



Big Data and Analytics for Banking

A Point of View



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**“...Digital Transformation
and its main enabling technical
factor **Big Data & Analytics** is
a **Banking Industry
Transformation engine...**”**

Banking Industry Transformation Pressures



Digital natives

Data

**Smart
Machines**

**New
Competitors**

New Products

Digital Transformation

(**Big Data** is part of it and a main enabling factor....)

Banking Industry Transformation Pressures

The age of new customers

- Demand new ways to interact
- Decide where and how buying process begins and ends on their terms
- Loyalty and stickiness is a function of convenience, gratification and value in every interaction
- Customers demanding a more immersive and engaging experiences

Digital natives

The age of new information

- > the new natural resource
- 80% unstructured requiring new ways to mine and draw insights

Data

The age of new channels

- Mobile is as the primary buying and paying platforms
- Smartphones, Smartwatches, Google Glass, SmartWearables, eWallets,

**Smart
Machines**

The age of new competition

- Alibaba, Facebook, Amazon, Twitter, PayPal, Motif, Monetise etc.
- Threat to deposit base, SME loans and payments

**New
Competitors**

The age of new products

- Growth of convenience driven Non-Banking Products
- Earning commissions from merchants for aggregating their products and services for the convenience of their customers

New Products

Threat to deposit base, SME loans and payments....



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From a transactional to a sub-transactional era



Just ONE Transaction path goes to the end in thousands and to complete that path tens of decision points were considered. Right now we store and analyze in our transactional systems just the transaction end points.

Buying Decision Labyrinth



The age of new competition: the power of a sub-transactional knowledge



Dear

Thank you for registering for a loan with Amazon Lending. Use these funds to grow your business on Amazon. Here are your loan details:

| | | | |
|--------------------------|-------------|-----------------------------|--------------------|
| Loan Amount | \$19,000.00 | Loan Term | 6 months |
| Total Interest | \$721.28 | Annual Interest Rate | 12.90% |
| Total of Payments | \$19,721.28 | Origination Date | March 25, 2014 |
| Monthly Payment | \$3,286.88 | Maturity Date | September 25, 2014 |

Where are my funds?

- Your loan was funded into your Amazon Seller Account, and a disbursement to your bank account has been initiated
- The loan funds and any other available balance should reach your bank in a few days

When are my payments due?

- Your monthly loan payment will be automatically deducted from the first Seller Account disbursement after the 25th of each month
- Additional payments can be made with no pre-payment penalty on the [Amazon Lending](#) page of Seller Central

What if I have other questions?

It's an invitation-only loan product offered exclusively to Amazon Sellers. The Amazon loans offer very competitive 10.9 - 12.9% interest rates and no pre-payment penalty.

The age of new competition: Alibaba

THE WALL STREET JOURNAL. ≡ MARKETS

Alibaba Affiliate Wins Approval to Start Private Bank

Alipay Parent Company Wins China Regulatory Approval

Sept. 29, 2014 1:56 a.m. ET

BEIJING— [Alibaba Group Holding Ltd.](#) BABA -1.89%'s financial affiliate won approval from Chinese authorities to establish a privately owned bank, regulators said Monday, as the e-commerce giant moves further into financial services.

The China Banking Regulatory Commission said it gave approval to start a bank financial affiliate of Alibaba Group that also is the parent company of Alipay, which processes e-commerce payments and is crucial to Alibaba's operations. The bank would be headquartered in Hangzhou, the eastern Chinese city where Alibaba is based, and the Alibaba affiliate will own a 30% stake. The CBRC said Shanghai e-commerce Technology (Group) Co. will hold a 25% stake in the bank. The bank will have several private investors.



Alibaba Arm to Create \$163 Billion Loans Marketplace

Sep 24, 2014

Alibaba Group Holding Ltd. (BABA)'s finance arm aims to create a marketplace for 1 trillion **yuan** (\$163 billion) of loans in as soon as two years as the e-commerce group encourages more Chinese to borrow and lend.

Alibaba in April started **Zhao Cai Bao**, a platform that lets small businesses and individuals borrow from investors directly, and has created a 14 billion yuan marketplace, Yuan Leiming, a general manager at Alibaba's financial arm, said yesterday.

Source: <http://online.wsj.com/articles/alibaba-affiliate-wins-approval-to-start-private-bank-1411970203>

Source: <http://www.bloomberg.com/news/2014-09-23/alibaba-arm-aims-to-create-163-billion-loans-marketplace.html>



Jeremiah Owyang @jowyang · 13m

Marriott CIO acknowledged Airbnb as a new competitor. Cc @CrowdCompanies

Priceline Group
targeting all stages of customer journey

- priceline.com
- Booking.com
- agoda.com
- KAYAK
- OpenTable
- hotel ninjas
- uteeq

Expedia Group
targeting all stages of customer journey

- Expedia
- Hotels.com
- Hotwire
- trivago
- CarRentals.com
- Expedia CruiseCritic
- Autoescape
- Local Expert
- travelocity
- Save My Scratchpad
- Expedia Rewards

Marriott

Orbitz group
targeting primarily pre-trip stages

- ORBITZ
- trip
- ebookers
- CheapTickets
- ratestap
- HotelClub

Other players

- airbnb
- [Unlabeled logo]



The Experience Economy and the Data Economy.....

Consumers are open to share their **personal information**, with the exception of financial data, when there is perceived benefit..... and **YOU can**

Sell Your Personal Data for \$8 a Month

Would you let a startup track your social media accounts and credit-card transactions in exchange for cash?

By Tom Simonite on February 12, 2014

Digital natives

Data

Smart Machines

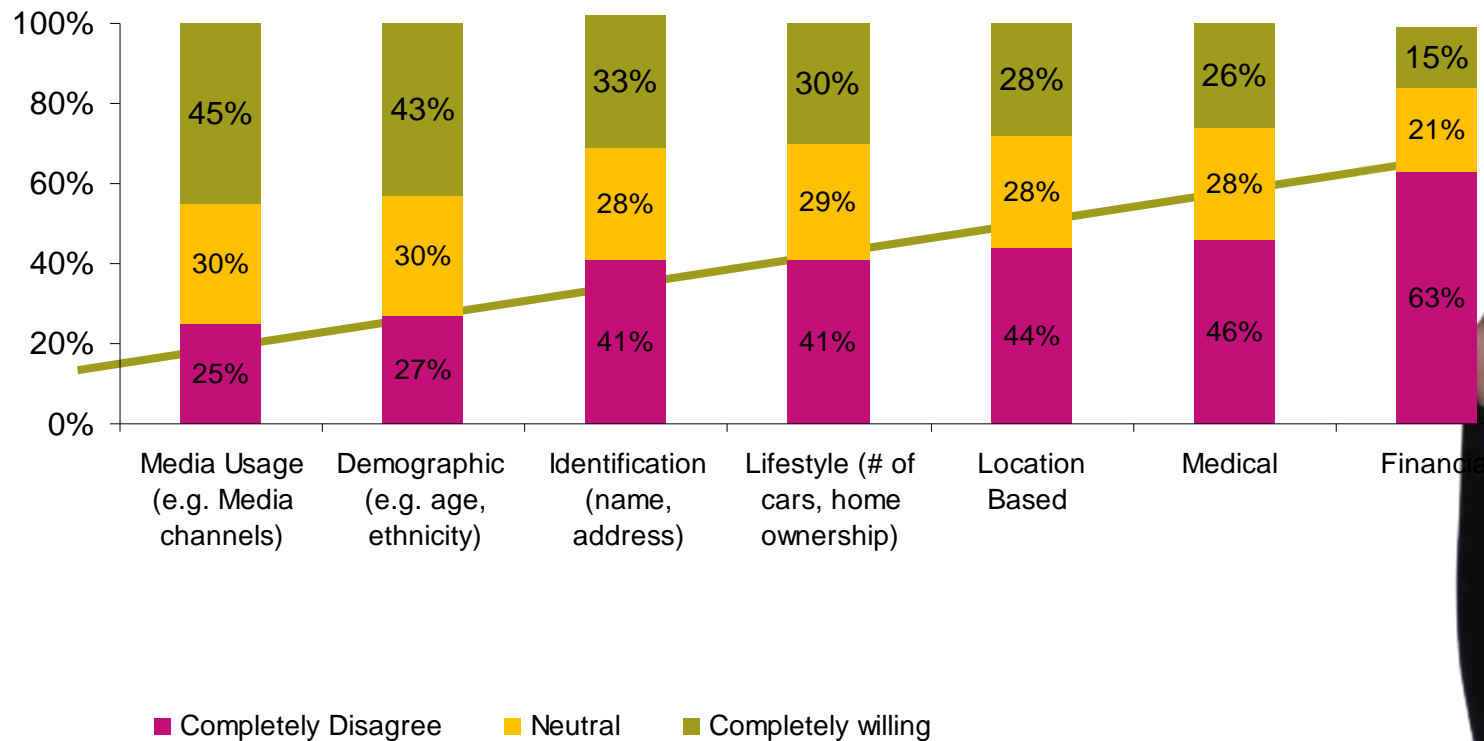
New Competitors

New Products

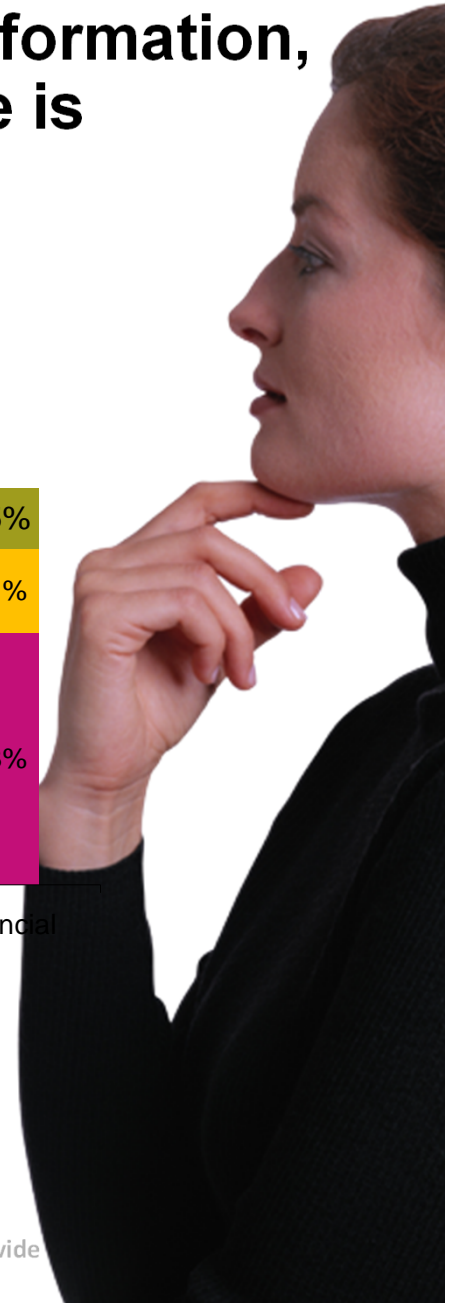
Consumers are open to share their personal information, with the exception of financial data, when there is perceived benefit

Consumer Maintains Control of Data

What is your willingness to provide information in exchange for something relevant to you (non-monetary)?



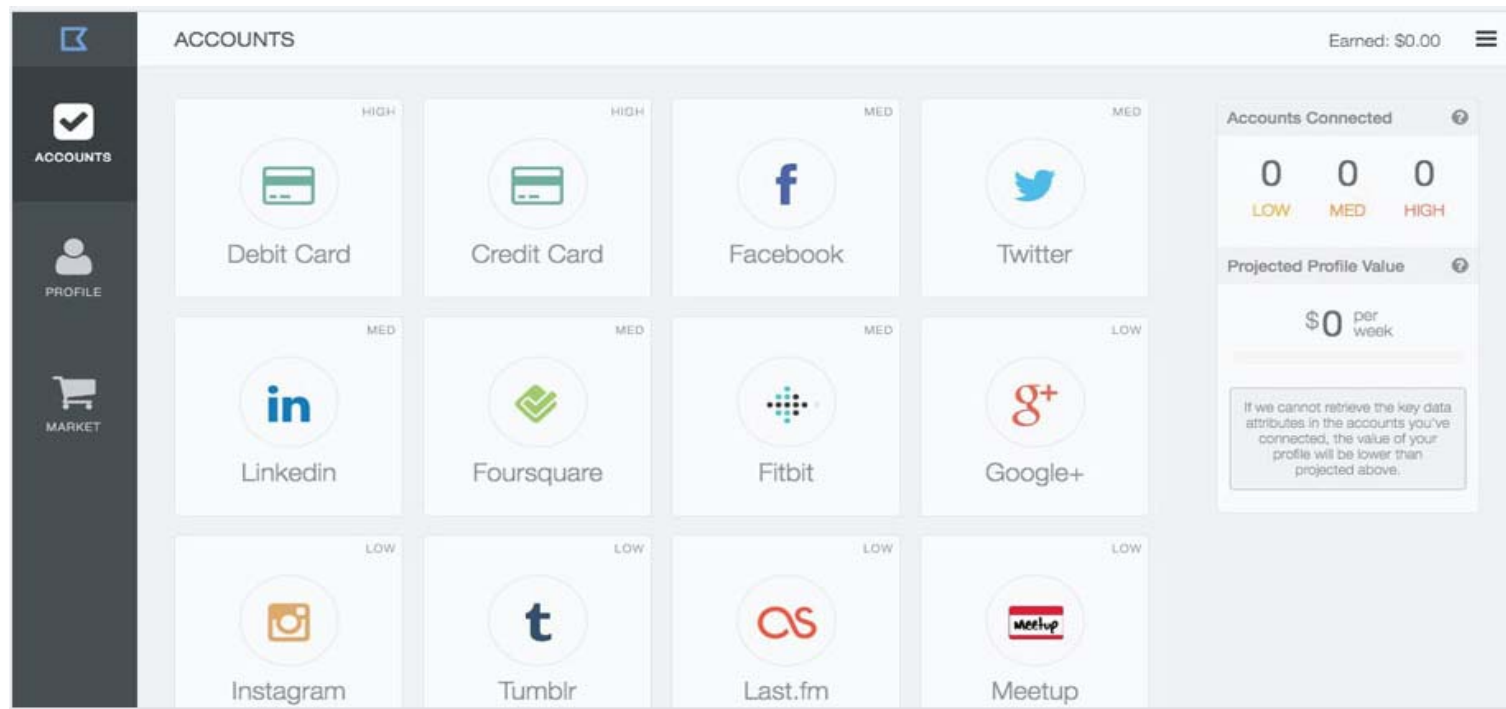
Source: IBV Retail 2012 Winning Over the Empowered Consumer Study n= 28527 (global) P04: What is your willingness to provide information for each of the following items if [pipe primary retailer] provided something relevant to you in exchange?



Sell Your Personal Data for \$8 a Month

Would you let a startup track your social media accounts and credit-card transactions in exchange for cash?

By Tom Simonite on February 12, 2014



Source; <https://datacoup.com/docs#how-it-works>

NEW channels and NEW kind of assistance....

Digital natives

Data

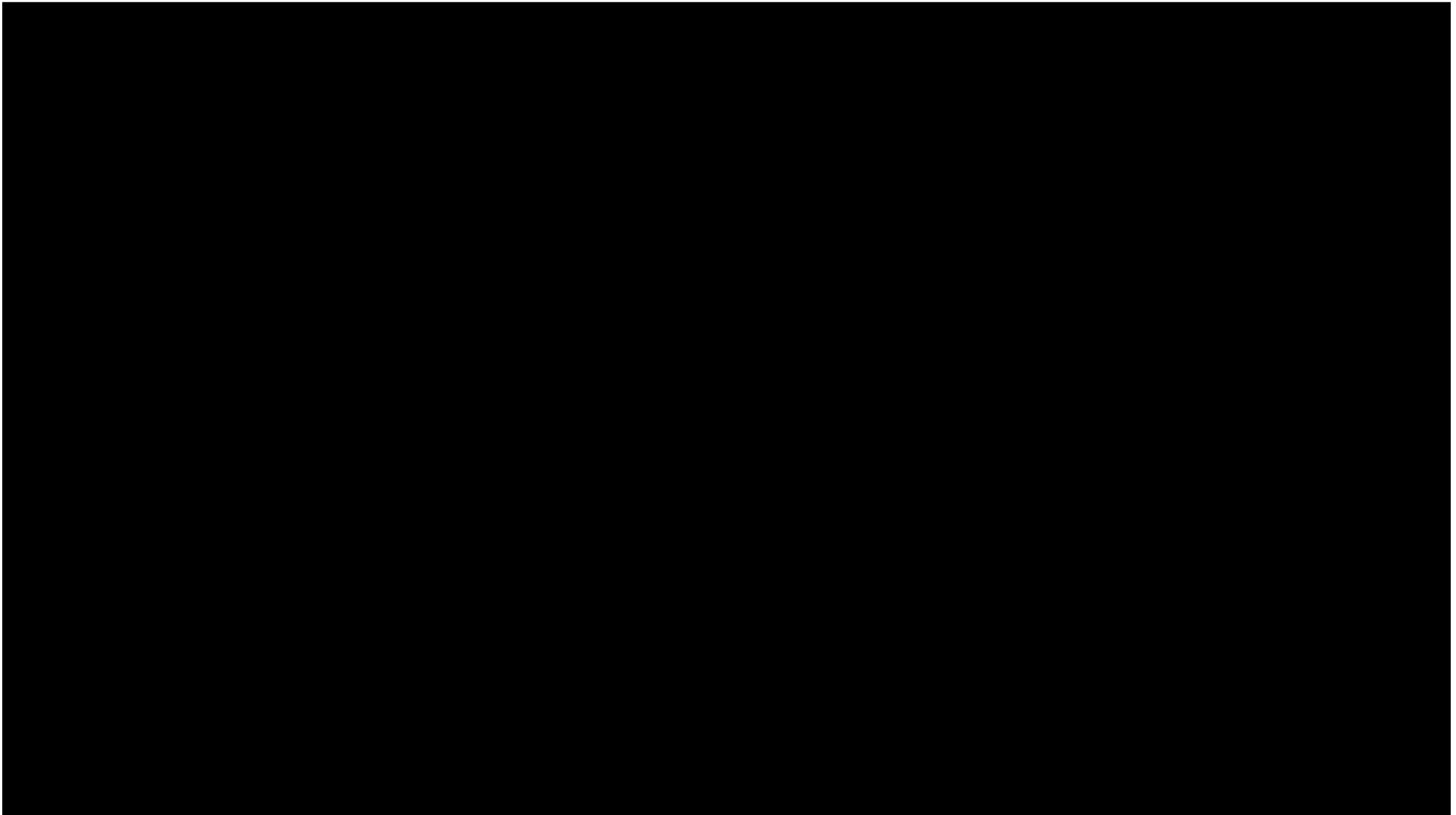
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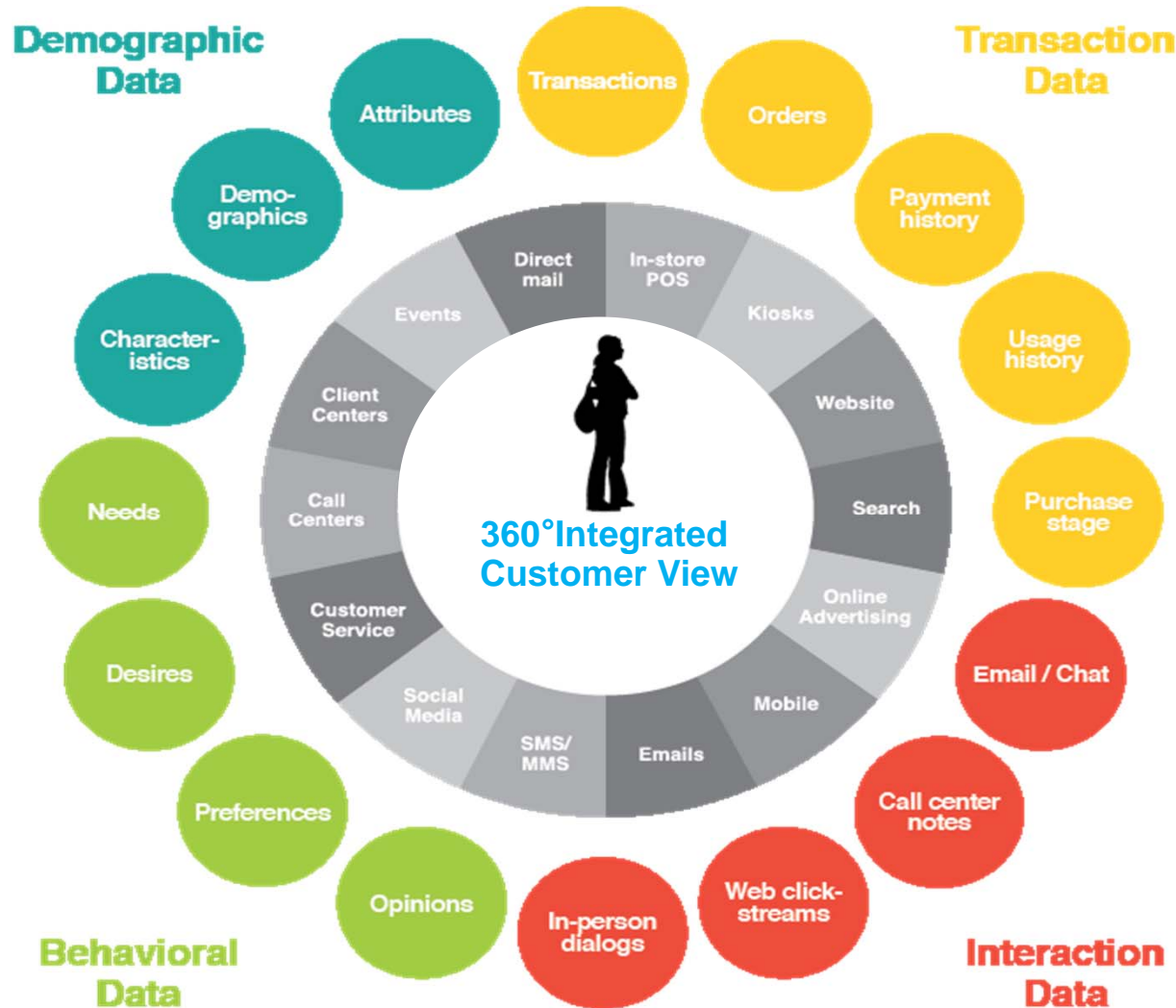
Source: <http://www.youtube.com/watch?v=IPgp4A1vxls>





The need and the new value: build a 360° Integrated Customer View....

with TRUST!



Digital natives

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Smart Machines

New Competitors

New Products

**“...Big Data & Analytics
is proving value when it is
part of a
closed-loop
Business action
”
...**

Instruction 2: What is important to know about a customer?

The “influence” wheel helps frame the problem in terms of what we need to know about a customer



Transaction data allows us to know what behaviors we can observe at purchase time

Not all behaviors can be observed in a transaction so we deploy a social listening strategy in order to capture some aspects of a customer's lifestyle and how products & services may fit into that lifestyle



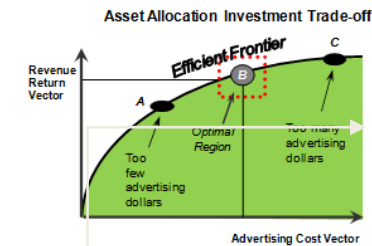
External forces may impact the way customers behave, so we have to collect data to simulate local conditions that may affect purchase behavior



Which patterns are important? Where do things start & stop; how much time between events; which forces are active?



5 Forces



Economic factors = Gas, milk, employment, housing prices, CPI

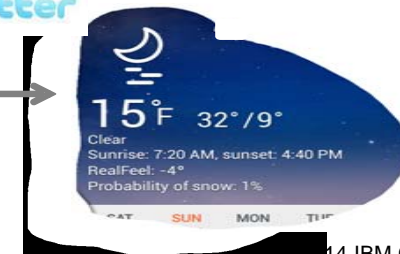
Promotions = Upper bound on contacts

Events = Holidays, local events



Weather = Apparent temperature "cold", too wet to shop

Employee turnover = decay in service



....but, which is the next best action?

The value of converting 5% of customers in the cluster to the midpoint of spend for that cluster

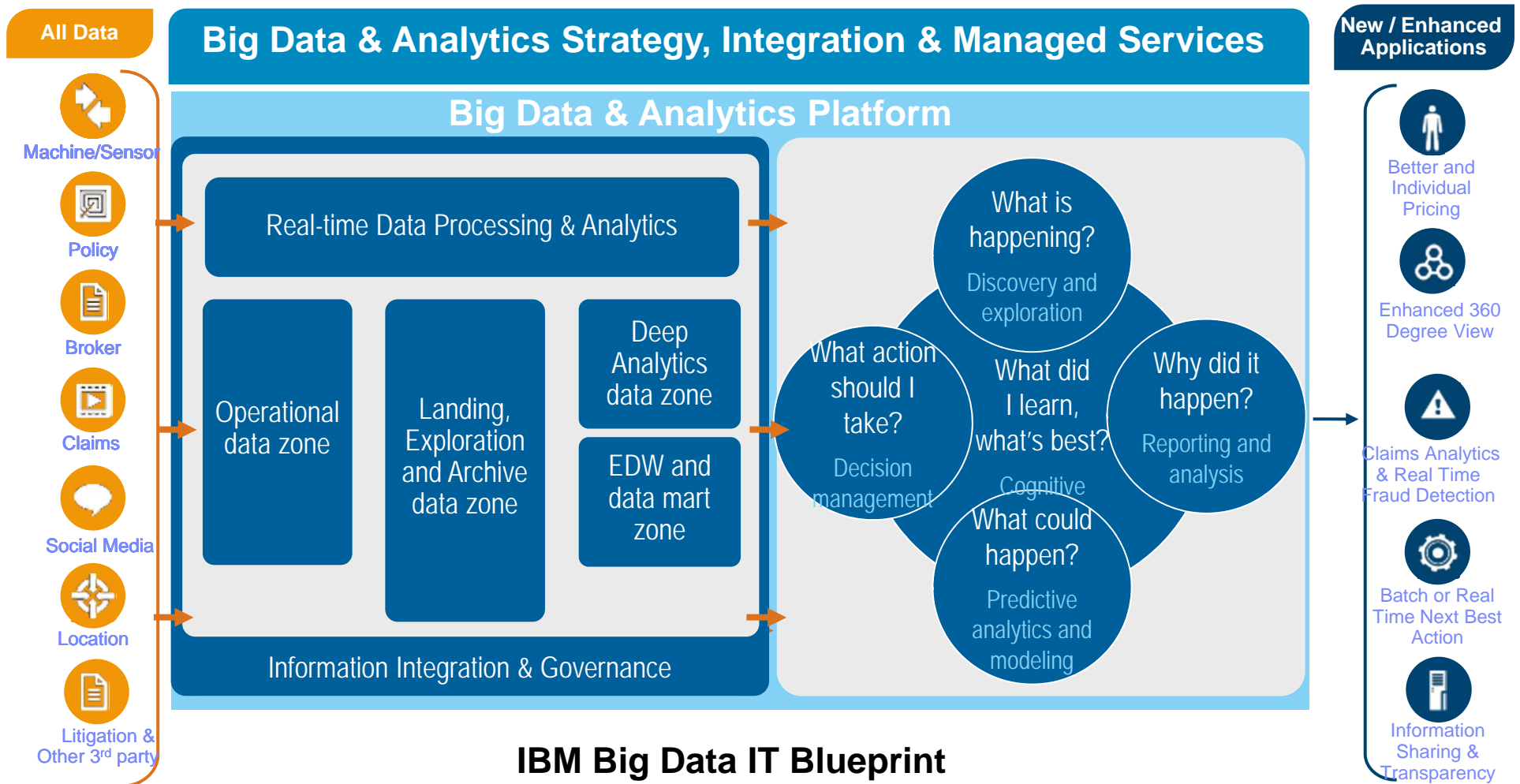
| Cohorts | Enterprise Cluster Name | Incremental to |
|-----------|--------------------------------------|----------------|
| Cluster1 | <u>Moming Coffee Enthusiasts</u> | \$ 1,321,196 |
| Cluster2 | Weekend Customizers | \$ 1,062,996 |
| Cluster3 | Rush Hour Warrior | \$ 113,204 |
| Cluster4 | Millennial non-Foodie | \$ 1,671,383 |
| Cluster5 | Baby Boomers to Die For | \$ 233,367 |
| Cluster6 | Food Buyers in the Dip | \$ 1,700,817 |
| Cluster7 | Gen X Espresso + Food, All Day! | \$ 895,138 |
| Cluster8 | New Experimenters | \$ 150,573 |
| Cluster9 | Moming Espresso Lovers | \$ 2,890,782 |
| Cluster10 | New to Enterprise, Afternoon routine | \$ 2,326,944 |
| Cluster11 | <u>Trying Everything</u> | \$ 6,429,105 |
| Cluster12 | Creatures of Habit | \$ 540,970 |
| Cluster13 | Employees as Stars | \$ 946,381 |

Exampe Finding 1: The very best customers have less room to grow in our analysis. They need reminder strategies and are getting coupons that could be better spent on other customers with more upside.

Exampe Finding 2: “Can we find more customers who buy when we have excess capacity”, or the dip – we found them and identified their characteristics and know where to look, how to promote, and the value of doing so. The surprise is that they were consistent food buyers.

**“How Big Data &
Analytics is evolving and
scaling down the
underline IT
complexity”**

Need to cope and satisfy both with technical and business views



IBM Big Data IT Blueprint

More important: we need more and more understands the language of business

| 1 | Year | Quarter | Month | Week | Day | Product Category | Product Type | Product | Territory | Country | State/Province | City | Sales Rep | Customer Type | Customer | Sales Chan | Gross Revenue | Revenue | Plan |
|----|--------------|----------------|-----------|------------|------------------|------------------|--------------|--------------|------------------|----------|----------------|-----------------|-------------------|---------------|-----------------|----------------|---------------|---------|------|
| 2 | 2009 Q1/2009 | gen-09 W1-2009 | 2009-01-0 | Electronic | Mobile | Wireless | North Amer | United State | Washington | Seattle | James R | Entertainment V | Phenix Magasin | Internet | 15592,5440035 | 13579,67133425 | 9264,71 | | |
| 3 | 2009 Q1/2009 | gen-09 W1-2009 | 2009-01-0 | Computer | Computers & Tabl | Desktops | North Amer | Canada | British Columbia | Victoria | Luis Sco | Retail | Pinball Wizard | Retail | 126701,54290859 | 99928,74099452 | 149676, | | |
| 4 | 2009 Q1/2009 | gen-09 W1-2009 | 2009-01-0 | Computer | TV & Home Theatr | Cables & | North Amer | United State | California | San Dieg | Kelly Pet | Branded Stores | Wallen Casting C | Retail | 310,1633001 | 270,88818506 | 285,434 | | |
| 5 | 2009 Q1/2009 | gen-09 W1-2009 | 2009-01-0 | Electronic | Mobile | Touch Sc | North Amer | Canada | British Columbia | Victoria | Luis Sco | Entertainment V | Service Electro M | Direct | 31046,3484496 | 24751,04349204 | 34034,8 | | |
| 6 | 2009 Q1/2009 | gen-09 W2-2009 | 2009-01-0 | Computer | Computers & Tabl | Netbooks | North Amer | United State | Texas | Dallas | Joanne M | Entertainment V | Kotters Landscap | Direct | 59970,00884984 | 55410,39064768 | 59361,8 | | |
| 7 | 2009 Q1/2009 | gen-09 W2-2009 | 2009-01-0 | Electronic | Cameras | Cameras | North Amer | Canada | Québec | Québec | Greg And | Retail | Webste Desinn | Direct | 34906,43635618 | 24428,04456708 | 29359,8 | | |
| 8 | 2009 Q1/2009 | gen-09 W2-2009 | | | | | | | | | | | | | | | | 28,0 | |
| 9 | 2009 Q1/2009 | gen-09 W2-2009 | | | | | | | | | | | | | | | | 172, | |
| 10 | 2009 Q1/2009 | gen-09 W2-2009 | | | | | | | | | | | | | | | | 9,93 | |
| 11 | 2009 Q1/2009 | gen-09 W2-2009 | | | | | | | | | | | | | | | | 29,6 | |
| 12 | 2009 Q1/2009 | gen-09 W2-2009 | | | | | | | | | | | | | | | | 91,2 | |
| 13 | 2009 Q1/2009 | gen-09 W2-2009 | | | | | | | | | | | | | | | | 25,7 | |
| 14 | 2009 Q1/2009 | gen-09 W2-2009 | | | | | | | | | | | | | | | | 81,6 | |
| 15 | 2009 Q1/2009 | gen-09 W2-2009 | | | | | | | | | | | | | | | | 96,3 | |
| 16 | 2009 Q1/2009 | gen-09 W2-2009 | | | | | | | | | | | | | | | | 6,44 | |
| 17 | 2009 Q1/2009 | gen-09 W2-2009 | | | | | | | | | | | | | | | | 3,05 | |
| 18 | 2009 Q1/2009 | gen-09 W2-2009 | | | | | | | | | | | | | | | | 65,6 | |
| 19 | 2009 Q1/2009 | gen-09 W2-2009 | | | | | | | | | | | | | | | | 75,5 | |
| 20 | 2009 Q1/2009 | gen-09 W2-2009 | | | | | | | | | | | | | | | | 0,42 | |
| 21 | 2009 Q1/2009 | gen-09 W2-2009 | | | | | | | | | | | | | | | | 43,0 | |



Instruction 3: A new CAMS+ “native” application paradigm is starting: the case of IBM Watson Analytics

Value:

- Put analytics in the hands of everyone
- Make access to data easy for refinement and use
- Deliver through the cloud for agility and speed

Visit WatsonAnalytics.com and get started for free

Examples

Marketing



Campaign Planning and R

Sales



Customer Retention

Finance



Prioritizing Accounts Receivable

IT



Helpdesk Case Analysis

Operations



Warranty Analysis

HR



Identifying and Retaining Key Employees



Cloud



Mobile Ready



Secure

Grazie!



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