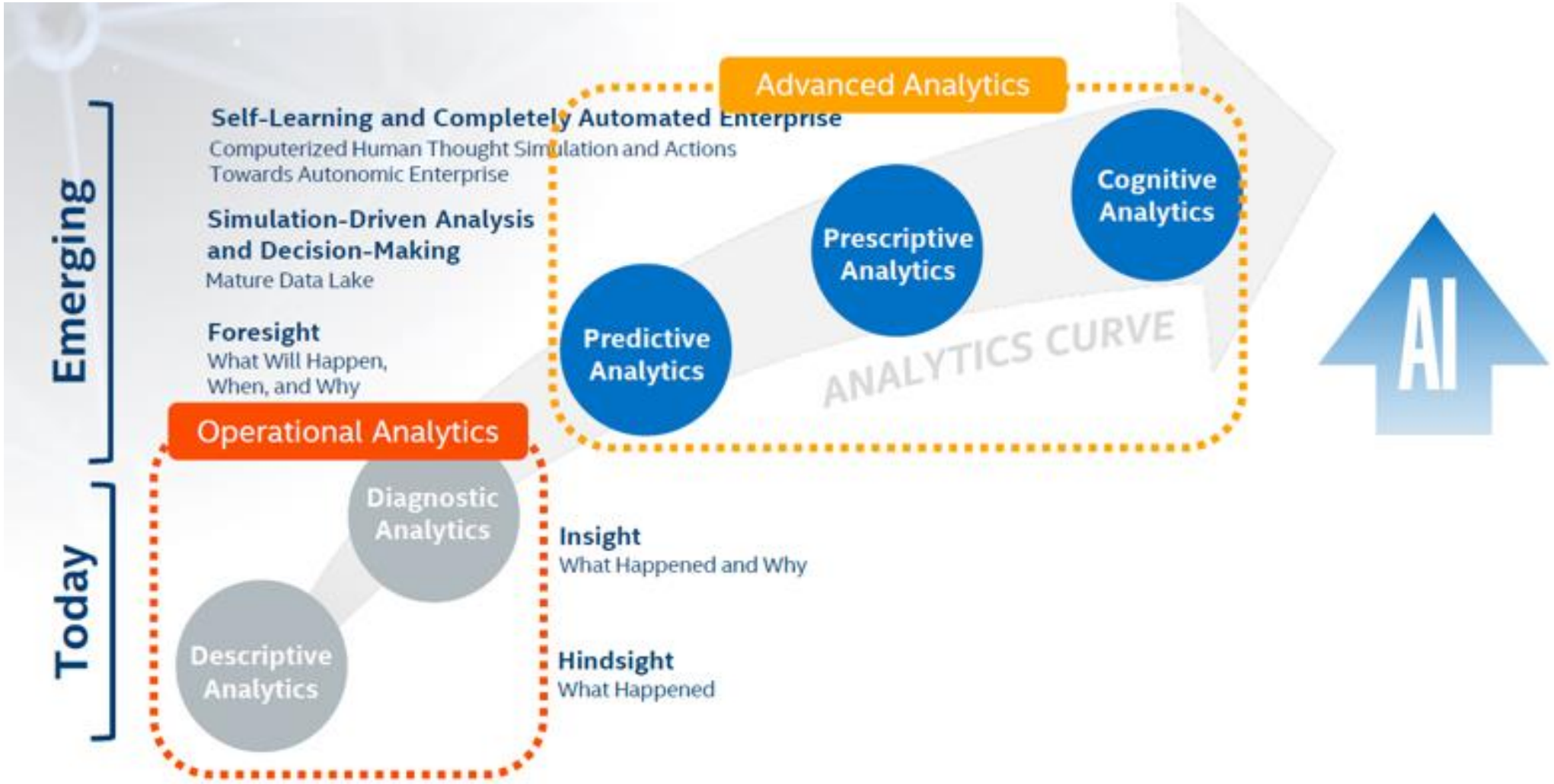
CIB Data Science

Overview

Standard Bank

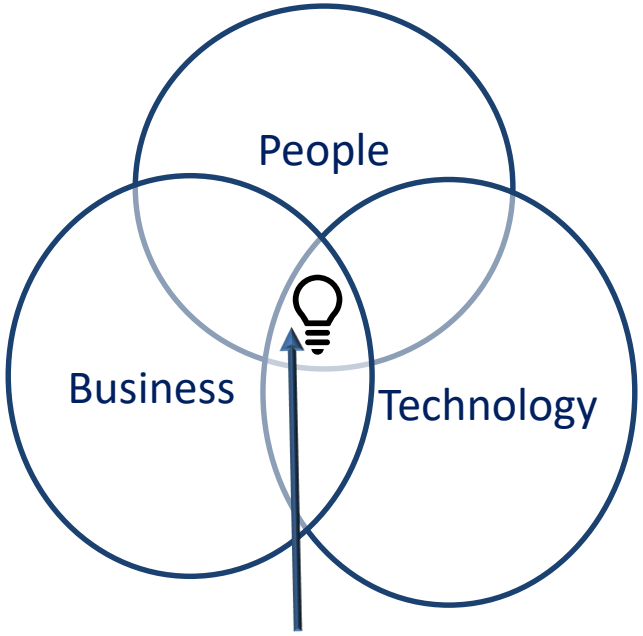
Analytics Maturity Curve



Analytical principles adopted by banks

Develop POC	Closed User group feedback	Industrialise solution
• Deploy POCs into UAT • Agree on measurement and feedback criteria • Close interaction with data providers, platform owners and engineers	• Deploy architecture to make products scale • Identify closed user group to measurement and feedback • Integrate product with other enterprise apps • Open platform to other data scientists	• Enable feature stores, model stores and code libraries for commonly used codes • Open the product to the wider enterprise • Monitor performance and report feedback

Typical Operating model



Iteratively test a number of hypotheses with quick turn-around times to validate opinions.

Client focused collaboration across business silos.

Drive a number of User story driven experiments in contrast to a large few gambles.

Business Processes	**Simplify and Align** Simplify targeting, origination, acquisition and retention of our clients across all our platforms and UFSO franchise.
Client Relationship Management	**Optimizing embedded Lifetime Value (LTV)** Identification of customer pain points and how do we maximise our value offering. A key driver will be offering the right product/service at the right place and at the right time.
Digital Experience	**First class client experience** Creative and innovative ways of harnessing our data to improve our communication with the client as well as timeously identify moments of truth to intervene.
Data Culture	**Data driven decisioning** To lead and drive a data culture across CIB encompassing data identification,collection,management and decisioning.
Technology	**Leverage existing technology and formulate strategic partnerships** Formulate strategic internal and external technology partnerships to onboard best in market machine learning/data science/AI solutions. The aim is to reduce the time to introduce solutions to the market.

Data science experiences of other banks

Data Science goals

- Improving customer experience is the single biggest reason for AI/ML adoption in US
- Banks are the earliest adopters of AI/ML in the US
- Top Banks leverage off from hosting global technology summits
- Data science goals and purpose need to be agreed upfront before setting up the teams
- Improving revenues only came in as the 4th most important goal for most bank
- Do not be afraid to fail, the learning experience is immense
- Data Science and Product Heads need to work on same projects

Team Structure

- Most banks still deploy a centralized team structure
- However , the solutions to the front line team are very much self service oriented
- Adopt a cloud strategy first before investing heavy in machine learning and AI
- AI/ML/data science is a natural fit for cloud, in-house project have high costs in the long run
- Every Data Science/machine learning team has a data scientist, data engineer and 3 software developers for every data scientist and engineer
- Machine learning is now more prevalent as a team name than Data science.

Success stories

- Black Rock just introduced an entire trading floor with only automated traders
- JP Morgan and Goldman Sachs are investing heavily in Data Science for their Corporate financing business as well as creation of complex products.
- Capital One is actively deploying machine learning and AI in near real time to their digital platforms.
- Cyber security is the most popular Use Case for machine learning and AI across financial services
- Data Science work on Analytical portals and have model portals and feature store portals
- Value in centrally managed products to enable rapid innovation

Common Successes and Pitfalls

Pitfalls when Setting up a Data Science Team

Keeping the team in the 'Back Room'

- **Domain knowledge** and exposure is critical for success.

Poor Project Management

- The business needs a purpose for the team, informed by **a clear understanding of data science** – the team risks falling into the 'Pilot Trap'

A lack of 'Data Culture' in the business

- Insights from the data are useless if not adopted – a Data Culture means **Collect, Trust and Collaborate**.

A failure to accept the messiness of data

- The perfect solution should not be the enemy of the '**good enough'** solution

Believing the data has all the answers

- Continuous **interaction** with and **feedback** from business is critical for the success of any data science project.

Data Science Success Stories

Amazon Product Recommendation

- Amazon will soon ship products before we know we've chosen them.

Banking & Securities

- Automated trading and investment discovery, customer behaviour analysis, identity verification, fraud detection, and more (e.g. **Black Rock**)

Merck and MANTIS

- Merck began to treat data as an asset through the **MANTIS** project, and reduced inventory costs by **50%**

SalesforceIQ

- Facilitates the management of professional relationships by assimilating massive quantities of client information.

Capital One

- The 11th largest bank in America began by selling only credit cards, using **data science** to mitigate the risks.