

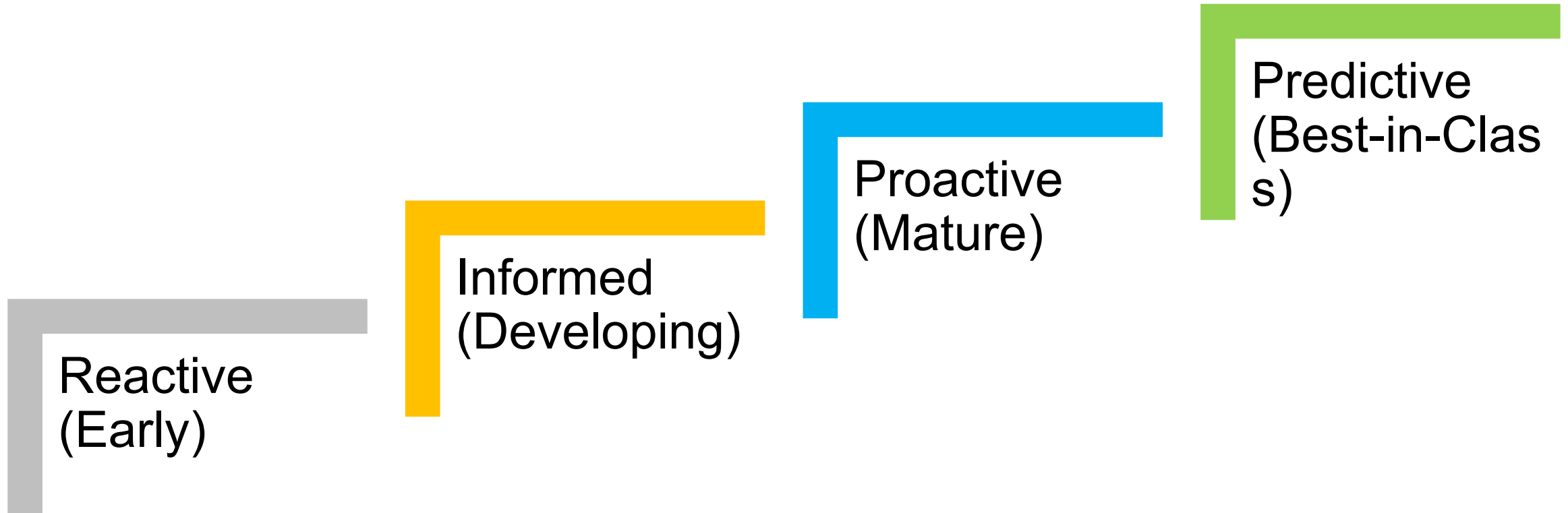
Data analytics maturity model

What is a maturity model?

A **maturity model** is a **set of structured levels** that describe how well the **behaviors, practices and processes** of an organization can reliably and sustainably produce required outcomes.

A maturity model can be used as a **benchmark** for your organization and can provide a **roadmap** for improvement.

Phases of a data analytics maturity model



Data analytics maturity model framework

	Reactive (Early)	Informed (Developing)	Proactive (Mature)	Predictive (Best-in-Class)
People				
Process				
Technology				
Data Integration				

Data analytics maturity model – People

	Reactive (Early)	Informed (Developing)	Proactive (Mature)	Predictive (Best-in-Class)
People	<ul style="list-style-type: none"> • No dedicated support • No guidance on how to interpret values 	<ul style="list-style-type: none"> • Centralized analysis under an individual • Basic data analysis training provided to all individuals 	<ul style="list-style-type: none"> • Centralized report generation under a dedicated team • Analytics team receives training on legal disciplines 	<ul style="list-style-type: none"> • Predictive analysis supported by team + data scientists • Collaborative data and report management between dedicated team and users

Titles Marketing: Marketing Technology Manager,
 IT: Database Administrator (DBA), Data Engineer, Data Warehouse/ETL Engineer
 Business: Business/Competitive Intelligence Analyst, Data Scientist, Reporting Analyst

Data analytics maturity model – Process

	Reactive (Early)	Informed (Developing)	Proactive (Mature)	Predictive (Best-in-Class)
Process	<ul style="list-style-type: none"> • Self-directed data analysis and metric generation • Analysis generated on an <i>ad hoc</i> basis 	<ul style="list-style-type: none"> • Initial measurements developed with clear definitions • Scheduled reporting is deployed (“Push”) • <i>Ad hoc</i> requests are triaged centrally 	<ul style="list-style-type: none"> • Next level measurements, targets and trending developed • Ability for users to explore their own data (“Pull”) • Expanded reporting is deployed 	<ul style="list-style-type: none"> • Push and pull reporting with alerting capability is in place • Insight process defined to improve data • Ability to run scenario or regression analysis on data

Key concepts: Reporting: Ad hoc □ Push or Pull reporting □ Push + Pull reporting

Data definition: Undefined □ Defined □ Improvement process

Analysis: None □ Defined □ Advanced

Data analytics maturity model – Technology

	Reactive (Early)	Informed (Developing)	Proactive (Mature)	Predictive (Best-in-Class)
Technology	<ul style="list-style-type: none"> • Data are housed in spreadsheets • Spreadsheets (Excel, SmartSheet, etc.) 	<ul style="list-style-type: none"> • Table/PDF-based reports are developed • Reports (SSRS, Crystal Reports) 	<ul style="list-style-type: none"> • Exploratory dashboards • Dashboards (Power BI, Tableau) 	<ul style="list-style-type: none"> • Advanced analytics toolkits • Regression and Distribution Analysis (Data Factories, Alteryx, Minitab)

Key concepts Data storage: Excel □ “smartsheet” □ Data Warehouse, Data Lake, Master Data Directory

Data process: ETL – Extract, Transform & Load, Data Cleansing, Replication

Presentation: Excel □ Reports □ Dashboards

Data Governance: Data catalog, Data quality, Data access

Data analytics maturity model – Data integration

	Reactive (Early)	Informed (Developing)	Proactive (Mature)	Predictive (Best-in-Class)
Data Integration	<ul style="list-style-type: none"> • Excel Spreadsheets • Data is siloed • Every time you do an analysis you must recreate the data 	<ul style="list-style-type: none"> • Data is captured in source systems (e.g. CRM) • Data structure is saved but analysis is siloed • Systems are not integrated but you have common keys 	<ul style="list-style-type: none"> • Siloed data consolidated – common keys provide a master data model • Systems are integrated on daily and relevant information is replicated between them 	<ul style="list-style-type: none"> • Realtime integration • Data is in a well-defined data warehouse that this curated and cleansed • External data sources are integrated

Key concepts Common keys, Replication of Information, System of Record, Realtime v Nightly,
 Data processes: Data flow, Data replication, Data cleansing

Tools and technologies for data analytics

WAREHOUSE



PREPARATION



ANALYSIS



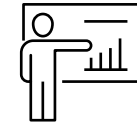
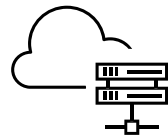
VISUALIZATION



Not an exhaustive list

What is the full data process?

“Data wrangling” / “Data preparation”



Discover

Structure

Clean

Enrich

Validate

Publish

- Understand the components of data

- Organize data
- Re-format / restructure

- Normalize data
- Eliminate errors
- Standardize format

- Append new data
- Apply lookups or other categorizations

- Create rules to ensure data consistency

- Make data available for reporting