

数据仓库 开源融合 极致演绎

2016

Teradata 大数据峰会

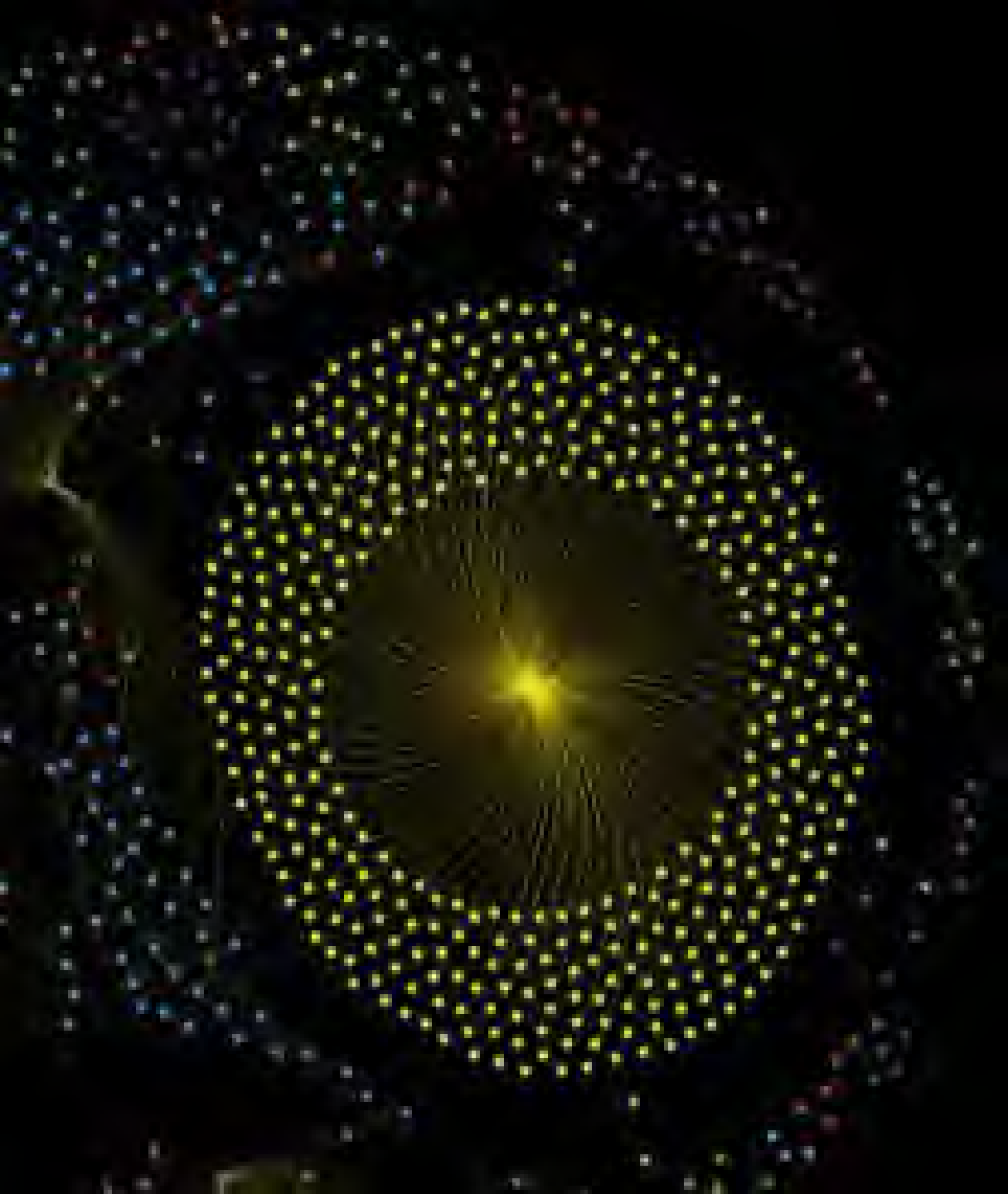
分析的速度

Geoffrey Jiang – Teradata China

Daniel Rodriguez Sierra – Director COE Communications, Media & Entertainment, Teradata International

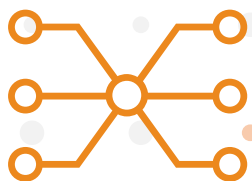
May 2016



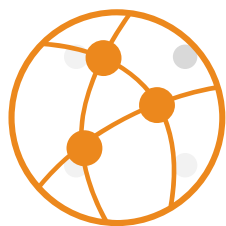


日程

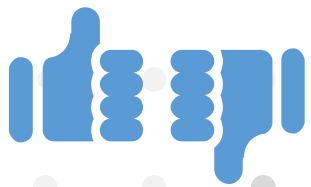
- 分析无处不在
- 一切有他自己的时间
- 分析速度的价值
- 分析和灵活
- 案例
- 在中国市场热数据变现实践



标注所有您的多渠道客户旅程，带有10条线路的条码，并理解在哪和为什么您正在丢失销售



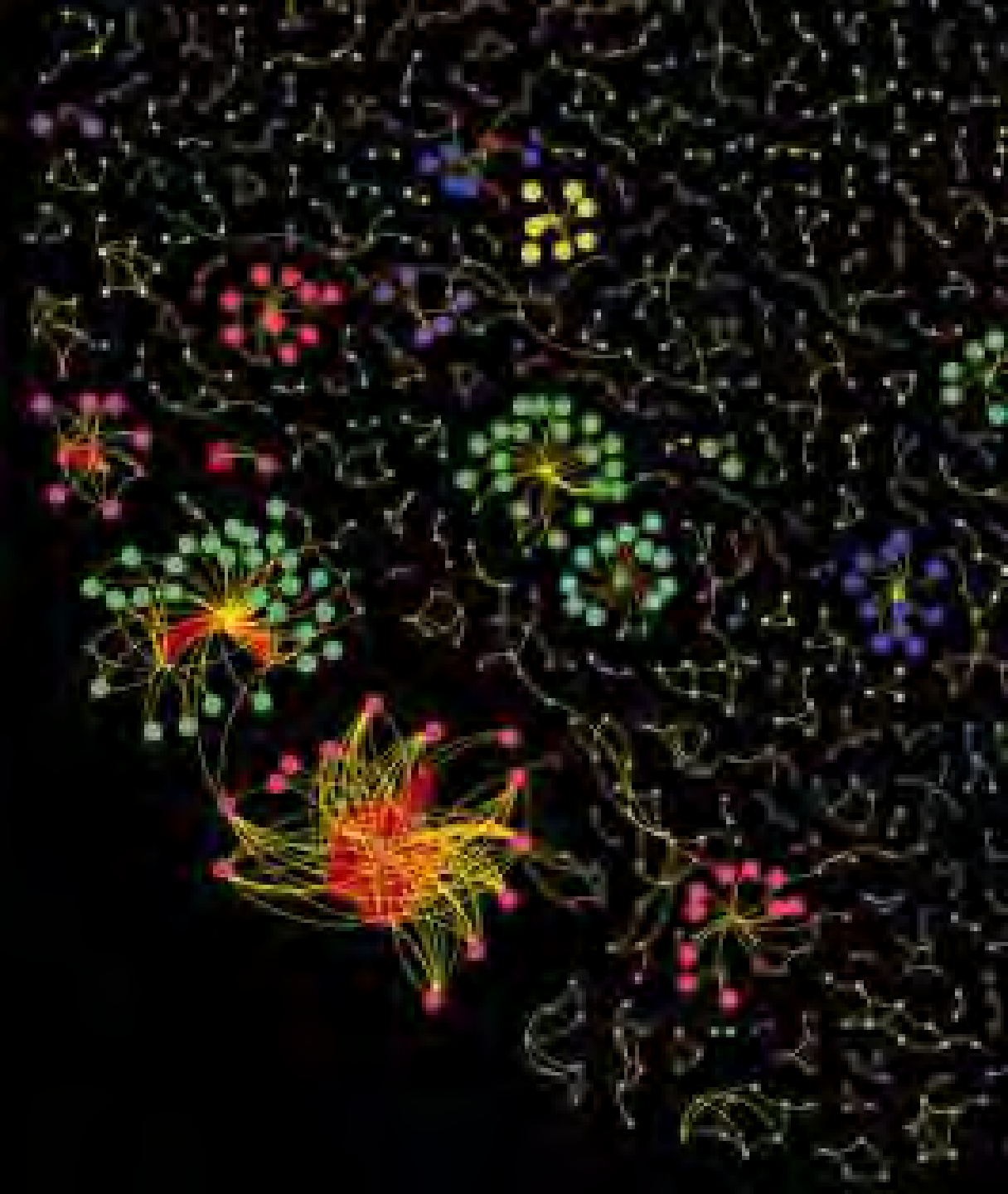
一个单独的视觉化向您显示百万交易隐藏的误差？



在2天理解 10个影响您客户的事宜，他们对这些感觉如何，您需要什么来解决他们？

仅仅6周在您的分析数据投资上产生500% 回报?





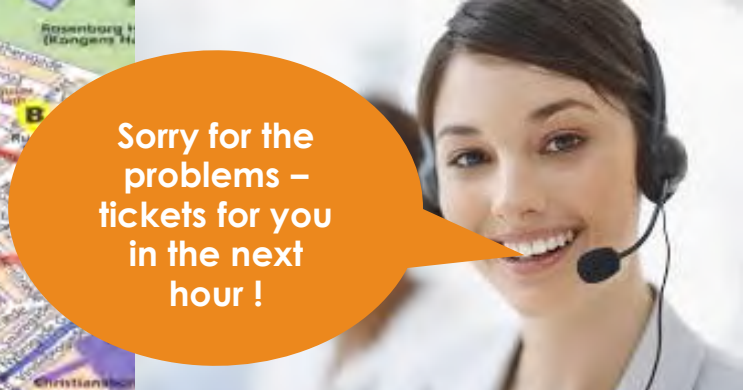
分析无处不在

典型案例 - 基于实时数据

Will Cage, Teradata



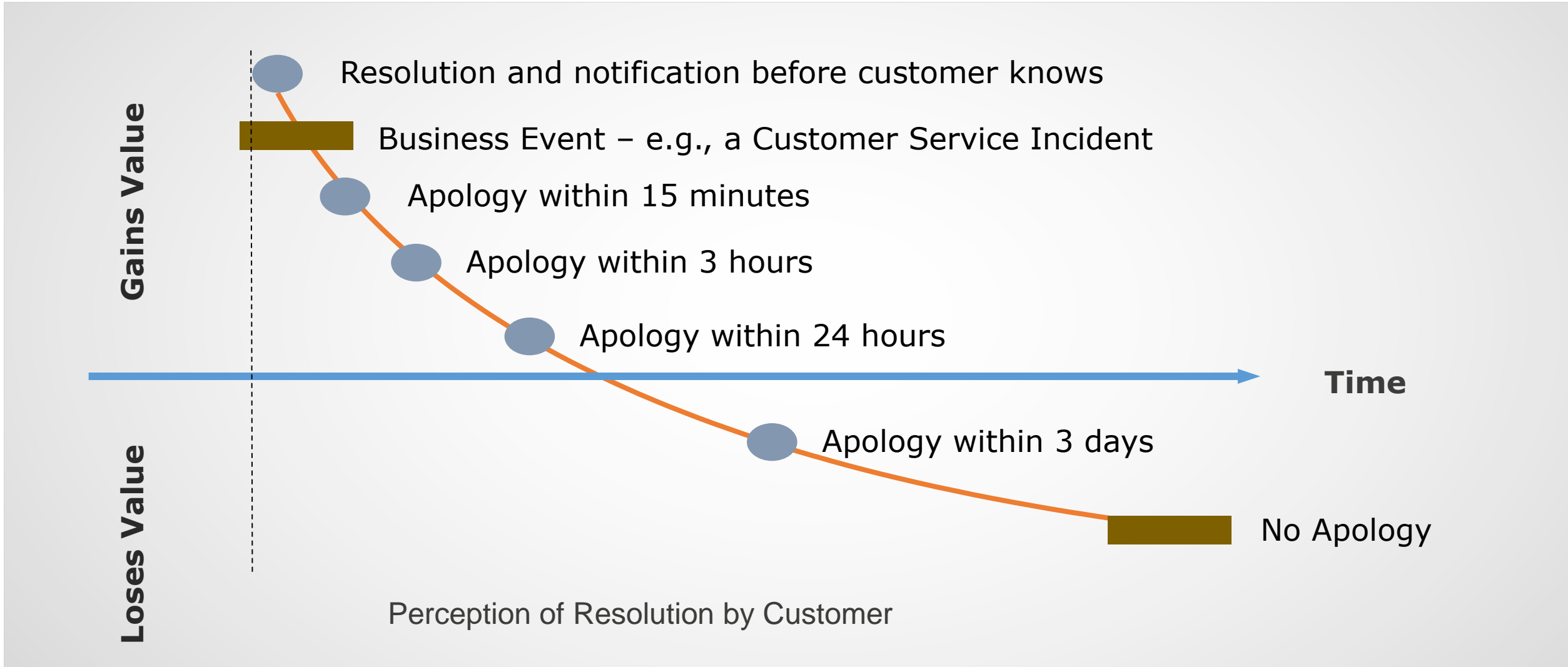
- Has used 90% of Bundle
- Old model Handset
- Medium Value Customer
- Just Dropped a call
- Passing Orange Shop



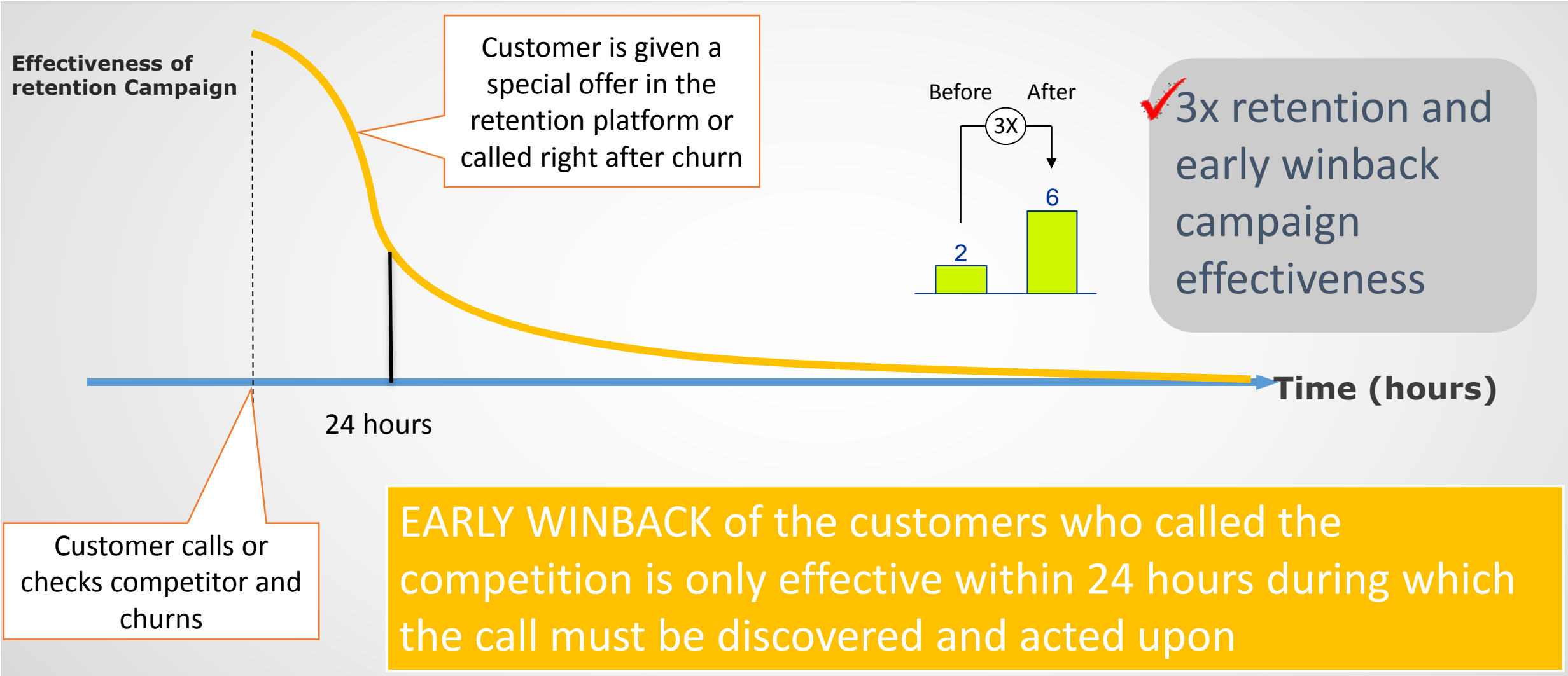
Sorry for the problems – tickets for you in the next hour!

- Has movie channel at home
- Passing movie theatre
- Real-time offer
- High Value Customer
- Just Dropped a call

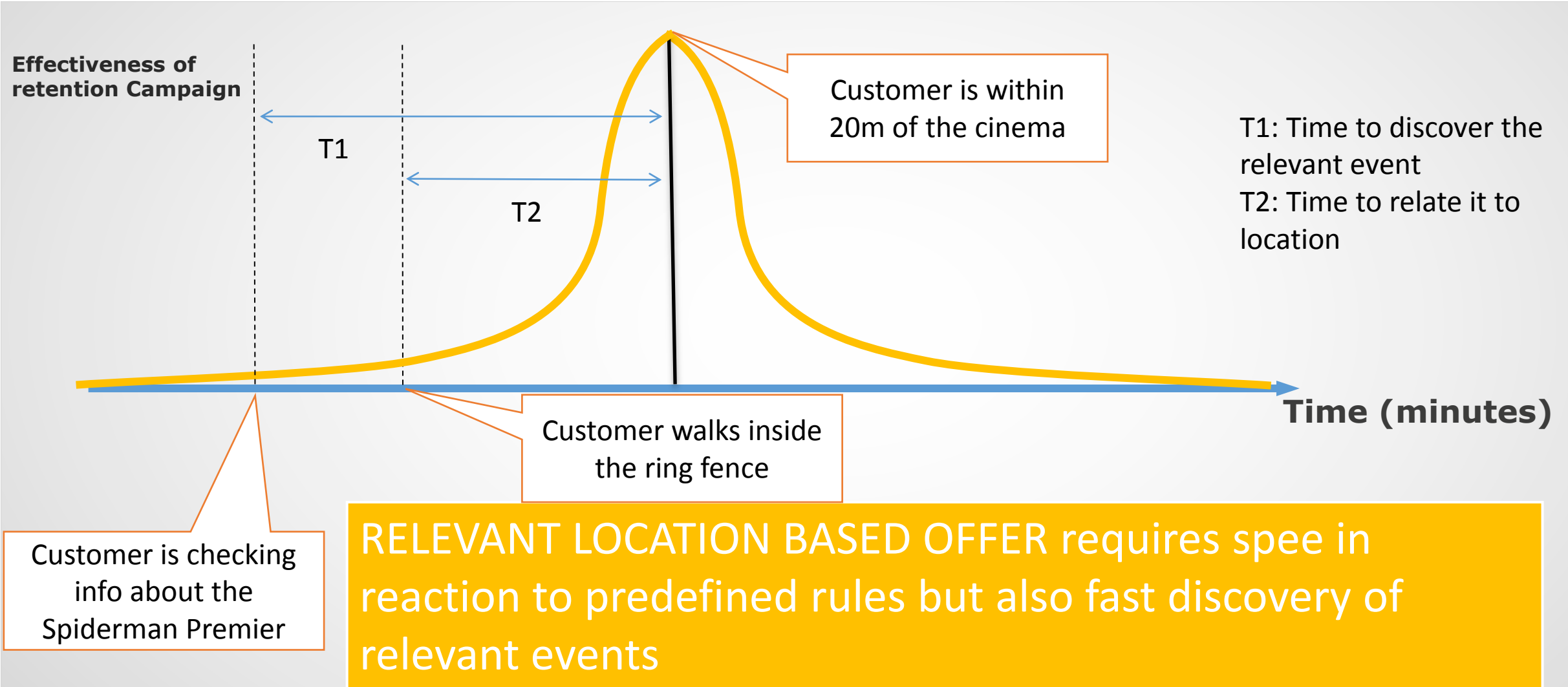
典型的时间和价值:客户服务, 只是及时道歉



典型的时间和价值: 客户呼吁或检查竞争, 然后开始制造过程

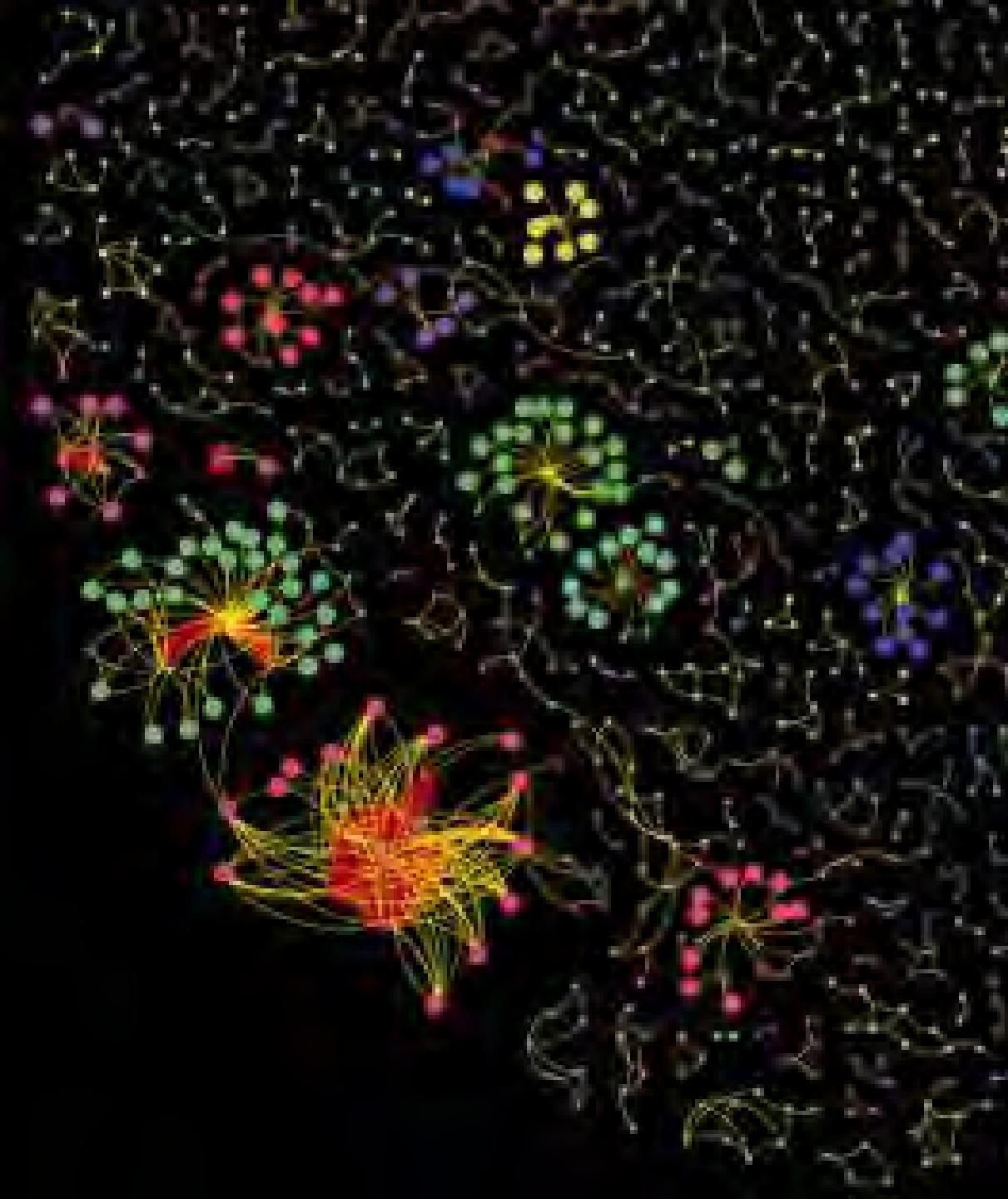


典型的时间和价值: 客户步入专项区域, 此处有他感兴趣的零售提供



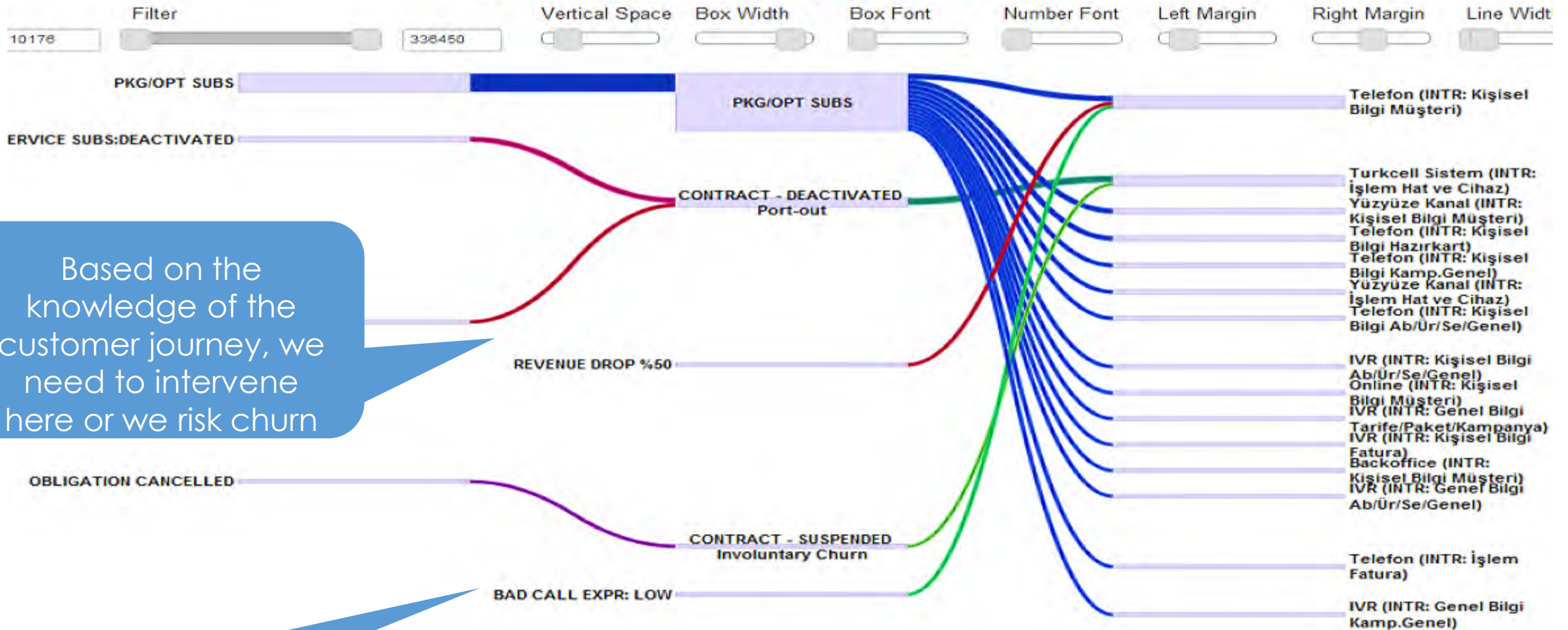
分析提升的类型

- Enhance existing classification or predictive power with new methods that require new speed
- Fast discovery of a new piece of data that explains and allows identification of the cause of a new problem
- Fast trial of new data that enhances an existing predictive model
- Speed of analytic iterations makes easier to find hidden patterns in data or rapidly changing patterns



旅程分析: 制造 & 渠道

Youth Channel Touchpoint Analysis



Based on the knowledge of the customer journey, we need to intervene here or we risk churn

CEM attention required

RESULT: Mofe complex problems required 4-6 weeks

案例: 多重渠道行为分析



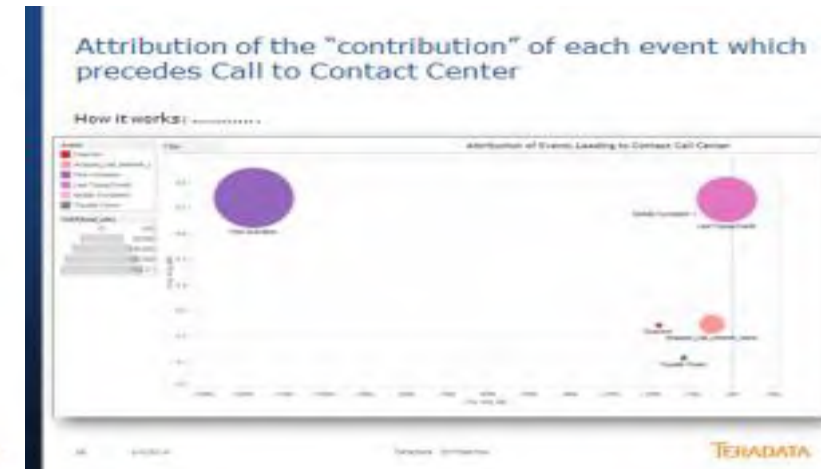
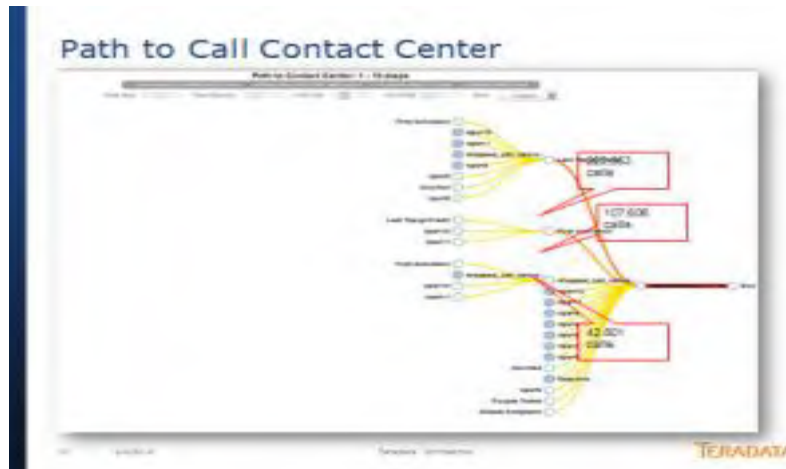
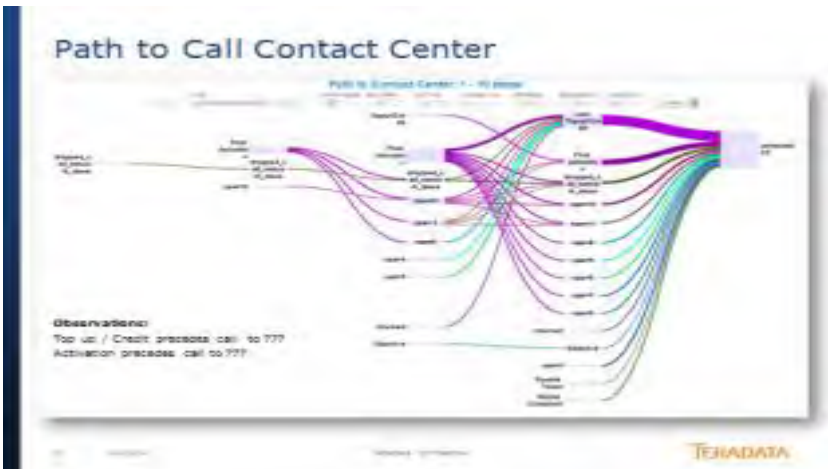
The Multi Channel Analysis

Problem: Customers keep calling after they paid their bills

Solution: Found wrong communication and changed it



RESULT: Base Cause was found in 2 weeks and corrections saved thousands in call center



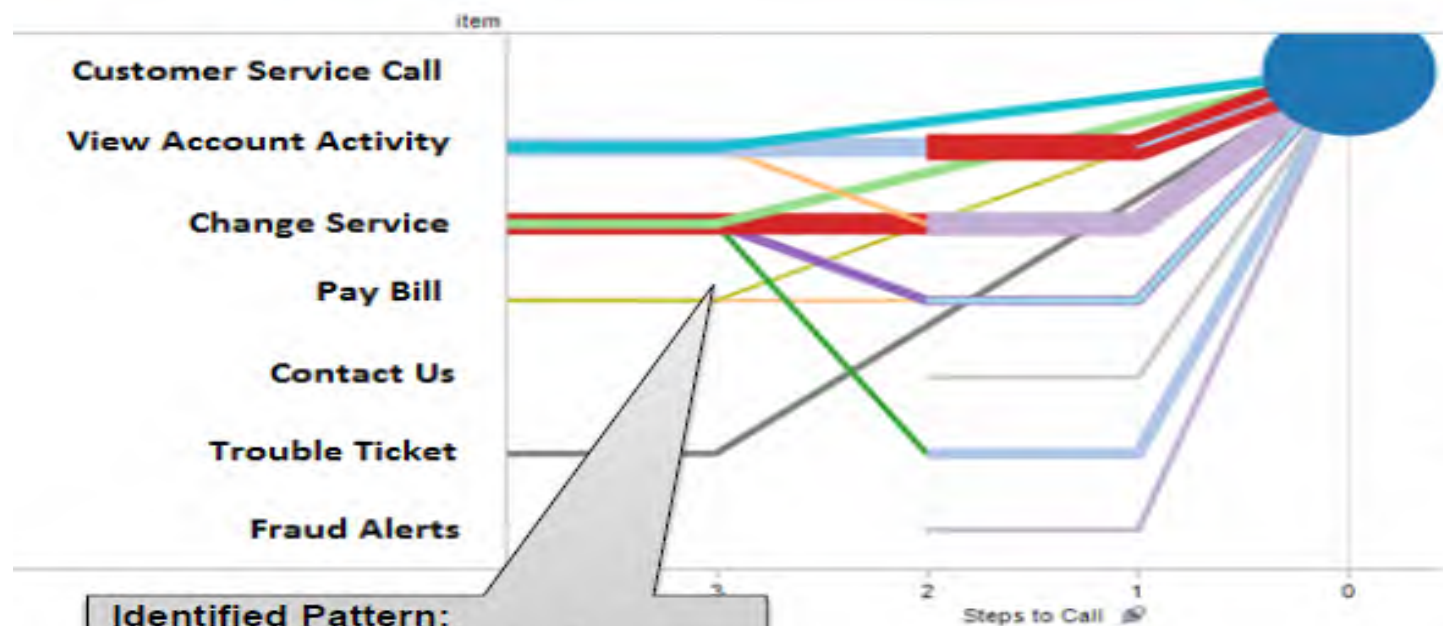
Verizon Case: <http://bcove.me/fu5d5vcb>, or

<http://blogs.teradata.com/customers/listening-to-100m-customers-with-unified-data-architecture/>

路径分析 - 看看什么优于一个电话



Self Serve nPath



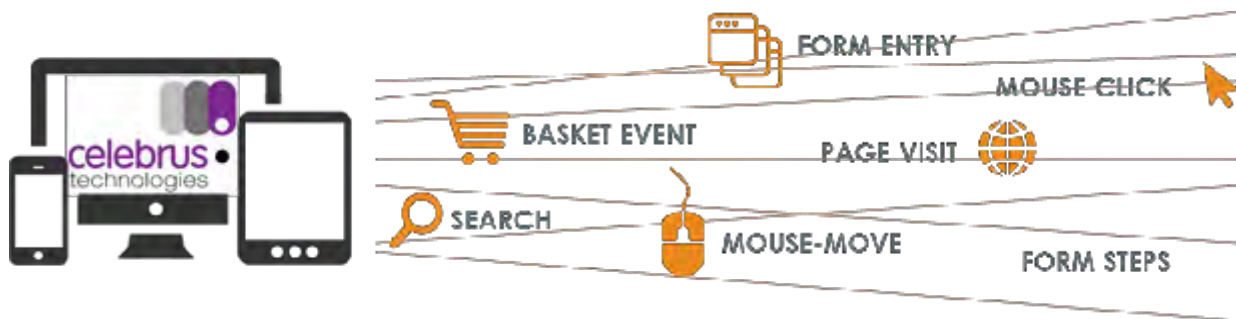
Identified Pattern:

Customers who are actually completing a self-service transaction, online bill pay, still feel a need to call customer care. nPath has shown us the trend, now we need to understand "WHY?".

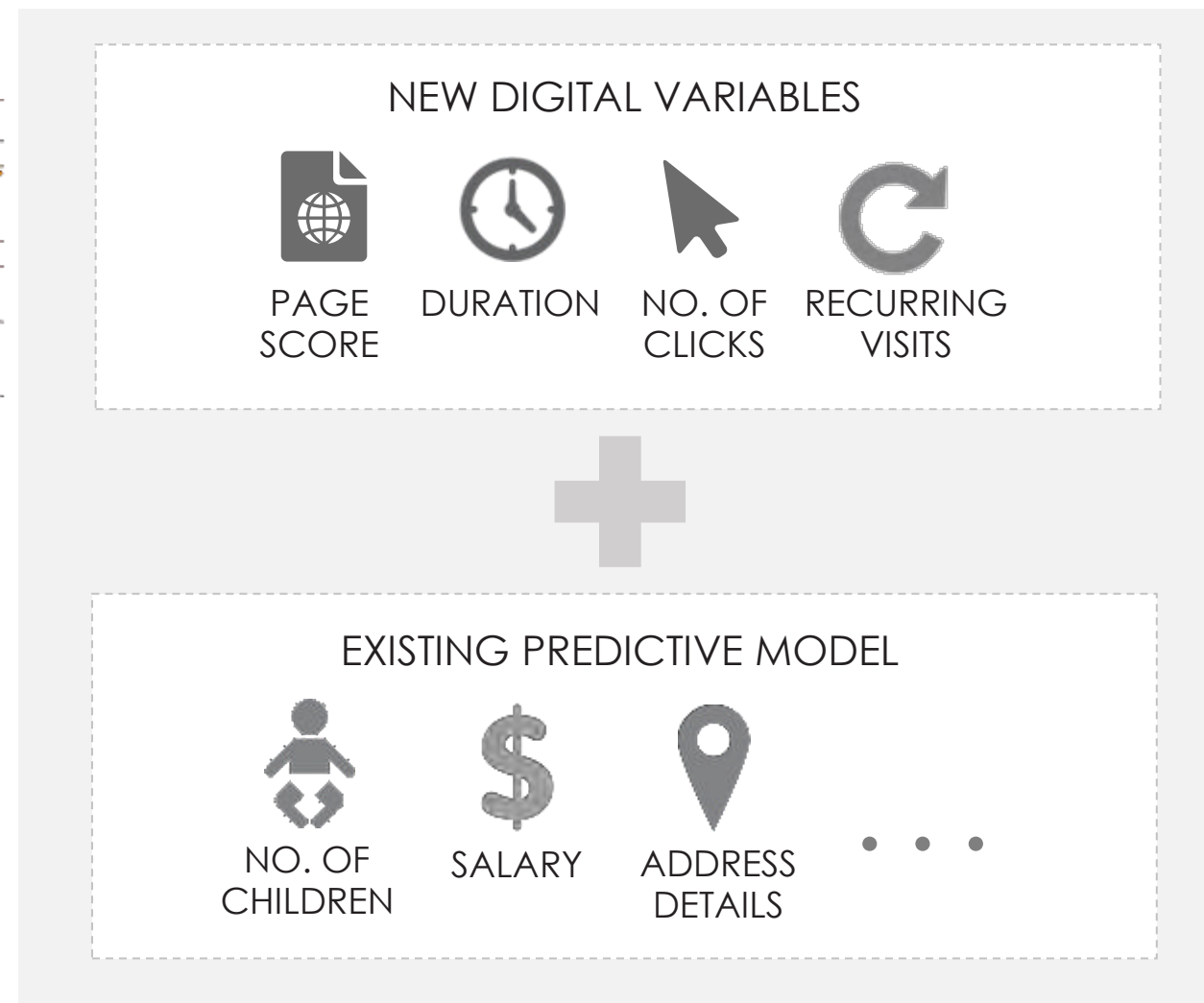
- Analysis utilized web log data and customer care call in data
- nPath revealed top paths to call
- Calls after a bill payment were unusually high
- In this use case, no further iterations were necessary

Total time to discovery using nPath was < 1 hour.

找到更好的销售机会



RESULT: 3x Better Predictability, 3.8x Additional Leads with Desired Response Rate
\$8M of Incremental Profit from One Campaign



规划和优化网络工作

High-value Subscriber has repeated drops

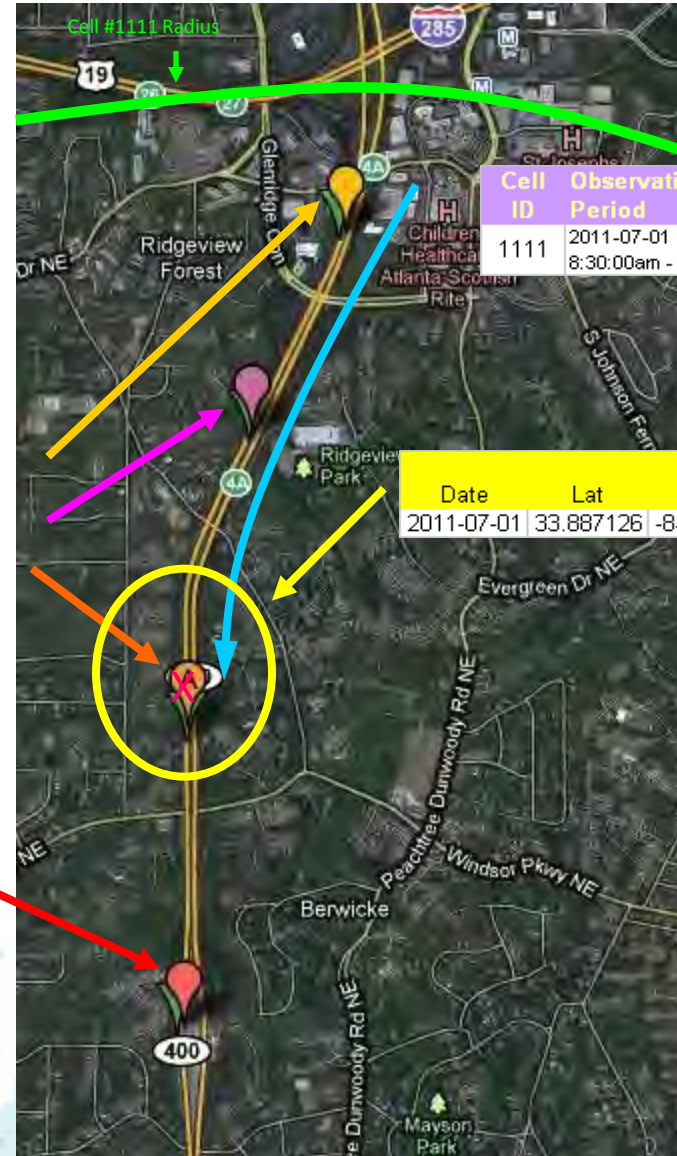
Subscriber Number	Call Start TS	Dur Min	Term Code	Cell ID	Sub Prof Sub Value
(111) 111-1127	2011-06-29 08:32:00	5	RIF	1111	H
(111) 111-1127	2011-06-30 08:25:00	10	RIF	1111	H
(111) 111-1127	2011-07-01 08:39:00	3	RIF	1111	H

GPS data shows specific location of RIF

Sub Nbr	Observation TS	Term Code	Lat	Lng
(111) 111-1127	2011-07-01 08:39:00	OK	33.905061	-84.358628
(111) 111-1127	2011-07-01 08:40:00	OK	33.897919	-84.362469
(111) 111-1127	2011-07-01 08:41:00	RIF	33.887126	-84.365103

Call used 3G 1900mhz network

Cell ID	Lat	Long	Frequency	Bandwidth	Power	Radius
1111	33.87676	-84.36552	5982 A 1900 3G 1	30	5 mi	5 mi
1112	33.87676	-84.36552	5862 B 1900 3G 1	150	5 mi	5 mi
1113	33.87676	-84.36552	5862 C 1900 3G 1	270	5 mi	5 mi
1114	33.87676	-84.36552	5862 A 850 3G 1	30	5 mi	5 mi
1115	33.87676	-84.36552	5862 B 850 3G 1	150	5 mi	5 mi
1116	33.87676	-84.36552	5862 C 850 3G 1	270	5 mi	5 mi



Network OK during rush hour but...

Cell ID	Observation Period	Call Cnt	Total Min	Min Capacity	Access %
1111	2011-07-01 8:30:00am - 8:45:00am	4	30	35	5%

...Analysis of all calls within 1000' radius show abnormally high RIF rate

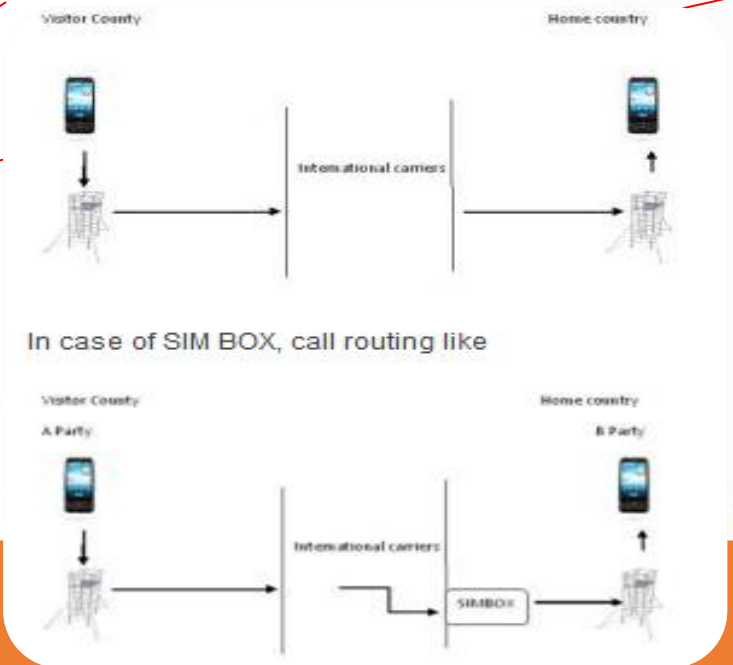
Date	Lat	Lng	Radius	Total Calls	RIF	RIF %
2011-07-01	33.887126	-84.365103	1,000 ft	11,892	1,342	11.29%

ACTION:

1. Dispatch Engineer to this location to check for physical blockage, antennae tilt, hand-off, reducing research area from 67M m² to 100m²
2. Determine if cell 1114 with 850mhz is better for this metro area
3. Send Text Msg to High Value Subscriber apologizing

RESULT: Symptoms can be found on a daily basis

Simbox 欺骗

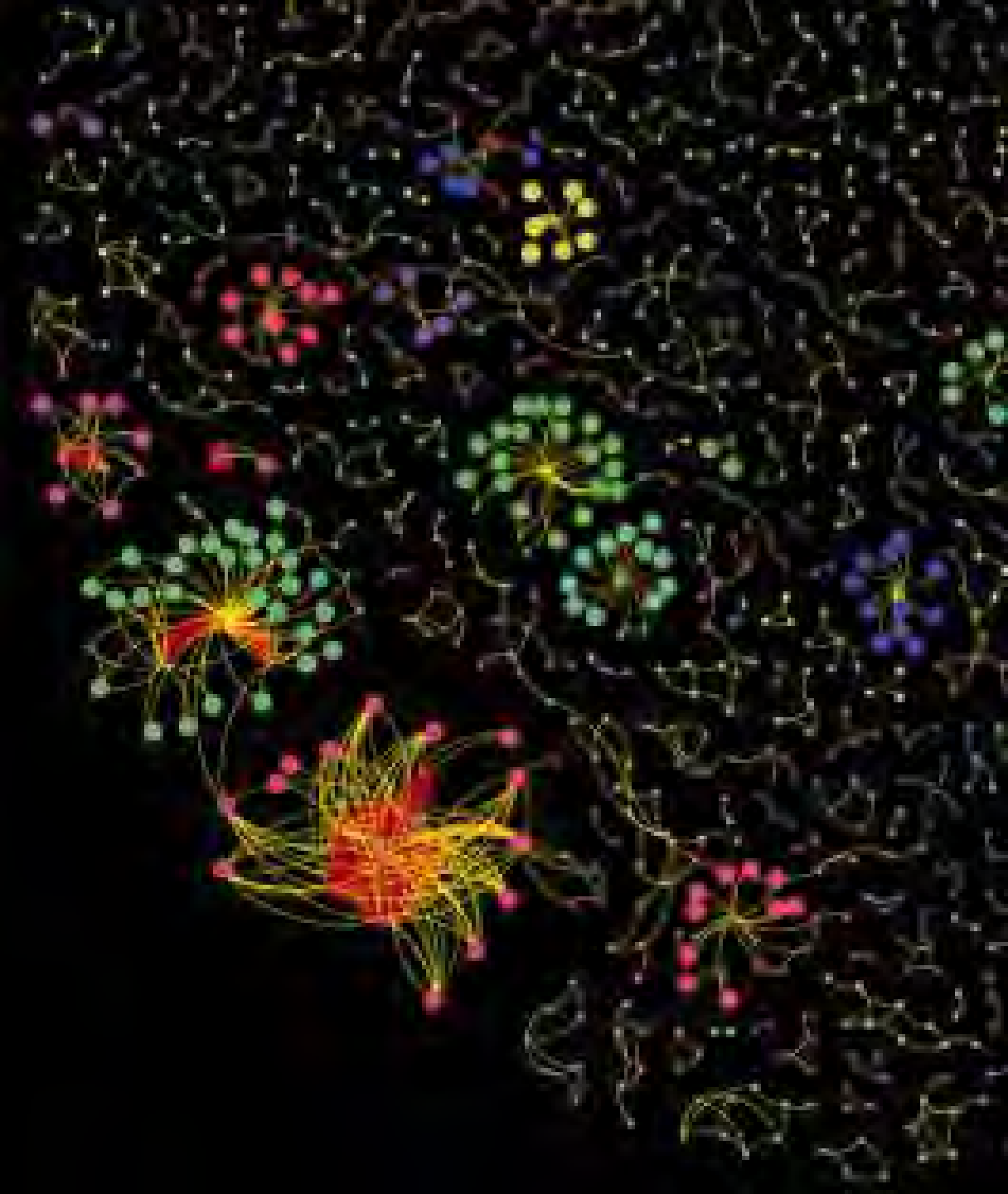


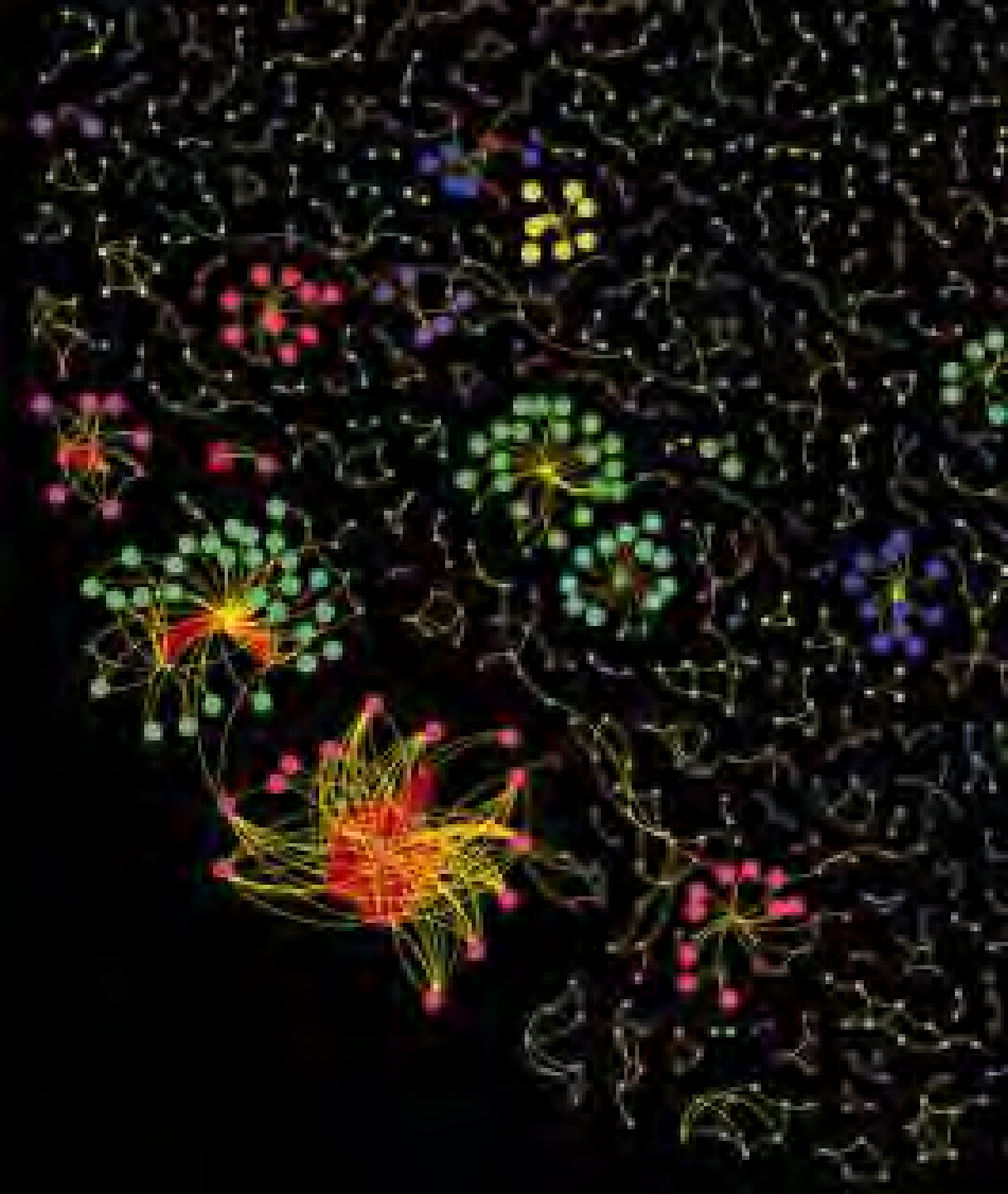
- Degrees function allows analysis with very few lines of code
- IMSIs of interest rapidly and easily identified from CDR data

什么的速度?

- Reaction Speed

- Speed to Learn

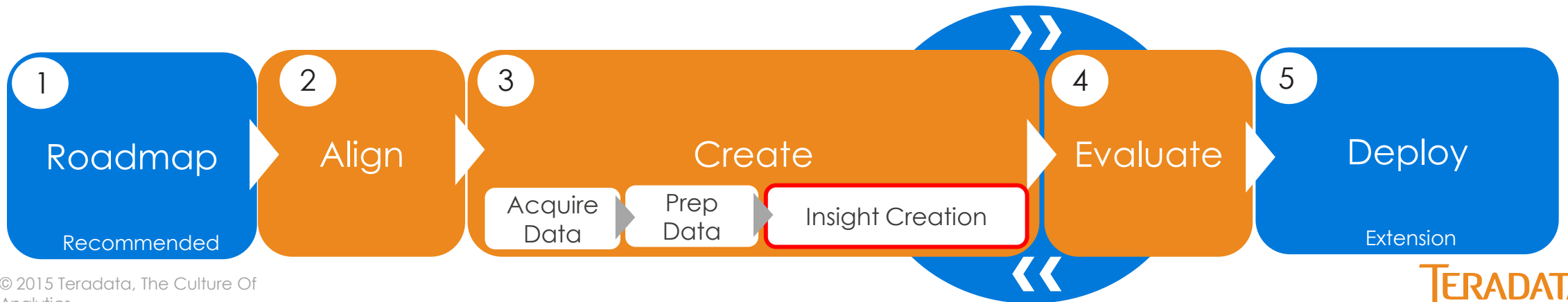
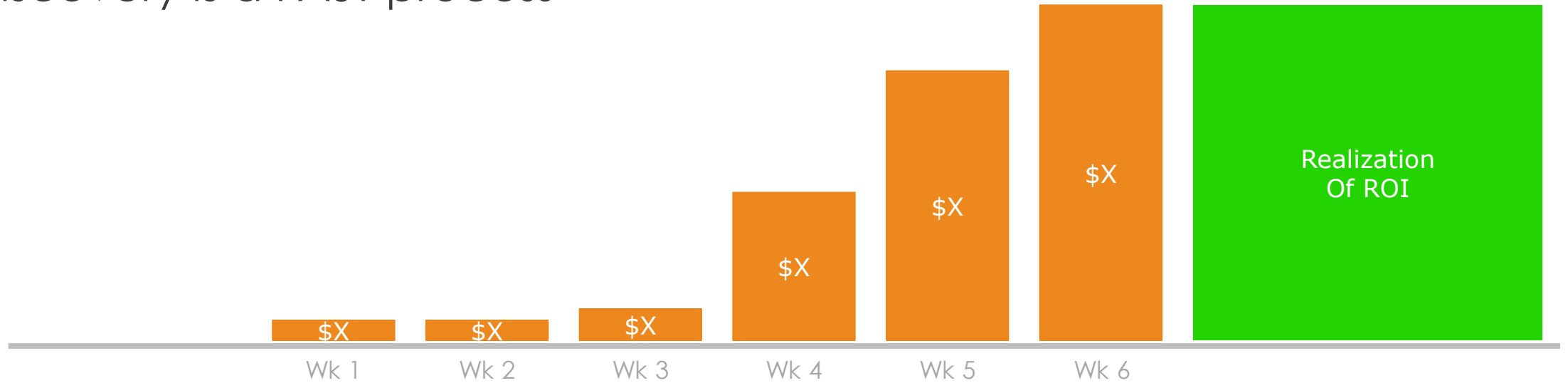




那么我们需要什么来做这个？为什么？

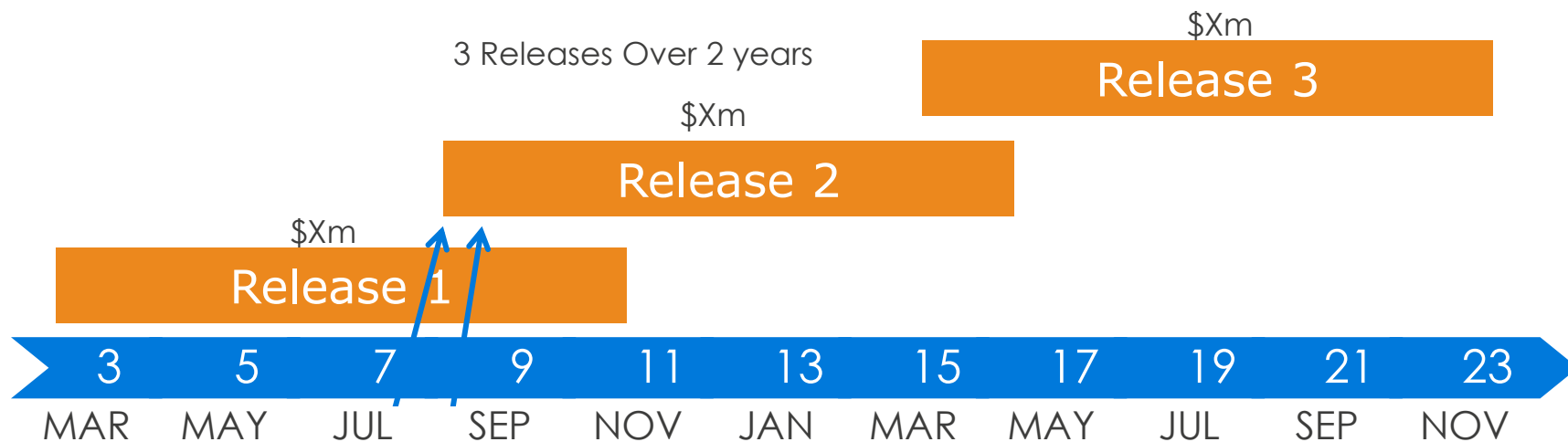
分析和数据的价值分解

Discovery is a FAST process

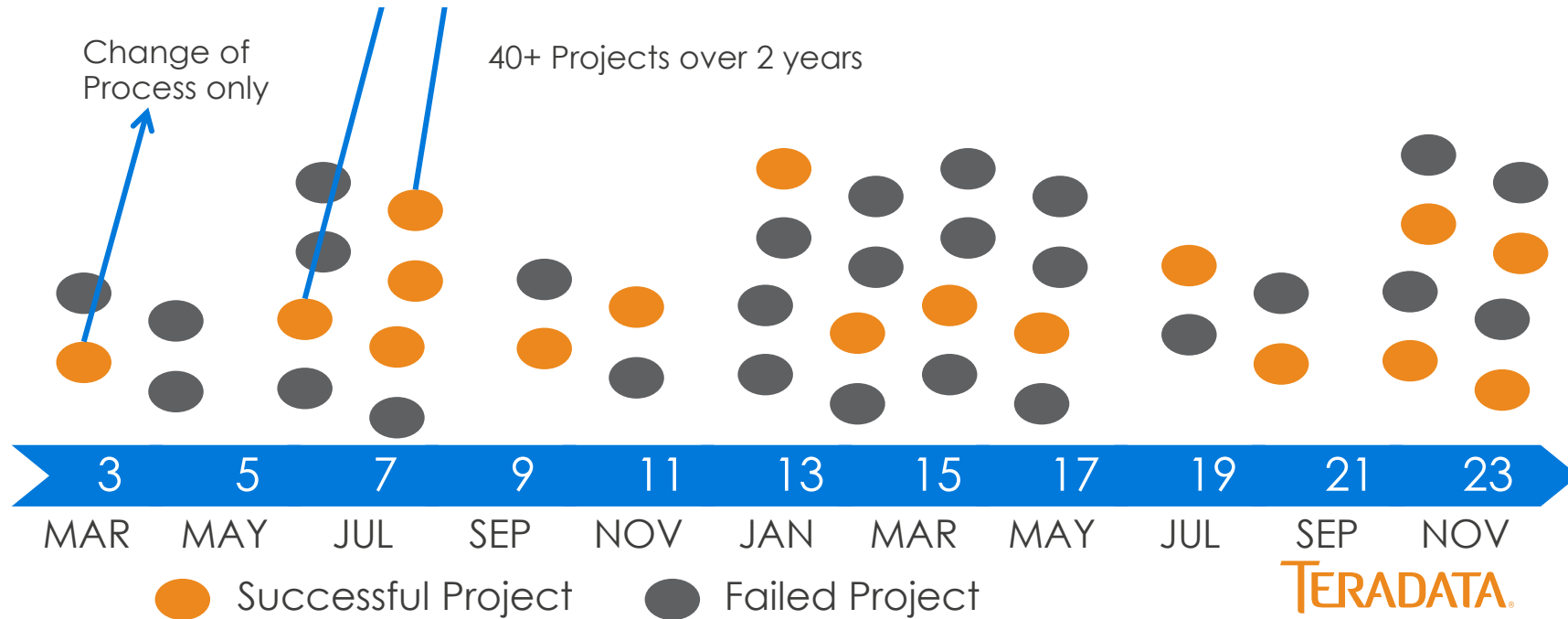


传统的分析模式vs. 大数据探索

Traditional

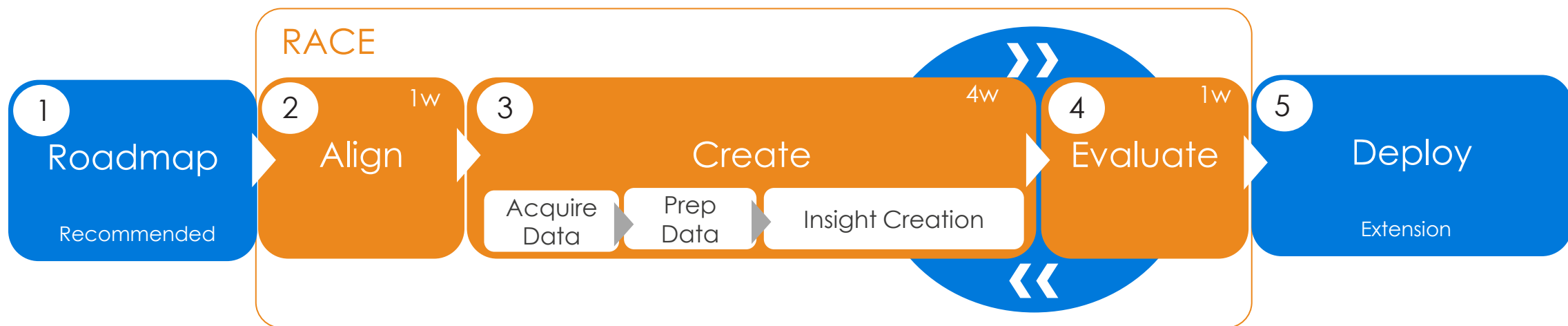


Discovery



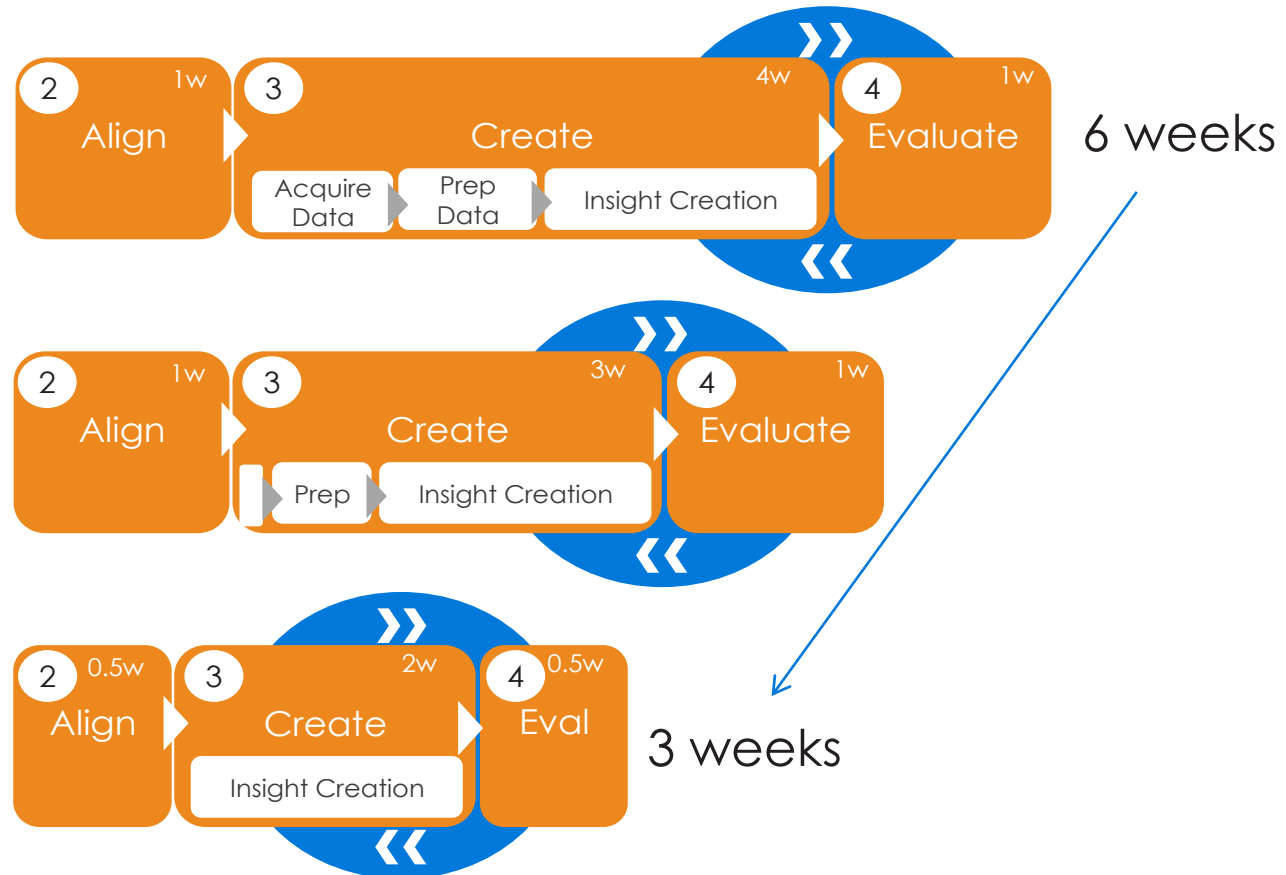
速度是一切: 赛跑

快速的分析咨询参与程序



利用数据再利用和培训实现赛跑 时间 改善

How to halve your RACE time

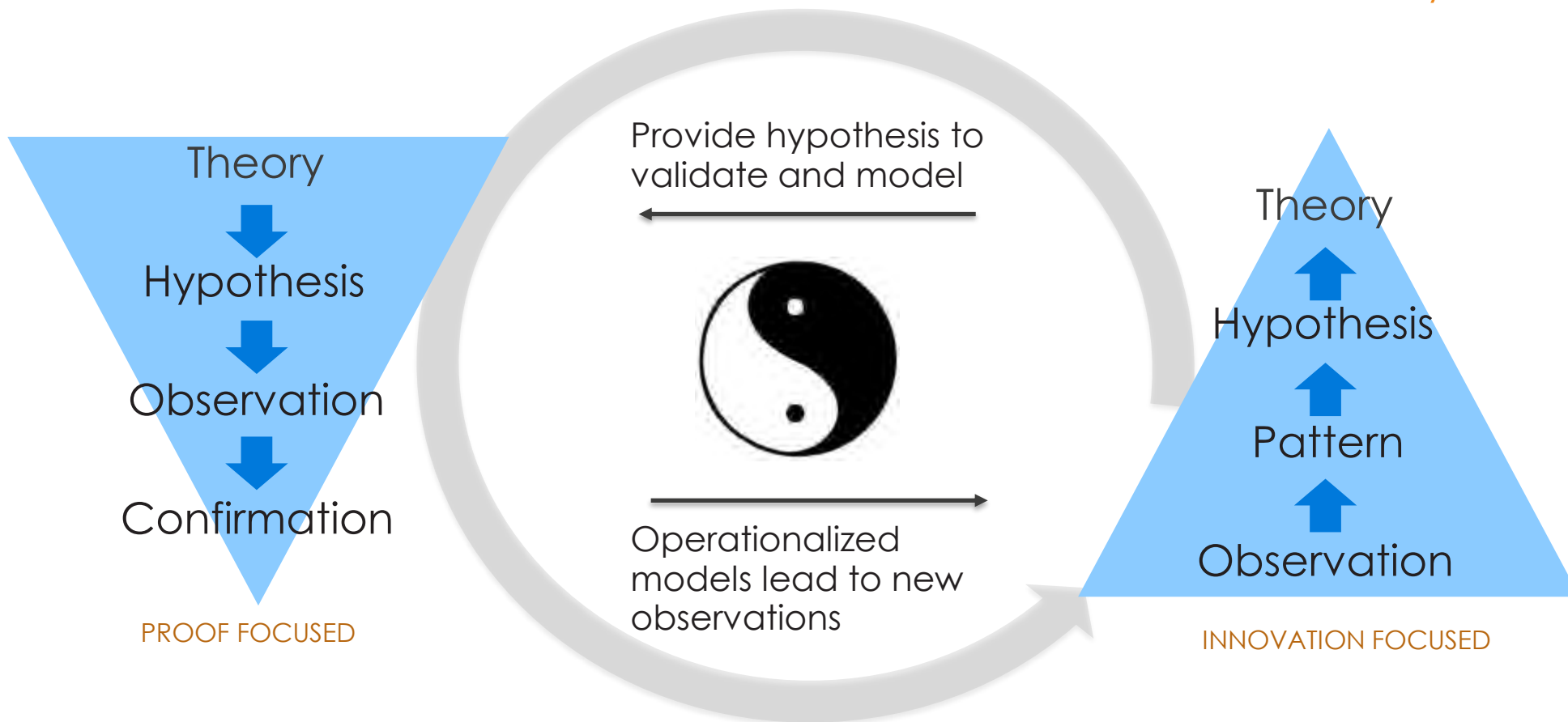


探索驱动方法需要灵活和速度

Discovery Driven analytics are a complimentary capability to Model Driven analytics

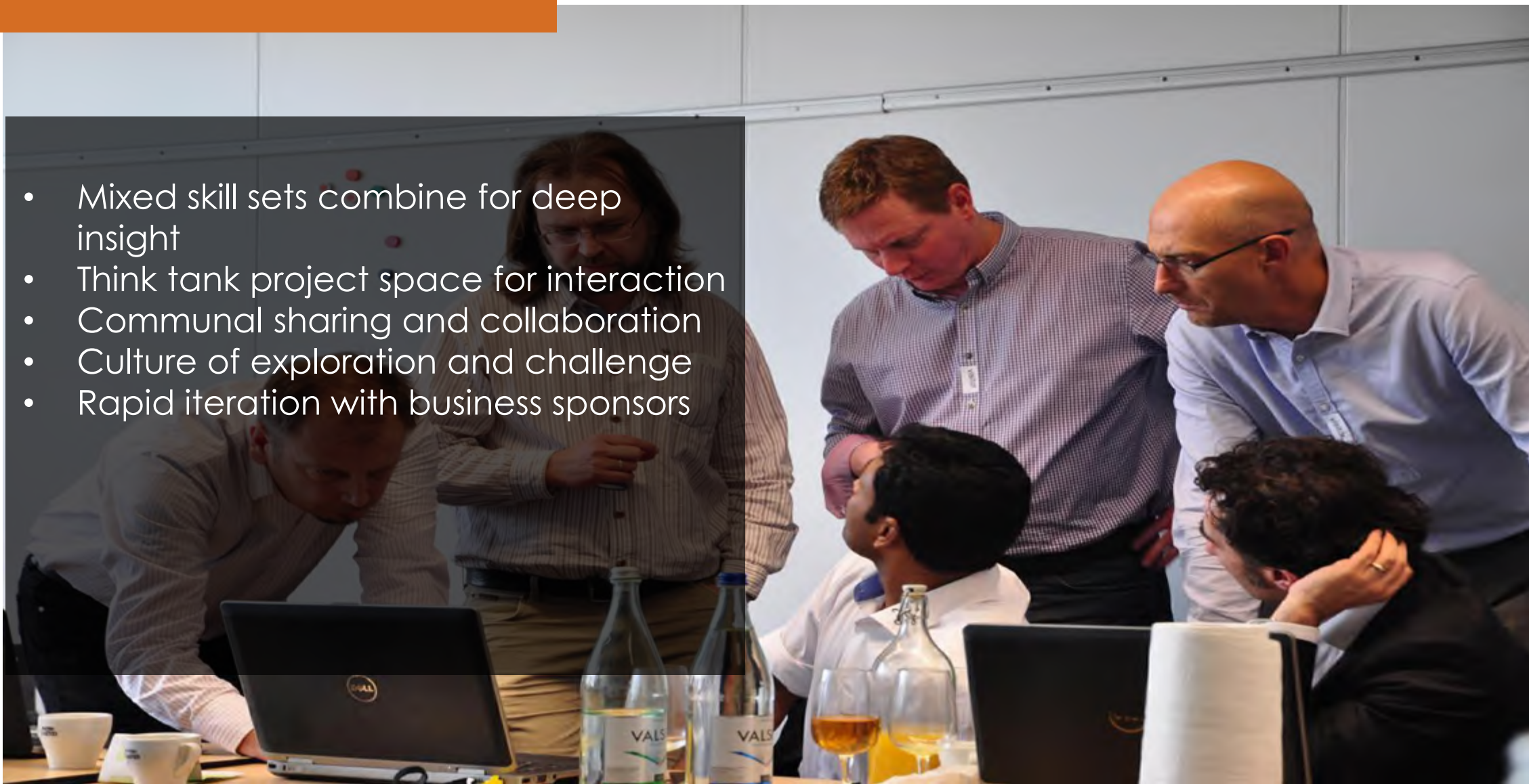
Model-Driven

Discovery-Driven



有洞察力的分离

- Mixed skill sets combine for deep insight
- Think tank project space for interaction
- Communal sharing and collaboration
- Culture of exploration and challenge
- Rapid iteration with business sponsors



在探索团队的有洞察力的分离

Virtual teams or “Pods”

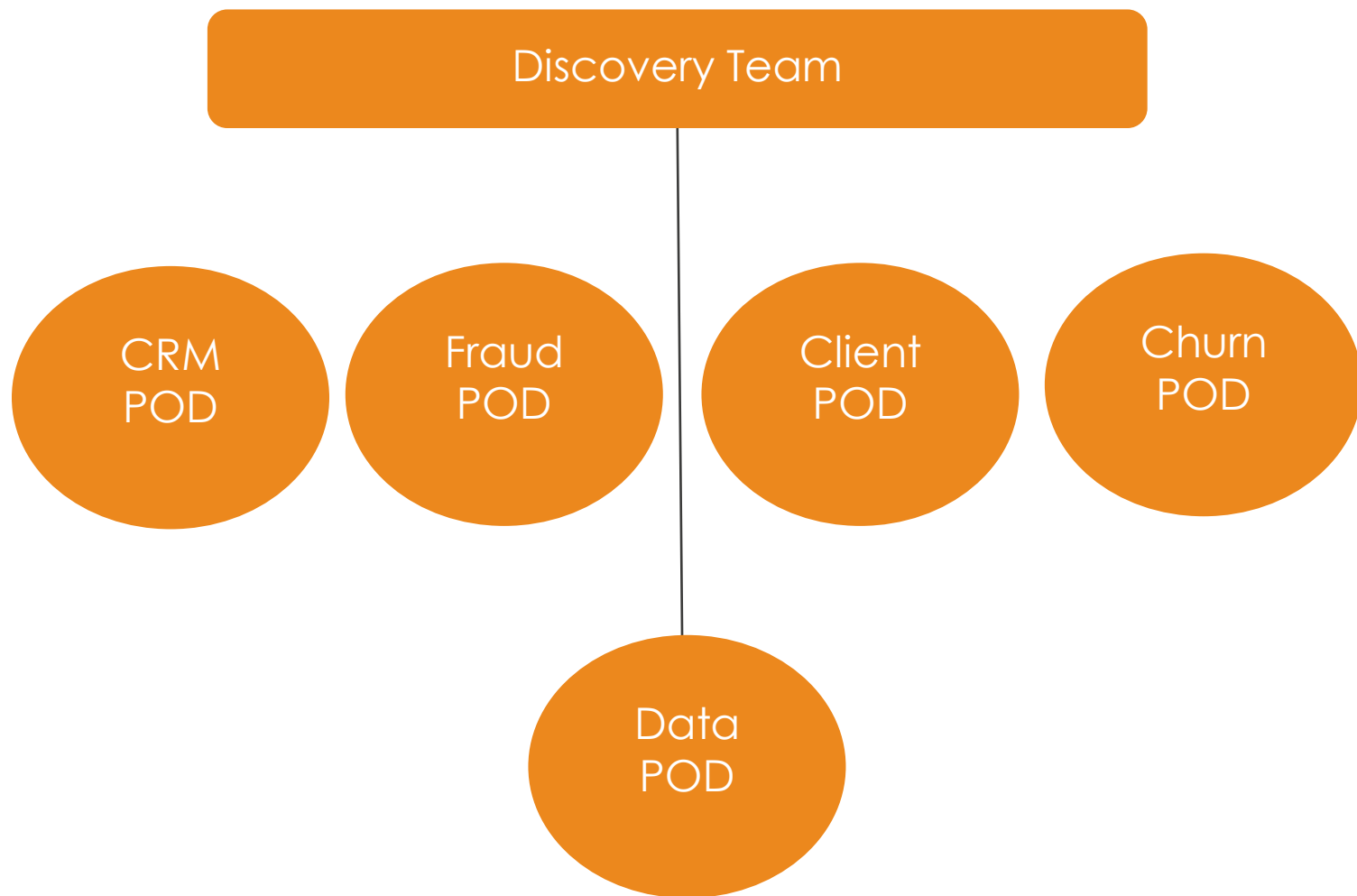
- 3 or 4 people for 6 weeks

Insight PODs

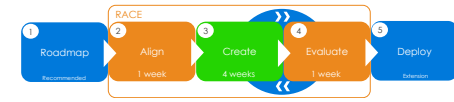
- Data Scientist (TD)
- Business Consultant (TD)
- Subject Matter Expert (Client)
- Analyst (Client)

Data POD

- Data SME (Client)
- Source Expert (Client)
- Data Engineer/Developer (TD)
- DBA (TD/Client)



example only for illustration



速度的关键:一起工作

Eyeballs Count

- Analytic insights improve “eyeballs” or people increase
- Outside perspectives* can add intuitive leaps in thinking



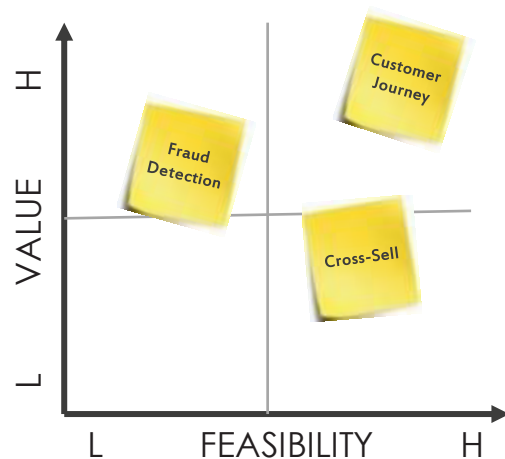
(*) Could include using 2 hour virtual workshop to boost insights using the TD Virtual Global Expert Team

为成功做准备

IDENTIFY USE CASES



PRIORITISATION



DATA SCOPE & DEFINITION

USE CASES	DATA SOURCES	
	Data Source 1	Data Source 2
Use Case 1	✓/x	
Use Case 2		
...		

CRITICAL SUCCESS FACTORS



WHO IS INVOLVED FROM THE CUSTOMER?



Analysts/
Data Scientists



Business Subject
Matter Experts



IT/ Architecture



Data Owners

对于 敏捷和成功的用能力者

BUSINESS CHALLENGE

Marketing	Abandon online purchase	Sales process improvement	Marketing attribution	Path to churn
Customer Experience	Predict complaint	People like me	Customer sol/NPS	Process problem root cause analysis
Fraud	Path to fraud	fraud networks	Anti money laundering	Online fraud
Credit Risk	Collection analytics	Connection risk	Pre default risk	Real estate pricing
Operations	Business process improvement	Process automation	Root Cause Analysis of issues	etc

ALL TYPES OF DATA



ADVANCED ANALYTICS



使用案例:

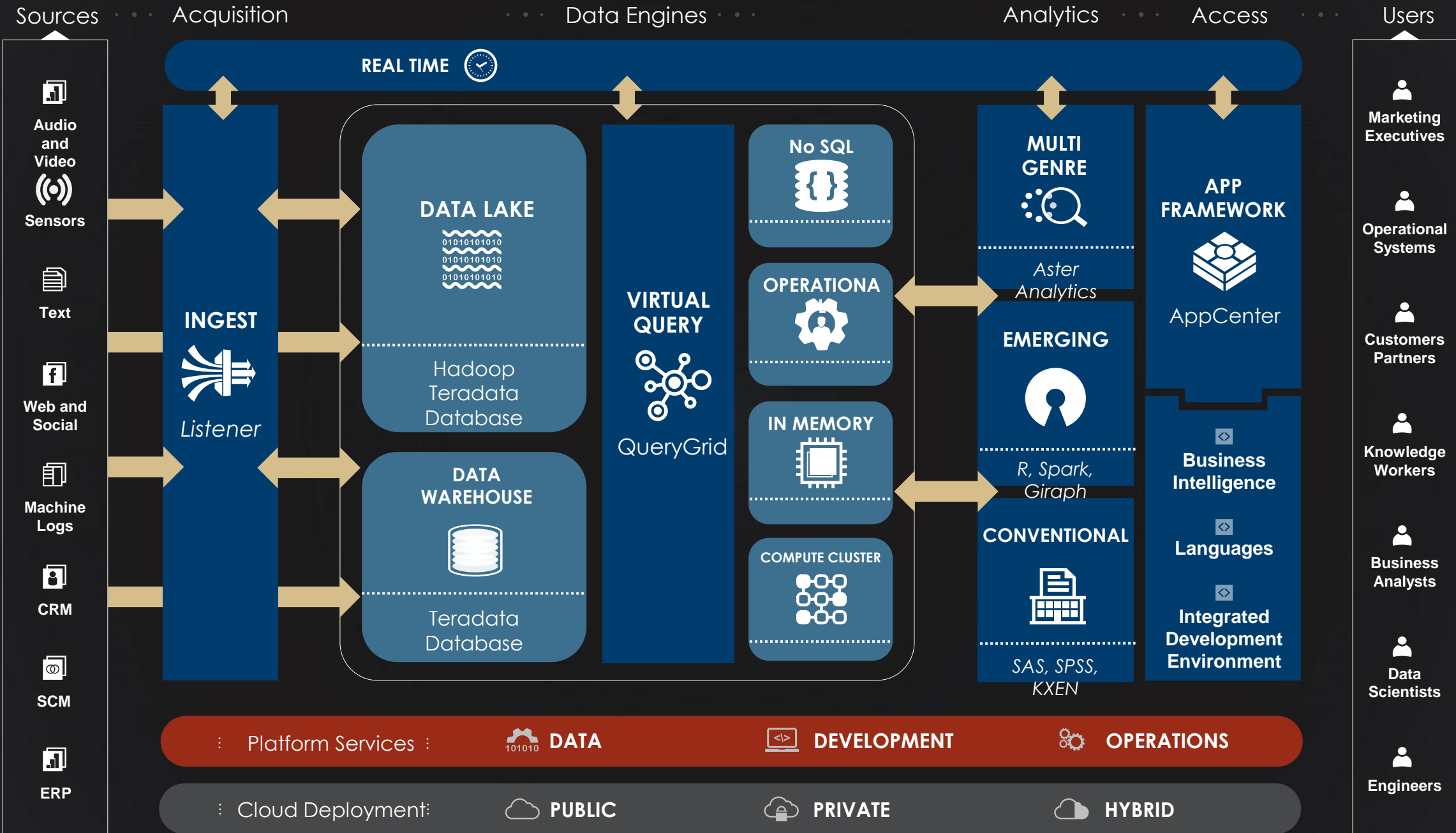
高级的分析价值框架 49 CASES

Marketing & Sales	Connections Analytics	Pricing Optimisation	Customer Satisfaction Through using network & device data & all CRM data	B2B Corporate Offer Management
Customer Experience Management	Customer Behavior Analysis (voice, sms, data, mobility)	Sentiment analysis text in social media, call center and CRM data	CEM Indexing	Service Efficiency operational failures impact satisfaction and Churn
	Enhanced Customer Profiling Enrichment using network, devices, social media analysis	Customer Journey leading to Churn churn reason sequence	Next Best Action Customer behavior	Customer Service Empowerment Bring the information to the front-line
Network Intelligence	Customer Network Experience Quantify & understand the quality of customer experience when using the network & its services	Network Management & Performance Analysis of network & service utilisation, performance etc	Customer Services & Ops RT or NRT monitoring of customer experience for internal & external stakeholders	Network Ops & Maintenance Monitoring & analysis of network availability for enhanced O&M capabilities
Digital Telco & Data Monetization	Location Data B2B Business where location based behavior/segmentation is sold	Mobility Targeted advertising based upon subscriber mobility & behaviors	Segment Direct data monetization based on segmentation	Target Combining segmentation, location and behavior for better targeted actions
Operational Intelligence & Data Driven Finance	Real time Personalization Dynamic online targeting for recommendations & personalization	Golden Path Analysis Optimize web/self service portals & customer interactions	Fraud Usage, behavior and Customer data to detect internal/external Fraud and linkages	Risk Management Identify customers at risk of payment default

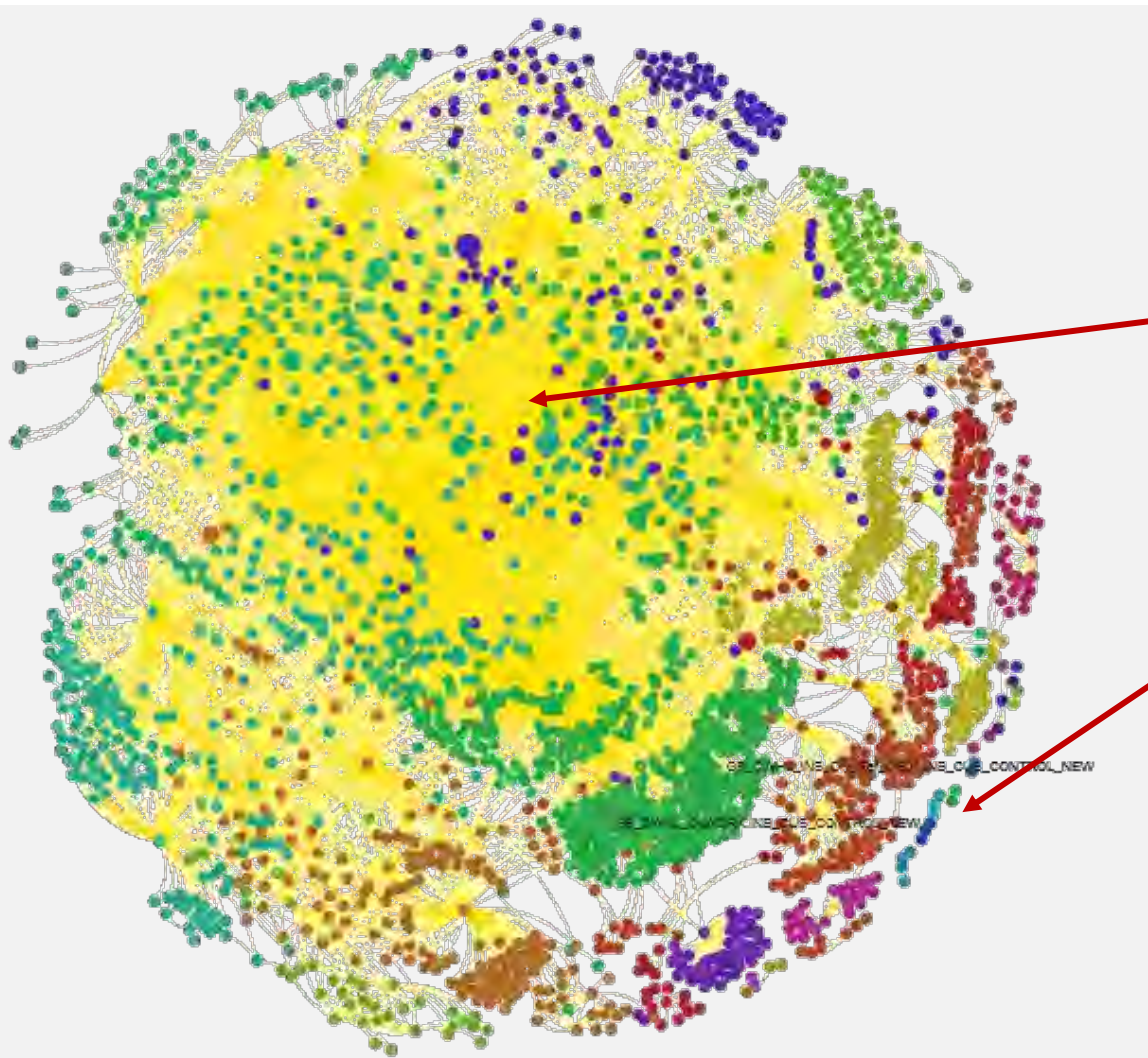
用正确的工具和生态系统解除数据

- Single view and integration of transactions and events
- Easy inspection and analysis of new data sources
- Simple logic to tie precise transactional information of a customer with behavioural patterns
- History as needed to allow for a “Time Machine”





分析以平衡分析生态系统



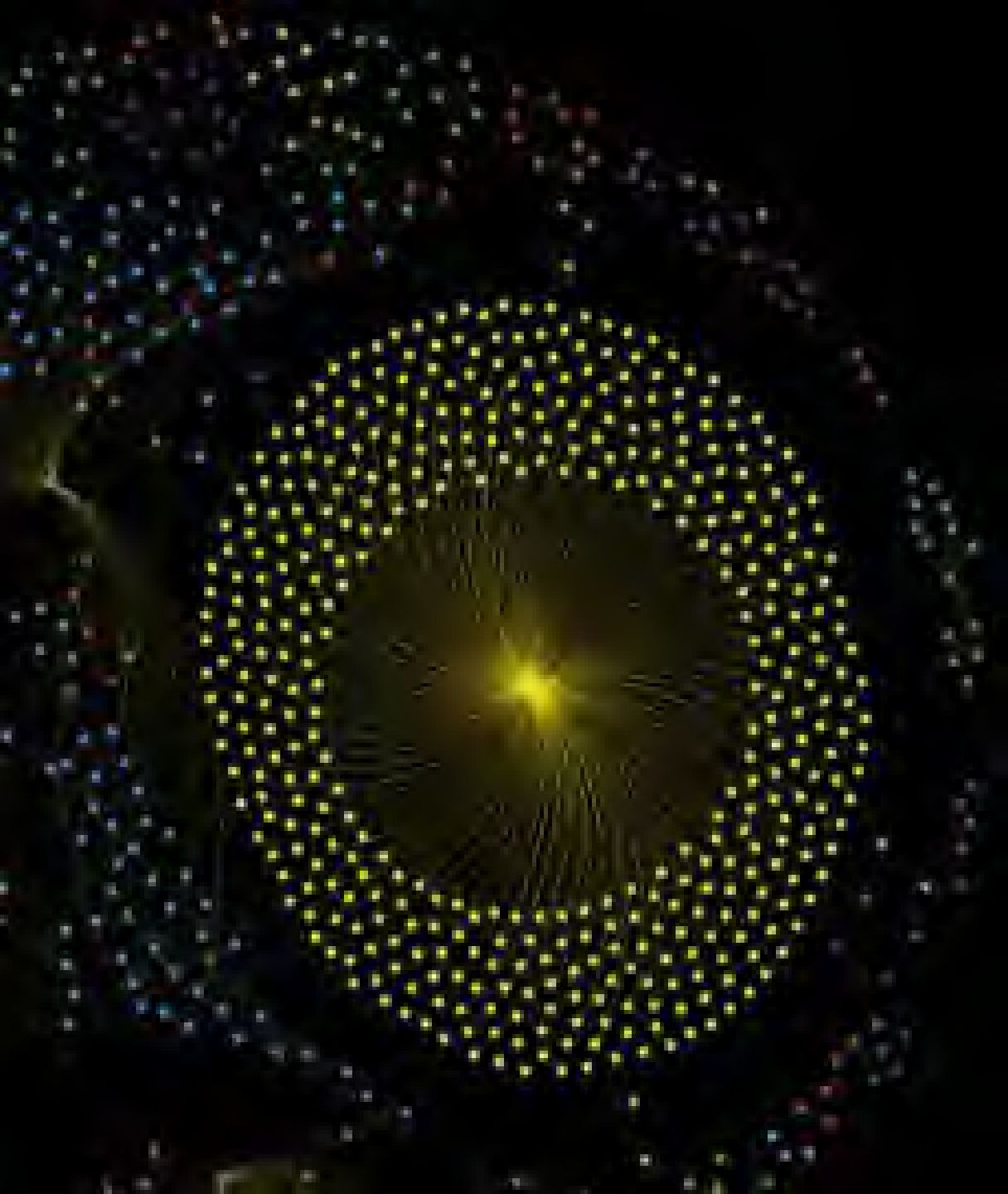
Graph analytics performed on database queries results in an interactive map of the warehouse highlighting dataset usage.

Datasets integral to the Enterprise Data Warehouse.

Isolated datasets with simpler workload.



RESULT: Allows a permanent rationalisation of the use of the analytical platform

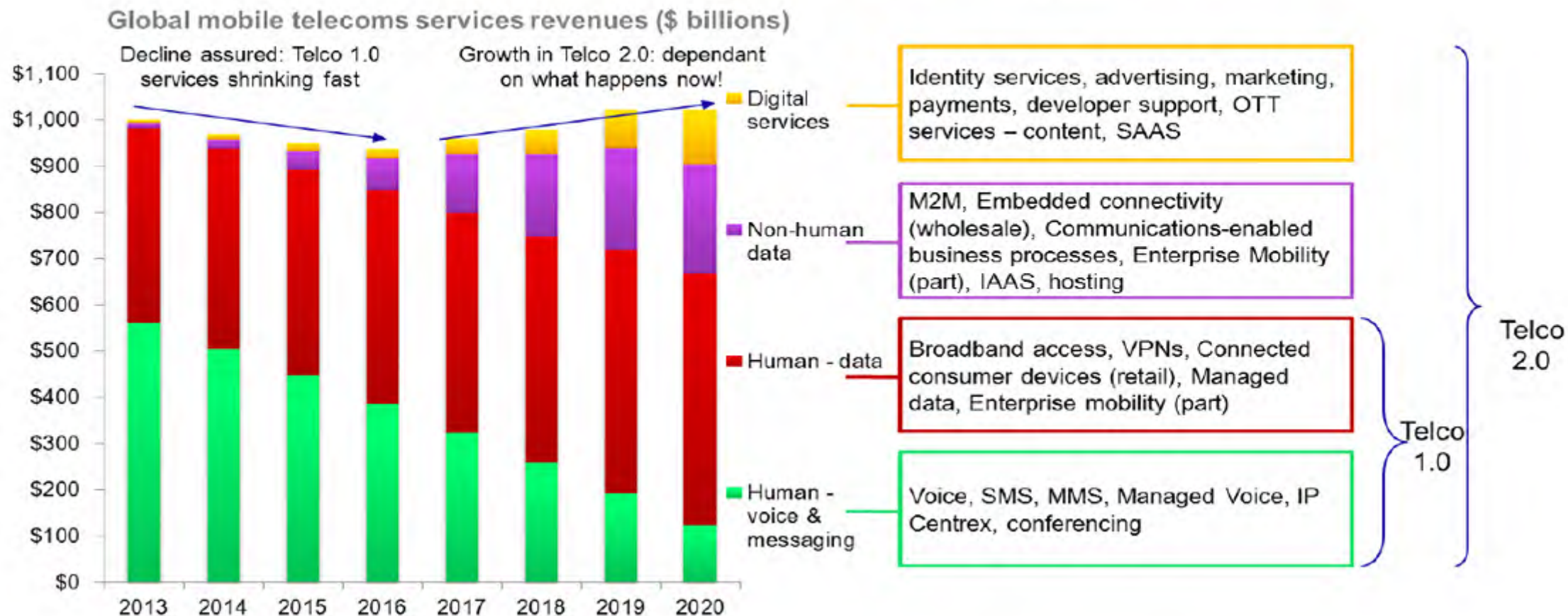


日程

- Analytics everywhere
- Everything has its own time
- The Value of the Speed of Analytics
- Analytics and Agility
- Examples
- Hot Data Monetization Practice in the Chinese market

挑战：从电信1.0 to 电信2.0, CSP信息服务

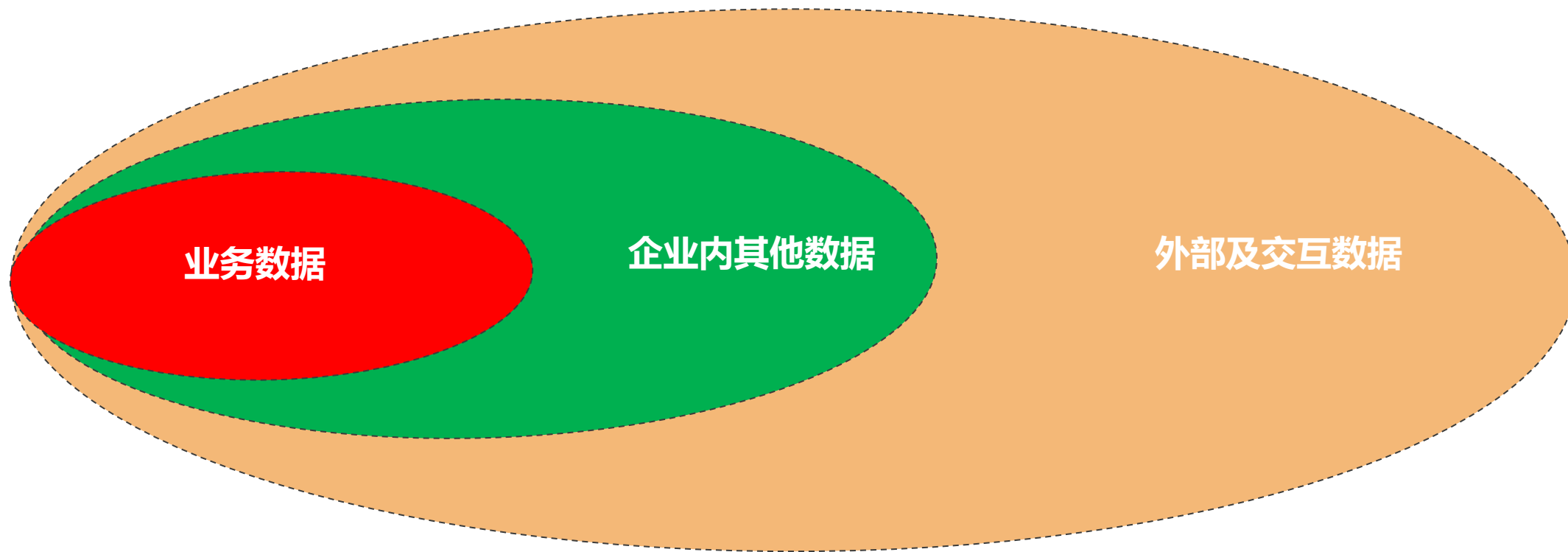
Figure 2: Near-term global telecoms decline is assured; longer-term growth is dependent on management actions now



Source: STL Partners - *Telco 1.0: Death Slide Starts in Europe*

信息运营创新

- 内部和外部数据整合

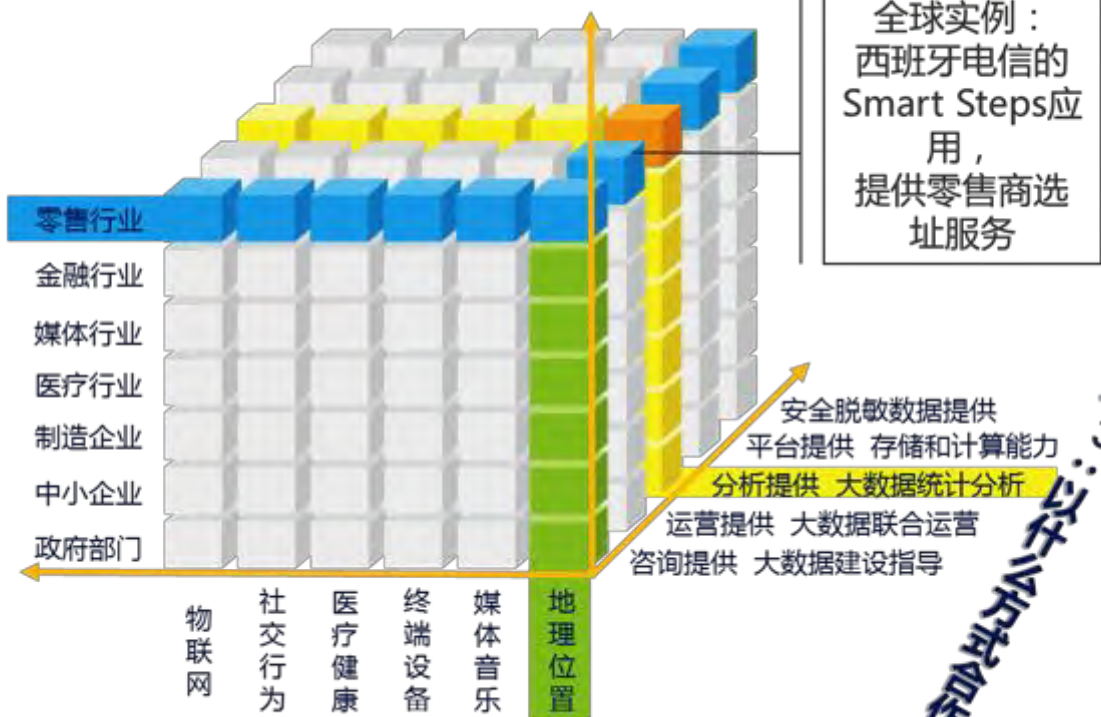


整合大数据价值，创新数据盈利模式，实现信息运营

数据变现: 从数据产品到数据商品

全行业跨界大数据商品货币化的思考矩阵

要素2: 哪些行业场景有数据的需求



要素1: 组织拥有什么样的数据资产

要素3: 交互与变现



- 核心资源
- 价值和实用价值
- 关键业务及市场优势
- 客户定位
- 市场宣传推广
- 合作伙伴
- 成本结构
- 收入来源

数据资产
Data Asset

钢铁是怎样炼成的?

数据产品

商业模式和价值链的建

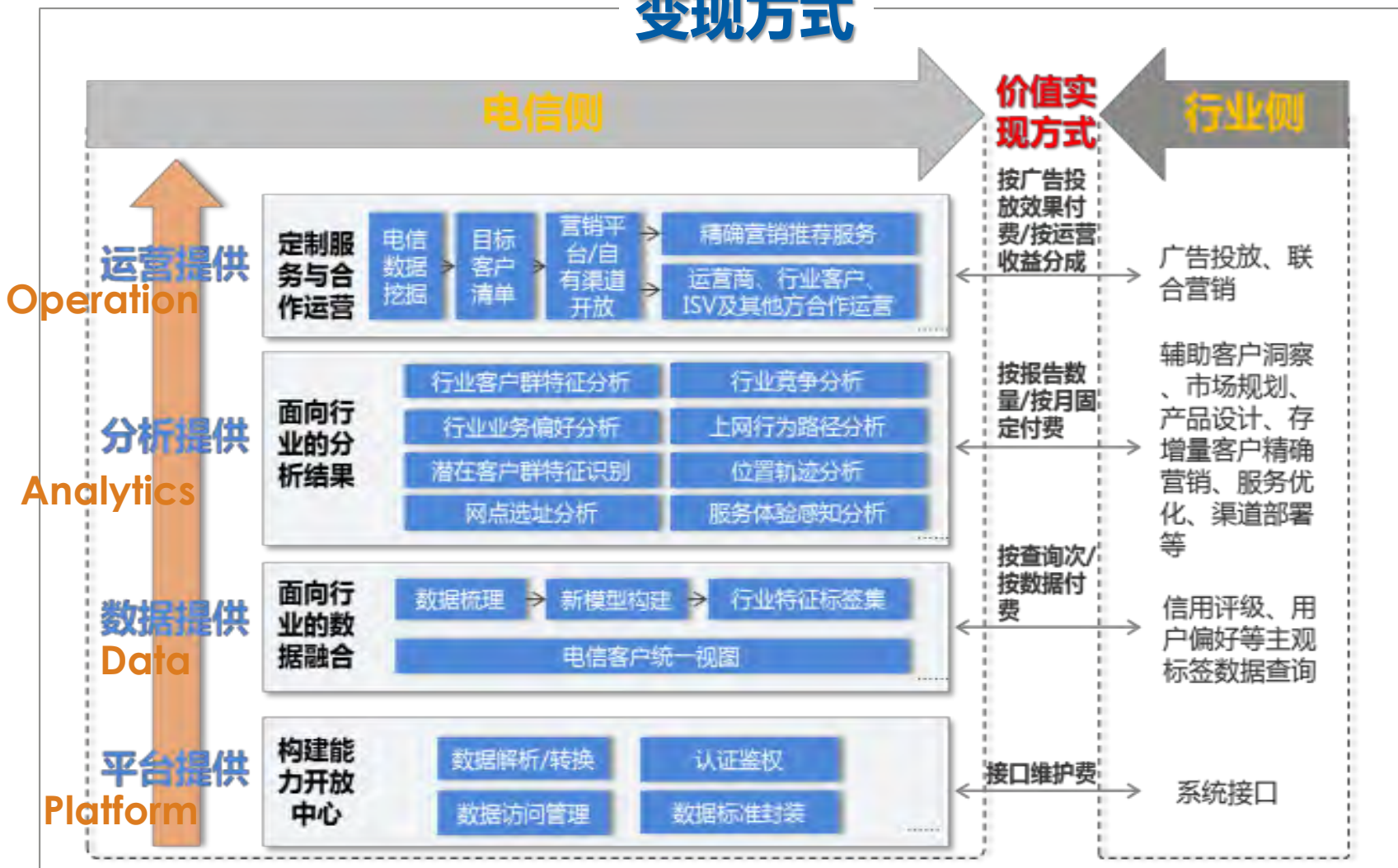
数据商品

Data Product

Data Merchandise

Teradata电信大数据 货币变现框架

变现方式



能力要求

- 市场影响能力
- 业务运营能力
- 商业定价能力
- 产品开发能力
- 数据融合能力
- 系统支撑能力

Teradata 电信大数据 货币变现解决方案概述

横向—— 行业应用 Horizontal Solutions



商业应用

- 辅助选址
- 智能引流
- 精准营销
-



公共安全

- 反恐维稳
- 刑侦侦查
- 犯罪预测
-



农业应用

- 市场预测
- 精准营销
- 安全溯源
-



医疗应用

- 疾控分析
- 救助调度
- 设备规划
-



政府规划

- 城市规划
- 交通管理
- 设施建设
-



旅游服务

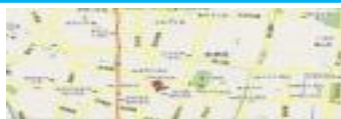
- 客流引导
- 景区运营
- 景区推广
-



金融应用

- 竞争分析
- 产品营销
- 信用分析
-

纵向—— 能力平台 Vertical Platform



位置数据平台

- 位置分析
- 轨迹分析
- 驻留分析
-



金融服务平台

- 信用卡盗刷分析
- 商户POS欺诈
- 信用分析
-



大数据运营中心

- 信息惠民
- 跨业共享
- 会员产品
- 专业应用



大数据服务中心

- 发布指数
- 发布热点事件“微报告”
- 行业定制分析服务
-

Teradata 电信 数据 变现实践

对外能力中心-平台提供 Platform (大数据产品的发布与运营系统)

市场宣传类

- 产品体验展示平台

能力深化类

- 位置洞察系统
- 个人信用评分辅助查询平台

行业方案类

- 金融征信辅助数据平台
- 面向航空的数据服务解决方案
- 旅游信息服务解决方案

整合运营类

- 大数据产品服务中心
- 智慧服务平台

跨行业数据应用-分析提供 Analytics (基于特定需求的信息惠民与行业产品)

公共报告类

- 银行卡客户分析
- 五一假期行为报告
- 楼盘销售潜在客户分析
- 网购、商圈、快递员系列分析报告
- 韶华易逝，春光莫负——赏花、踏春好去处分析

行业合作类

- 宁波银行业务合作
- 南博会位置分析
- 中国银行客户分析
- 联想终端分析
- 商圈用户位置归集分析
- 公安多维时空轨迹分析应用



呼吁

消除法律空白，规范行为准则，释放数据红利，构建信息文明！

Appealing:

Constitution of Legal, Code of Conducts and Specs leads to information civilization!



法律行规

行业规范

技术要求

谢谢!