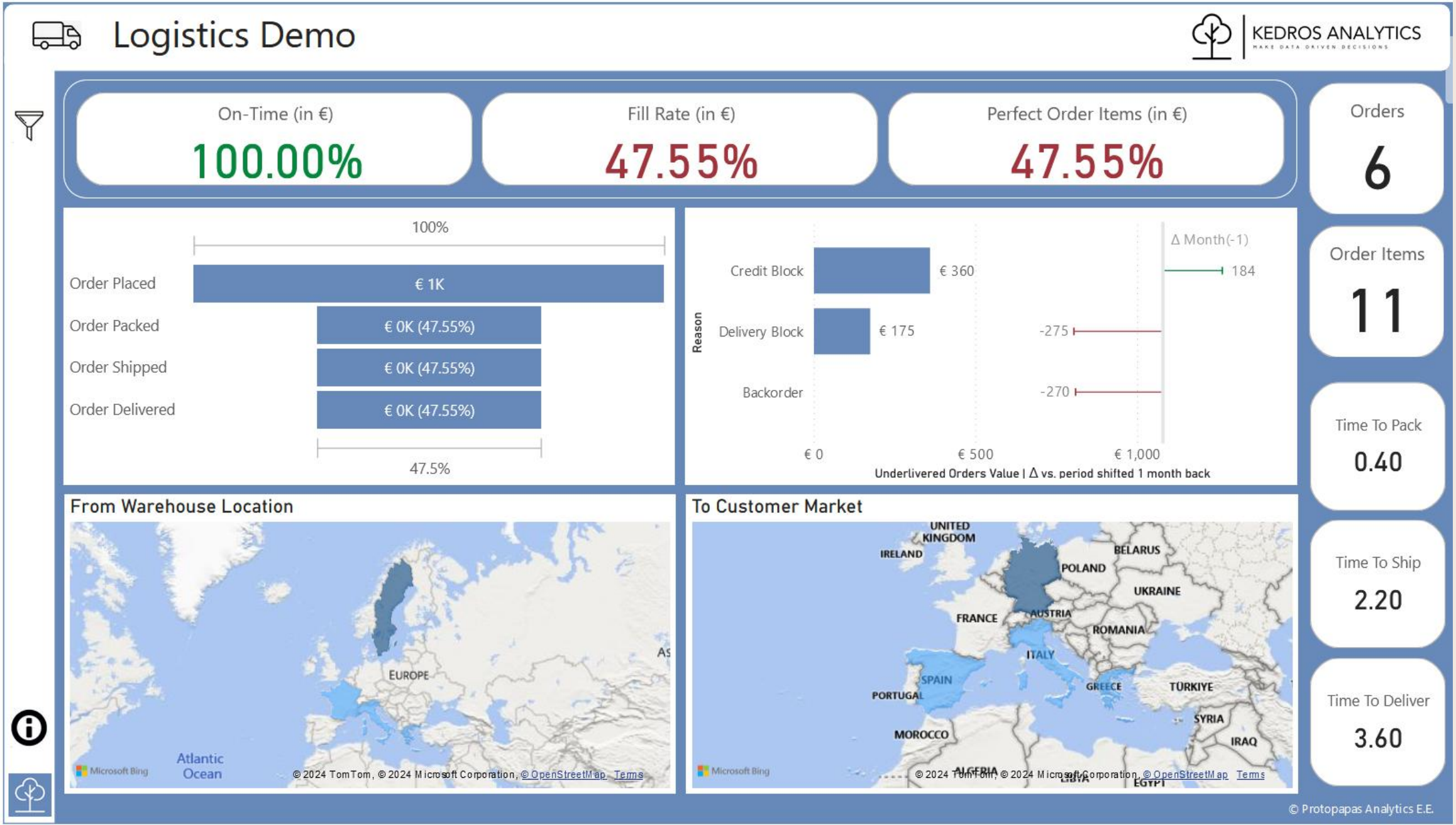
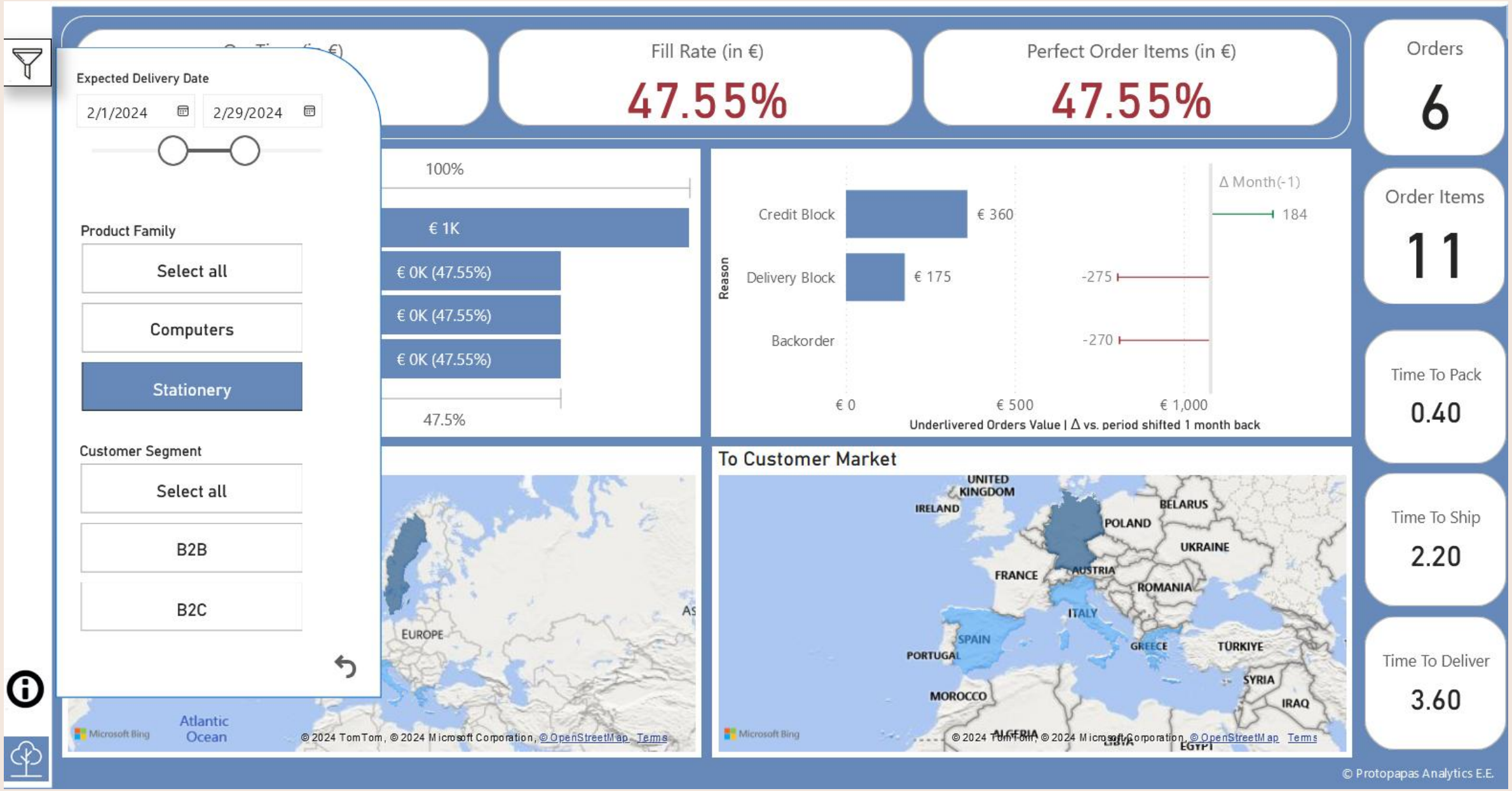
MAKE DATA DRIVEN DECISIONS



...making easy to focus on what matters, within seconds

KEDROS ANALYTICS
MAKE DATA DRIVEN DECISIONS



...and clearly understand the meaning of each metric.

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MAKE DATA DRIVEN DECISIONS

This is the percentage of the total value of (only the delivered) orders that have been expected within the selected period, that have also been delivered within the agreed timeframes

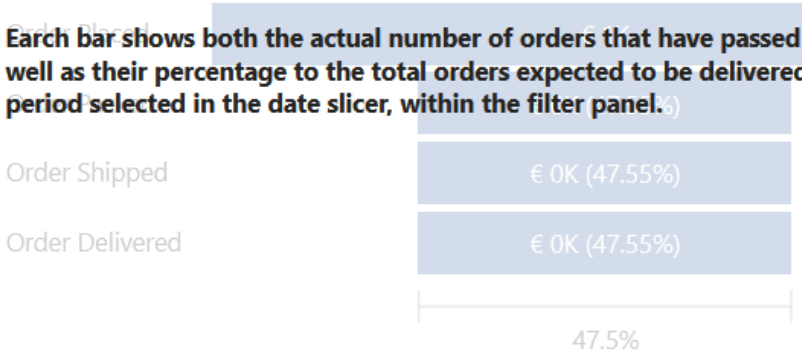
The percentage of the total value of the orders expected within the selected period, that has been actually delivered (i.e. the corresponding order items have been delivered, sooner or later).

The percentage of the total value of the orders expected, that have been delivered on-time and in-full (i.e. all their order items have been delivered within the agreed time frames).

Number of orders expected within the selected period.

This is a funnel showing the % of orders expected to be delivered within the reference period, that have been packed, shipped, or delivered.

Earch bar shows both the actual number of orders that have passed each stage, as well as their percentage to the total orders expected to be delivered within the period selected in the date slicer, within the filter panel.



This is probably the most complex visual of this dashboard. It shows the reasons why some of the orders have not been delivered.

As the other visuals, it focuses on the orders expected in the selected period. And as in every visual, the metrics are subject to all the other filters applied through the filter panel, as customer segement, product family, etc. The value of these orders are displayed in the bars at the left hand side of the visual.

There is a reference vertical bar at the right, as well as horizontal error bars. These show the difference between the values of the orders within the period, and the values of the orders of the parallel period shifted one month back. So, if we've selected Feb 2024 in the "Expected Delivery Date" filter, then the vertical bars show the difference between e.g. the value of the backorders of Feb 2024 to Jan 2024.

Order items expected within the selected period.

Average time elapsed from placement to packaging

Average time elapsed from packaging to shipping

Average time elapsed from shipping to delivery

From Warehouse Location

This shows the value of the orders expected to be delivered within the selected period, sent (or scheduled to be sent) from each warehouse location.

There are other relevant metrics, displayed as well.

Selecting a specific country, enables us to filter most of the other visuals as well, providing metrics for the specific country.

To Customer Market

This shows the value of the orders expected to be delivered within the selected period, to each customer market / country.

There are other relevant metrics, displayed as well.

Selecting a specific country, enables us to filter most of the other visuals as well, providing metrics relevant to the orders of the specific market.

A company with emerging analytical capabilities, should focus more on standardizing and automating its analytics potential, to save on time and development costs, achieve a coherent way of understanding and communicating during decision making – a 'single version of truth' – and progress towards scaling even further.

While at the same time building the analytical infrastructure(s),

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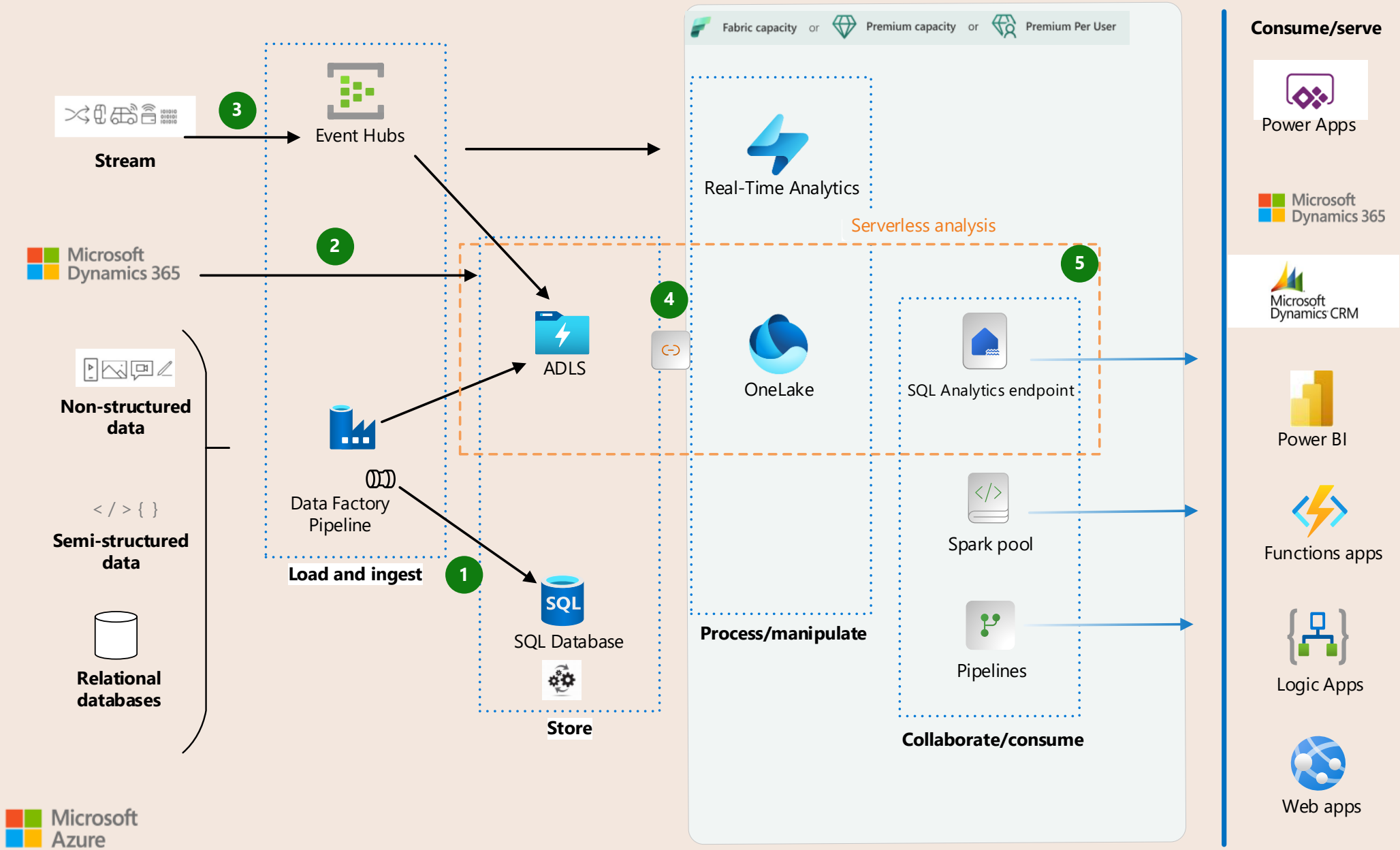
MAKE DATA DRIVEN DECISIONS



to automatically consolidate and quality control business process info…

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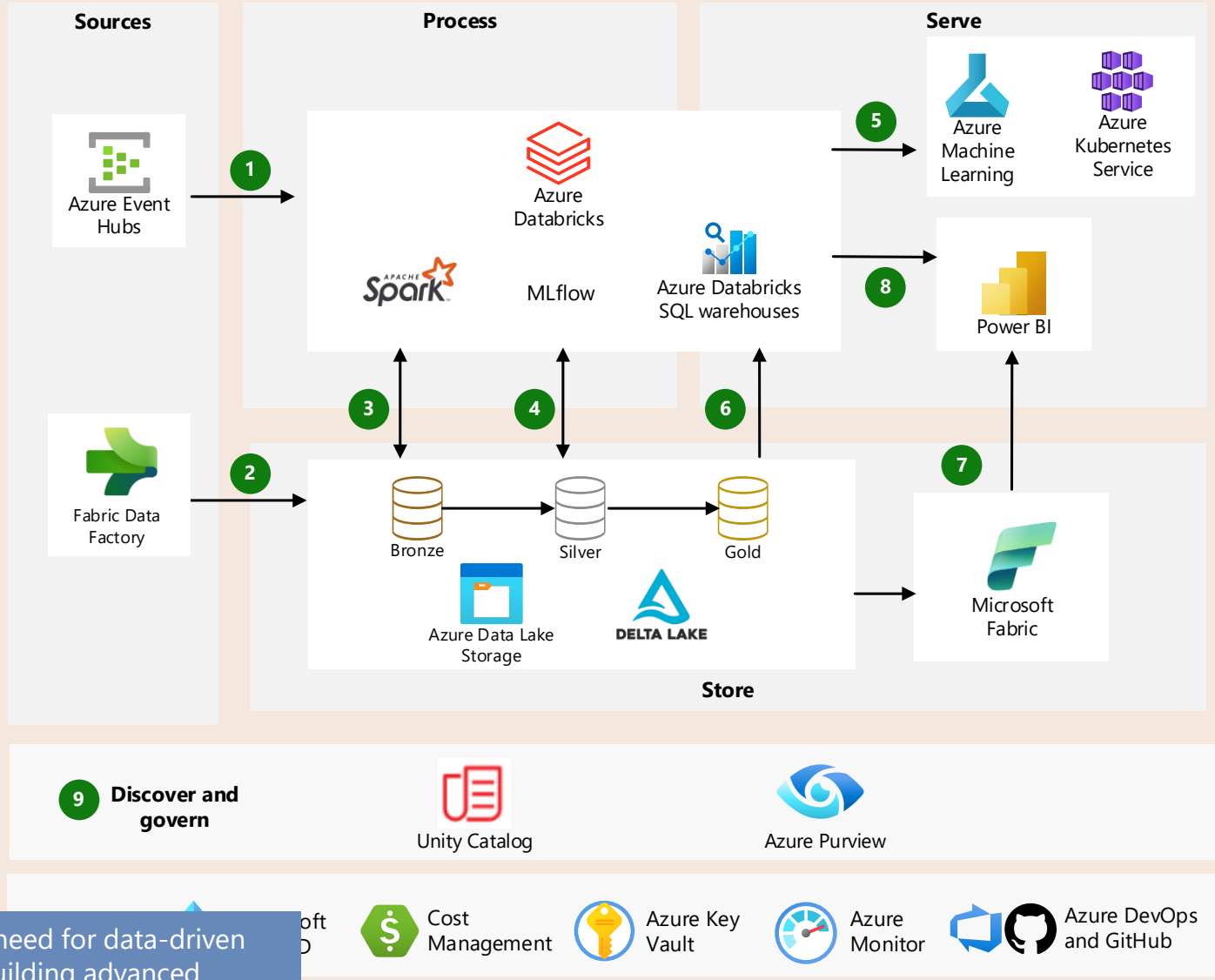
MAKE DATA DRIVEN DECISIONS



Finally, a company that has already grounded the need for data-driven decision making within its culture, can invest on building advanced infrastructure, to incorporate both structured & unstructured information (text, video) from its business processes and its systems into its 'single version of truth', to achieve enhanced near real-time insight…

either by myself, or with my network of trusted partners…

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MAKE DATA DRIVEN DECISIONS

… and more

… within a structured process that ensures timely delivery as per the requirements, and quality of the deliverables up to the high standards I set for our projects.

...helping you at the same time to obtain insights in seconds, using AI,

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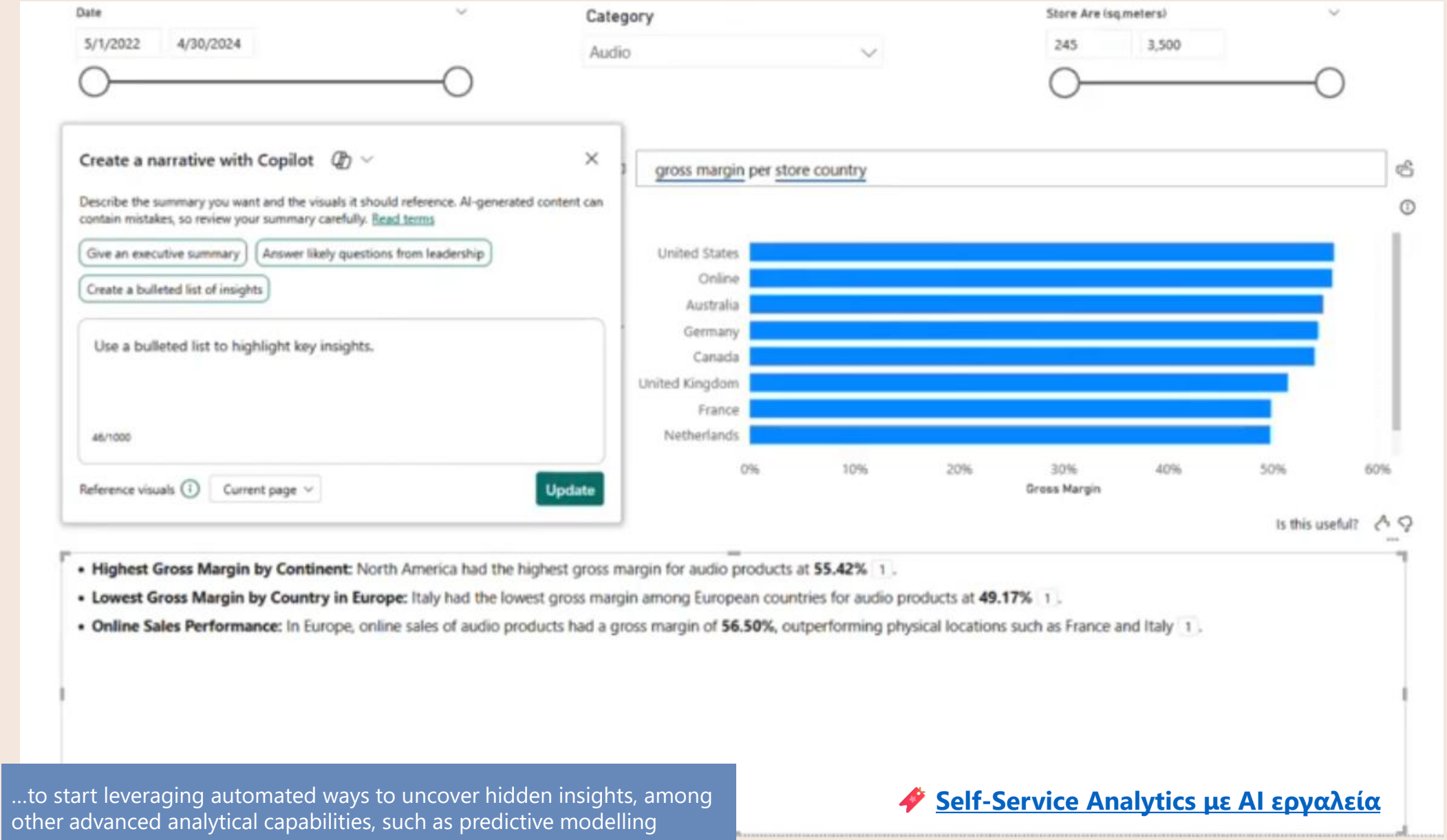
MAKE DATA DRIVEN DECISIONS



...to start leveraging automated ways to uncover hidden insights, among other advanced analytical capabilities, such as predictive modelling

The automated, consolidated datasets we create, are further prepared for AI, as we work with you to incorporate business context that aligns with your business processes,

How to 'prep' for AI in PBI

enabling you to ask questions in natural language and get insights & reports generated automatically by AI tools, in seconds.

Self-Service Analytics με AI εργαλεία

and your team to generate reports in minutes with self-service Analytics

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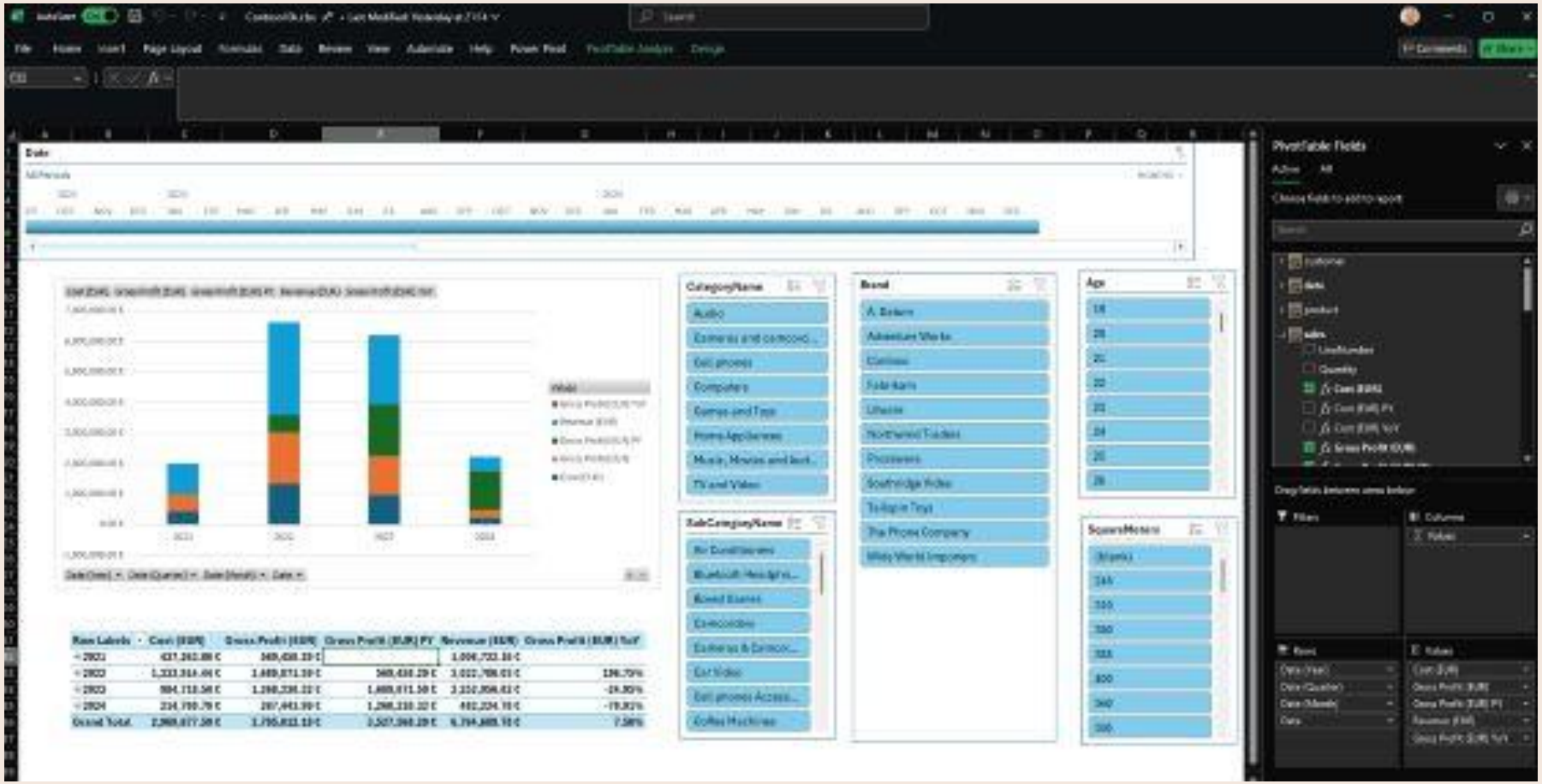


In tools like Power BI, or more familiar tools like Microsoft Excel

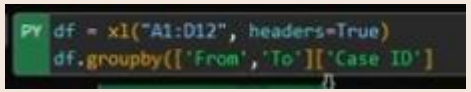
Connect to Power BI from Excel (GR)

Self-Service Analytics με απλό drag & drop

...while empowering them to leverage advanced analytics - even within Excel through a secure way to integrate Python code, managed by Microsoft

A company should also empower its people with effective tools for performing the analytics they need to get insights and make data-driven decisions, increasing analytical productivity >10x and progressing further towards optimizing its decision-making processes.

Example of Python in Excel (GR)



Recent Success Stories

KEDROS ANALYTICS
MAKE DATA DRIVEN DECISIONS

ATHEX (Top-25 cap) Organization

Guided a team of Big-4 specialists to migrate the analytical infrastructure used for automatic BI reports

(from Databricks, ADF, Synapse, Power BI)

… into a Data Lakehouse within Microsoft Fabric, that enables:

1) Consistency and accuracy of reporting metrics across business lines and processes.
2) Faster and more cost-effective development of new reports and analytics.
3) Business stakeholders can generate actionable insights in minutes, by creating their own analytics, through AI & Self-Service BI.

Global 500 Company

Contributes to next-gen BI capabilities for global Supply Chain Analytics, which provide Gen AI capabilities, dashboards with KPI customization features, alerts management with comments & status write-back, etc.

At the same time, contributed to the development of a Power BI reporting pack to monitor key metrics such as OTIF and 3PL performance KPIs,

…and helped redesign the underlying semantic data models, improving reporting performance vs. capacity costs, of over 400% in total.

ATHEX listed Company

Developed Power BI reports to help the client manage sales, shipments and safety stock & delivery timelines,

leveraging SAP BW, Proteus WMS & Aimplan to ‘write-back’ user defined input for global demand and lead times,

…creating a ‘translytical’ tool that extends ‘classic’ reporting and empowers the client control their global supply chain in a proactive, cost-effective, and collaborative way.

...and selected Testimonials

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Ioannis Fousteris
Group ICT Director,
leading Greek manufacturer

We had the privilege to co-operate with Matt, an excellent professional with an out of the box thinking and always willing to assist. I do recommend Matt, regardless of the complexity of the requirements.

Harris Theodorakis
Manager SE Europe,
global Supply Chain company

Working with Matt has enabled us to convert raw data into KPIs and market trends, with a profound impact on our business. Matt's continuous support allow us to aim on higher efficiency, sustainability and cost savings.

Angelos Paidas
Head of e-Mobility Products & Services,
leading Greek Energy provider

I've been working with Matt for over a year, in order to create some advanced BI reports. His in-depth knowledge of BI tools and professionalism are standing out and helped deliver 1st class Power BI reports.

Poulcheria Benou
Information Systems Analyst,
leading Greek bank

I have worked with Matt in a BI project for a Greek bank. The quality of the result, timely response and excellent cooperation, make Matt a leader in his field and an impeccable professional.

Dimitris Dimopoulos
Vice President, Circana

I had the pleasure of working with Mattheos on various projects and feel that I have benefited greatly from his expertise and effectiveness. He is adept in a variety of programming languages and always willing to transfer knowledge.

Tasos Plataniotis
Director, EY

I worked with Matt in several projects in EY. He was a very skilled senior, with knowledge of various areas of financial risk and strong computational skills. He has always provided significant input in the challenges we faced.

Let’s discuss how Data & Analytics can help your business thrive

KEDROS ANALYTICS
MAKE DATA DRIVEN DECISIONS

Schedule a Free 30’ Discovery Call

…or drop me a mail at free.audit@kedrosanalytics.com