

# البيانات الضخمة للمسوقين Big Data for Marketers

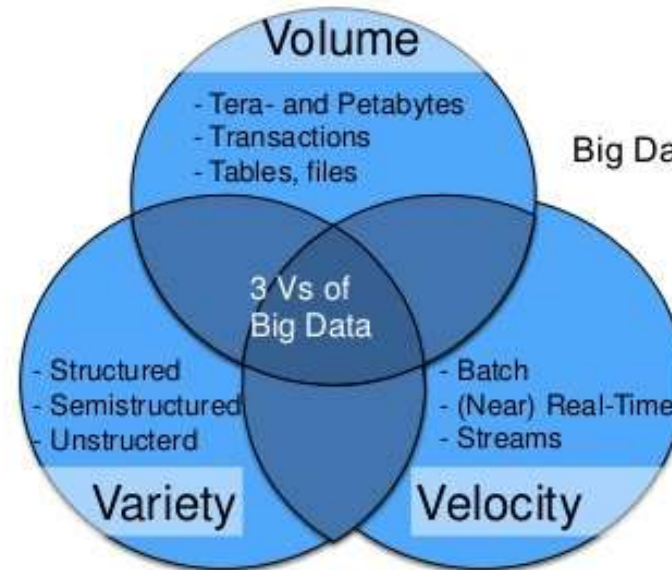


# Big Data, 3 V's

## Big Data Defined



The term "BIG DATA" is defined by the steadily increasing need for VARIETY, VOLUME, and processing VELOCITY of available data.



Big Data is about 3 "V's":

**Volume:** massive amounts of data to process with:

**Velocity:** the speed at which the data comes into the system

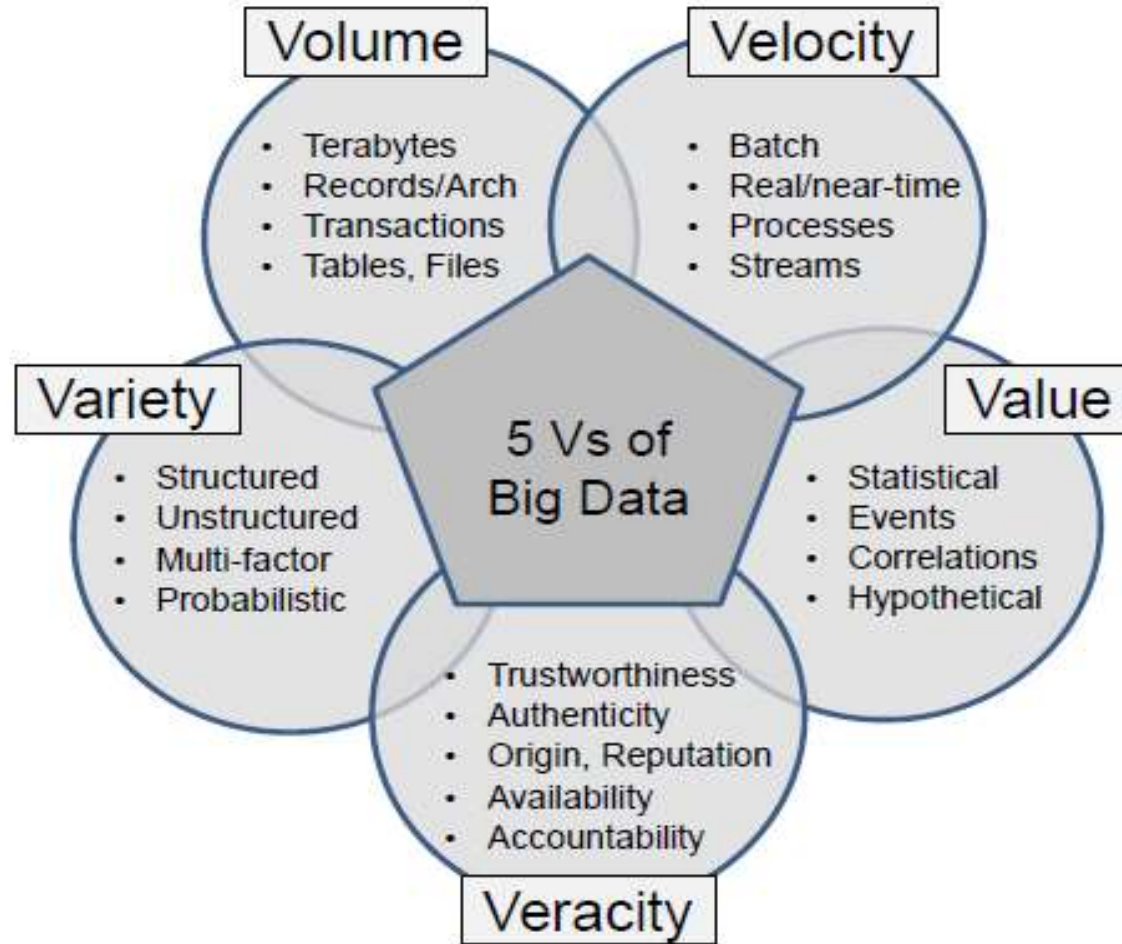
**Variety:** the variety of structuredness increases

Source: Philip Russo: BIG DATA ANALYTICS – TDWI Best Practice Report

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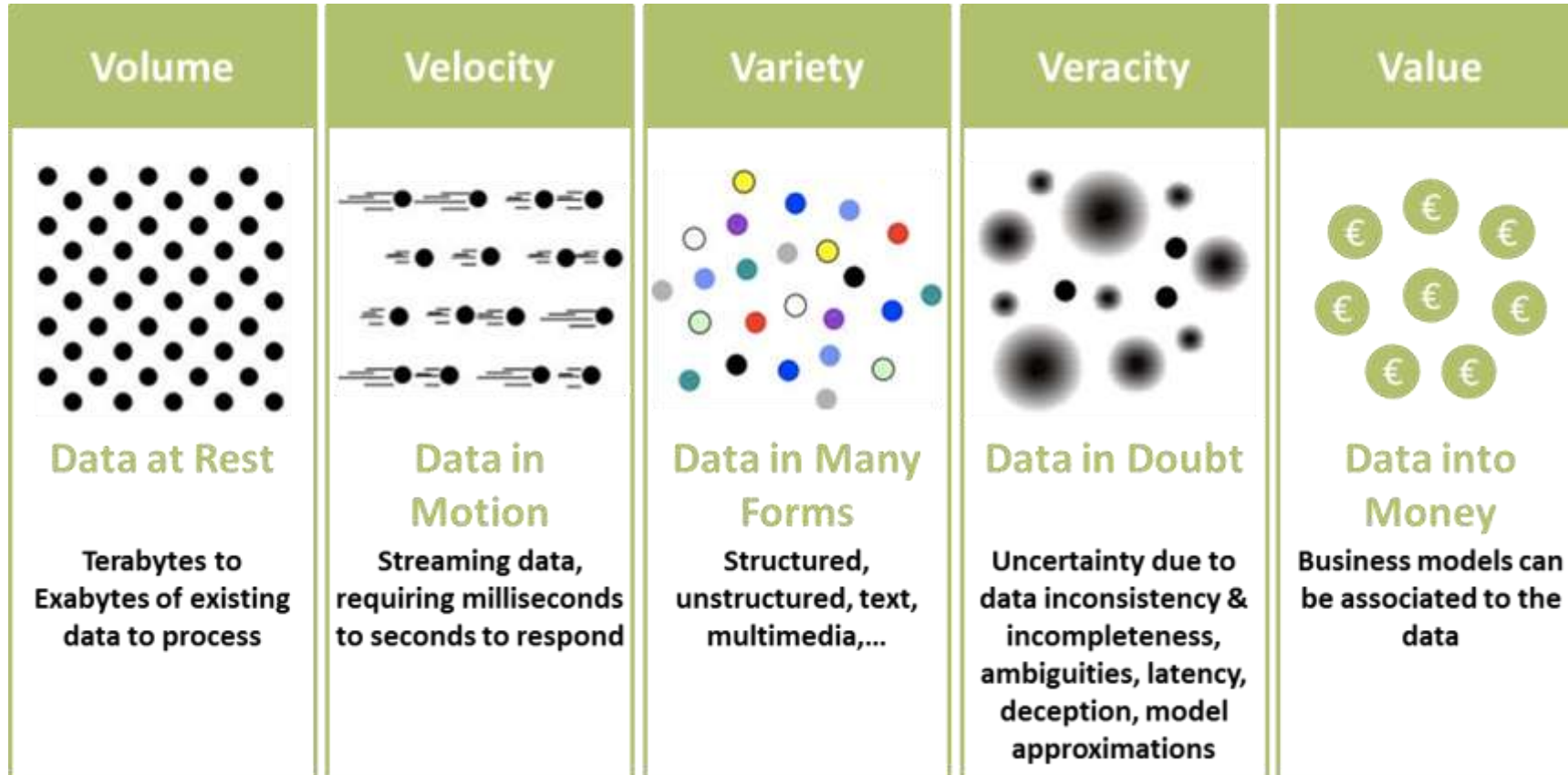
# Big Data, 5 V's. From Telxperts



# Big Data Team

- Data Scientists
- Statistician
- Software Programmers and Engineers
- Fields/Industries Experts

# 5 V's Challenges. From Information Catalyst



Adapted by a post of Michael Walker on 28 November 2012

# From Business 2 Community



# Data Driven Marketing

- It all started with analytics
- Switching from intuition to facts
- Decision making opportunities
- Better Cross Departmental communication



# The Marketing Process

- Market research
- Data analysis
- Plan construction
- Execution
- Evaluation

In post-modern marketing departments, they all should be running in parallel



# The Neo Marketing Process

## While Executing Campaigns:

- Real time evaluation and optimization based on Digital Marketing reports
- Reports from sales professionals feeds back into the market research/  
data analysis stages
- Instant feedback from Marketing Communication teams as well

# Big Data in Action

Types of Services, on premise or cloud:



# Cloud Services

Popular “IAAS”:

Computing Infrastructure, Virtual Machines, Virtual Local Area Networks...

- Amazon Web Services
- Digital Oceans
- Microsoft Azure

# Cloud Services

Popular “PAAS”:

Allowing Software Engineers to develop software solutions

- Apache Stratos
- Google App Engine

# Cloud Services

Popular “SAAS”:

The only layer that non-techs can use

- Social Networks
- Google Docs, Slides... the Drive itself
- Qualtrics (Market Research & Analysis)
- DataPlay (Market Research & Analysis)
- Adwords, Twitter Ads, LinkedIn Ads...

# Big Data in action

- Transforming from “Legacy Technology” to Big Data Solutions.
- Developing custom software solutions that suit your business model (Outsourced or internally).
- Buying/Subscribing to gain value from software solutions available in the market.
- The influence on services we’re already using.

# Handling the Transformation

- Internally, usually handled by a team of 5 or more professionals who are only associated with this mission.
- Working under a Chief Digital Officer, Chief Technology Officer, Head of Analytics...
- It is a must for most businesses, whether they choose to do it on now or postpone



# Handling the Transformation

- Research shows that “companies in the “top third” of their industry in the use of data-driven decision making were on average 5% more productive and 6% more profitable than their competitors,” as shown in a research paper conducted in October 2012 by Harvard Business school

# Handling the Transformation

- If not internally held, it needs to be outsourced
- It starts with “Infrastructure As A Service”
- Data privacy is the main issue, trust is the main concern
- Can be handled while the old system continues to undergo processes
- Great benefits for all departments

# Handling the Transformation

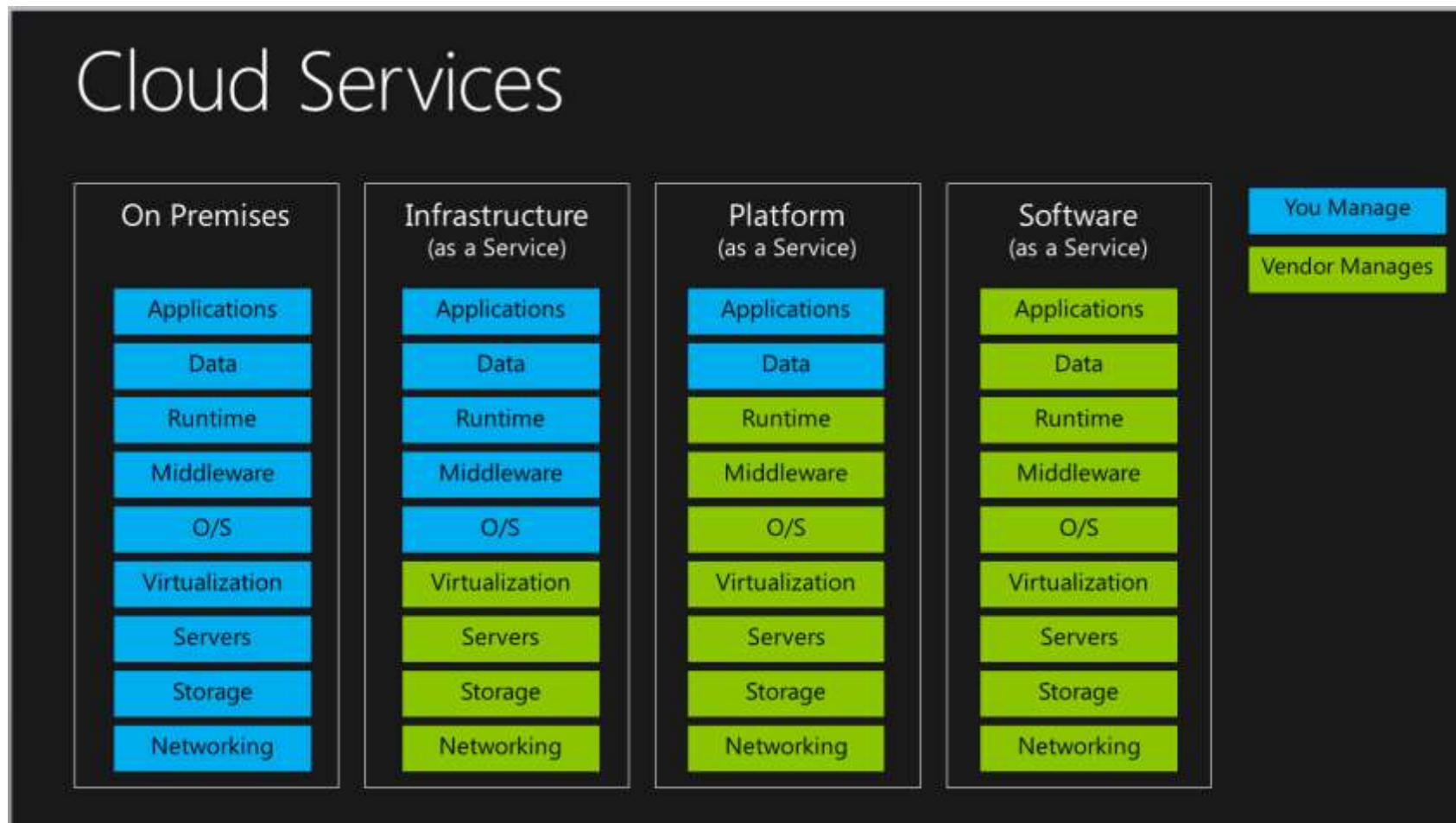
- All based on Hadoop
- An Apache open source project
- Based on Map Reduce, a Google project



# Transformation Solutions

- Ready made solutions by big corporates like IBM, SAP, Microsoft...
- All based on the open source Hadoop
- Companies apply a few changes, add a few features to open source technologies, and package them as their own unique innovations
- Usually overpriced

# Cloud Services & Data Privacy



# First Influenced Industries

- Automotive
- Banking
- Gaming
- Education
- Book shops and publishers
- Consumer products
- Energy and Utilities

# First Influenced Industries

- Government
- Health care
- Insurance
- Oil and Gas
- Retail
- Media and entertainment

# First Influenced Industries

- E-commerce
- Telecommunications
- Logistics and Supply Chain firms
- Insurance
- Travel and transportation
- Agriculture



# Automotive



جميع الحقوق محفوظة - إعمل بزنس

# Automotive

- Monitoring Technologies
- Car Automated Tasks
- Driverless Cars



# Banking



# Banking

- Fraud Detection
- Compliance and Regulatory Requirements
- Customer Segmentation
- Personalized Marketing
- Risk Management

# Gaming



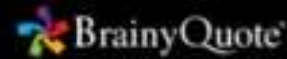
# Gaming

- Online Multiplayer games in which a huge network of online users should play together at the same time.
- Each single click by a player sends command(s) that require computing, causes effects that should influence the backend, and other players' user interface as well.

# Education

**Education is the most powerful  
weapon which you can use to  
change the world.**

Nelson Mandela





# Education

- Enrollment Managers applying analytics on student records over the years, with main focus on Academic history, demographics, geographic...
- Using Predictive Algorithms to uncover future best matches.
- Targeting their Marketing Campaigns accordingly, especially within the locations that are predicted to yield most.



# Education

- High number of applicants best serves branding, lets Educational Institutions be perceived as desirable.
- Sets a unique “IMC” example, as the high number of applicants can be promoted by institutes through various channels.
- The number of applicants is used a key metric by the “US News” and “World Report Ratings” for universities.

# About IMC

Letting the 6 elements of promotion cross-serve to help achieve Marketing Objectives:

- Sales Promotion
- Personal Selling
- Direct Marketing
- PR/Publicity
- Advertising
- Internet/Interactive

# IMC Example

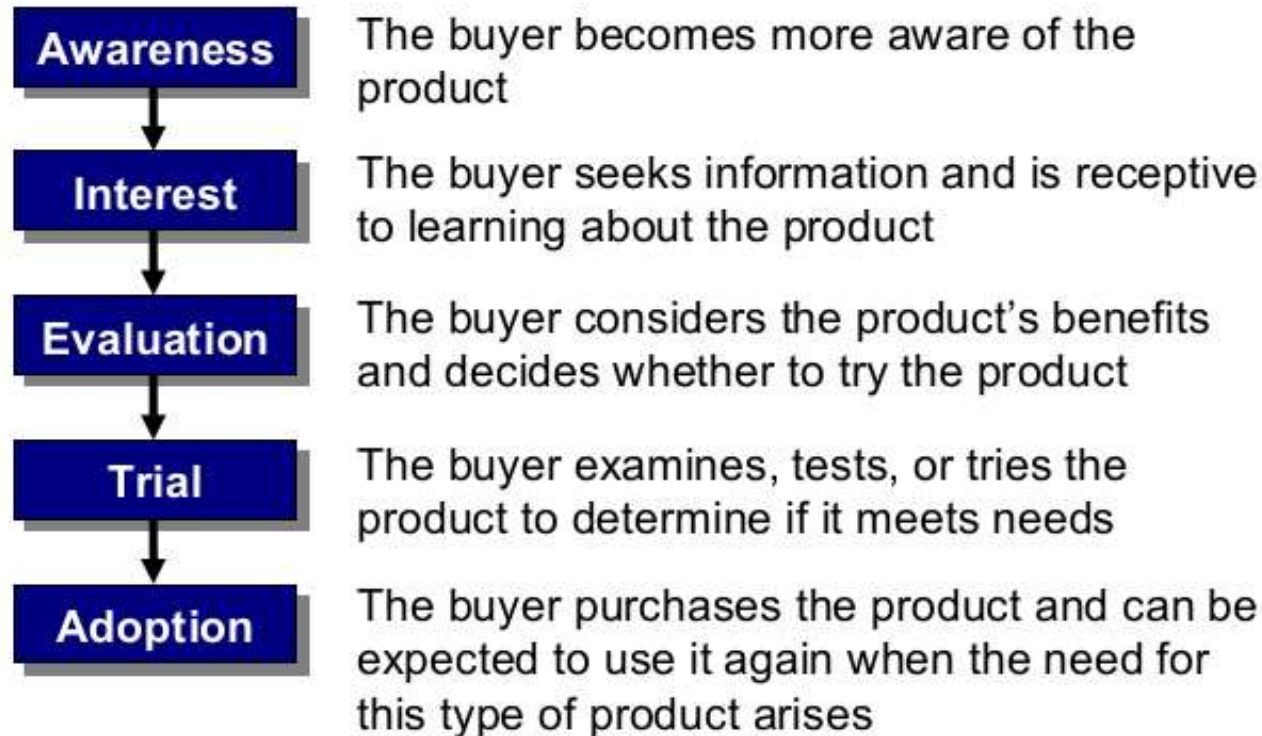
- If you host a charity-oriented event under the name of your organization this is PR/Publicity.
- If you send emails before and after the event, inviting people to attend and covering news after it is over, you would be integrating Direct Marketing.
- If you advertise on social media, on Google, or any other platform, you would be integrating Advertising and Internet/Interactive.
- If you offer a promotion (voucher for example) for those who attended the event, this is Sales Promotion being integrated. Generate some leads within the event and you would be integrating Personal Selling.

# Back to Education

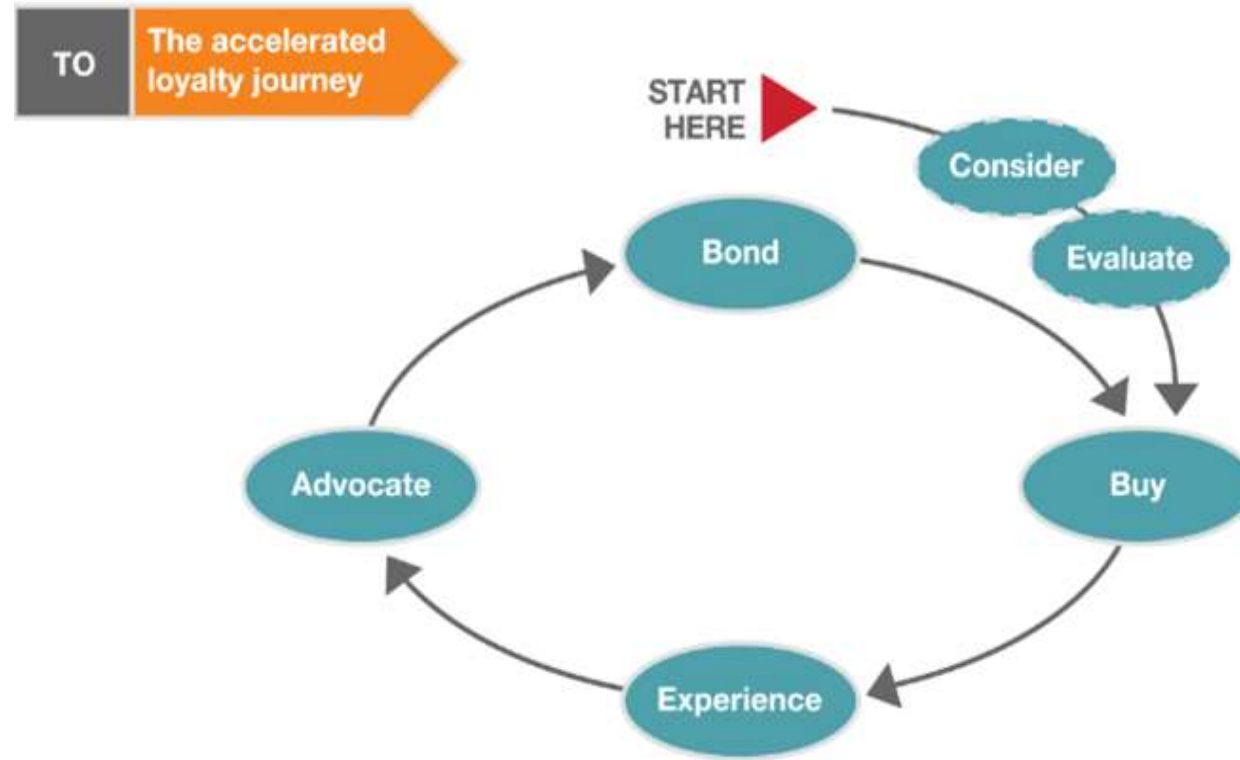
- Big Data Analytics used to enhance Marketing Campaigns' ROI by helping enhance targeting.
- Increasing the number of applicants gets them on campus where you can decide which information to feed them, ideally, turning them into advocates.
- Importance of advocates in consumer journeys...

# Old Consumer Journey

## Product Adoption Process



# Neo Consumer Journey



McKinsey&Company

# IMC/Big Data/Education

- Enhanced targeting & ROI of all 6 elements
- Bringing people on campus, a chance for branding (PR/Publicity) and (Personal Selling)
- Sales Promotion (Scholarship Options) to be determined based on predicted best matches
- Images of huge number of applicants used for online promotions (Internet/Interactive)
- Online and Offline Ads centered around the same notions (Advertising)

# IMC/Big Data/Education

- Actively using mailing lists to promote for the good news (Direct Marketing)
- Generating leads online by getting more email subscribers, plus the contact info submitted by applicants
- Feeding all the data, along with marketing campaign metrics back into the software solution, to apply further analytics and better predict/recommend future actions



# IMC/Big Data/Education

- Monitoring social media accounts of students and Alumni
- Using their content to establish a link between students' quality, and potential and their social media presence
- Many Enrollment Managers already look at applicants' social media profiles before deciding whether to accept them

# Bookshops and Publishers



# Bookshops and Publishers

- Increasing the number of topic-centered books over generic books, as they allow better chances for content based and readers' analytics
- Examples like “Rework” and “Lean In”
- Even generic ones must be categorized

# Amazon Books / Recommendation Engine

Your recently viewed items and featured recommendations

Inspired by your browsing history

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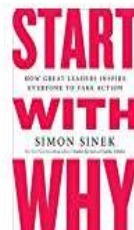
Good to Great: Why Some  
Companies Make the...

› Jim Collins

★★★★☆ 2,526

Hardcover

\$16.33 ✓prime



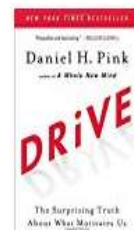
Start with Why: How Great  
Leaders Inspire...

› Simon Sinek

★★★★☆ 1,940

Paperback

\$10.23 ✓prime



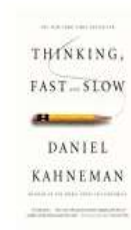
Drive: The Surprising Truth  
About What...

› Daniel H. Pink

★★★★☆ 1,059

Paperback

\$8.91 ✓prime

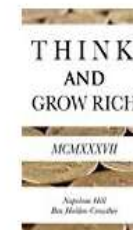


Thinking, Fast and Slow  
› Daniel Kahneman

★★★★☆ 2,799

Paperback

\$9.69 ✓prime



Think and Grow Rich  
› Napoleon Hill

★★★★☆ 5,803

Paperback

\$8.09 ✓prime



The Power of Habit: Why  
We Do What We Do in...

› Charles Duhigg

★★★★☆ 4,401

Paperback

\$9.62 ✓prime



# Amazon Books / Recommendation Engine

- Killing bookshops then launching one
- First brick & Mortar Store in 2015
- Great IMC
- Huge free publicity created
- Integrating online & offline marketing tactics
- Getting the data from the brick and mortar store back into the system to enhance performance

# Amazon Books / Recommendation Engine

Currently opening the 7th





# Consumer Products



جميع الحقوق محفوظة – إعمل بزنس

# Consumer Products

- Also known as FMCG and CPG
- A change in customers' expectations, which requires micro-segmentation, and personalization whenever possible
- Offline purchase behavior to be collected and analyzed through retail research
- Online purchase behavior to be collected through crawling of public data on web-store (s) pages and consumer research



# Consumer Products

- Segmentation of actual sales audience also requires retail research
- Social media data of your followers, based on their public data, knowing who they are (segmentation), their life interests, and how they perceive your brand versus the competitors
- Mobile App behavior, if you own one or more

# Consumer Products

- Data of Sales promotion tools being used; whether coupons, loyalty cards, special groups offers...
- Analyzing historical sales records across regions and districts
- Getting real time sales data visualized

# Consumer Products. From Moz



# Consumer Products

- Linking online and offline data for further analysis
- Comparing segmentation data of Demo, Geo, Psycho of engaging audience online with segmentation data of purchased customers
- Linking findings with mobile app behavior, which features does the “Golden Segment” use the most? How to increase their engagement rate?

# Consumer Products / Lays example

## Flavor Heat Map



# Energy & Utilities



# Energy & Utilities

- Innovate business processes through analytics-driven operational excellence to increase agility and responsiveness, reduce operational costs and improve asset reliability.
- Assume the role of energy integrator to optimally balance supply and demand points.
- Deliver a 360-degree, individually tailored experience to increase customer satisfaction and loyalty, reduce costs and improve management of energy demand.





أكاديمية  
**إعمل  
ببزنس**  
SMILE BUSINESS ACADEMY





# Government

Governments' roles differ based on political settings and structures, however, these are common uses of Big Data:

- Serving the Energy & Utilities sector
- Serving Oil & Gas
- Revolutionizing Healthcare
- Infrastructure services
- Transportation...

# Government

For instance all street lamps data are registered within the government's archives, along with their specifications, usage, life time expectancy... By feeding this huge amount of data into a Big Data software solution, and by using predictive algorithms, Governments would be able to predict when a street lamp will be out of order; fix or change it accordingly. The same tactic can be applied to all the government owned equipment and machinery, along with the ability of real time monitoring of performance.

# Government

Police officers can be equipped with “Google Glass”, with a software linked to the database (s) required for swift checking on individuals, cars, and any other items



# Government

## Innovative Tourism:

- A mobile app with all the data a tourist may need (maps, landmarks, offers, restaurants...)
- Same application can be developed on Glasses or Smart WaSame app can detect the users' place and provide historical information about every place once visited tches

# Healthcare



جميع الحقوق محفوظة - إعمل بيزنس

# Healthcare

## Predictive and Prescriptive Analytics

- Analyzing “Patient Flight Paths” for millions of records to uncover the typical scenarios of deterioration across patients who suffer from similar problems
- Developing the Perspective Analytics; letting the software recommend the prescription that may help stop the patient’s disease journey
- R Programming Language and Big Data Machine Learning

# Healthcare

## Internet of Things

- May help with the trend of keeping patients at home instead of hospitals
- Multiple devices capable of sharing files through the cloud
- Beacons with sensors that detect a patient's status, sending instant notifications to hospital's data management system
- Millions of patients = Volume + Velocity

# Healthcare

## Genomic Sequencing

- A genome is a complete set of DNA within a single cell of an Organism
- The cost of sequencing has been dramatically decreasing and will continue...
- It produces a huge amount of data when done on a massive scale
- Big Data Tech will help make it scalable, as well as affordable



# Healthcare

## Nature Language Processing

- Analyzing Doctors' reports that include prescriptions, notes, diagnosis...
- Helping integrate the outcome of this process with the previous ones, as well as integrating them with one another

# Insurance



# Insurance

- The whole industry depends on information and insights
- Pricing, Policies, and packaging depends on assessment, as well as customers' decisions
- For car insurance, tracing driver's performance through a mobile app or better with a device installed in the car... Better accuracy, car based data collection

# Insurance

- Through collecting data that belong to each customer's car(s), feeding it back into the system, comparing it with previous records of millions of other customers, predictive algorithms can come in play
- Pricing, policies, and packages can finally become personalized
- Better bonding with customers

# Insurance

Life Insurance, Apple Watches, Fitbit...



# Insurance Wearable

- Monitoring ongoing activities, acting as activity trackers
- Assessment of lifestyles, and health habits based on activities
- Sending data back to insurance companies
- Customers can work on reducing their premiums by proving that they're improving their health habits

# Insurance

- One third of the Insurance companies in the US are already integrating wearable devices within their packages and offerings
- Some give out discount on premiums, along with free wearable Fitbit devices
- Privacy continues to be an issue
- Some say customers are likely to give away some data as long as they know why you need it, how it will be used, and what they get in return

# Oil and Gas



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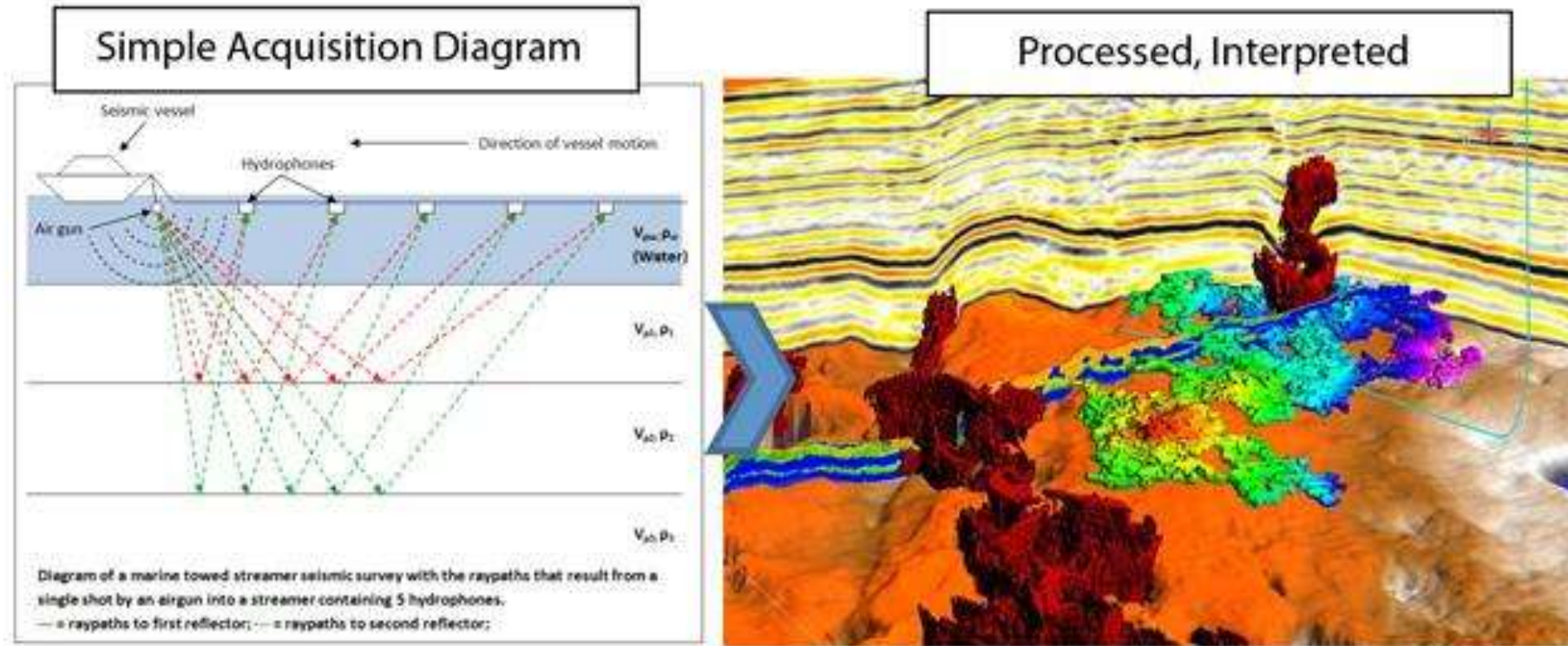


# Oil and Gas main problems

- Oil is hard to find, the inspection process
- Oil is expensive to produce
- Drilling for oil presents environmental threats

All associated with huge amounts of data!

# Oil and Gas



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