



Driving business value through Big Data & Analytics


IBM Point of View
March 2015







Mobile
 20-30 Times per month

Web/Tablet "Screens"
 7-10 Times per month

ATM
 3-5 Times per month

Call Centre, IVR & Voice Response
 5-10 Times per year

Branch
 1-2 Times per year

2016 digital interactions with financial institutions will outnumber face-to-face by 400-to-1



Hyper digitization and proliferation of mobile devices have changed the way consumers behave and expect to be served today and its resulting into a deluge of data for telcos

Contextual
Everything has to be in context with what I do

Omni-Channel
Seamless experience across channels I use

Social
I choose when, how and where I want to be engaged

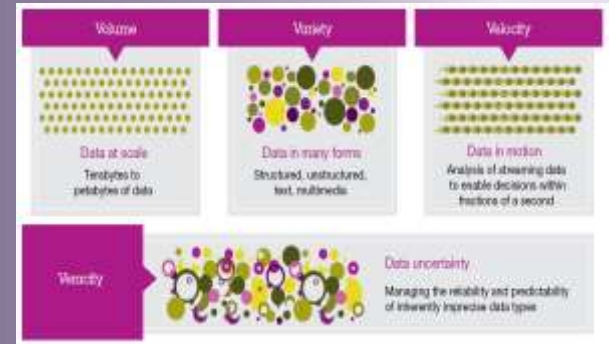
Real Time Personalization
My service, my needs and I want it NOW

Virtualized
Enable me remotely and let me experience it virtually

Mobile
Any device, anytime and anywhere



Big data is flooding telcos today and its not abating....



What do Customers expect from Banks – Primary Research* by IBM



VIDEO



What do Customers expect from Banks – Primary Research* by IBM

- **What do you think of your Bank?**
 - Evolving, Speedy, Online
 - Taken for granted, Impersonal, Distant, Occasional and one-sided
- **In what area is your bank still outdated?**
 - Opening hours
 - Banking service
 - Capabilities - should be able to send money to phone
- **Who can your Bank learn from?**
 - Be like a small business owner (personalized customer experience)
 - Be like my mum (knows what I need without asking)
 - Be like my favorite store (rewards me for being loyal)

* Based on primary research conducted with IBM employees

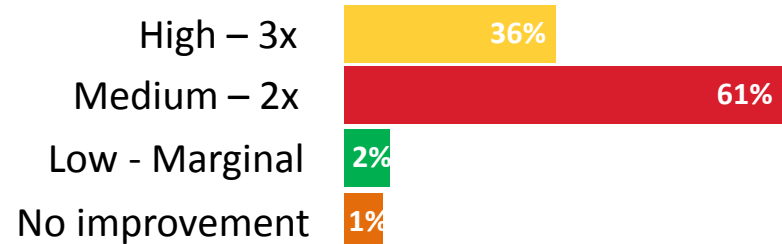


Leveraging Data as an asset – Feedback from 150 Bankers – IDC event, 2014

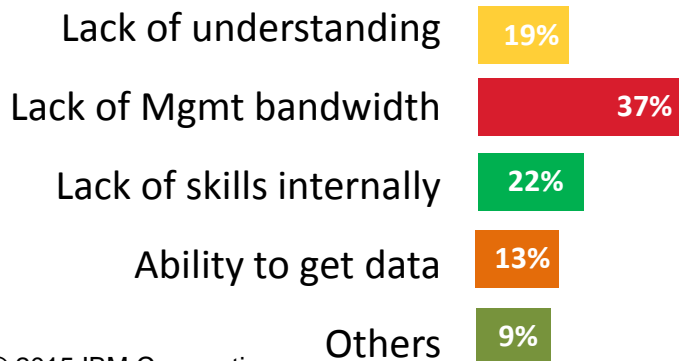
1/ Do you see Data as a strategic asset to drive competitive advantage?



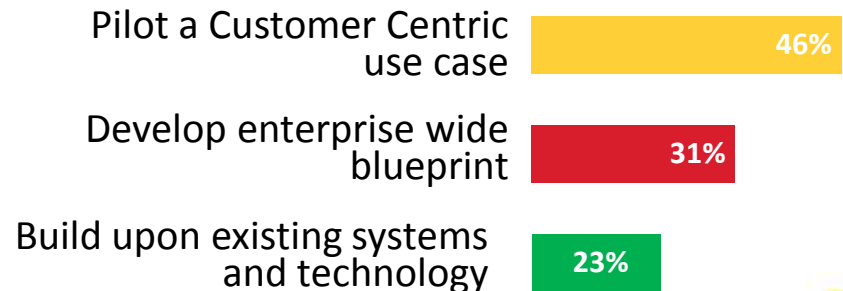
2/ What business value do you believe your organization will derive if it leverages all available data?



3/ What is your biggest barrier to leveraging all available data to enhance your business goals?



4/ Where should an organization start in its efforts to leverage data led transformation?



There is a big gap on skills for analytics in general and telcos are no different

38% have a limited understanding of how to use analytics



The desire to make data-driven decisions is prevalent

34% can not find time to analyze data



Making decisions rapidly is no longer a goal; it's an imperative

24% find it difficult to get data



Access to required data sources is critical while maintaining governed standards

Source: Analytics: The New Path to Value, a joint MIT Sloan Management Review and IBM Institute for Business Value study. Copyright © Massachusetts Institute of Technology

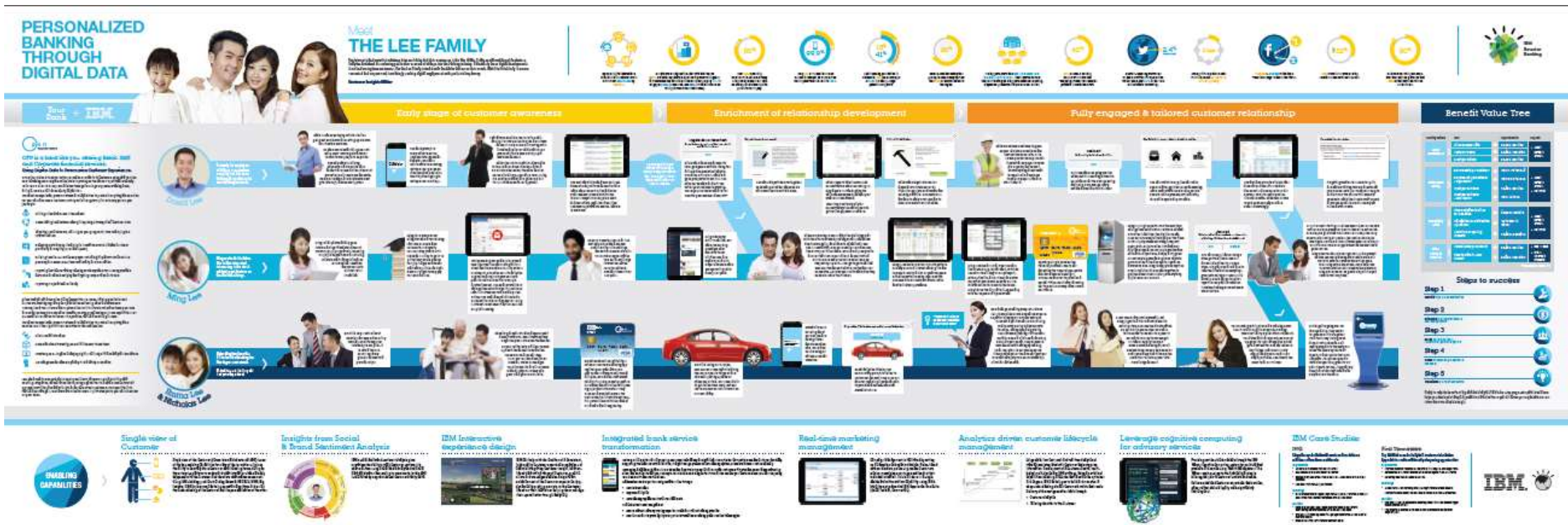
- ❑ "...**72%** of service providers don't have the right staff or structure..."
- ❑ "...**34%** of operators think they have the right number and quality of staff in place currently to manage and exploit the data at their disposal..."
- ❑ "...**Operators are still far behind many other industries**, due not only to the complexity of the operator environment but also due to their **siload structures**, which presents a challenge for optimized data organizations."

Is the Chief Data Officer in Communications.....the Santa Claus of Big Data?
<http://tinyurl.com/khzzm9> Matt Roberts | June 5, 2014

4/7/2015



Envisioning the customer experience, that the Banks/Telco wants to drive



This helps identify the right use cases to focus on



Agenda



Big Data simplified

Case studies

Reference architecture

Getting started



Big Data & Analytics presents immense value creation opportunities for Banks



... which can be monetized through analytics on enriched data

New data sources

Transaction & Payment Data



- Volume
- Details
- Throughput

Application Logs & Channel Interactions



- Velocity
- Semi-structured
- Ingestion

Notes & Correspondence



- Variety
- Unstructured
- Volume

Social Data



- Variety
- Unstructured
- Veracity

Traditional



IBM is partnering with many Banks globally to help them achieve their business goals...

Optimize enterprise risk management

- Entity Analytics for Financial Crimes - **Trans-national bank**
- Risk Data Aggregation and Optimisation - **Large US / Global bank**
- Enhancing counterparty credit risk identification - **Large Canadian bank**



Create a customer-focused enterprise

- Real-time insight driven marketing – **Large Australian bank**
- Offer optimization and cross-selling – **Telco in ASEAN**
- Needs-based dynamic propensity scoring – **Large global bank**
- Social Empathy selling – **Large bank in China**
- Social Media Analytics & Engagement – **Large bank in Singapore**
- Multi-channel Direct Analytics – **Large bank in India**



Increase flexibility & streamline operations

- Data warehouse augmentation – **Large banks in US, Australia, etc.**
- Complete customer view augmentation – **Large bank in US**



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Real-time campaign management

Key Challenges

- Understand real time state of the subscriber to determine **Next Best Action**
- Specifically **predict** when **top-up** will happen

Key Outcomes / Benefits

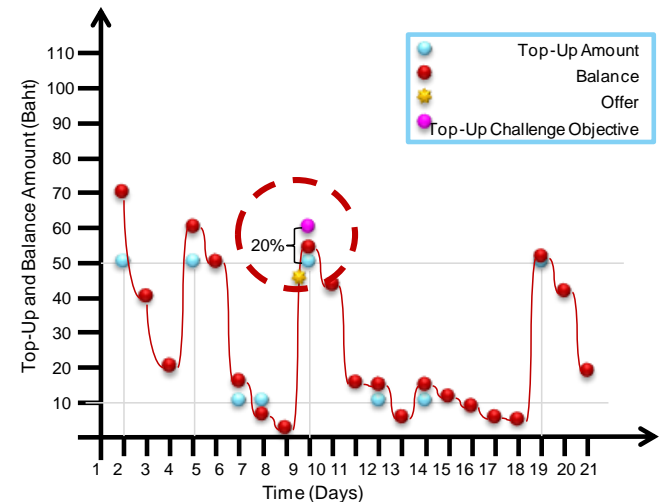
- 20-30% campaign response** rate for Top-up
- Medium term: Increase in revenue and reduction in churn

Solution

- Next Best Action with Predictive Analytics
- Real Time Analytics per Subscriber
- Streams Predictive Analytics and Campaign Management

Use cases being pursued for ASEAN banks

- Cross-sell travel-insurance** when a customer is at airport (leaving the country)
- Real-time **location based offers** (dining, etc.)



Banking Pilot implementation outcome: Observed 2X increase in response rate through location-based offers



Real-time insight driven marketing to uplift Time Deposit cross-sell rates

Key Challenges

- **Increase Time deposit** on account of liquidity pressures
- Current **cross-sell rate** needs to be **increased** (3%)

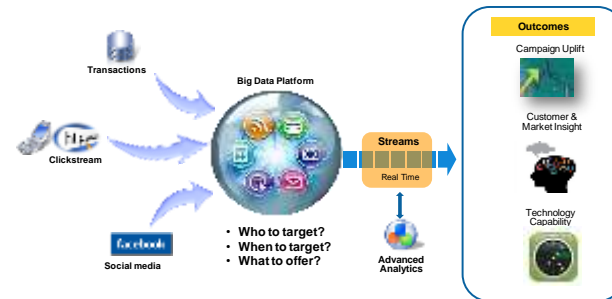
Key Outcomes / Benefits

- **30% increase in response rate** compared to control group

Solution

- Delivered through a **12 weeks Proof of Value** exercise
- Leveraged **different types of data** (internal & external) as well as brought in **real-time capabilities**

Parameter	Current capability	IBM solution
Analytics	Propensity models	Mined Click stream data & developed triggers specific to TD
Frequency	Batch	Real-time
Campaign message	Based on experience and gut-feel	Mined social media to refine campaign message



Enhancing existing predictive models with a variety of data, event triggers and real-time execution helped improve cross-sell rates



Dynamic propensity scoring based on customer needs during a live inbound interaction for a global bank's Cards business

Current situation: Customers offered products without any check on how the products suit their needs => potential sales remained unrealized due to incorrect offers



Solution: Real time cross-sell analytics solution ensures that the right offer is given to the right customer on a real time basis, based on customer's profile and agent-customer interaction

How does it work?



Customer calls in to activate card



Eligibility Details

Loan Product – High
Insurance Product - High
Mortgage Product - Medium

First level prioritization



Why did you apply for a card?

Need extra credit for Christmas shopping

Agent asks customer customized questions



Short Term Seasonal Need

Loan Product

Final prioritization in **real time**

Benefits

20 % Improvement in Sales Revenue was realized (vs. existing process)



SME Early Credit Warning experiment

Key Challenges

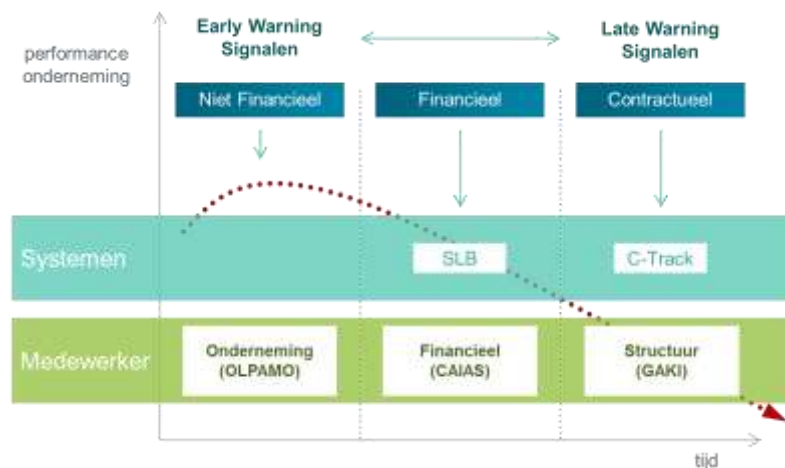
- Identify **early warning signals** to prevent customers from going to Restructuring (25% of base in this segment)
- Provide customers with guidance to calibrate their financial planning and increase financial awareness through **social benchmarking** with peers

Key Outcomes / Benefits

- Established benchmarks / early warnings signals and provided recommendations**
- 30% Startups that compete with you, use a different set of credit solutions
- 60% Peers with better Revenue & Profit use a different credit structure

Solution

- Leveraged **financial data** based on documents submitted by SME - Revenue & profit (inc. trend over time), Spending, Salary of SME, Sources of funds & cost of funds, Ratios - Turn-around, Liquidity, etc.
- Developed **'Amazon' type of recommendations** – by assigning Peers and Experts for each customer



Leveraged financial data from application documents and Used role/community-mining principles to provide insight and do peer comparison



Corporate Customer Networks experiment

Key Challenges

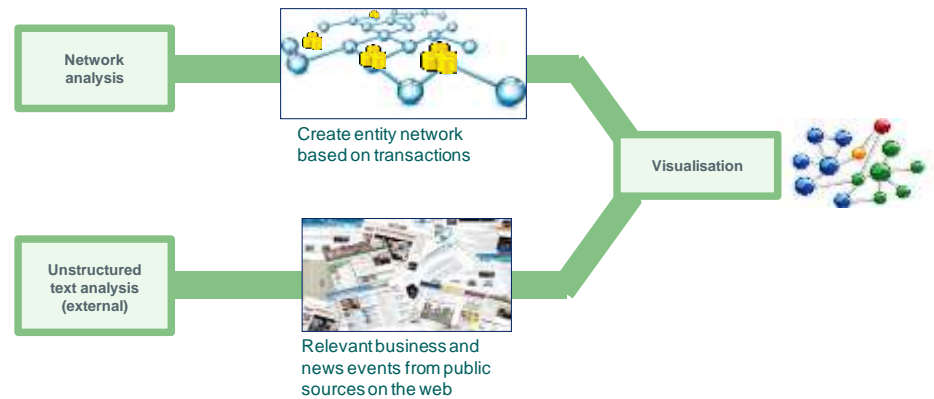
- Bank currently has a **fragmented overview of the network** where the customer operates. “Each silo is designated for one specific grain”

Key Outcomes / Benefits

- Visualizing Customer networks** - ABC is making transactions of 2 Mn. US to Brazil & Turkey (both outside of the Euro zone). Can we offer them assistance?
- Subsidiary’s role** - Opportunities for currency related products - A German subsidiary of ABC is doing USD and GBP transactions
- Public information** - ABC recently acquired XYZ in Portugal. Can they use our assistance or advice? Is XYZ already our customer?

Solution

- Studied **currency flows** in/out of countries and outside the Bank’s network
- Identified **events** related to the client from **external sources**
- Monitored **economic news alerts** for those countries where the client has highest exposure
- Developed Analytics and extraction of **risk related events** like reputational risk, bankruptcy for companies **within the financial network of client**



Visualizing money flows from raw transaction data and uncovering relevant news and business events from external data, helps identify new sales opportunities



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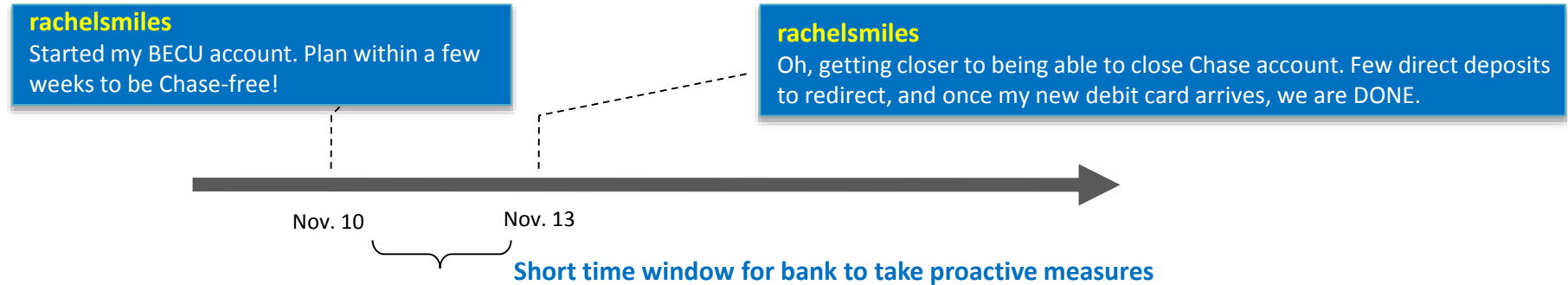
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Leveraging Social Media Data to Understand Consumer Feedback

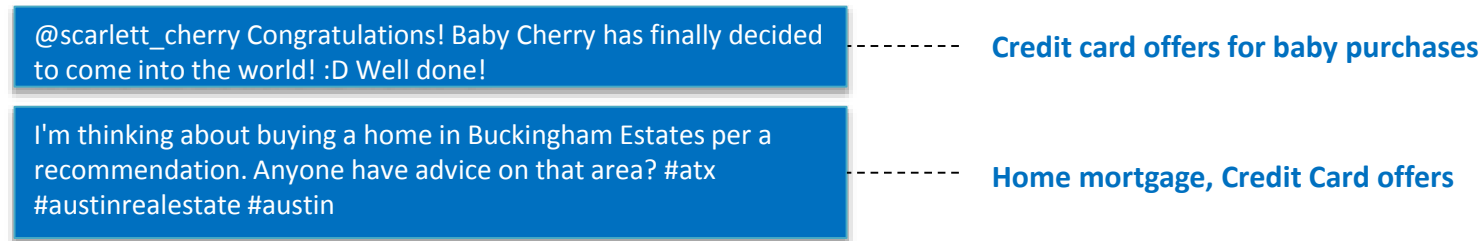
Customer Retention / Service Improvement Opportunities



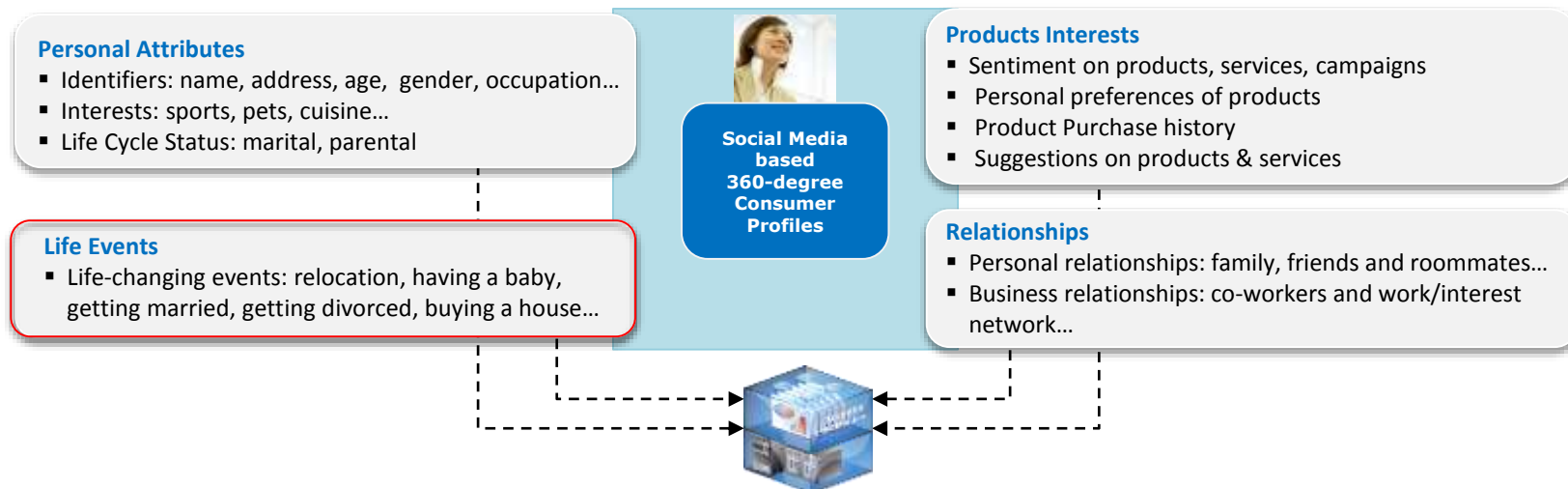
Customer Acquisition: Prospecting Opportunities



Lead Generation Opportunities



Building a social profile: Extraction and Categorization of Life Events



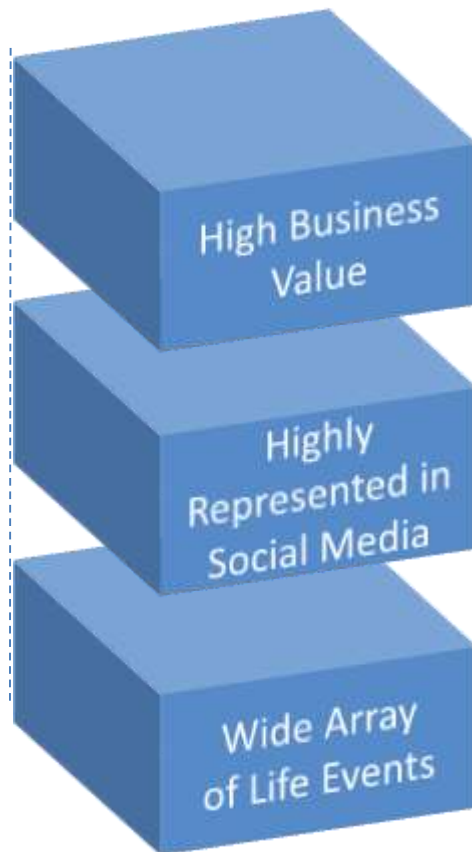
Graduation	Missing Vista's graduation. So depressed! But <u>congratulations @Lexskeet</u> and the rest of class of 2011 :)
Having a child	<u>@scarlett_cherry</u> Congratulations! Baby Cherry has finally decided to come into the world! :D Well done!
Birthday	<u>happy bday @VideLLaa</u> , sukses ya. wish u many happy return ;)
Job Loss	<u>I lost my job as a firefighter</u> . Apparently you cant fight fire with fire.
Relocation	<u>@rakonturmiami</u> im moving to miami in 3 months. i look forward to the new lifestyle.
Getting deployed	if Obama supposedly has a plan to pull X amount of troops out of Afghanistan why the heck is <u>my husband getting deployed</u> in Dec?



Example Analysis : Life Event leads

Sample results

- Matched 42% of Credit card customers externally (with over 80% accuracy)
- Identified over 500k life-event leads for the matched base (annually)



- Travel
- Fine dining
- Home Mortgage
- Job Gain

- Job Gain, Promotion
- Small Business Owner, starting, growing
- Buying a home
- Buying a car
- Travel: wish, intent, during, post, hobby

- Family: Marriage/Partner
- Education: Graduation, Going to college / in college
- Work: New job / Lost job, Promotion / Bonus, Growing a small business, Retirement
- Home: Home buying, Move / Change of address, Home renovation
- Other: Serious illness, Travel, Fine Dining, Vacation Home
- Major Purchases: Buying a car, Buying a boat
- Major Financial Event (\$ inflow): Lottery, Inheritance, Insurance payments, Litigation settlement,
- Major Financial Event (\$ outflow): Bankruptcy, Litigation settlement, Accident/Insurance Claim



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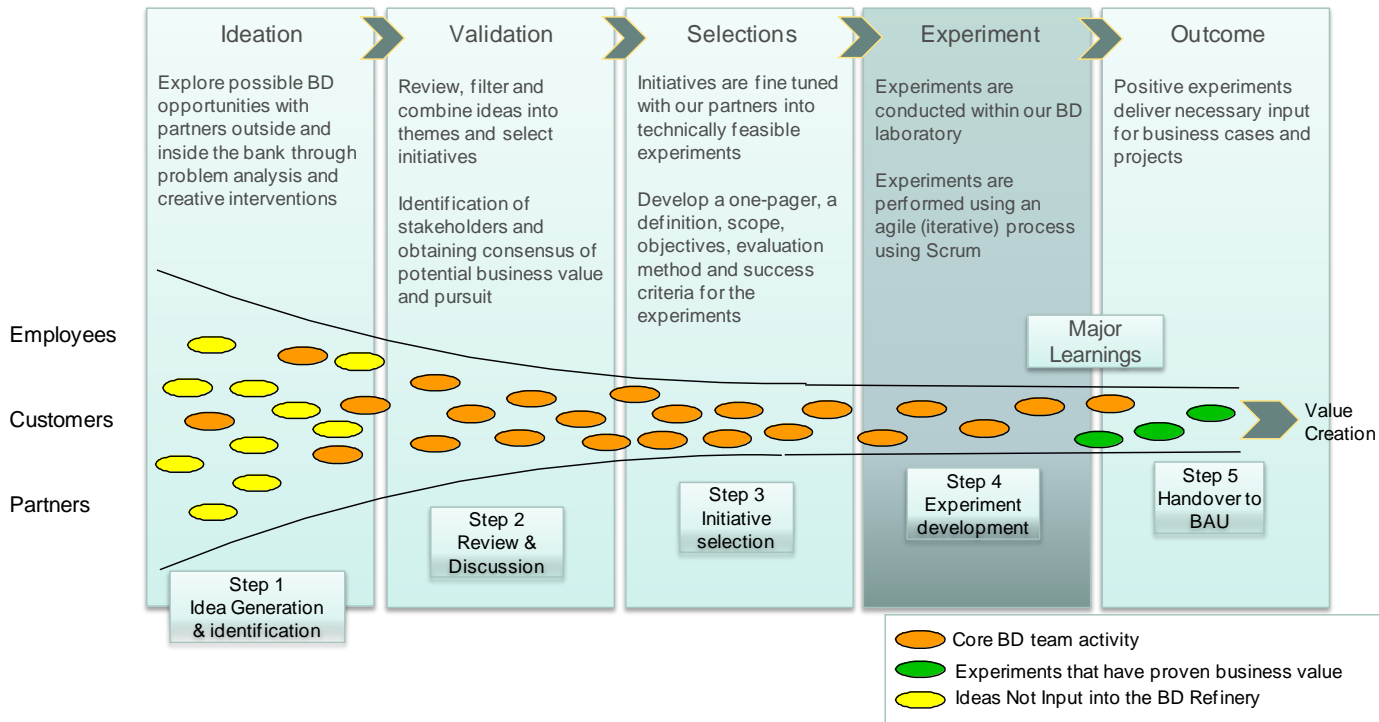


Big Data Scenario

Where the Bank was:

- Big Data has large potential but this is not yet quantified for the Bank
- Bank has no clear vision or focus, the potential cannot be fully capitalized
- Bank needs help to quantify the value and help develop and formulate the overall vision

Big Data Lab – Structured Approach:



Agenda



Big Data simplified

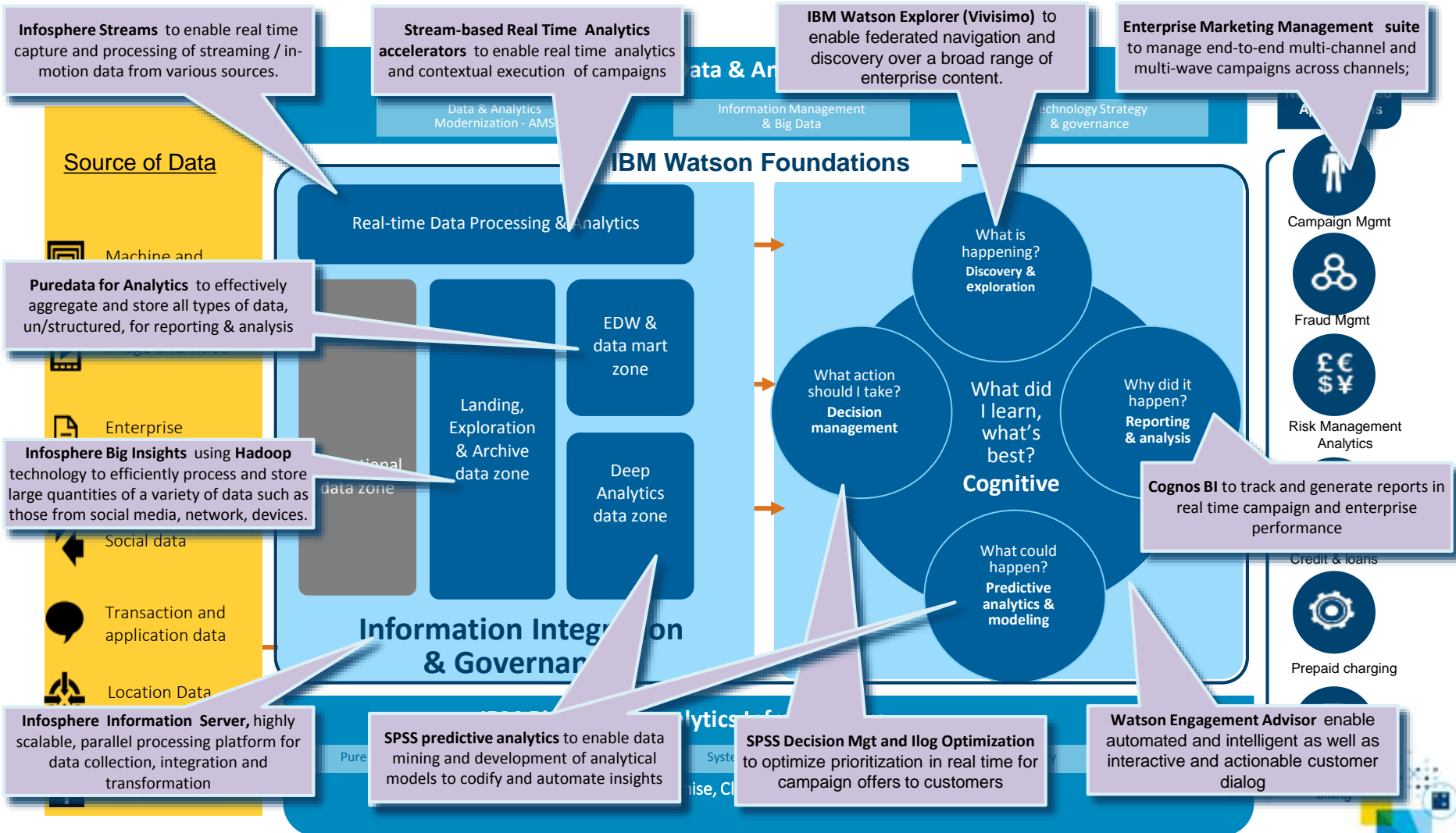
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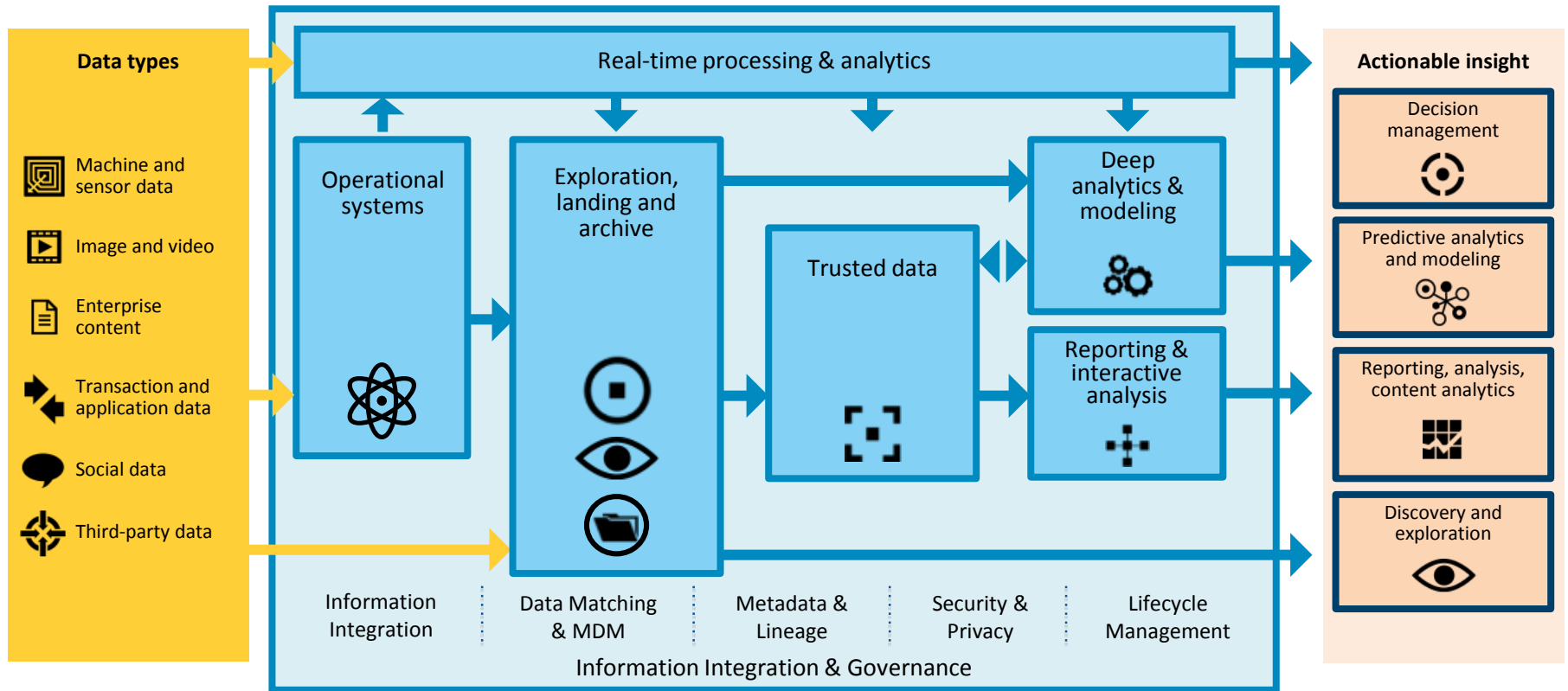
Getting started



We support this approach with IBM's Big Data and Analytics Platform structured around a broad portfolio of analytics capabilities designed to enable an enterprise-wide transformation



Another Look at the Solution Architecture



Postpaid
billing



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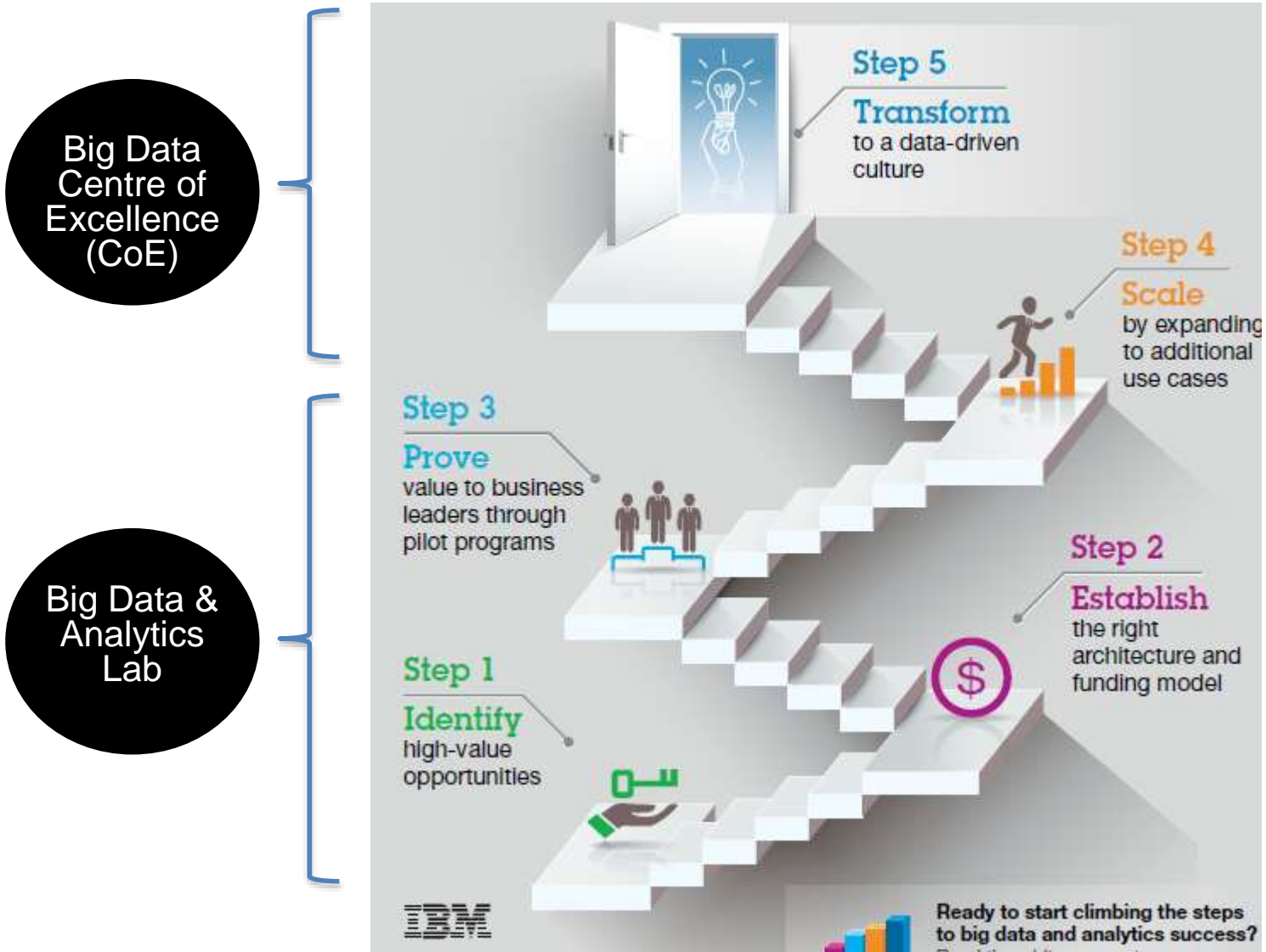
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Big Data & Analytics: Steps to success

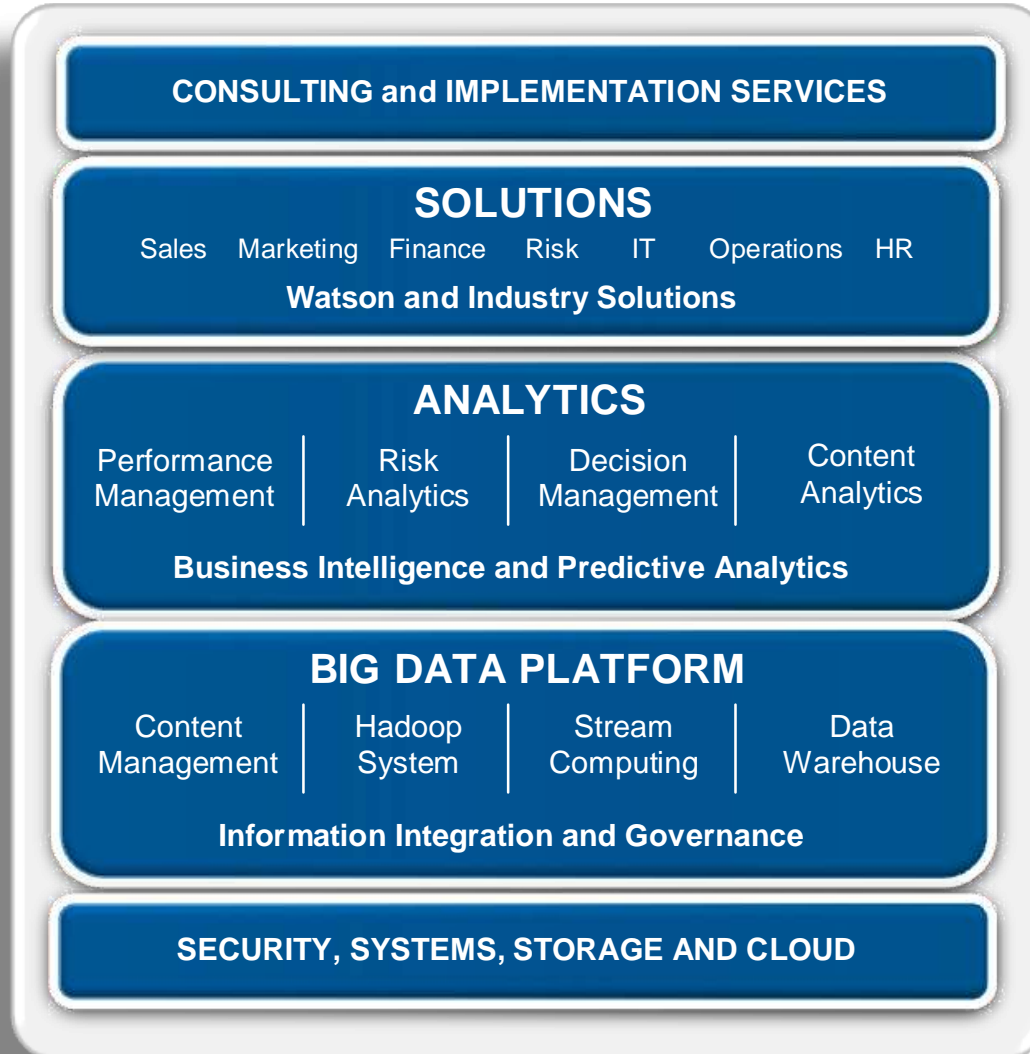


Big Data Centre of Excellence (CoE)

Big Data & Analytics Lab



Only IBM Provides a Holistic and Integrated Approach



IBM is the Right Partner Committed to Your Success



IBM understands all kinds of data

- **Game-Changing Innovation** – such as Watson, BLU acceleration, streaming analytics and expert integrated systems; 20 years of patent leadership
- **Business-Ready Capabilities** – big data and analytics capabilities, integrated and hardened for serious use, with flexible deployment options



IBM knows how to turn data into value

- **Client Expertise** – deep industry know-how and solutions with global reach
- **Strong Ecosystem** – growing investment with 360+ business partners & 100+ universities
- **Build on Current Investments** – enhance existing analytics and information infrastructure with unparalleled breadth and depth of new capabilities



IBM has invested in big data and analytics

- **\$17B+ in Acquisitions** – coupled with game-changing innovation since 2005
- **Analytics Solution Centers** – visited by 4000+ organizations accessing global expertise



IBM

