

# Driving Innovation and Results-Based Government with Smarter Analytics





Today, we see **analytics** moving from  
advancing single organizations to  
transforming entire industries

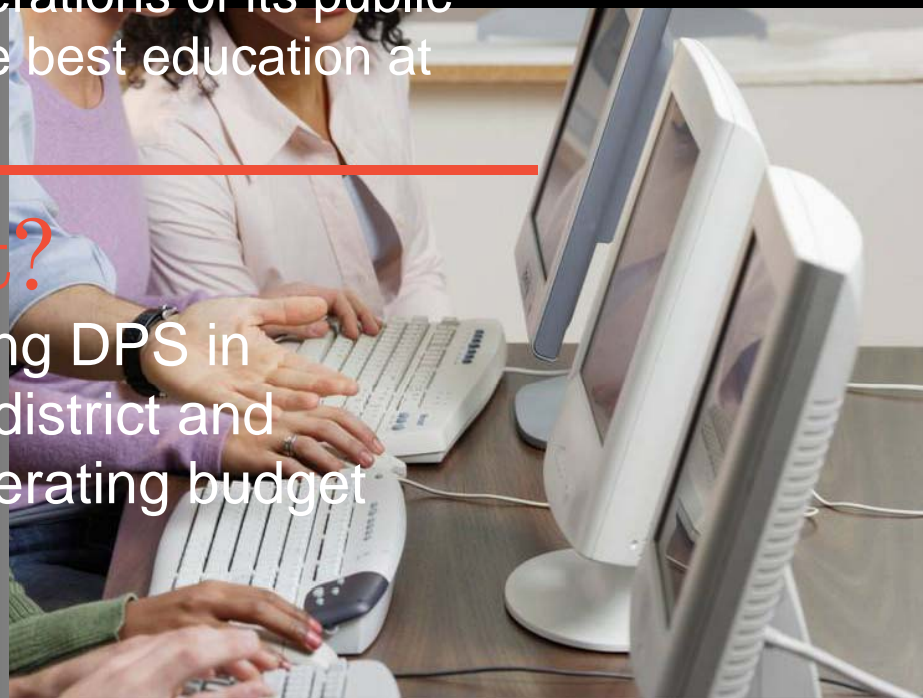
**Government** is no exception as analytics becomes integral in driving better outcomes.

For example, the city of Detroit is using analytics to better manage the finances and operations of its public school system in order to deliver the best education at the lowest cost.



## The result?

Analytics is helping DPS in reorganizing the district and reducing their operating budget by \$231.2 million

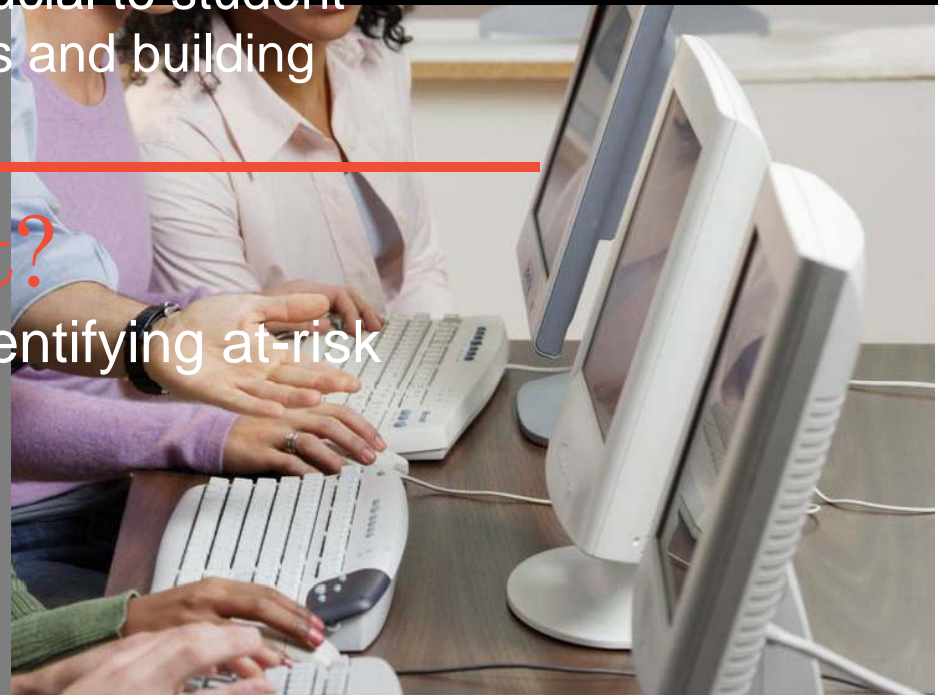


**Higher Education** is no exception as analytics becomes integral in driving better outcomes.

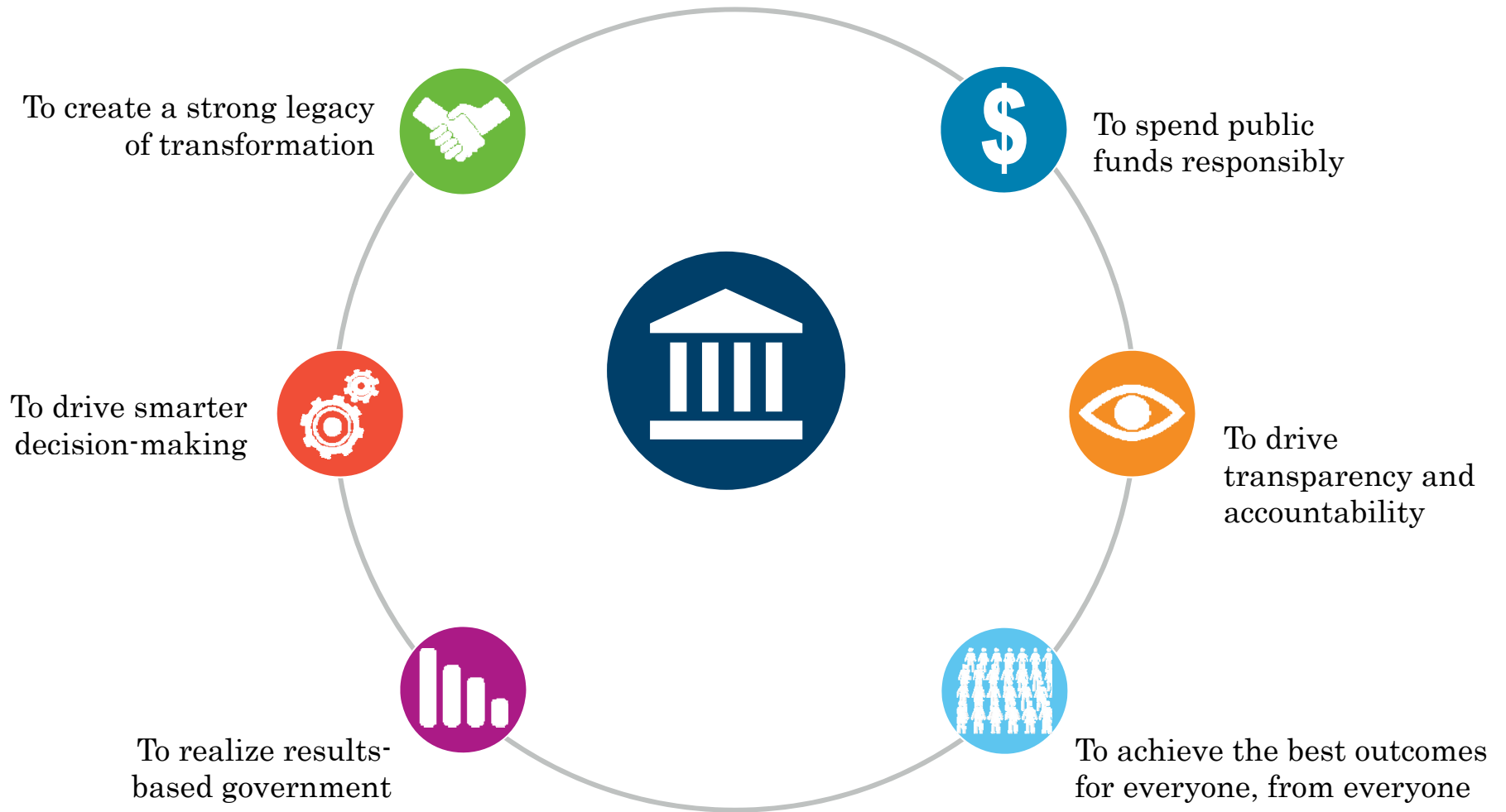
For example, American Public University is using analytics to identify the variables crucial to student retention, identifying at-risk students and building effective intervention strategies.



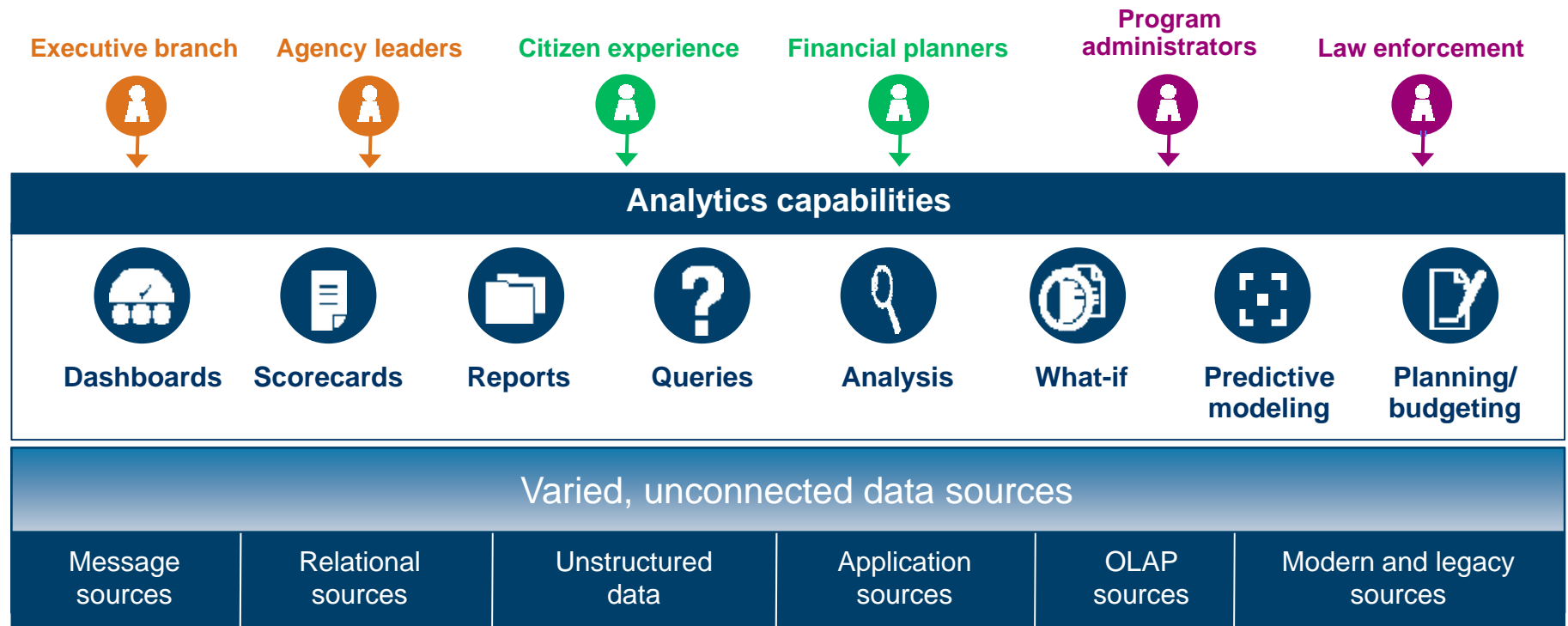
**The result?**  
80% accuracy identifying at-risk students



What is driving the **adoption of analytics** in public sector?



Analytics **aligns** the organization to **drive results**



## Governments use analytics to drive transformation by focusing on **three high-value initiatives**

### Examples of analytics capabilities:

1

Improving citizen services and programs



- Citizen services analytics
- Program performance analytics
- Case management analytics

2

Managing resources efficiently



- Budget and operations analytics
- Asset management analytics
- Tax and revenue analytics

3

Managing public safety and security



- Crime prevention analytics
- Integrated public safety analytics
- Strategy management

## Improving citizen and business services



Seattle City Light

### Deeper insight for better customer service

#### The need:

Seattle City Light was aiming to become the premier provider of customer service in its industry and needed to give managers faster insight into the organization's performance.

#### The solution:

Seattle City Light selected IBM Business Analytics software solutions to deliver faster access to higher-quality information in support of decision making and performance improvement initiatives.

#### What makes it smarter:

- Enables programmatic reporting that reveals valuable insight into performance.
- Provides actionable data for initiatives to improve business performance.
- Accelerates reporting and reduces manual administration, saving time and effort.



### \$10 million in new federal funding

#### The need:

Continue to improve quality of services and outcomes for Family Services while addressing budget and funding pressures and provide a single source for performance measurement.

#### The solution:

The Department of Family Services uses IBM Business Analytics to identify additional avenues of funding, to improve the department's reporting process, benchmark new services and measure business performance.

#### What makes it smarter:

- Accelerated ROI has already generated over \$10 million in federal reimbursement funds.
- New reports can be developed almost 55 percent faster than before, and no longer require support from the IT team.
- One IT resource has been re-deployed to other critical projects, freeing up IT resources.



## Managing resources efficiently



**36% reduction in customer calls**

### The need:

DC Water needed to improve asset reliability and lifespan, and streamline its business processes plus get ahead of maintenance and repair the infrastructure before it fails.

### The solution:

DC Water worked with IBM to implement business analytics and information management technology to modernize infrastructure management and gain greater visibility into critical operations.

### What makes it smarter:

- Found \$3 million in lost revenue by identifying and fixing broken water meters.
- Reduced customer calls by 36 percent through increased preventive maintenance and implementation of automated meter readings
- Increased emergency investigations dispatched within 10 minutes from 49 percent to 93%.



**\$231.2M reduction in operating budgets**

### The need:

Detroit Public Schools needed to restructure its organization to enable it to continue to provide high-quality educational services for the city's youth.

### The solution:

Detroit Public Schools implemented an IBM Business Analytics solution that provides a web-based solution for financial planning that provides real-time insight into school budgets.

### What makes it smarter:

- Provides a single, accurate source of financial data to support accurate decision-making.
- Streamlines the financial decision-making process through easier access to information.
- Assisted DPS in reorganizing the district, closing facilities and reducing the operating budget by \$231.2 million.

## Managing public safety and security

### Memphis Police Department

**30% reduction in overall crime**

#### The need:

With traditional policing practices unable to thwart a rising rate of criminal activity and budgets tight, the Memphis Police Department pioneered a way to focus its patrol resources more intelligently.

#### The solution:

The MPD's predictive enforcement tool gives precinct commanders the ability to change their tactics and redirect their patrol resources to thwart crimes before they happen and catch more criminals in the act.

#### What makes it smarter:

- Reduced serious crime by 30% - including a 37% reduction in crime in one targeted area.
- Reduced violent crime by 15 percent
- MPD's Felony Assault Unit saw cases solved go from 16% to nearly 70%, a 4x increase.
- Improved allocation police resources in a budget-constrained fiscal environment



**Deeper understanding of crime patterns**

#### The need:

The City wanted to find a way to analyze the root causes of serious crimes and work more effectively with the Los Angeles County Sheriff's Department to police the metropolitan area.

#### The solution:

Integrates data from the Sheriff's Department and 911 systems, maps it geographically, and uses IBM analytics to forecast the areas of the City that are likely to require the most policing.

#### What makes it smarter:

- Delivers predictive insight into probable crime event patterns, helping to deploy resources more effectively across the City.
- Enables detailed analysis of current and historic crime data to understand root causes and support the creation of crime prevention campaigns.

Education institutions use analytics to drive transformation by focusing on **three high-value initiatives**

1

Manage student and learning success



### Examples of analytics capabilities:

- Student performance analytics
- Instruction performance analytics
- Student life cycle analytics

Manage resources efficiently



- Budget and finance analytics
- Operations analytics
- Research analytics

3

Manage operational and financial risk



- Operational and financial risk visibility
- Policy and compliance simplification
- Strategy management

## Manage student and learning success



### Predicts factors that influence student success

#### The need:

Edith Cowan University wanted to advance its business-centric, analytics-based approach to operational management, and recognized that control and visibility of management information were the key.

#### The solution:

ECU deployed a suite of IBM Business Analytics software to support reporting, operational planning, and sophisticated predictive analysis.

#### What makes it smarter:

- Predict the factors influencing student outcomes and proactively offer support to increase success.
- Foresee and mitigate the impact of external factors that affect student load, improving long-term operational planning.
- Accelerates student load planning processes.



### Early identification and intervention of students

#### The need:

Edinburgh's Telford College wanted to find a way to track learner attendance more effectively to form the basis of a new predictive analytics solution to boost retention rates by identifying learners who are at risk of dropping out.

#### The solution:

Telford College designed and deployed a solution that interacts with the College's student records system and provides managers and lecturers with dashboards and timetables that track attendance.

#### What makes it smarter:

- Provides a basis for analysis of learners who are at risk of dropping out, and prompting staff to intervene before it is too late.
- Highlights the importance of attendance to staff and learners, leading to improved attendance rates.

## Manage student and learning success



**7% increase in business school applications**

### The need:

Baruch College was looking at how to attract and retain students most likely to thrive and succeed at its institution.

### The solution:

The school uses IBM predictive analytics to recruit students who were most likely to register, models to better identify at-risk students, effectively award scholarships, determine course placements and predict retention.

### What makes it smarter:

- Targeted recruitment helped increase applications to its business school by 7.1%
- Achieved a 21% annual increase in transfer students
- Decreased dropout rate significantly by using predictive analytics placing first-year students in introductory classes



**Boosted registration yields by 15%**

### The need:

WSU needed to understand the costs of each course and faculty, allocate the fees generated, and ensure students successful academic careers.

### The solution:

WSU implemented a suite of IBM business analytics software to collect data from multiple source systems and deliver consolidated information and predictive analysis to key decision-makers.

### What makes it smarter:

- Predicts the chances of success for potential students, enabling marketing teams to focus on high-quality applicants.
- Boosted registration yields by 15 percent.
- WSU's recruitment model provides a 96% accuracy in identifying high-yield prospects.

## Manage resources efficiently



### Reduced month-end close to 3 days

#### The need:

Victoria University of Wellington needed an easier way to manage budget preparation throughout multiple faculties, schools, institutes and centres of research in an intranet environment.

#### The solution:

The University implemented an integrated financial analytics solution from IBM Business Analytics that provides a total package for financial performance management.

#### What makes it smarter:

- Removal of budget consolidation and calculation errors.
- Support of multiple financial reporting and analysis requirements.
- Reduction month-end process time from a maximum of 14 days down to 3 days.



### Transforms aspects of its operations

#### The need:

The University of Wollongong realized the potential of analytics to monitor, evaluate and transform almost every aspect of its operations.

#### The solution:

The university created a business analytics competency centre tasked with creating an enterprise data warehouse and building balanced scorecards and reports to assess efficiency across all areas of the university's operations.

#### What makes it smarter:

- Provided accurate insight into student attrition rates, helping to measure their success.
- Identified groups of students to target in promoting libraries and online resources.
- Improved energy efficiency by monitoring electricity usage at different times across campus.

## Manage operational and financial risk



UNIVERSITY of ST. THOMAS

**21% increase in  
class enrollment**

### The need:

The Opus College of Business at the University of St Thomas needed a better method of timetabling to offer students the best possible range of courses, reduce costs and make it easier to maintain AACSB accreditation.

### The solution:

eCapital Advisors, an IBM Business Partner, developed a course scheduling solution that collects and analyzes data from multiple sources and constructs multiple scheduling scenarios, helping the college make better, faster decisions.

### What makes it smarter:

- The college runs the right number of courses, boosting class enrollment rates by 20% and reducing the number of under-enrolled classes.
- The college understands the factors that contribute to students' course selections for more accurate planning of demand.

UNIVERSITY of CALIFORNIA

**\$10 million in potential  
savings by lowering risk**

### The need:

The University of California's existing reporting and decision-support environment did not address the need of decision makers to understand the system's level of risk.

### The solution:

UC engaged IBM to implement an Enterprise Risk Management Information System. The solution integrates previously silo-ed data to provide near real-time information to all levels of the university.

### What makes it smarter:

- The system helps UC understand what drives subpar performance and costly losses.
- Senior officials can better understand the ROI associated with various remediation strategies.
- Better risk ratings mean lower interest rates on debt, a 0.1% decrease in interest rates represents over \$10 million in potential savings.

How can you can you see the **return on investment** with analytics?

**Desired results**



Reports



Dashboards



Scorecards



Queries



Analysis



What-if



Predictive modeling



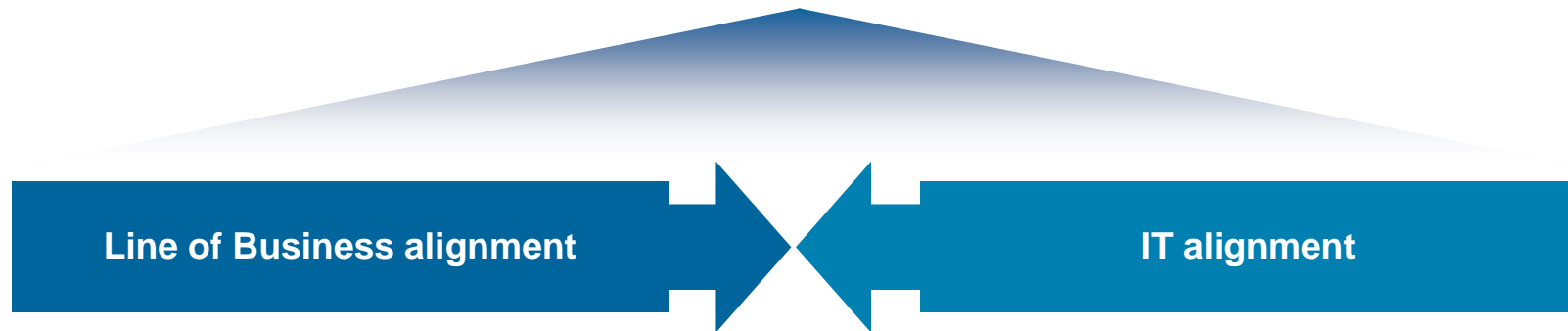
Planning/  
budgeting

**Analytics capabilities**



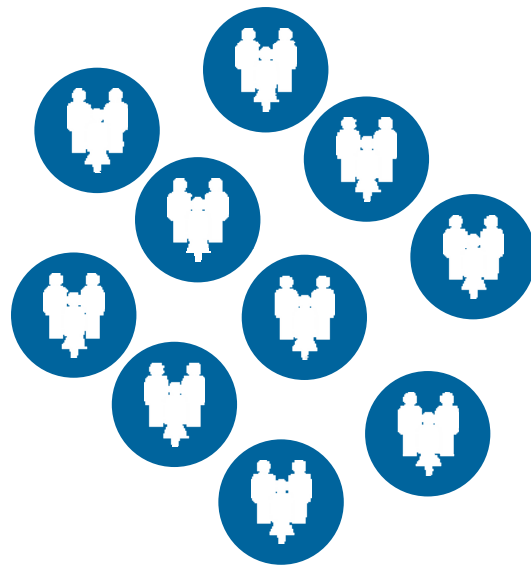
It is accomplished when the line of business and IT work **together** on an analytics strategy

**Desired results**



**Analytics capabilities**

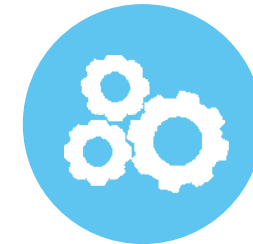
By understanding the **different analytics roles** within the organization



**Consumers of information**



**Creators of analytics content**



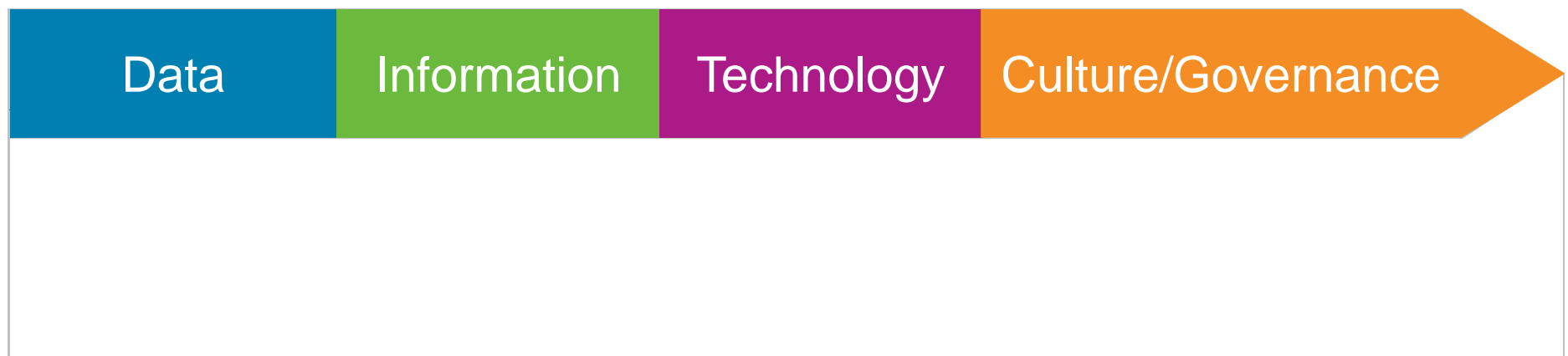
**Analytics process and governance**

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How often have you **heard** this?

We have all this **data**. Let's use **analytics** to **measure**  
things!

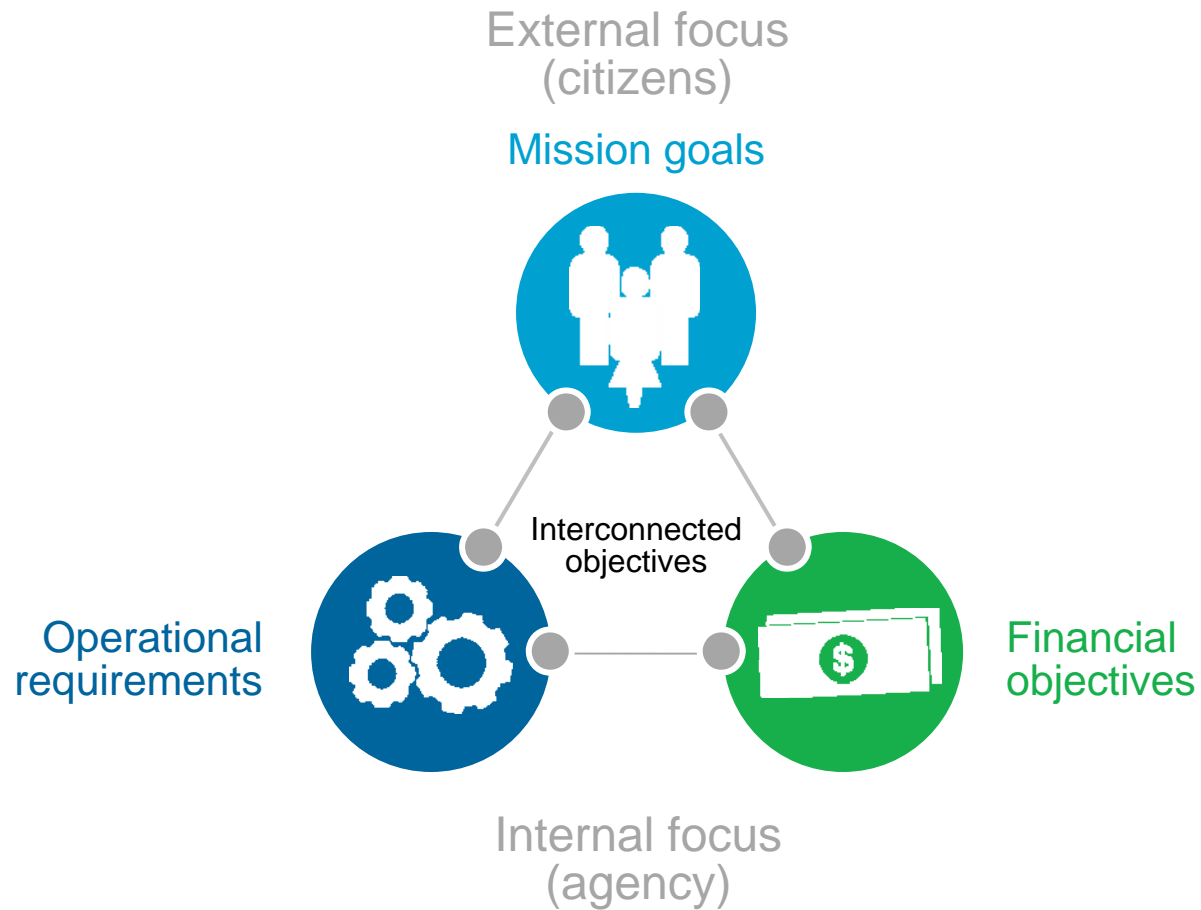
But becoming an **analytics-driven** organization is not that simple



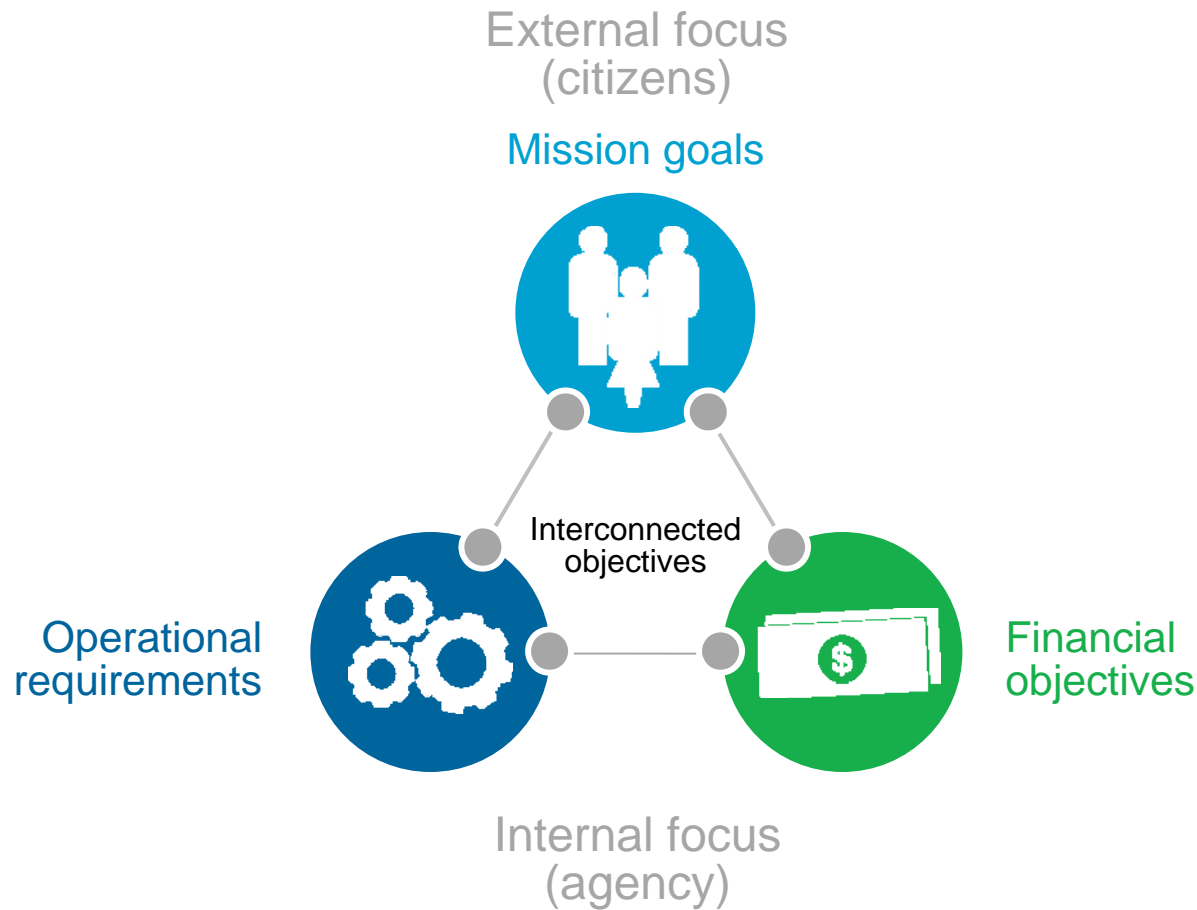
Non-analytics  
driven organization

Analytics-driven  
organization

Knowing and understanding the **strategic goals** of the institution and aligning them is critical



Those goals must be **S.M.A.R.T** goals that can be measured and acted upon



**S**pecific

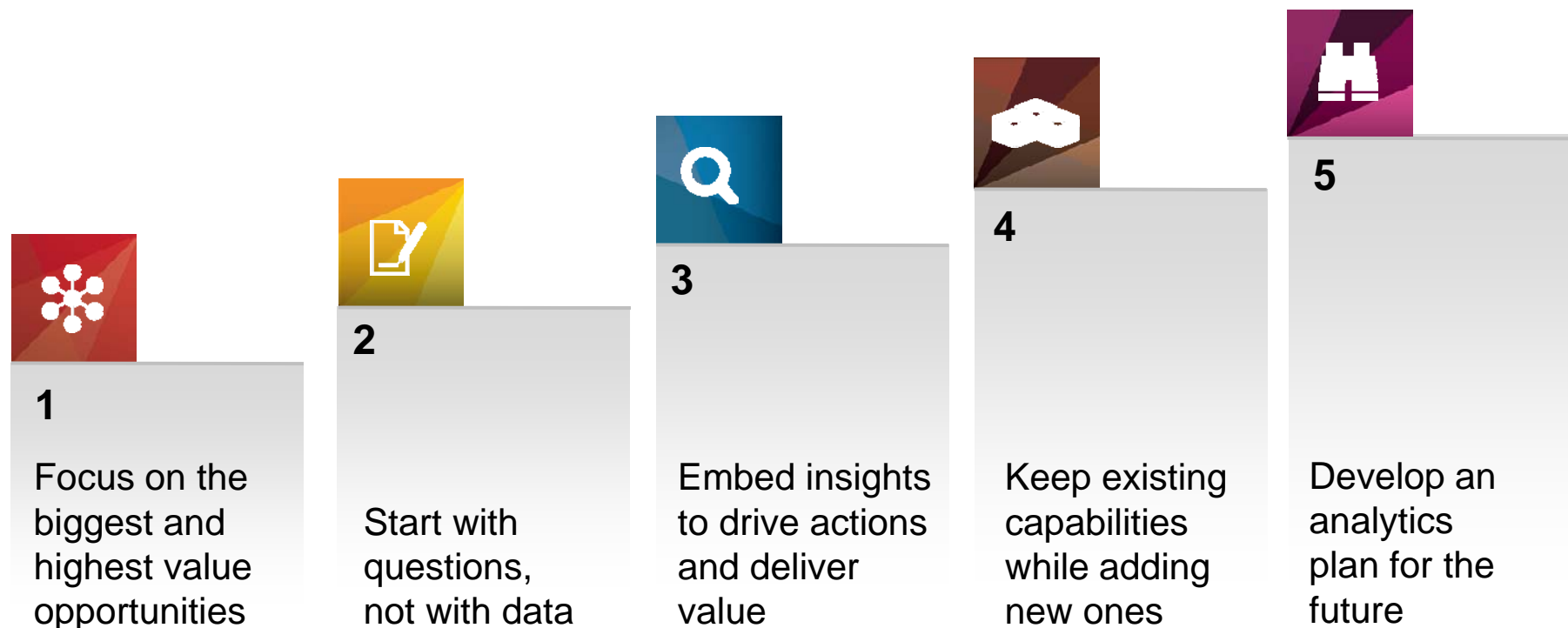
**M**easurable

**A**ttainable

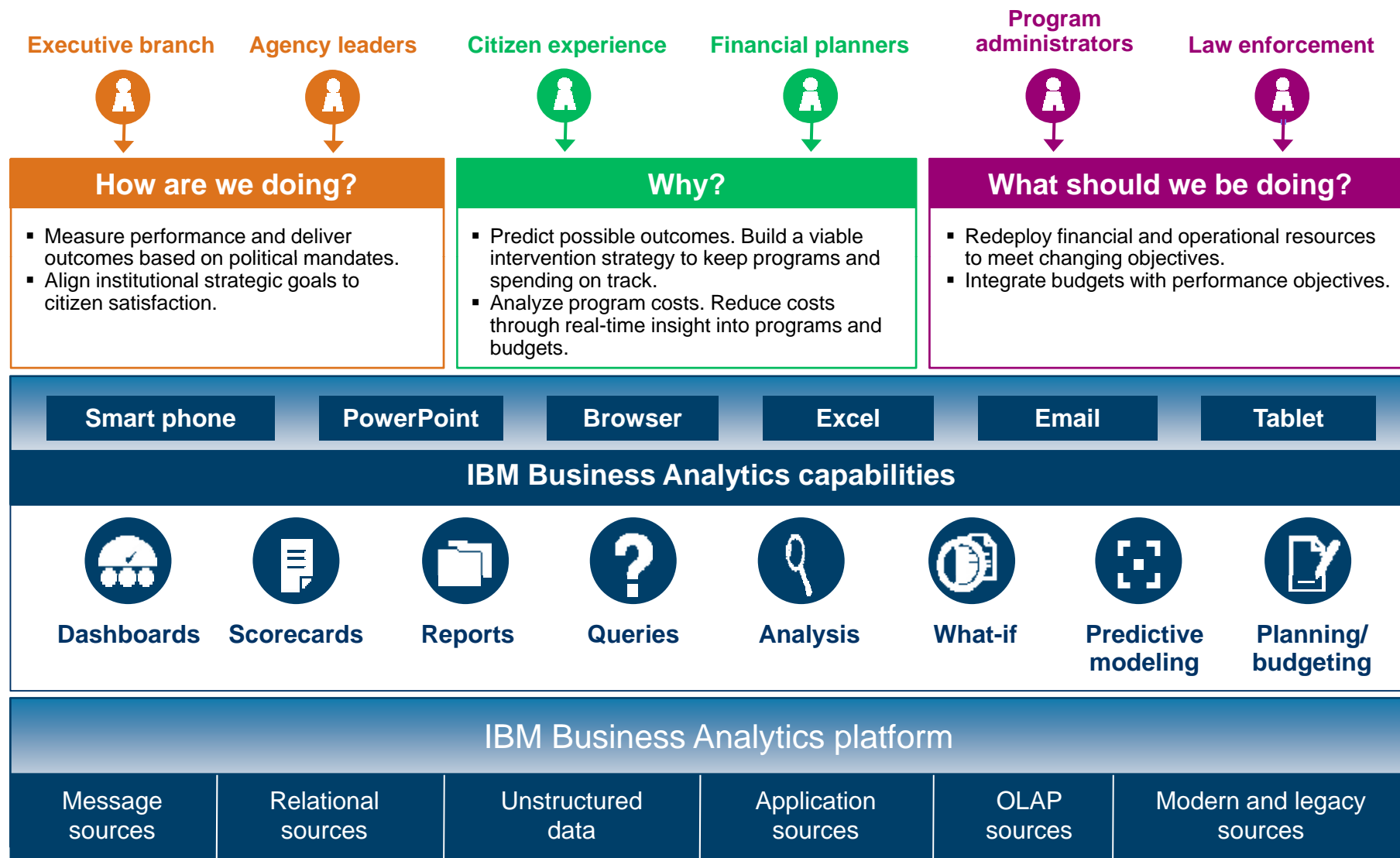
**R**elevant

**T**imely

## How do you get **started** on the analytics journey?

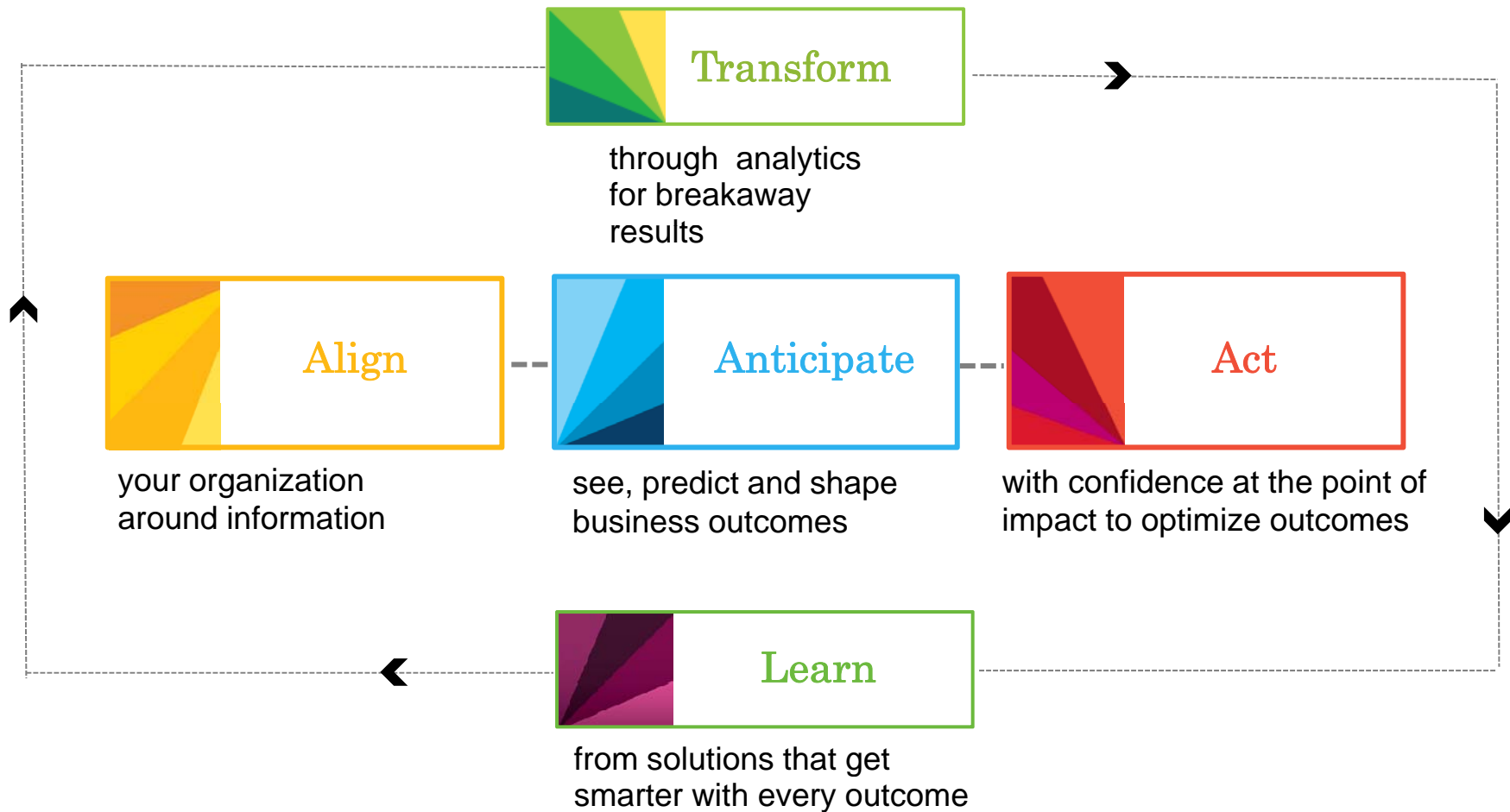


# The IBM Business Analytics portfolio's breadth and platform for **government** aligns the organization





IBM Smarter Analytics is a holistic approach that turns information into insight and insight into business outcomes.

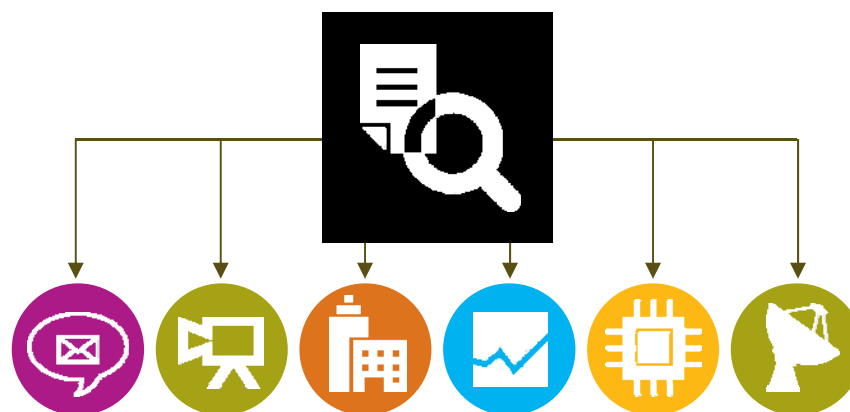


# Align your organization around information

## Deploy an information and big data strategy that flows from your business strategy.

- Create a trusted information foundation that improves IT economics and optimizes analytic workload performance.
- Integrate and govern information to ensure business confidence.
- Instrument the lifecycle governance of content to ensure the right information is captured, activated and accessible while unnecessary data is promptly disposed
- Leverage the volume, velocity and variety of internal and external information in context for new, deeper insights.

Only IBM offers an **enterprise-class big data platform** as part of a comprehensive information management foundation.



Fully exploit all sources of data and content for insight

# Anticipate

 to see, predict, and shape outcomes

## Leveraging business analytics to deliver actionable insights

- Spot and analyze trends and anomalies
- Predict potential threats and opportunities
- Plan, budget, and forecast resources
- Assess and manage risk
- Compare “what-if” scenarios
- Measure and monitor business performance
- Automate decisions
- Align strategic and operational decisions

Only IBM offers comprehensive analytic capabilities that are dually **specialized to the task and interconnected** to facilitate shared insights



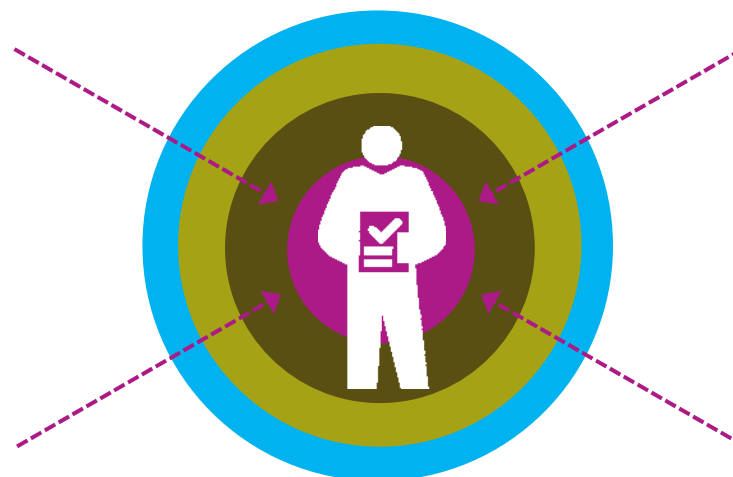
Leveraging all information, all people, all perspectives and enabling all decisions

# Act with confidence at the point of impact to optimize outcomes

## Embed analytics into your processes and empower a culture of data-driven decision making

- Embed analytics into organizational processes to guide and optimize day-to-day operations and future strategies
- Leverage proven solutions and models designed and tuned for the task
- Empower people with historic, real-time, and predictive insights
- Establish a culture that believes in and fosters analytics-based decision making

Only IBM enables organizations to take the **best action based on predictive analytics, process models, and optimization technologies** to achieve better outcomes



**Embedding past, present and future insights  
into your operations and processes**

# Transform through analytics for breakaway results

## Accelerate the time to value and deliver game-changing results

- Develop a clear analytics strategy aligned to priorities and desired outcomes
- Challenge current thinking, explore new ideas, and follow the facts to innovate
- Enhance current approach with analytics advancements and innovation
- Utilize proven industry solutions, use cases, and accelerators to deliver rapid value
- Go beyond solving problems to identifying new opportunities and sources of value

Only IBM provides **market-leading services, proven solutions, use cases, accelerators, and world-class research** to enable breakaway results



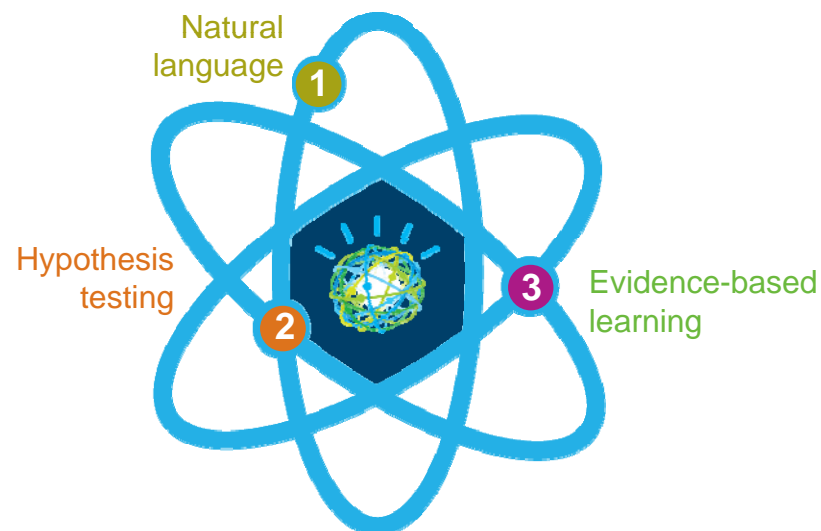
Enabling you to go beyond solving the problem to capturing new opportunities

# Learn from solutions that get smarter with every outcome

## Smart enough to reason and return confidence-based responses for the next best action

- Solutions that can learn from evidence and outcomes to get smarter with each iteration
- Capable of navigating the complexities of human speech through natural language processing
- Dynamically generating and evaluating possible hypotheses to the most complex questions
- Applying advanced analytics to weight and evaluate responses that are optimized based on only relevant information
- Continuously ingesting and analyzing Big Data and discovering new patterns and insights in a matter of seconds

Only IBM brings together the technologies that define **the next generation of Smarter Analytics solutions** that can reason and learn.



**Moving your organization from search to discovery, from possibilities to probabilities, and from simple outputs to intelligent options**

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