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Finance Analytics
Use of Analytics in Finance
Nov 2018
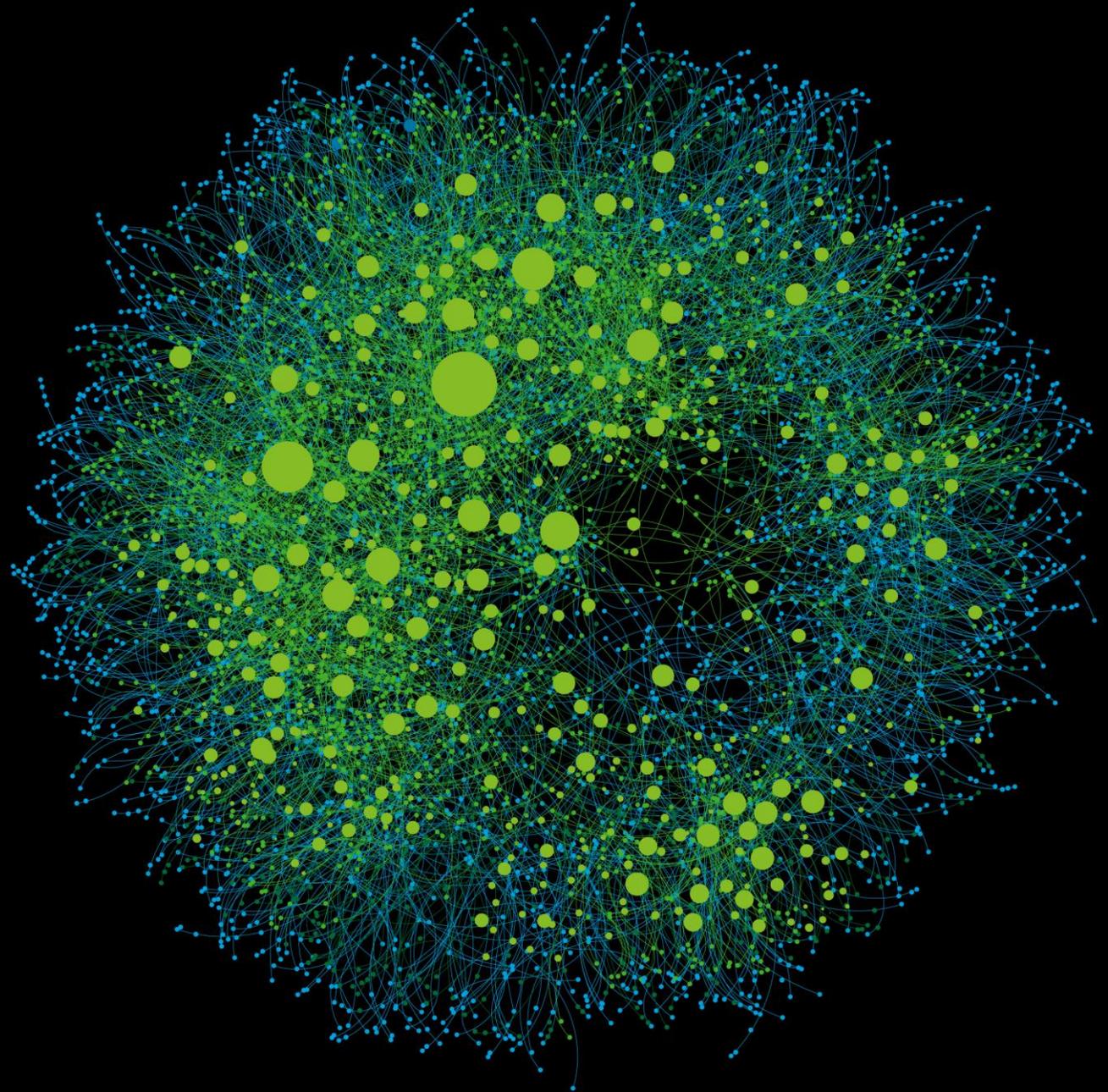
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Our ask...

Talk

Share your opinion

Share your experiences

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Introduction to Analytics

Introduction to Data Analytics

Analytics is the practice of **capturing**, **managing** and **analysing data** to drive **business strategy** and **performance**

Use of technology **tools** and **skills** to **transform data** into **contextualized information** that can create **insights** and enable **better decision making**

It includes a range of approaches and solutions, from looking backward to evaluate what happened in the past to looking forward to scenario-planning and predictive modelling.

Introduction to Data and Analytics
Demand for analytics

Powerful trends are driving the adoption of analytics by businesses and governments. These drivers include:

- An unforgiving demand for consistent **performance and profitable growth**;

- Need to proactively manage risk while encountering tougher **regulatory** enforcement;

- **Technological advances** and exponentially increasing **amounts of data** to process, comprehend, and react to;

- **Disruptive innovations and new signals** - Holistic signal detection from traditional internal and external structured and unstructured data plus voice, emails, social networks, sensor enabled facilities, products, instruments must be integrated and monitor for real time operational insight and decision making

- **Hidden Insight** - Facing more information than humans can possibly process, decision makers need more powerful tools for uncovering hidden patterns that may go undetected.

Performance Imperative

Risk and Regulatory Compliance

Trends are driving the adoption of analytics by business

Hidden Insight

Data Volumes and technological advances

Disruptive innovation and new signals
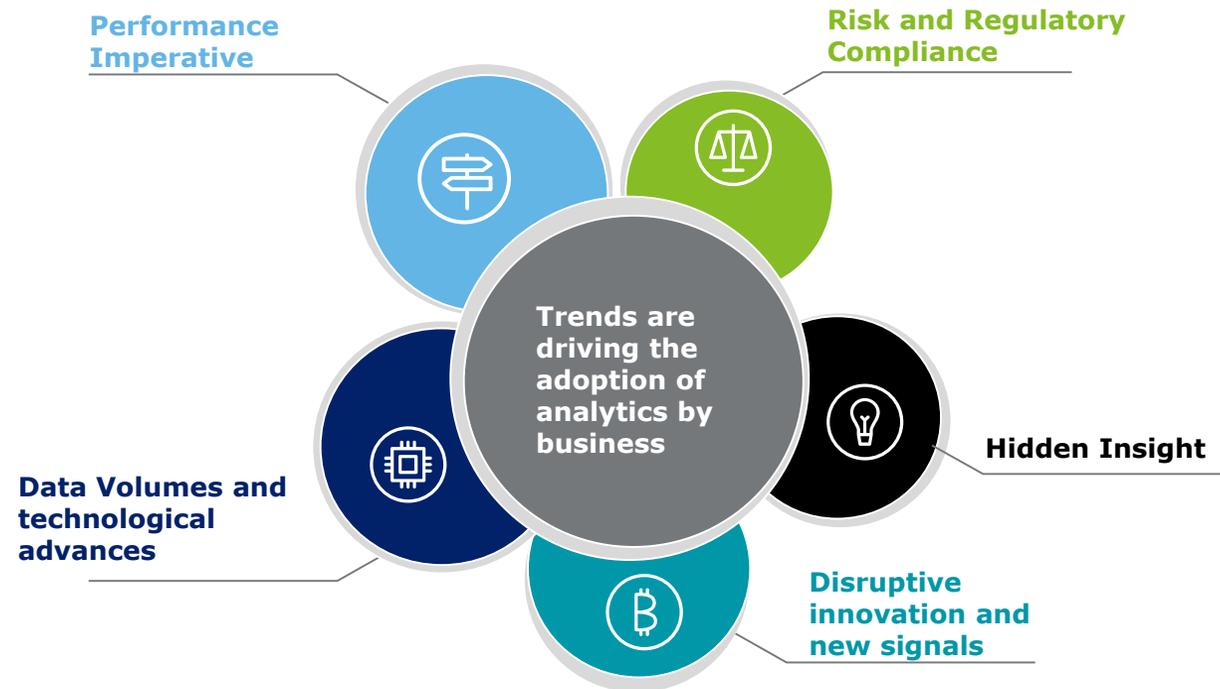
Types of Data Analytics

Different types of analytics

Below diagram show a classification of analytics based on the extent to which the analytics results require further human input to make a decision and/or take an action
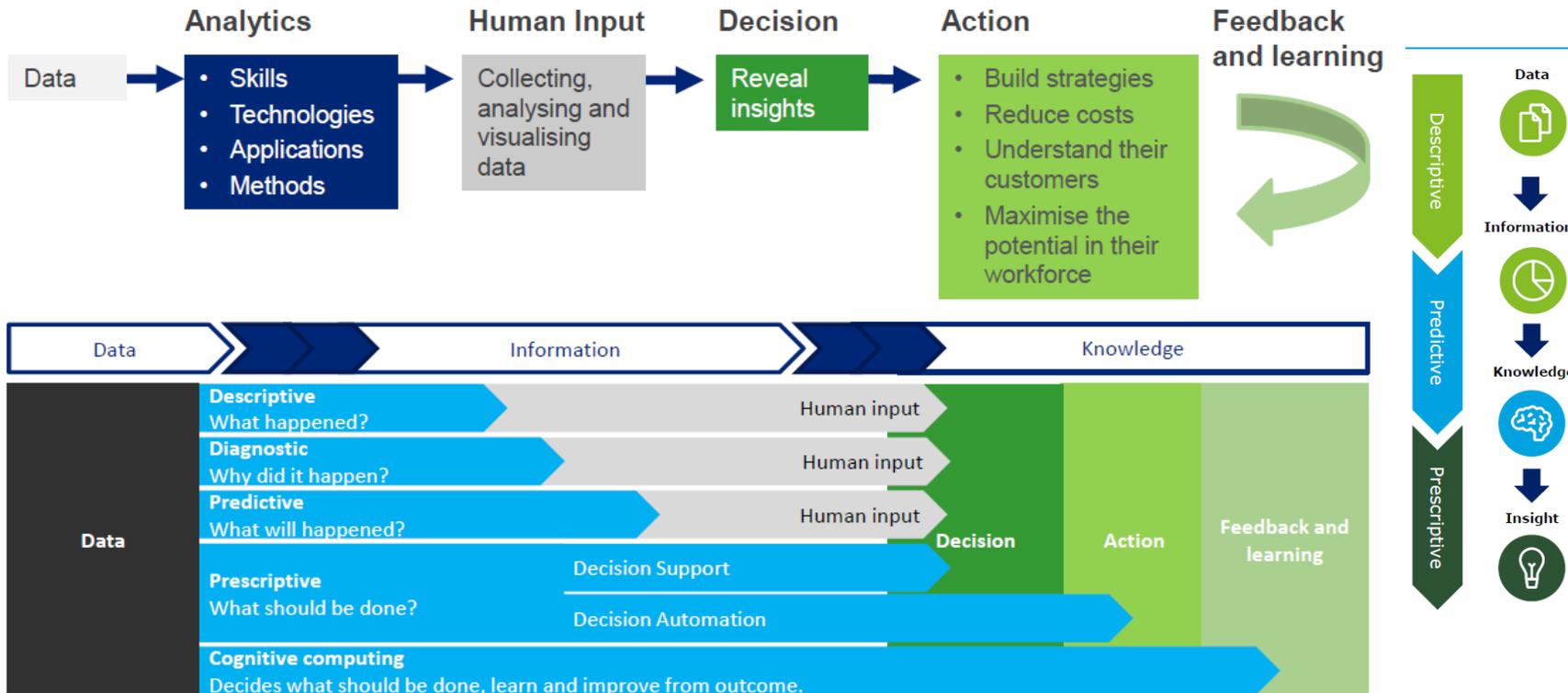

Decision making processes can be made more efficient, focusing human input on making decisions and acting on them, rather than collecting and analysing data.

Analytics vs Reporting

Analytics is an advance improvement on the traditional standard/operational reporting and business intelligence
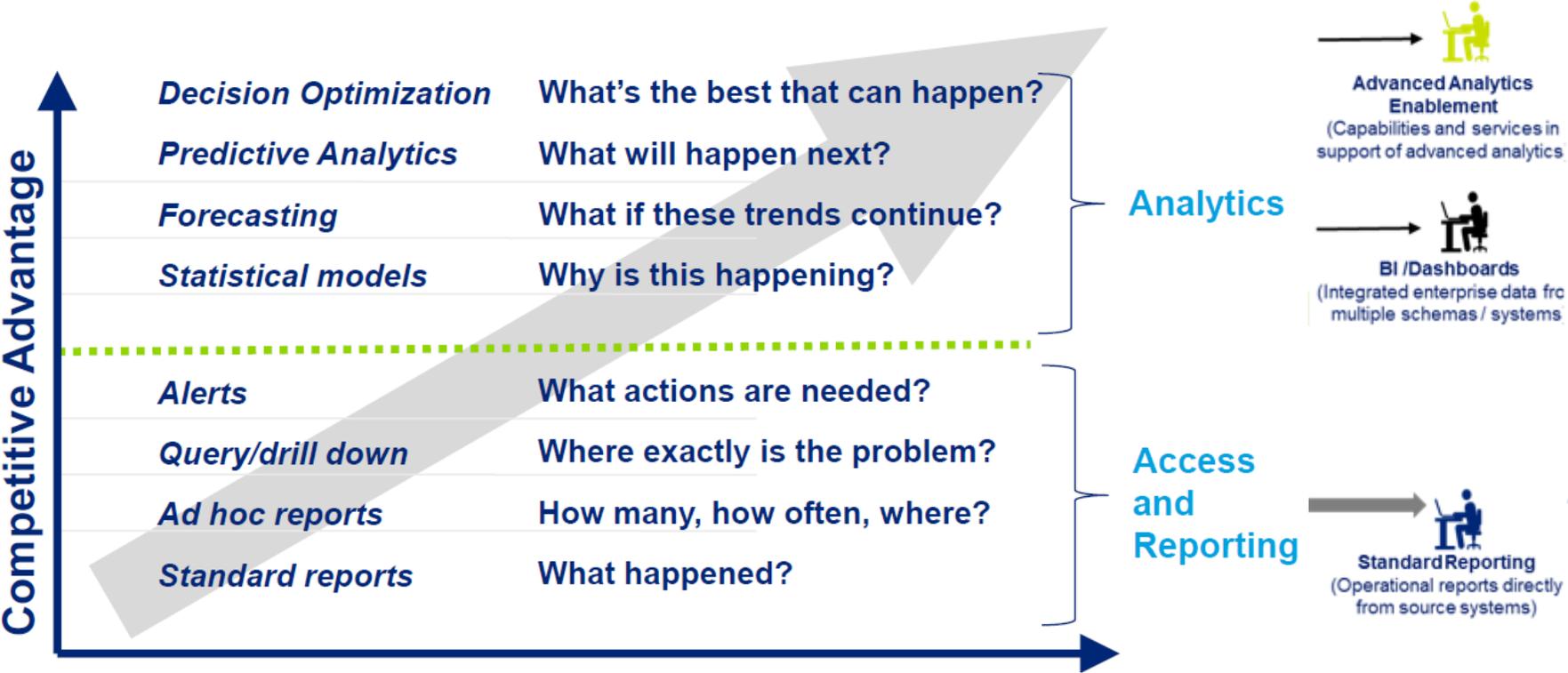
Data Analytics Value
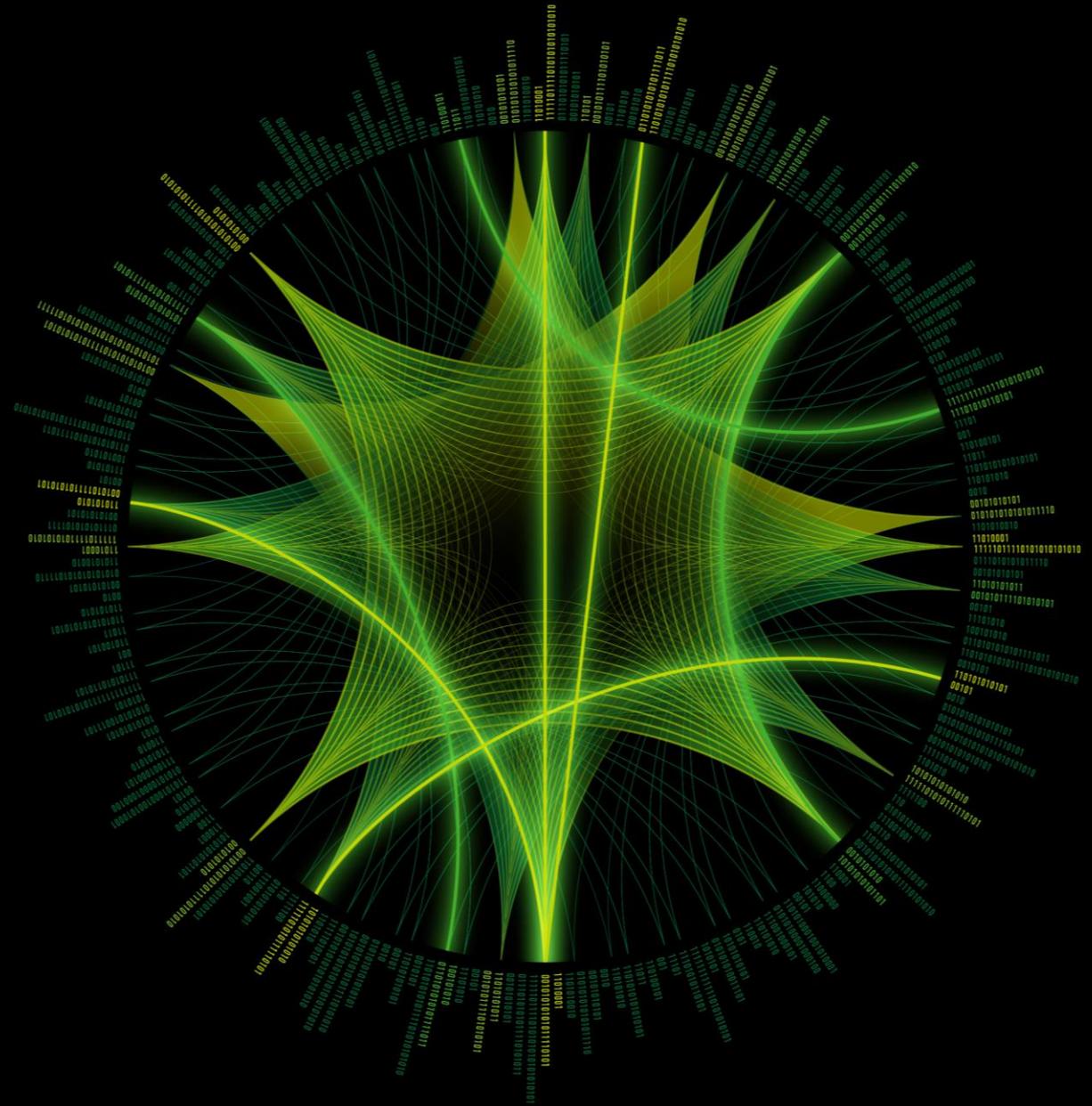
Alignment of analytics to Performance and Risk Value Map

Key analytics, spanning various finance processes, align with key components of the Performance and Risk Value Map.

Operating Margin

Contract Compliance:
- Contracted terms evaluation
- Payment verification
- Data quality monitoring

Procurement:
- Supplier rationalization
- Invoice rationalization
- Predictive solutions
- Price negotiation support

Expenses & Corporate Credit Cards:
- Fraudulent expense identification
- Supplier discount analysis
- "Lost" card analysis

Payroll:
- Fraudulent payment analysis
- Fraudulent pay amounts and/or hours analysis
- Ghost employee identification

Revenue Growth

Billing Accuracy:
- Pricing accuracy analysis
- Discount analysis
- Exchange rate error identification
- Interest rate error identification

Revenue Leakage:
- Completeness of billing
- Credit note ratios
- Exceptional discounts
- Unexpected write-offs

Customer Profitability:
- Customer margin analysis
- Customer up sell opportunity
- Full cost analysis
- Predictive solutions
- Uneconomic billing

Product Profitability:
- Product margin analysis
- Up sell opportunities
- Delivery cost analysis

Asset Efficiency

Fixed Assets:
- Verification of calculated depreciation
- Verification of useful lives
- Duplicate / obsolete asset analysis

Receivables:
- Customer segmentation
- Collectability analysis
- Credit analysis

Payables:
- Spend analysis
- Vendor master data analysis
- Invoice & payment analysis

Inventory:
- Inventory turnover analysis
- Inventory cost & profit margin analysis
- Duplicate/obsolete inventory analysis

Risk and Compliance

Controls Effectiveness:
- Authorization limit verification
- Control override identification
- Automated reconciliation
- Quality of key data
- Segregation of duties

Data Analytics & Fraud:
- Policy adherence
- Master data management
- Sanctions compliance
- Suspicious activity
- Fraudulent transaction

Continuous Monitoring:
- Monitor/enhance controls on an ongoing basis
- Identify abuse and fraud
- Regulatory compliance

Financial Integrity & Reporting:
- Journal entry analysis

The increasing value of data has highlighted the importance of analytics for the Finance Officers

Reengineered processes to create clearer accountability, reduce duplication, and drive efficiency and effectiveness improvements

The speed and flexibility of decision making

Simplified complex data feeds, thus reducing reconciliation efforts

Increased finance effectiveness and value added to business

Increased cost efficiency through increased productivity

New environment pressures create various challenges for the finance teams within corporations

Operating Environment Pressures

- Regulations
- Data Volumes & Sources
- Technology Capacity
- Competitive Growth
- Business Complexity
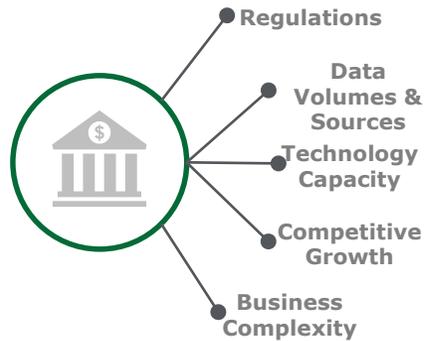
These pressures have a significant impact across the spectrum of finance business capabilities and present an opportunity to transform data into insights that can lower costs.

Key Finance Business Issues Affected by Operating Environment Pressures

- Cost Management
- Forecasting & Planning
- Business Partnering
- Risk Management
- Internal & External Reporting
- Service Delivery Model

Leveraging Analytics to Address Key Business Issues

Analytics can be effectively leveraged cross-functionally to address several finance business challenges

Leveraging analytical insights, finance offerings can drive value and help minimize costs

Operating environment pressures such as increased regulations**,** highly competitive landscape**,** improved technology capacity, and growing business complexity are creating friction across finance; analytics can help address these challenges:

Key Business Issues	Analytics Value
Cost Management How are costs allocated and where are the greatest opportunities for cost reduction?	Map cost allocations, identify spending trends and outliers, and provide scenario analysis to better understand how to increase savings
Forecasting & Planning How can we better predict and visualize our revenue, costs, and overall business performance?	Predict revenue, costs, and other major KPIs using internal and external data, and visually identify trends or concerns
Risk Management How can we better anticipate potential financial risks and prepare our responses?	Identify potential threats and use scenario analysis to understand the implications and plan a response to threats
Internal & External Reporting How can we improve our reporting efficiency and accuracy?	Reduce reporting volume, eliminating redundancies, and streamline the reporting preparation process
Service Delivery Methodology How can we improve our finance service operations? Who should we partner with to deliver more impact?	Evaluate geographical distribution and headcount against key benchmarks, improve understanding of business partner overlap
Business Partnering How can we partner with other functions to drive more impactful insights?	Leverage cross-functional data and reports to improve forecasts and better understand key drivers of trends

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Finance analytics have been applied to unlock answers to critical performance questions – Examples

|	Profitability modeling and analysis	Planning, Budgeting and Forecasting	Reporting Rationalization	Performance & process Optimization
Type of Issue	*"I need insight into my regions' product sales performance and ability to compare to prior quarter."*	*. "I want to identify, prioritize, and group decisions based on simulated outcomes."*	*"I need to streamline my production of reports"*	*"I want to understand the most efficient path to manage my Finance processes"*
Methodology	Identify and investigate issues impacting product profitability and facilitate cost/ profitability management discussions using a visual front end solution	Use advanced predictive algorithms, econometric modeling and visualization techniques to improve forecasting, budgeting and planning	Leverage text mining and natural language processing to identify reporting redundancies, usage, and errors	Visually and dynamically analyze the current state organization, execute prioritization exercises, and generate multiple service delivery model scenarios
Application	• New product analysis • Ongoing profitability and cost maintenance • Cross functional/ geographical finance discussions	• Implementing a driver based rolling forecast and forecasting for a new product or extension • Econometric modeling • Earnings estimate and equity valuation	• Accelerate and streamline report management • Assess reporting consistency and efficiency	• Improve operational efficiency • Process improvement, governance, and creation of supporting tools • Enables insight driven decision making
	1% - 3% Margin Improvements (dependent on project and industry)	**90-95% Modeling Accuracy**	**50-70% reduction in reports**	**20-30% increased efficiency**
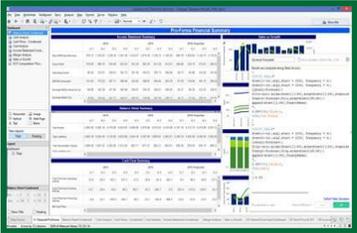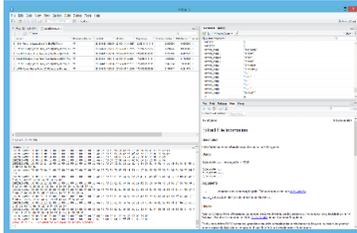
Environments That Can Benefit from Analytics

Organisations should assess challenges through the lenses of people, process, technology, and data facilitates focused application of enterprise math and science techniques that can unlock benefits and streamline insights

People

Process

Technology

Data

People

- Heavy allocation of resources to process and create analysis; Minimal resource allocation to insight mining and decision making

- Copious dependence on excel or other basic tools

- Minimal or limited predictive analytics skills-set and deep analysis acumen

Process

- Lacks a centralized approach for capturing and analyzing data

- Manually intensive ad-hoc analysis – more time on gathering data than analyzing

- Issue lends itself to application of enterprise math and science techniques

Technology

- Inadequate technology and infrastructure to support analytics and insight sharing

- Lack of centralized platform to integrate complex system environment for rich financial and non-financial information

Data

- Access to large amount of internal / external data points yet does not currently leverage data for insights

- Data quality is not integrated and derives from multiple sources

Driving Efficiency in Government Performance

Potential improvement initiatives where analytics can be employed to create value

Finance Analytics Applied

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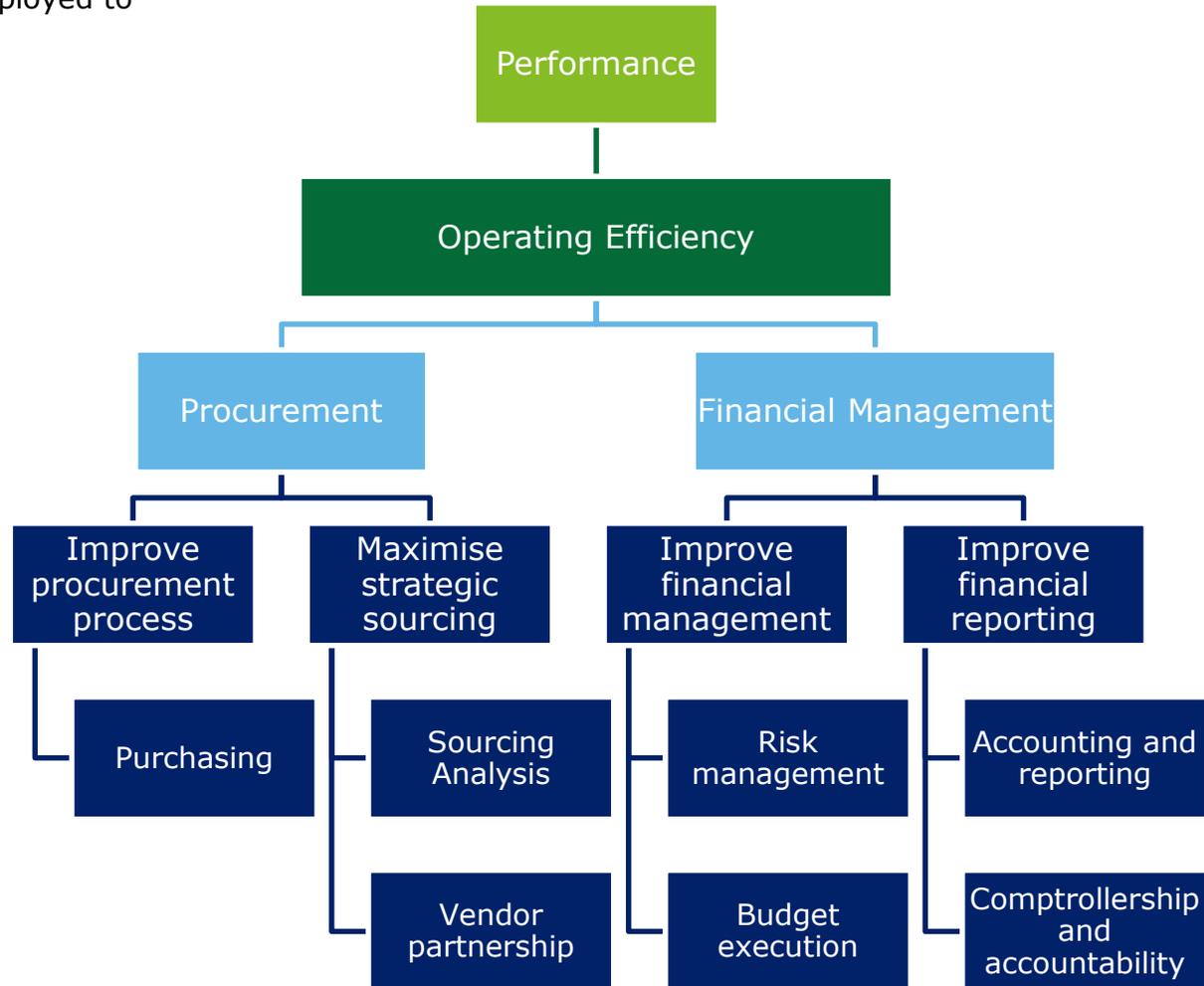
Organized by Finance functions, a wide range of value-adding Finance Analytics solutions can be developed and applied

- Operational Finance
- Business Finance
- Specialized Finance
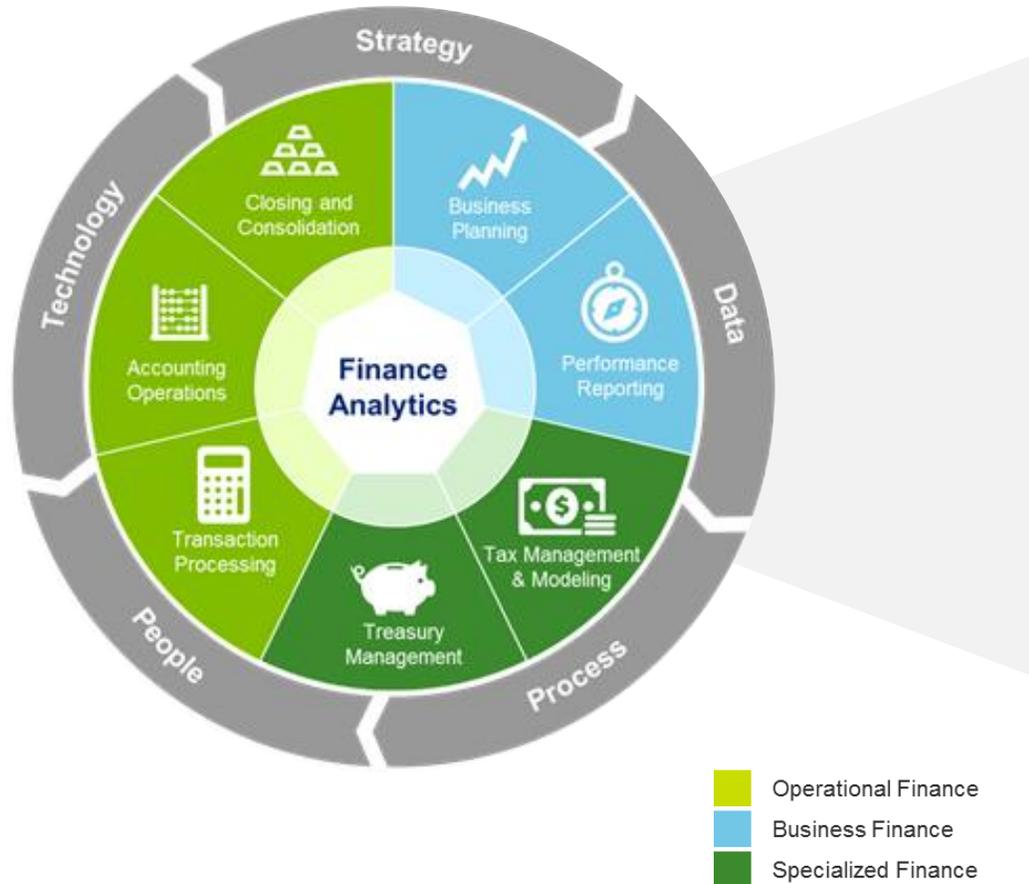
- Finance services can be broken down into:
  - Operational Finance
  - Business Finance
  - Specialised Finance
- The above categories can further be broken down into seven functions.
- Each finance function represents an analytics module where value can be generated based on finance organization objectives
- Framework integrates finance strategy, data, process, people and technology along finance functions

Finance Analytics Framework – Business Planning
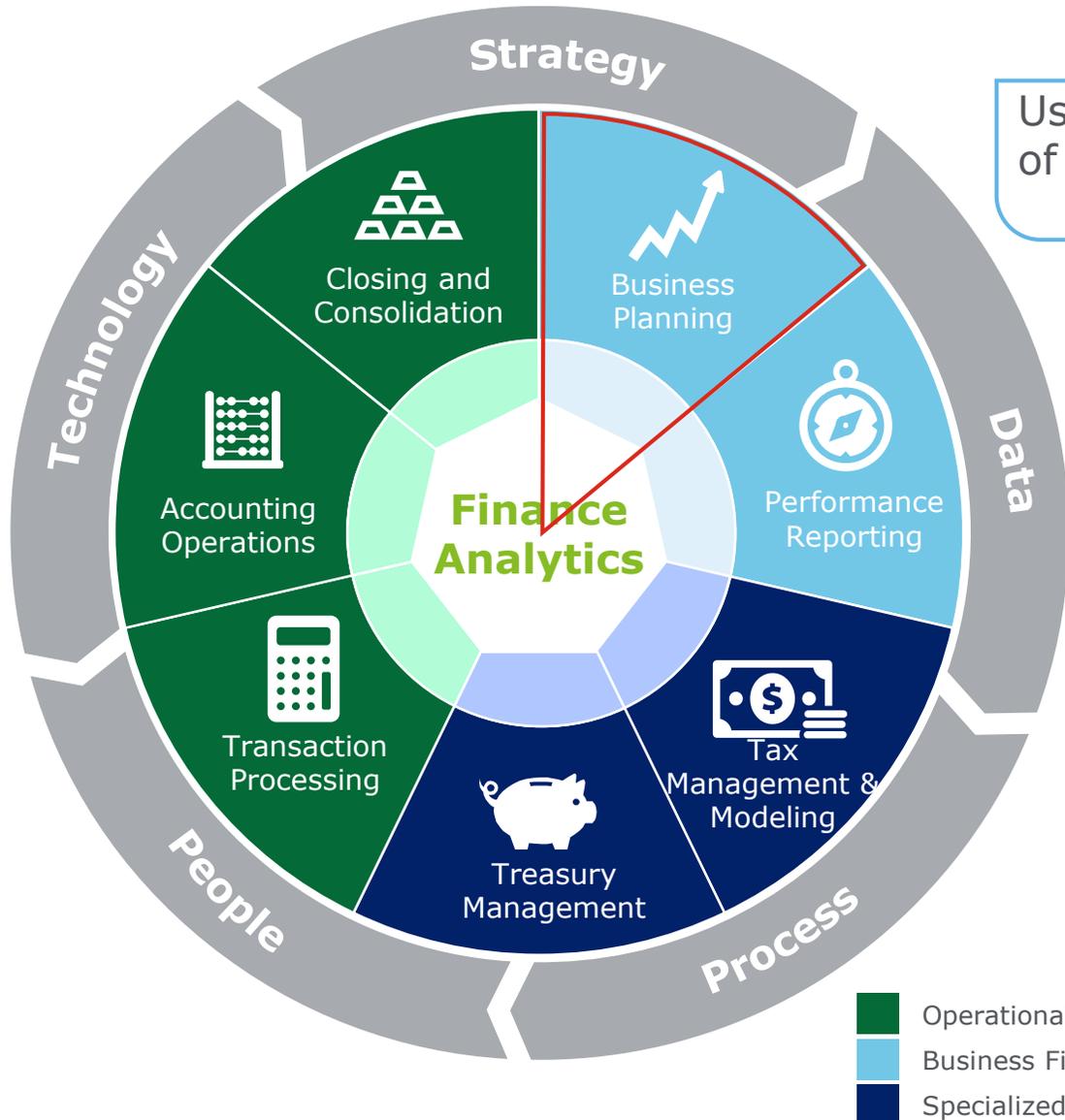
Use analytics to increase the accuracy and efficiency of budgeting and forecasting

- Enterprise performance management
- Driver based planning
- Multi-dimensional analysis
- Customer and product profitability
- Cost of sales and standard cost forecasting
- Integrated business planning
- Integrated financial planning
- Strategic plan modelling
- Capital and project analytics
- SG&A expenses management analytics
- Real Estate Valuation Analytics
- Capital planning

Legend:
- Operational Finance
- Business Finance
- Specialized Finance

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Business Planning (1/2)

> Use analytics to increase the accuracy and efficiency of budgeting and forecasting

| OFFERINGS	UNLOCKED VALUE
Enterprise Performance Management Strategy	• Increase effectiveness of performance management processes by implementing an enterprise performance management strategy • Adopt a disciplined and pragmatic approach to track performance and incentivize employees. Align the supporting systems and models to meet those requirements • Reduce manual work and related errors by implementing an enterprise planning system to calculate, collect and aggregate planning data
Driver based planning	• Identify the relevant drivers to the business that are positively correlated to top and bottom line growth • Increase accuracy of forecasting by focusing analysis and scenario modeling on the drivers that have the most impact on financial results
Multi-dimensional analysis	• Improve business insight by using a multi-dimensional model where you can measure performance across multiple slices of data (e.g. geography, customers, products, etc.) to support better decision making and identification of value drivers
Customer and product profitability	• Understand the true profitability of a product or customer by providing more accurate methodologies and reducing manual processes • Increase profitability at the product and customer level by enhancing the ability to customize customer programs and product pricing and promotions
Cost of sales and standard cost forecasting	• Leverage more efficient and accurate predictive cost models that help integrate near real time transactional operations data with the forecast • Improve integrity in cost modeling by automating complex and data intensive calculations (e.g. bill of materials)
Integrated business planning	• Improve coordination between operations, sales, marketing and finance plans • Develop more realistic financial forecasts that are based upon consensus volume projections and production constraints • Integrate financial forecasting with the S&OP process

Business Planning (2/2)

Use analytics to increase the accuracy and efficiency of budgeting and forecasting

OFFERINGS	UNLOCKED VALUE

Integrated financial planning	• Increase integration of key financial planning processes
	    • Strategic plan linked to operating plan using key metrics
	    • Budget/Operating plan linkage to forecasts
	• Integrate key financial statement forecasts – profit and loss, balance sheet and cash flow

Strategic plan modeling	• Provide faster and more logical modeling of the long range strategic plan • Develop effective modeling of various macroeconomic scenarios • Streamline modeling for merger and acquisition activity
Capital and project analytics	• Integrate project tracking solutions with financial data to help measure the overall success of projects • Improve ability to measure performance that support decisions to approve, pause, cancel, or reinvest in ongoing projects
SG&A management analytics	• Combine standard reporting tools with consistent chart of accounts and cost center dimensions to help finance enable better visibility to cost • Enforce cost controls through budget setting and forecast management during the year
Real Estate Valuation Analytics (REAT)	• Standardized and repeatable valuation models that concentrate multiple data sources and capabilities within a single portal and eliminate the need for complex, iterative spreadsheets. • Allows stress- and sensitivity-testing of a portfolio's projected results through dashboard-enabled inputs such as discount rates, capitalization rates, and rental growth rates
Capital Planning	• Capital Efficiency delivers insights for making confident and value-maximizing capital planning decisions by providing tailored solutions that address a broad range of capital planning challenges.

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Finance Analytics Framework – Performance Reporting
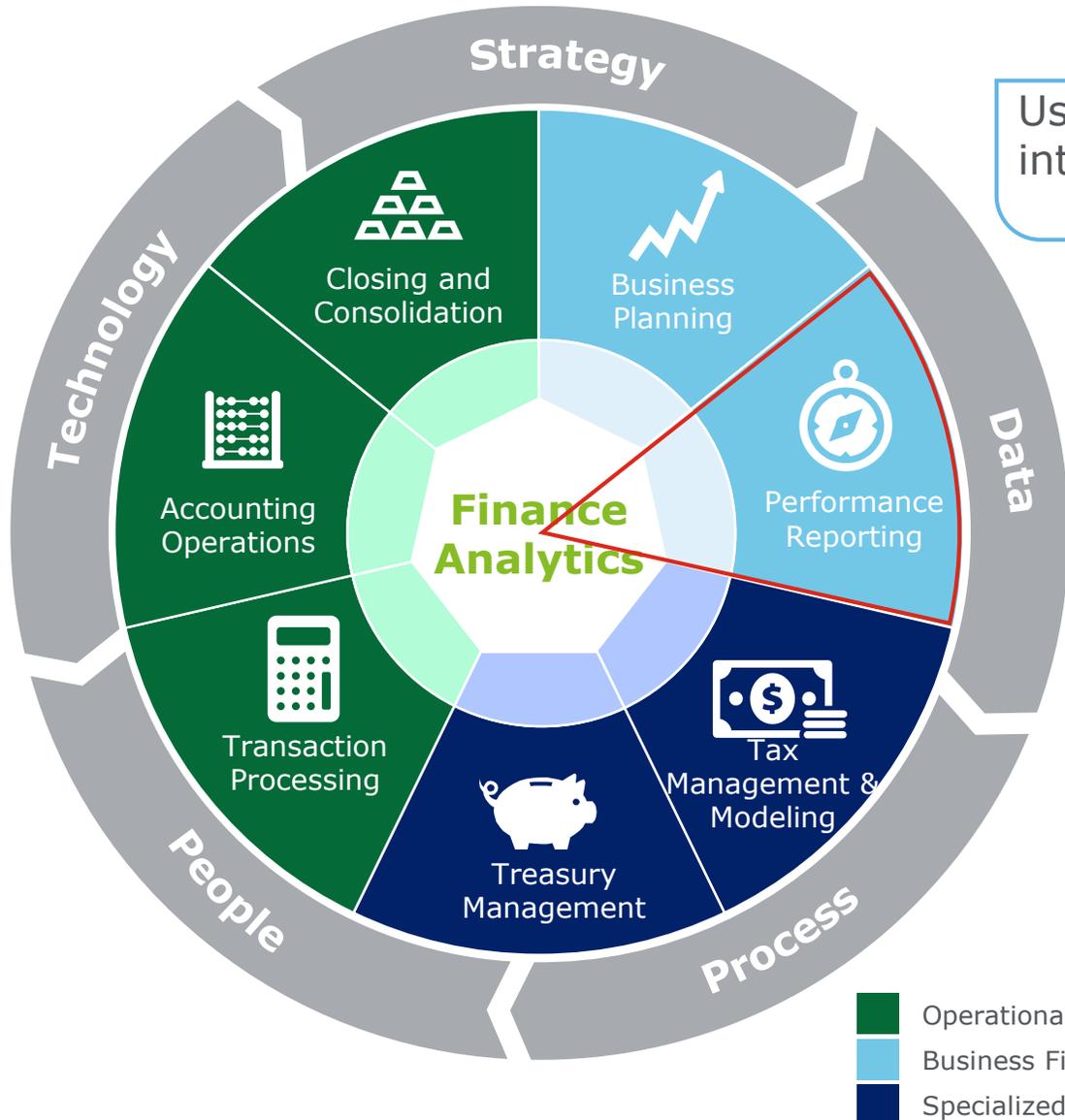
Use analytics to represent data in actionable and intuitive interfaces to support decision making

- Financial reporting strategy
- Local statutory & regulatory reporting
- Scorecards, dashboards & KPIs
- Visual analytics
- Decision support analytics

Legend:
- Operational Finance
- Business Finance
- Specialized Finance

Performance Reporting

Use analytics to represent data in actionable and intuitive interfaces to support decision making

OFFERINGS	UNLOCKED VALUE
Financial reporting strategy	• Develop a financial reporting strategy to streamline an organization's core reporting requirements and better align technology to meet the specific needs of each reporting constituency • Align the business need with the people, processes and technology supporting reporting
Local statutory and regulatory reporting	• Increase automation of the processes around local and regulatory reporting, rather than the typical reporting handled through spreadsheets and email • Enhance controls and tracking of local accounting standards adjustments (where applicable) • Reduce reporting complexity by standardizing data structures for financial statements
Scorecards, dashboards and KPIs	• Improve business insights by mapping out the relevant KPIs that align to the corporate strategy • Implement integrated data architectures to accurately calculate performance measures • Faster availability of data for analysis
Visual analytics	• Develop interactive executive sessions supported by visual analytics tools – e.g. geospatial analysis • Leverage immersive environments for modeling multiple scenarios to arrive at business decisions in real time, versus working "offline" to run reports for a future meeting
Mobile analytics	• Implement secure mobile access to information providing executives with more immediate access to performance metrics that measure the execution of corporate strategies • Increase adoption of KPIs • Support real time discussions and shorter decision making cycles
Decision support analytics	• Improve business partnering capabilities to support decision making by non-finance functions including launching new products and services, entering new geographical markets and modeling price, volume, mix revenue impacts

Finance Analytics Framework – Tax Management & Modelling
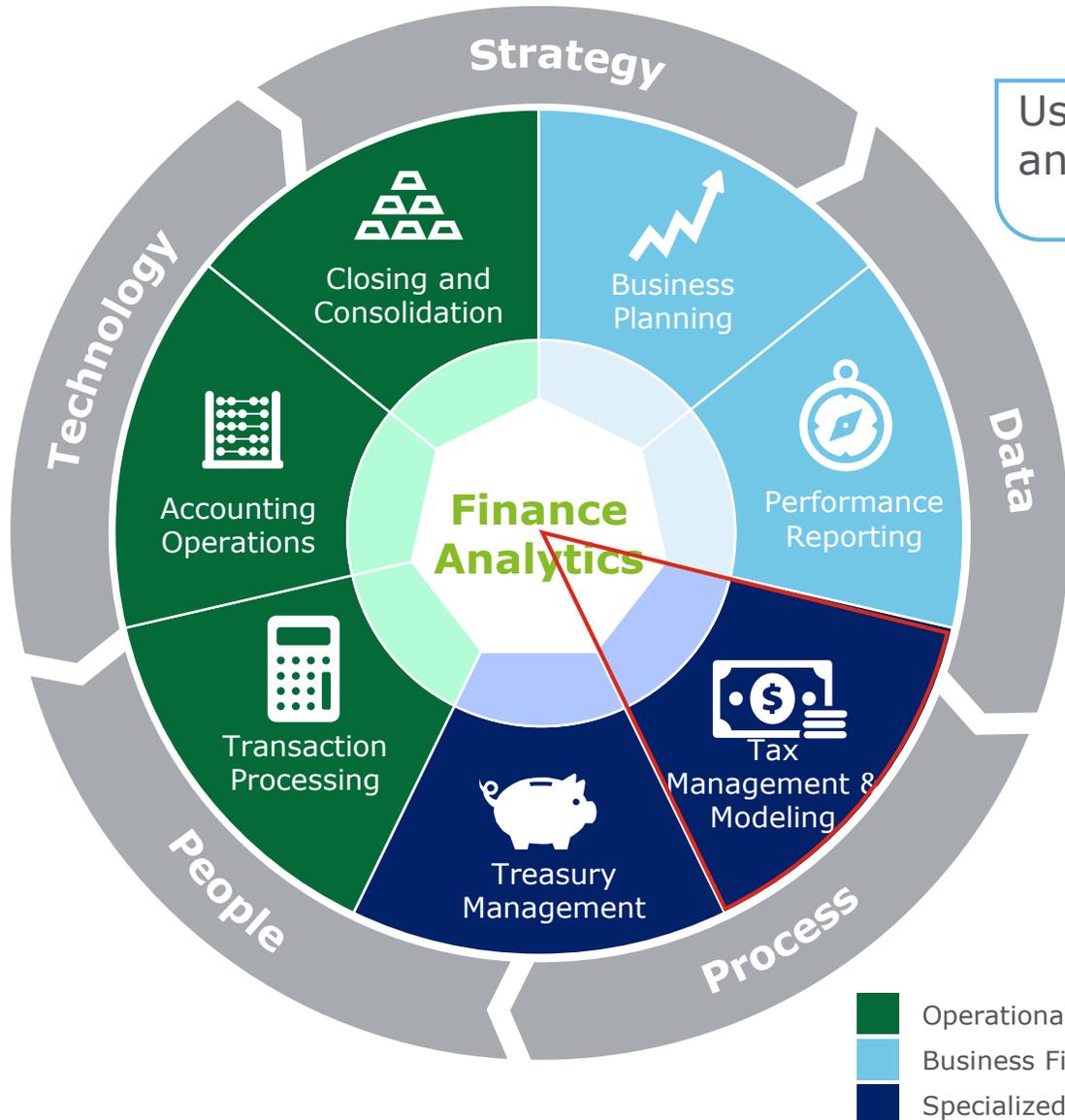
Use analytics to improve the accuracy of the tax plan and to reduce effective tax rates

- Tax planning
- Tax Compliance and provisioning
- Transfer pricing modelling
- Mutual fund tax calculation tool

Legend:
- Operational Finance
- Business Finance
- Specialized Finance

Tax Management & Modeling

Use analytics to improve the accuracy of the tax plan and to reduce effective tax rates

OFFERINGS	UNLOCKED VALUE

Tax Planning	• Optimize the tax efficiency of the organization by using tax forecasting processes that:
	  – Align operational strategy to tax strategy
	  – Implement consistent data structures and solutions between local ledgers and corporate consolidation systems to improve tax data collection

Tax Compliance and Provisioning	• Improve compliance and accuracy of tax provisioning by delivering integrated tax compliance and provisioning solutions that incorporate offline models into consolidations solutions to support tax reporting
Transfer Pricing Modeling	• Maximize tax benefits of manufacturing and distribution through multiple legal entities on and offshore by running analytics, modeling multiple scenarios and implementing the optimal transfer pricing scenario
Mutual Fund Tax Calculation Tool	• Streamlines return production, reduces time required, cuts costs, and manages the risk of human error by automating the integration of the year-end calculations into tax return software

Finance Analytics Framework — Finance – Treasury Management
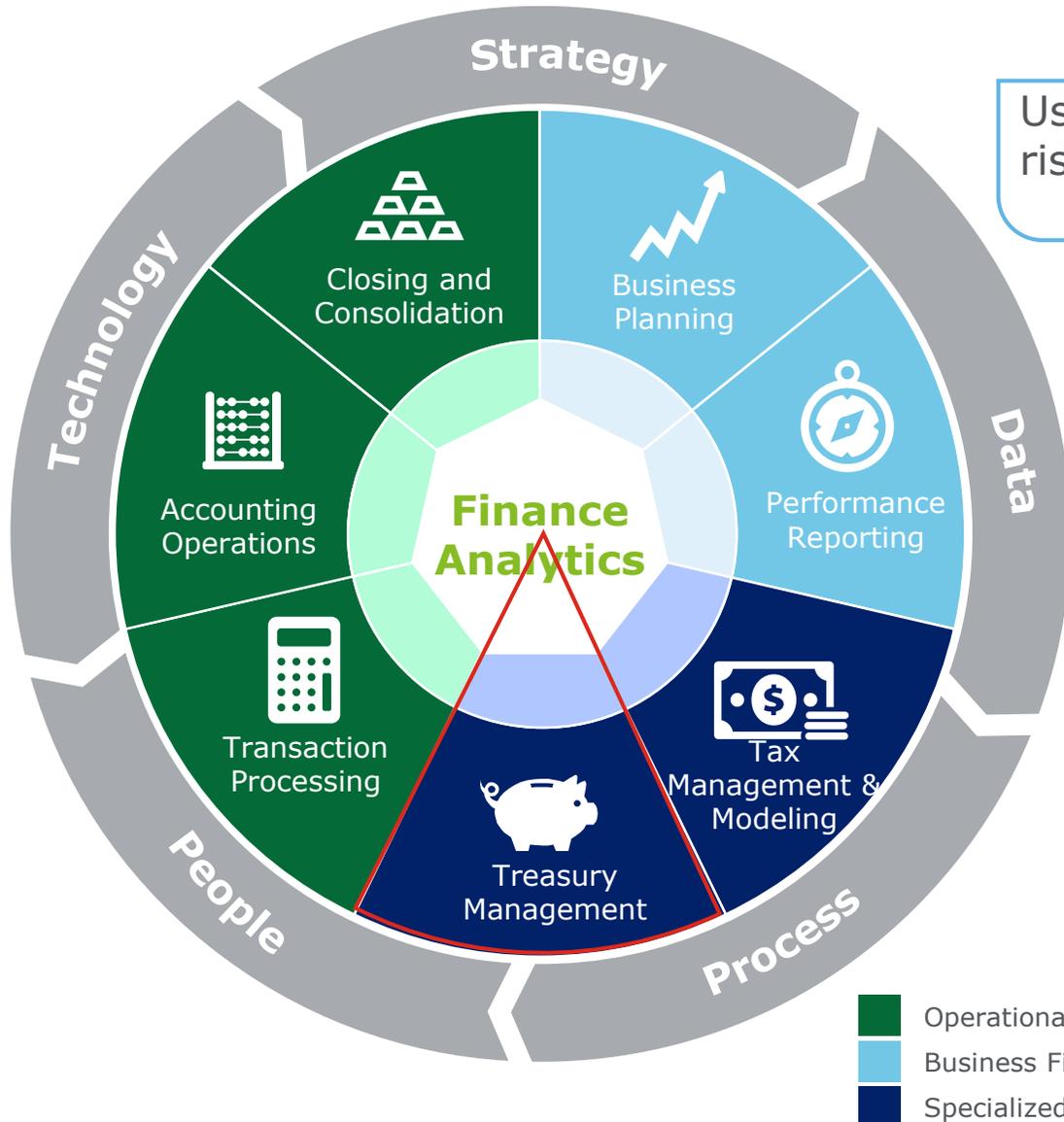
Use analytics to optimize cash flow and to reduce risk exposure

- Balance sheet and cash flow forecasting
- Liquidity and cash analytics
- Risk analytics

Legend:
- Operational Finance
- Business Finance
- Specialized Finance

Treasury Management

Use analytics to optimize cash flow and to reduce risk exposure

| OFFERINGS	UNLOCKED VALUE

Balance sheet and cash flow forecasting	• Improve accuracy of cash flow forecasting by:
	  – Developing an integrated financial model that links the cash flow and income statement forecast
	  – Using analytics to predict credit collection behaviors

Liquidity and cash analytics	• Optimize working capital and cash flow by using analytics to model and gain better insight into sources and uses of cash
Risk analytics	• Reduce exposure associated with foreign exchange and other market driven commodities by using analytics to enhance insights into upcoming fluctuations and hedge to reduce downside risk

Finance Analytics Framework — Finance – Transaction Processing
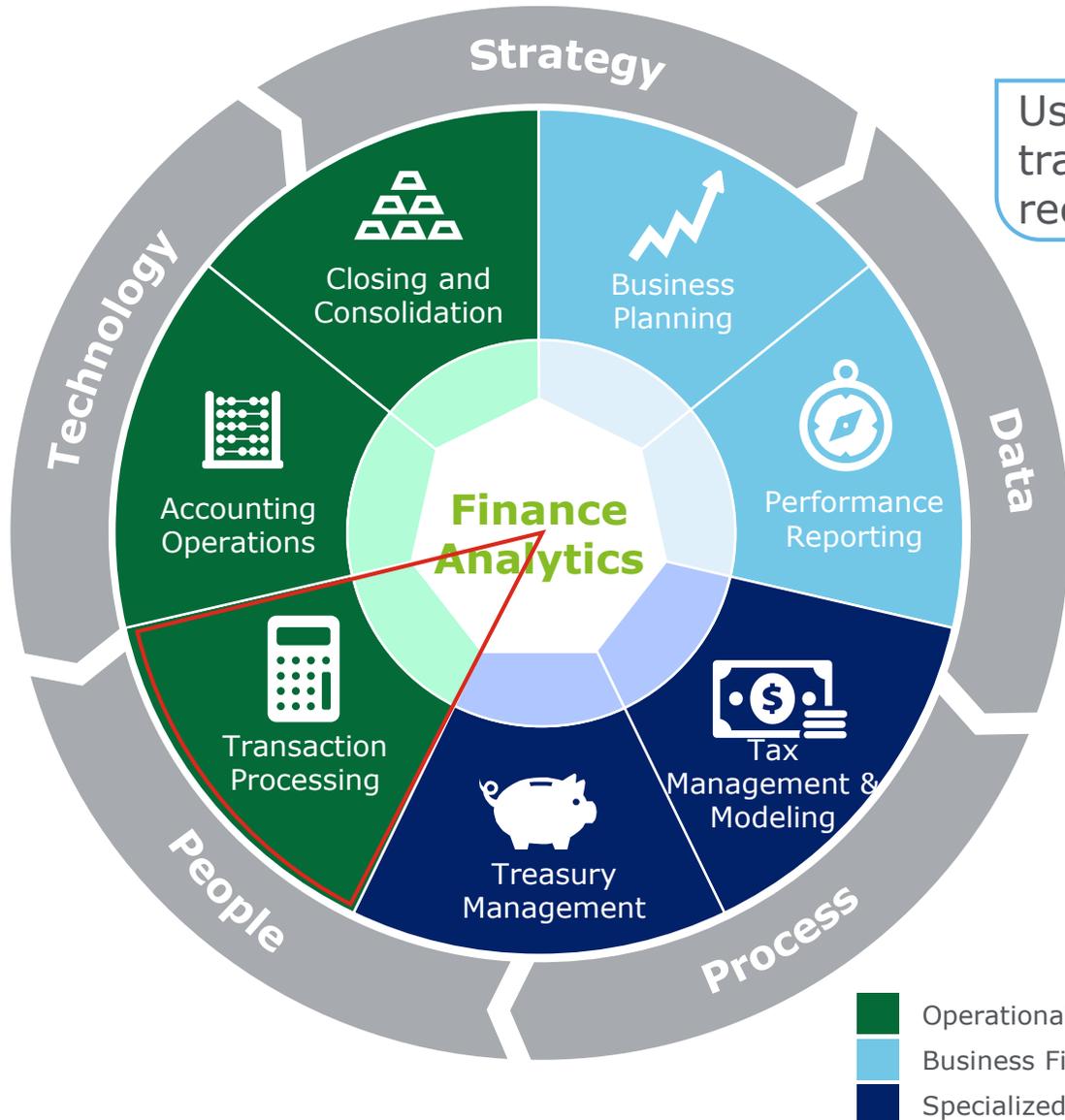
Use analytics to increase the efficiency of finance transaction processing activities (e.g. accounts receivable, payables, etc.)

- Receivables analytics
- Payables analytics
- Activity analytics
- Operating model analytics

Legend:
- Operational Finance
- Business Finance
- Specialized Finance

Transaction Processing

Use analytics to increase the efficiency of finance transaction processing activities (e.g. accounts receivable, payables, etc.)

OFFERINGS	UNLOCKED VALUE
Receivables analytics	• Reduce bad debt and days receivables outstanding by using analytics scoring models to identify creditors with greatest probability of default risk and implementing proactive measures to collect
Payable analytics	• Reduce supplier related risk to operations by gaining insight into supplier stability and taking proactive measures to incorporate redundant or alternate suppliers • Identify opportunities to consolidate vendors to increase payables processing efficiency • Negotiate favorable rates and volume discounts from vendors by understanding vendor spend patterns and projected vendor usage
Activity analytics	• Optimize transactional processing efficiencies by understanding detailed activities performed by role and location and consolidating and centralizing similar activities to achieve economies of scale
Operating model analytics	• Optimize Finance target operating model design by performing analytics to compare current organization with benchmarks, leading practices and alignment with company strategy – e.g. shared service centers, centers of excellence, etc. • Optimize transaction processing cost footprint by modeling alternative operating models and geographical location scenarios and implementing the best option

Finance Analytics Framework - Accounting Operations

Strategy

Technology

Closing and Consolidation

Business Planning

Accounting Operations

Data

Performance Reporting

Transaction Processing

Finance Analytics

Tax Management & Modeling

Treasury Management

People

Process

Operational Finance

Business Finance

Specialized Finance
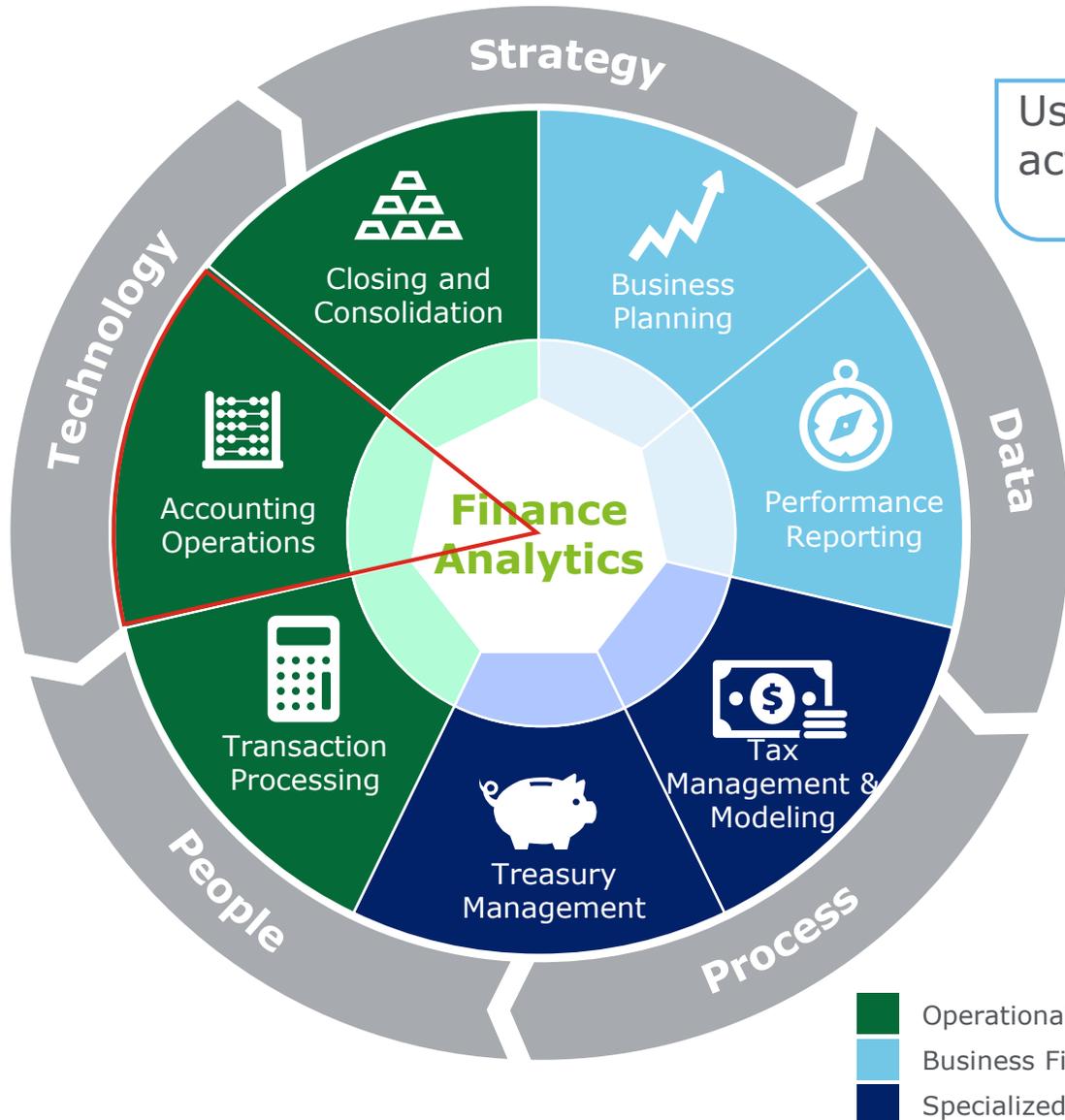
Use analytics to extend the value of core accounting activities

- Revenue recognition analytics
- Accounting reconciliation analytics

Accounting Operations

Use analytics to extend the value of core accounting activities

OFFERINGS	UNLOCKED VALUE
Revenue recognition analytics	• Increase integrity of revenue recognition accounting by implementing a solution to track actuals and forecast at the required level of granularity and to apply sophisticated rules that allow for more accurate treatment of revenue recognition for products (e.g. bundling, cloud sales, etc.)
Account reconciliation analytics	• Move traditional, time-consuming reconciliation work into automated solutions which allow individuals to spend more time on value added business partnering activities • Leverage available tools in the market that streamline the reconciliation process and automate certain activities to reduce the substantial time investment most organizations face with account reconciliations

Robotic Process Automation Video
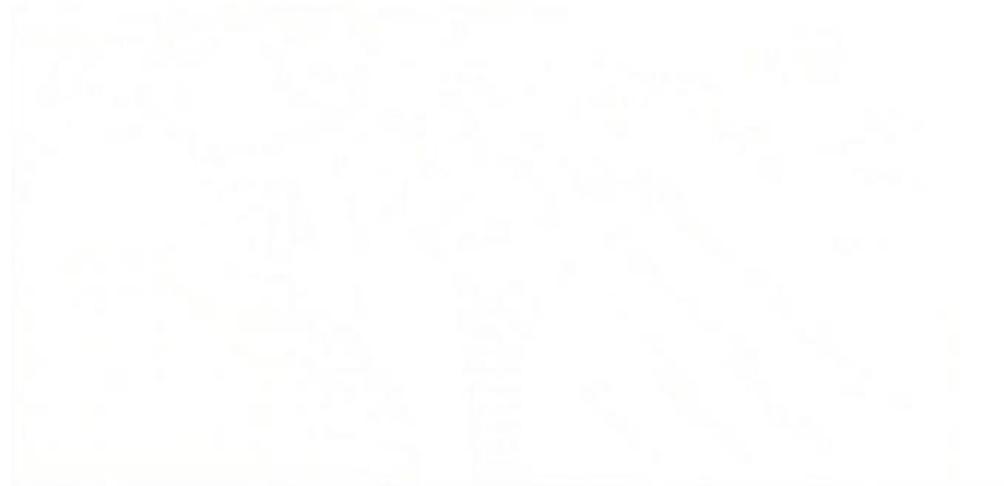
Finance Analytics Framework – Closing and consolidation
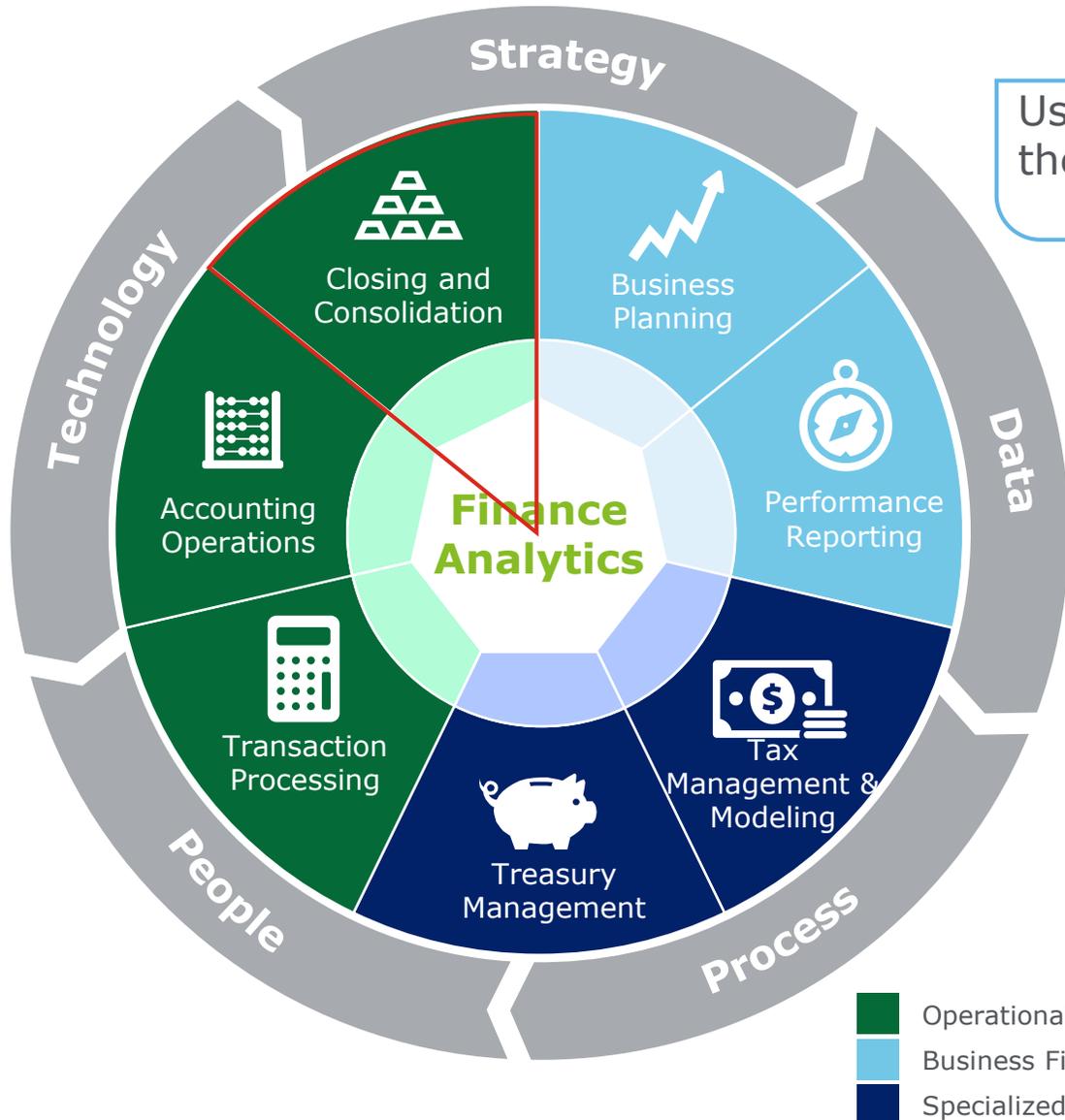
Use analytics to increase the quality and speed of the financial close

- Close acceleration analytics
- Close quality analytics
- External reporting analytics

Legend:
- Operational Finance
- Business Finance
- Specialized Finance

Closing and Consolidation

Use analytics to increase the quality and speed of the financial close

OFFERINGS	UNLOCKED VALUE

Close acceleration analytics	• **Reduce time spent gathering data and focus time spent on the preparation** of financial results and analysis to support external reporting:
	  – Reduced cycle time
	  – Better utilization of resources
	  – More consistent controls
	• **Increase visibility into** the progress of the close to support immediate identification and remediation of bottlenecks

Close quality analytics	• **Eliminate and/or reduce close deficiencies** by implementing key metrics to track the close quality (e.g. volume and magnitude of top side adjustments, threshold for journal entries, etc.) • **Improve close quality by leveraging analytics to** produce insights that support continuous improvement activities
External reporting analytics	• Improve external reporting by capturing data needed for these activities and implementing solutions **automating the processes** around local and regulatory reporting that typically are handled through spreadsheets and email. Systematizing these activities drives work to **more value added activities** and offers better controls over the financial results

Break

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Solution Walkthrough

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Deep Dive into Sample Analytical Solution

Business Partnering

How can I better manage my financials, OPEX profitability, working capital and CAPEX?

- Are we effectively monitoring acctg. and payment processes to prevent errors?

- What are my liquidity ratios (DSO, DSI, ROI, etc.)?

- How do we optimize transactional processes and better manage cash cycle?

- What costs are fixed vs variable (direct vs indirect)?

- How profitable are certain countries / Business Units?

- What is OPEX by major channels?

Sample Questions Addressed by Impactful Analytics

Working Capital & CapEx	• What is the breakdown of the AR / AP customer aging balances? • What is the status of our past due customer payments this period? • When have invoice payments been received historically (historical depiction of customer payments)? • What are the historical Invoice Status for specific customers? • What is our YTD CAPEX project spend compared to YTD budget?
Profitability	• How are our Sales or Units (volume) doing across countries and our product portfolio compared to forecast? • What does our P&L Snapshot look like from a consolidated / country level view? • What is affecting the difference between gross and net revenues?
Operating Expenses (OPEX)	• What is the breakdown of our operating expenses by category and by expense type? • How do other expenses compare to budget and forecast? • How are our headcount and contingent worker figures trending compared to forecast and budget? • How are OPEX and labor metrics compared to past periods?
Macro Overview	• What are my leading and lagging performers across the region • How is the P&L performing against budget/forecast? • How are my Key liquidity ratios performing QoQ, YTD, and QTD? • How do budget FX rates compare to actual FX rates for specific periods? • How does Accounts Receivables compare to Sales?

# Leveraging Analytics – Working Capital / CapEx

KEY BUSINESS QUESTIONS

- What is the breakdown of the AR / AP customer aging balances?
- What is the status of our past due customer payments this period?
- When have invoice payments been received historically (historical depiction of customer payments)?
- What are the historical Invoice Status for specific customers?
- What is our YTD CAPEX project spend compared to YTD budget?

FUNCTIONALITY

1. Use the filter to view a specific country
2. Select a period to view metrics by quarter and year
3. Navigate to other dashboards by selecting its respective tab
4. Select a customer account to filter dashboard to customer level
5. Select a payment bucket to drill to deeper invoice level
6. Enables user to view several years, quarters and months worth of payment history – allows for historical payment or credit assessment
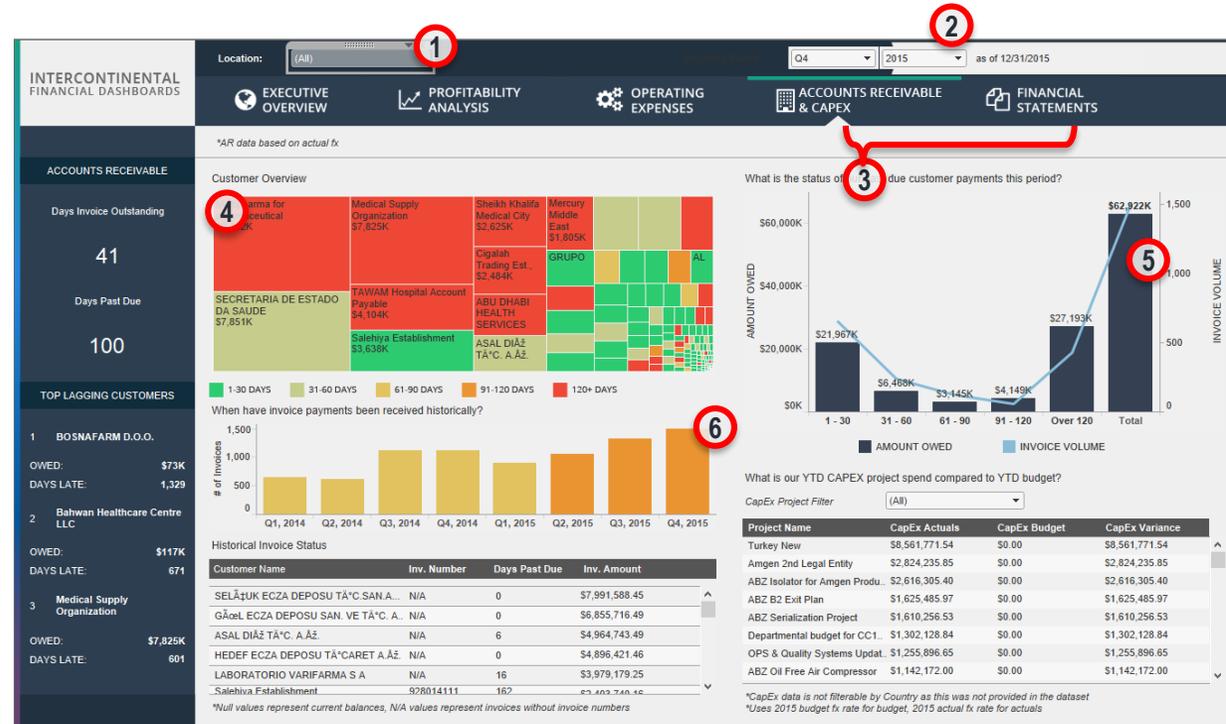
Value Impact

- Enables user to identify **customer accounts** that are **delinquent** in payments, which accounts require immediate intervention to prevent write-offs, dynamic view of the aging of payments across accounts/locations, and how CAPEX spending compares to budget.
- Enable prior quarter comparisons by country and customer
- Enable CapEx data to be filtered by country
- Include toggle to view AP metrics
- Enable data blending to allow location filter to work across datasets

Leveraging Analytics – Profitability

KEY BUSINESS QUESTIONS

- How are our sales (Product x Country)? Are we being sufficiently profitable?
- What is affecting our gross to net difference?
- How do price, volume, and mix impact revenue?
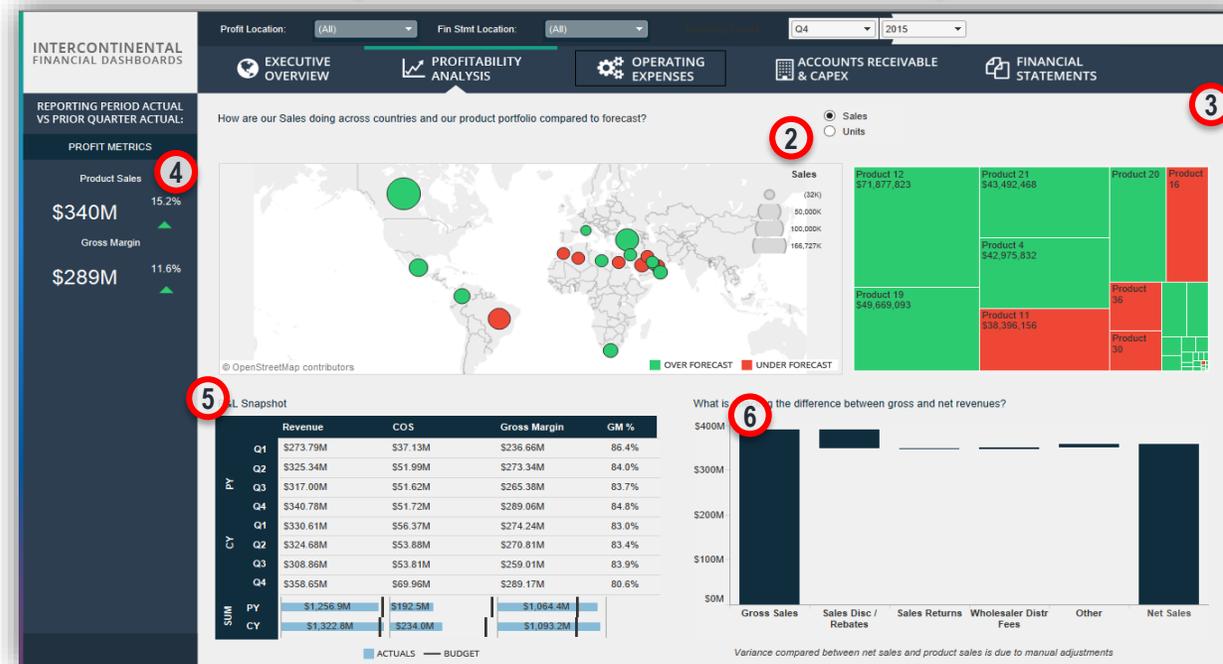
FUNCTIONALITY

1. Multiple selection options including locations and time periods,
2. Ability to view **budget/forecast** balances compared to actuals for either sales dollars or product units (SKU level)
3. Dashboard visuals update based on user selection of country or product and ability to extract detailed underlying information and share with desired audience via email
4. Provides **key KPI** metrics and changes to prior quarters
5. Provides dynamic P&L snapshot to detail revenues, COGS and gross margins – based on SKU level products or location
6. Detailed breakdown of gross margins by countries or clusters of countries

Value Impact

- Ability to review region or country product performance in terms of sales amounts or volumes against budget or expected forecast outcomes
- Gain depth of understanding in price / volume / mix differences, and cross-walk of gross to net revenue
- Dashboard builds value by addressing a number of key top line business questions and providing a directional view of expected future outcomes

Leveraging Analytics – OPEX

KEY BUSINESS QUESTIONS

- How is our OPEX compared to budget and forecast?
- Are our staffing metrics consistent with target and forecast?
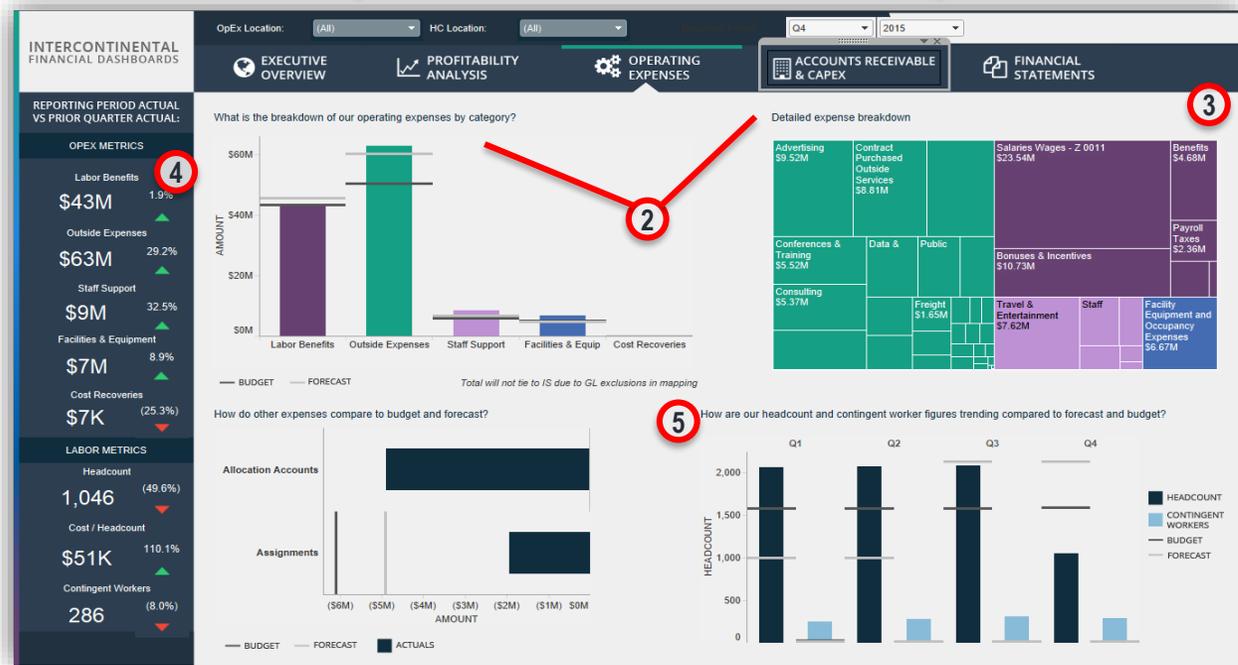
FUNCTIONALITY

1. Multiple selection options including locations and time periods,
2. Ability to breakdown OPEX spending by key components in order to compare forecasts/budget and actuals while having the ability to drill down to sub OPEX categories or spends
3. Dashboard visuals update based on user selection of country or product and ability to extract detailed underlying information and share with desired audience via email
4. Provides key KPI metrics and changes to prior quarters
5. Provides dynamic headcount movements and variances between Actual, budget and forecasted.

Value Impact

- Two levels of drill down capabilites allowing the user to explore profitability impacts across key Opex categories
- Ability to isolate variability in magnitude of variance by Opex category
- Connectivity of headcount information with Opex enables management of staff efficiency

Leveraging Analytics – Executive Dashboard

KEY BUSINESS QUESTIONS

- How are we performing as a company compared to our targets?
- Which countries are leading / lagging across key indicators?
- Which FX rates are most volatile during this period?
- What's our AR / Sales gap?
- What's our profit and loss by country and product compared to target and forecast?
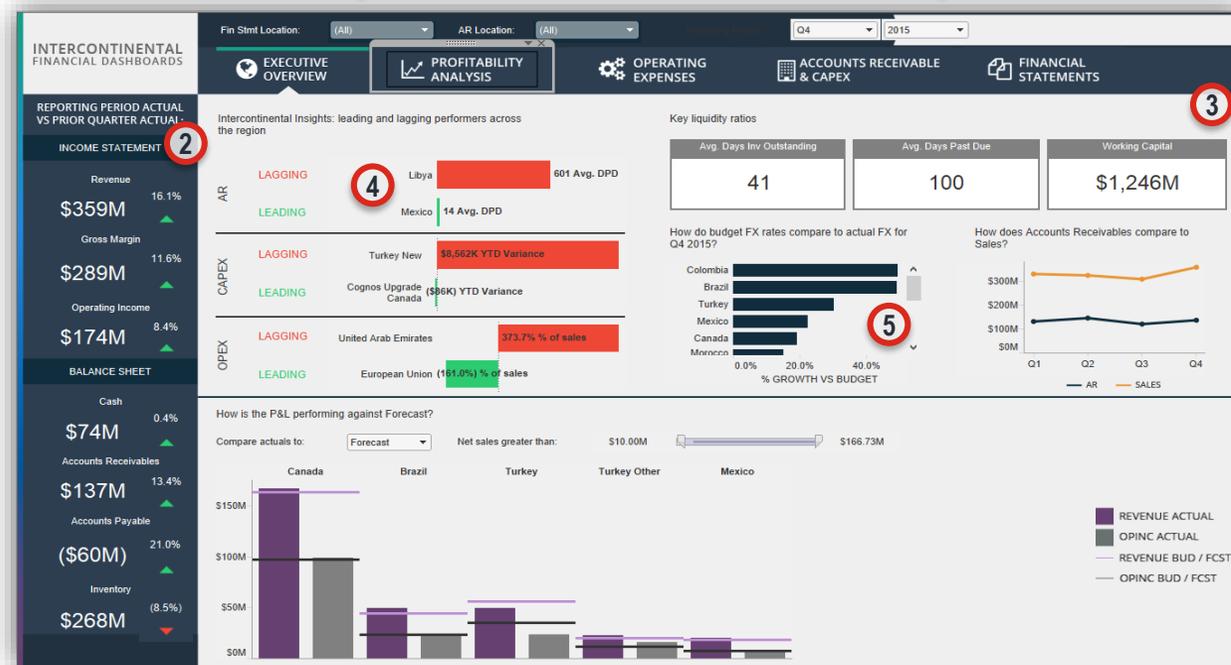
FUNCTIONALITY

1. Multiple selection options including locations, time periods, and products
2. Provides macro view of I/S and B/S KPIs and their respective performance in comparison to prior quarter
3. Dashboard visuals update based on user selection of country or product and ability to extract detailed underlying information and share with desired audience via email
4. Identifies countries in the client's region that are leading and lagging in certain financial aspects
5. Provides top Foreign Exchange rate swigs

Value Impact

- High level executive view of the overall financial health of the region or select countries. Provides visibility into key financial metrics across the Income Statement, Balance Sheet, and Cash Flow.
- User benefits from quick access to a consolidated set of key performance metrics, alters to current or upcoming challenges, and gains the ability to "drill" into additional level of Country detail or different time periods.

Live Demo

Deloitte Analytics   Smarter Insights. Stronger Outcomes.
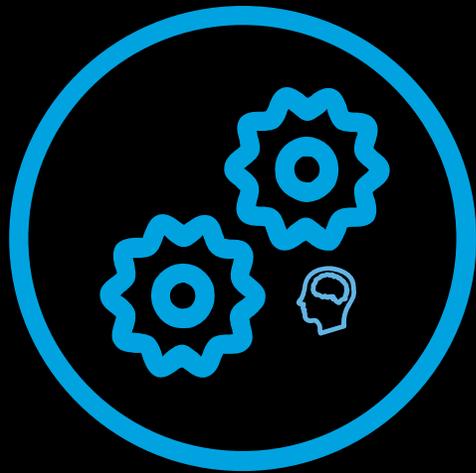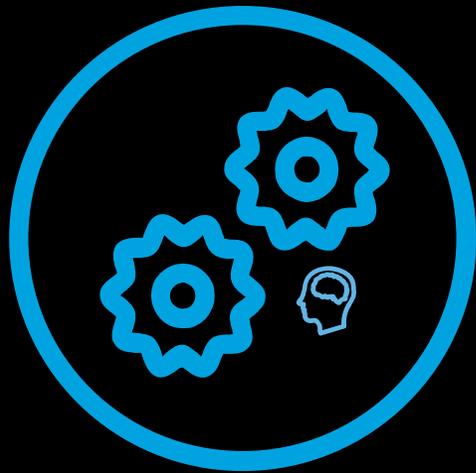
Use Cases

Intelligent Reconciliations

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INTELLIGENT RECONCILIATIONS

How to reduce the time to perform reconciliations whilst also increasing their accuracy

While modern technology and ERP systems automate much of our lives, complex reconciliations can be time consuming. Manual matching can leave a large margin for error. By using machine learning techniques, it is possible to provide a higher match-rate than traditional business-rule based approaches. Where matches cannot be verified 100%, analytics can suggest probably matches, and the level of confidence associated with them, for verification by a human.
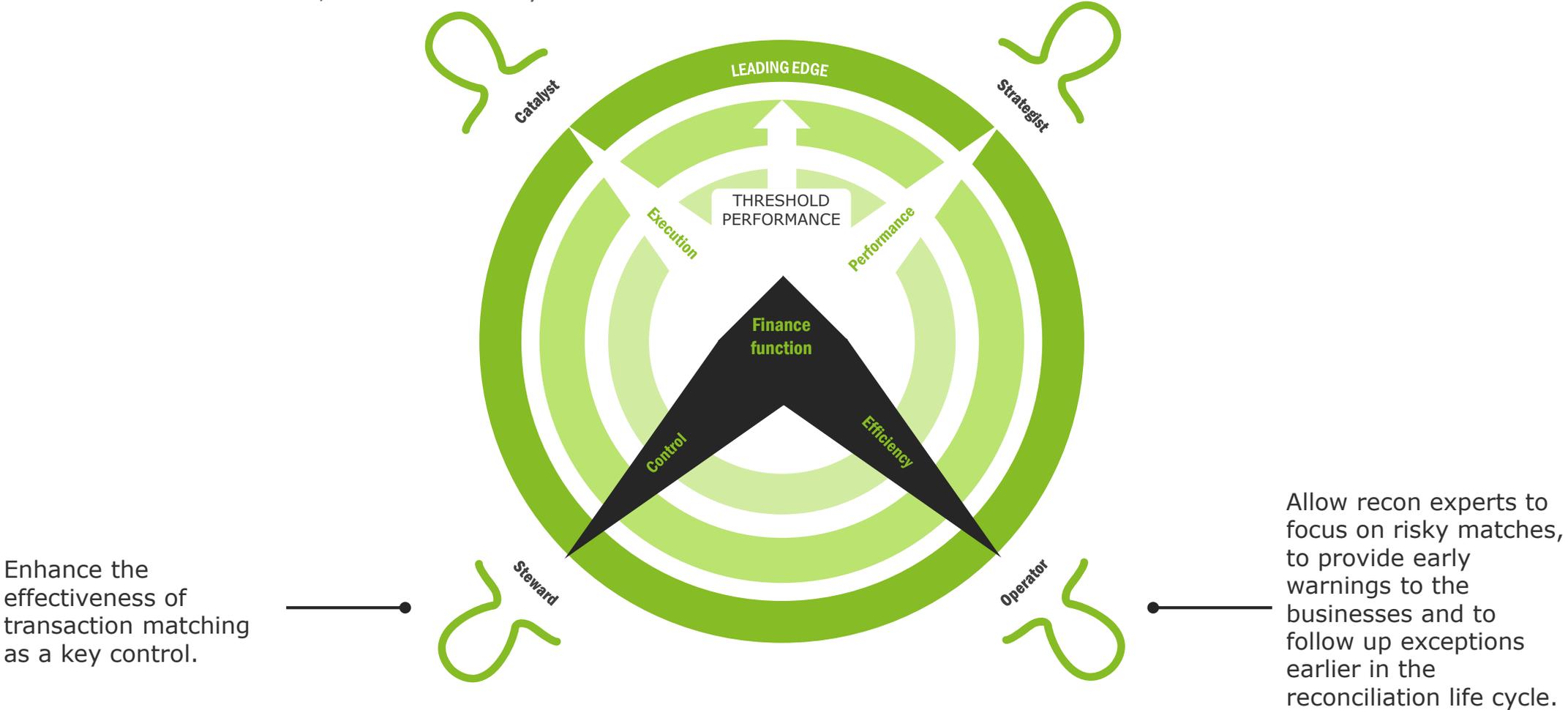
Enhance the effectiveness of transaction matching as a key control.

Allow recon experts to focus on risky matches, to provide early warnings to the businesses and to follow up exceptions earlier in the reconciliation life cycle.

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INTELLIGENT RECONCILIATIONS

How to reduce the time to perform reconciliations whilst also increasing their accuracy
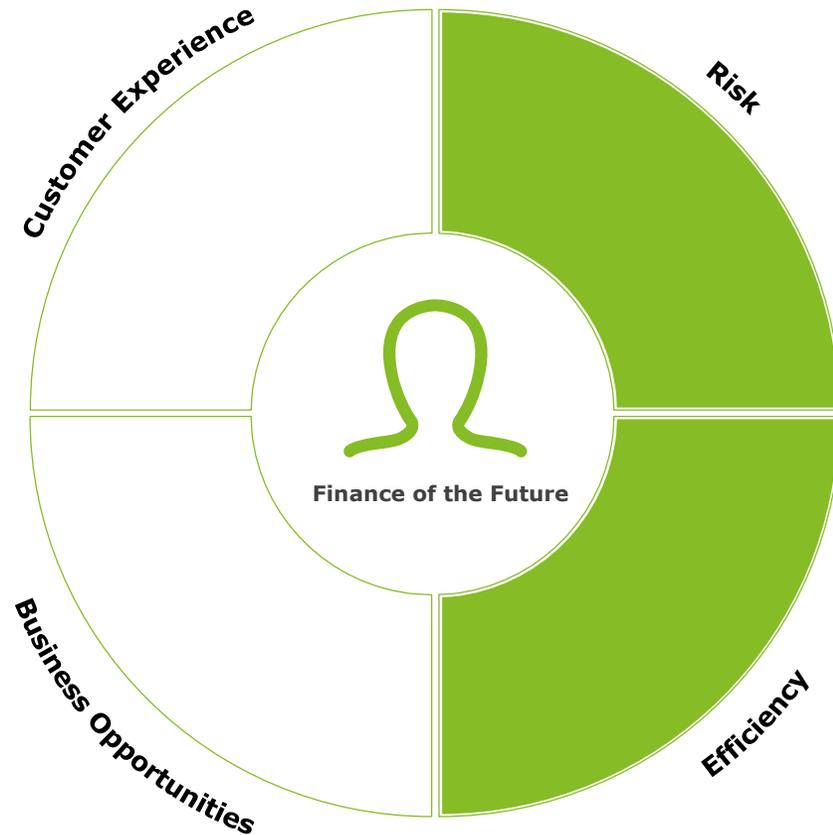
What is it?

A probabilistic **machine learning based approach** that matches transactions on the basis of patterns observed in past matching histories. These patterns will **reflect the judgement of the reconciliation teams** that aren't reflected in the business logic encoded in the reconciliation tool.

How to we build it:

Through use of various **advanced analytics approaches**, it is possible to match transactions on key fields then probabilistically determine if the match is correct or not with machine learning. The approach outputs if the **transactions are a match** with a confidence level associated with its decision.

Why is it valuable?

- **Automated** and **fast** transaction matching

- **Superior accuracy** vs traditional business rule-based methods

- **Confidence level** is provided for a greater level of trust in its decisions

INTELLIGENT RECONCILIATIONS

Benefits - *Insights for Finance and the business*

Improve accuracy and effectiveness

Machine learning provides a far **greater accuracy** with **fewer falsely matched transactions**. Auto-ML enables the rapid development of matching algorithms for each account. Algorithms can be rapidly redeveloped if matching accuracy wanes over time due to changed transactional behaviour within accounts.

Increase efficiency

The speed of a machine learning based system is **x1000 times faster** than manual matching and x10 times faster than rule based approaches

Improve control

Through use of the confidence level, **stricter quality checks can be enacted** at lower confidence levels allowing for a more precise level of control.

Anomaly detection

ANOMALY DETECTION

How to spot new risks, outliers and errors

Finance sees a lot of data. So much data, in fact, that detecting new risks and errors becomes very difficult, particularly when viewing it at an aggregated level for reporting. Anomaly detection allows you to monitor transactions at their most granular level, to identify what is abnormal behaviour for a client, trader or GL account. These anomalies can be flagged for risk evaluation by an expert (or even a Virtual Expert – more later!)

By looking for patterns in historical data, you are able to see anomalous behaviour **not visible to the human eye**.

Improves the **quality of alerts** raised for human follow up – flags truly risky transactions and reduces false positives.

ANOMALY DETECTION

How to spot new risks, outliers and errors

Customer Experience

Risk

Business Opportunities

Efficiency

Finance of the Future
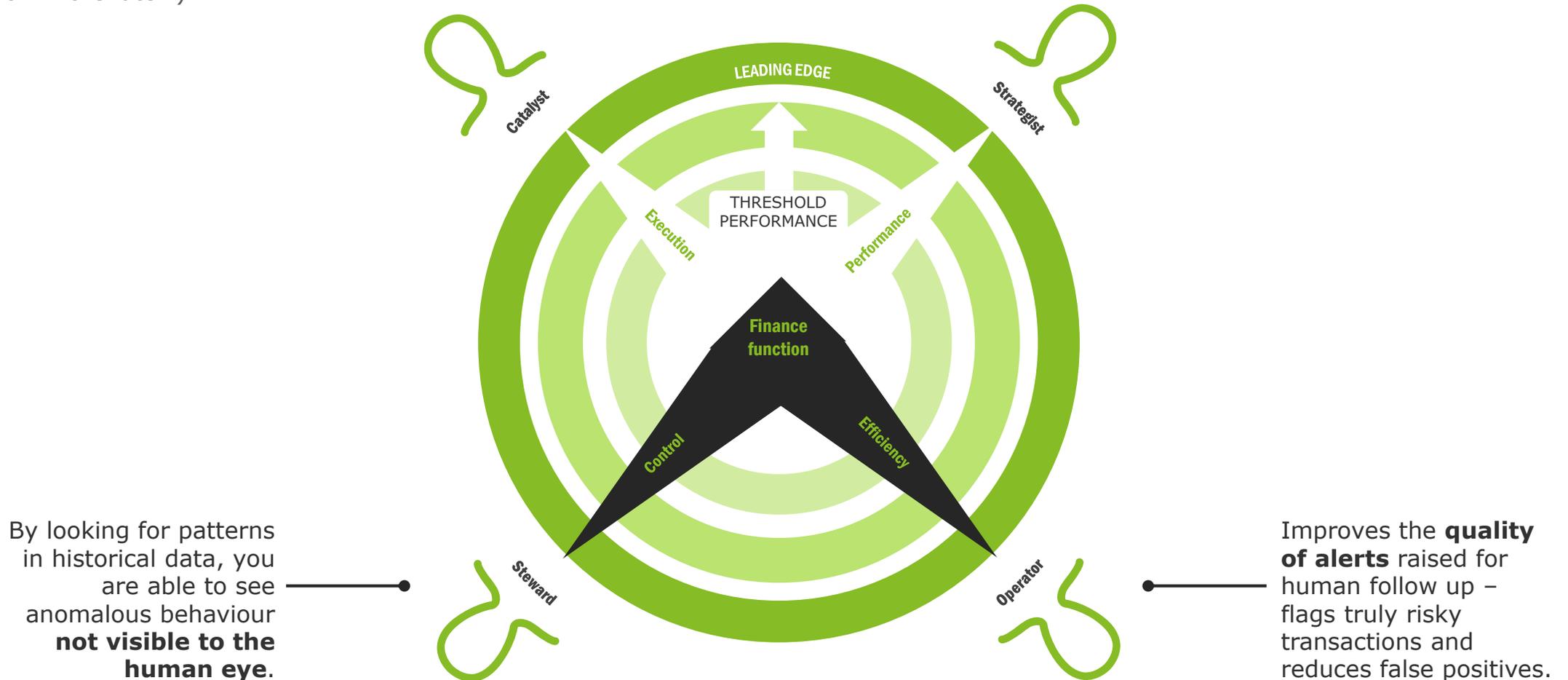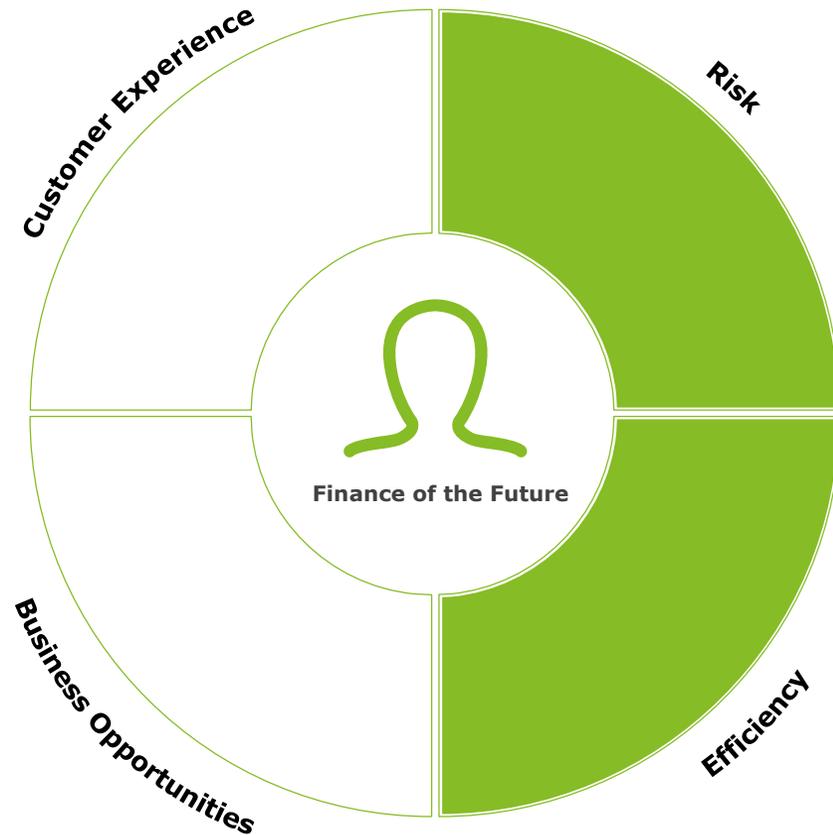
What is it?

Anomaly detection is used to identify **unusual patterns** that do not conform to expected behaviour. Statistical methods are used to identify irregularities in data that deviates from common statistical properties of a distribution.

How to build it:

Use an **anomaly detection engine** which allows for quick evaluation of input data against a range of anomaly detection algorithms.

Why is it valuable?

- **Highlights transactions** that could be subject to higher levels of control.

- **Reduces the false positives** associated with an alert, reducing the workload of human investigation teams.

- Can **reduce financial losses** associated with fraudulent transactions.

ANOMALY DETECTION
Benefits - *Insights for Finance and the business*

Traditional methods take time

Sometimes **human judgement takes time** and in most cases does not cover all the anomalies that might arise in a population dataset.

Exponential data growth

With data growing exponentially, **faster** and **more accurate** mechanisms are needed to quickly **detect** any anomaly, this in turn enables an organisation to respond in real time.

Proactively address fraud and losses

From a Finance perspective, a prime candidate for the application of anomaly detection is in the **Procure-To-Pay** and **Payroll** processes. Unusual transactions could represent fraud. The ability to identify such cases earlier will help to minimise financial losses.

Proactively address accounting errors

Apply anomaly detection algorithms over transactions within **suspense** and **clearing accounts** to identify transactions that warrant further investigation.

Questions

Deloitte.