



BIG DATA
IS THE NEXT WAVE OF
PERFORMANCE IMPROVEMENT
**AND BUSINESS
TRANSFORMATION**

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Big data is a term for [data sets](#) that are so large or complex that traditional [data processing](#) applications are inadequate.

The term often refers simply to the use of [predictive analytics](#), [user behavior analytics](#), or certain other advanced data analytics methods that extract value from data, and seldom to a particular size of data set.

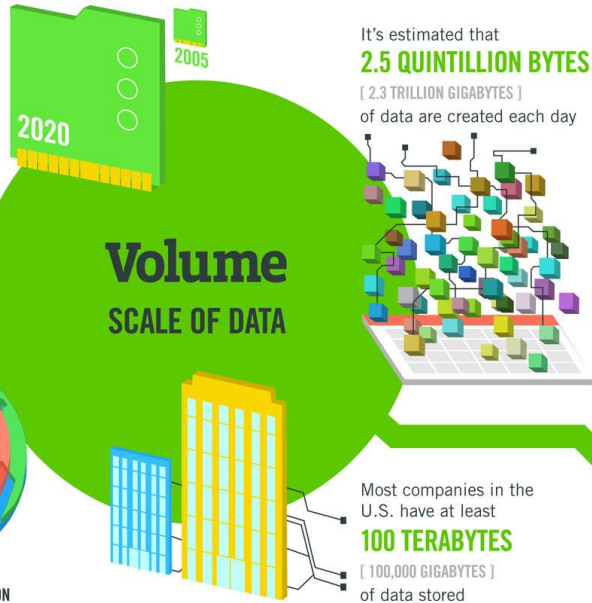


Challenges include [analysis](#), capture, [data curation](#), search, [sharing](#), [storage](#), [transfer](#), [visualization](#), [querying](#), updating and [information privacy](#).

Accuracy in big data may lead to more confident decision making, and better decisions can result in greater operational efficiency, cost reduction and reduced risk.

40 ZETTABYTES

[43 TRILLION GIGABYTES]
of data will be created by 2020, an increase of 300 times from 2005



6 BILLION PEOPLE have cell phones



The FOUR V's of Big Data

From traffic patterns and music downloads to web history and medical records, data is recorded, stored, and analyzed to enable the technology and services that the world relies on every day. But what exactly is big data, and how can these massive amounts of data be used?

As a leader in the sector, IBM data scientists break big data into four dimensions: **Volume, Velocity, Variety and Veracity**

Depending on the industry and organization, big data encompasses information from multiple internal and external sources such as transactions, social media, enterprise content, sensors and mobile devices. Companies can leverage data to adapt their products and services to better meet customer needs, optimize operations and infrastructure, and find new sources of revenue.

By 2015 **4.4 MILLION IT JOBS** will be created globally to support big data, with 1.9 million in the United States



As of 2011, the global size of data in healthcare was estimated to be

150 EXABYTES
[161 BILLION GIGABYTES]



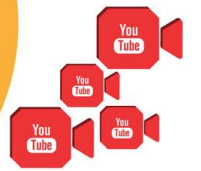
30 BILLION PIECES OF CONTENT are shared on Facebook every month



By 2014, it's anticipated there will be **420 MILLION WEARABLE, WIRELESS HEALTH MONITORS**

Variety DIFFERENT FORMS OF DATA

4 BILLION+ HOURS OF VIDEO are watched on YouTube each month



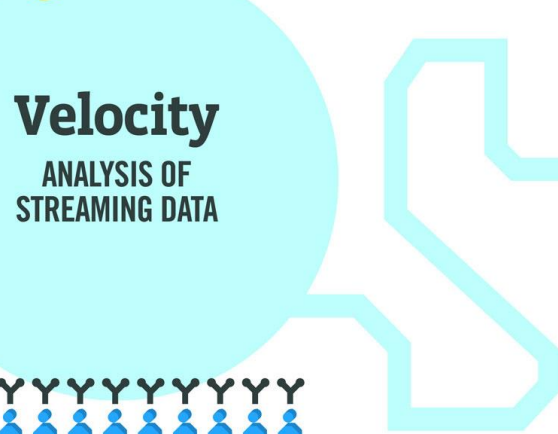
400 MILLION TWEETS are sent per day by about 200 million monthly active users



The New York Stock Exchange captures **1 TB OF TRADE INFORMATION** during each trading session



Modern cars have close to **100 SENSORS** that monitor items such as fuel level and tire pressure



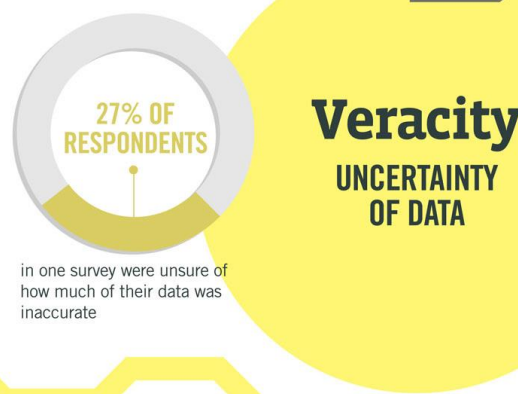
By 2016, it is projected there will be **18.9 BILLION NETWORK CONNECTIONS** – almost 2.5 connections per person on earth



1 IN 3 BUSINESS LEADERS don't trust the information they use to make decisions

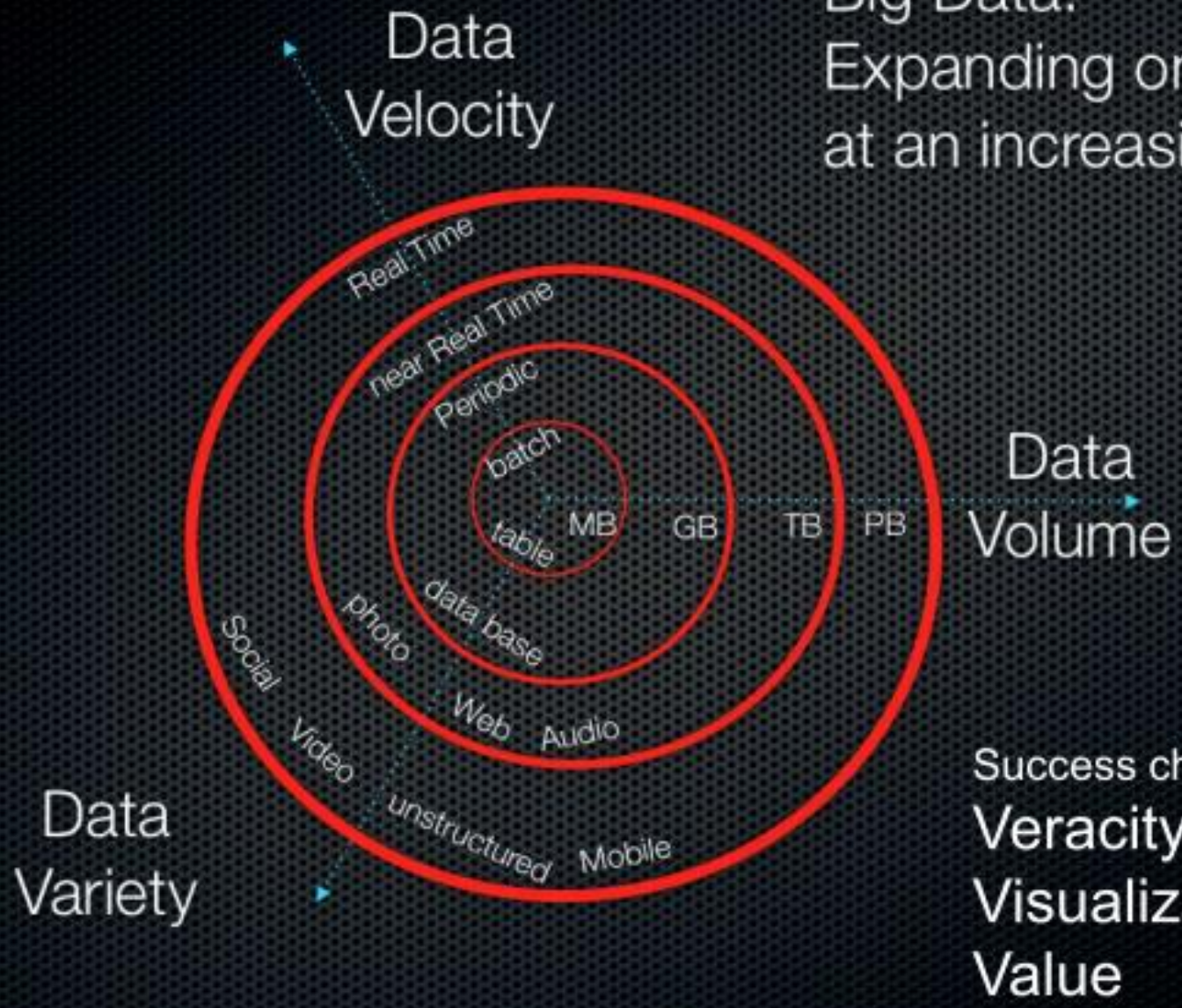


Poor data quality costs the US economy around **\$3.1 TRILLION A YEAR**



Data characterized by:

Big Data:
Expanding on 3 fronts
at an increasing rate.



Success characterized by:
Veracity
Visualization
Value

Characteristics of data scientists



**BIG
DATA
SCIENCE**

I feel comfortable operating
with incomplete data

My data files
are often messy

I explore data to see
what it tells me

My dataset is so big, managing
it is part of the challenge

My findings drive product
and operational decisions

I want to have a
complete set of data

My data files
are usually clean

I report on what
the data says

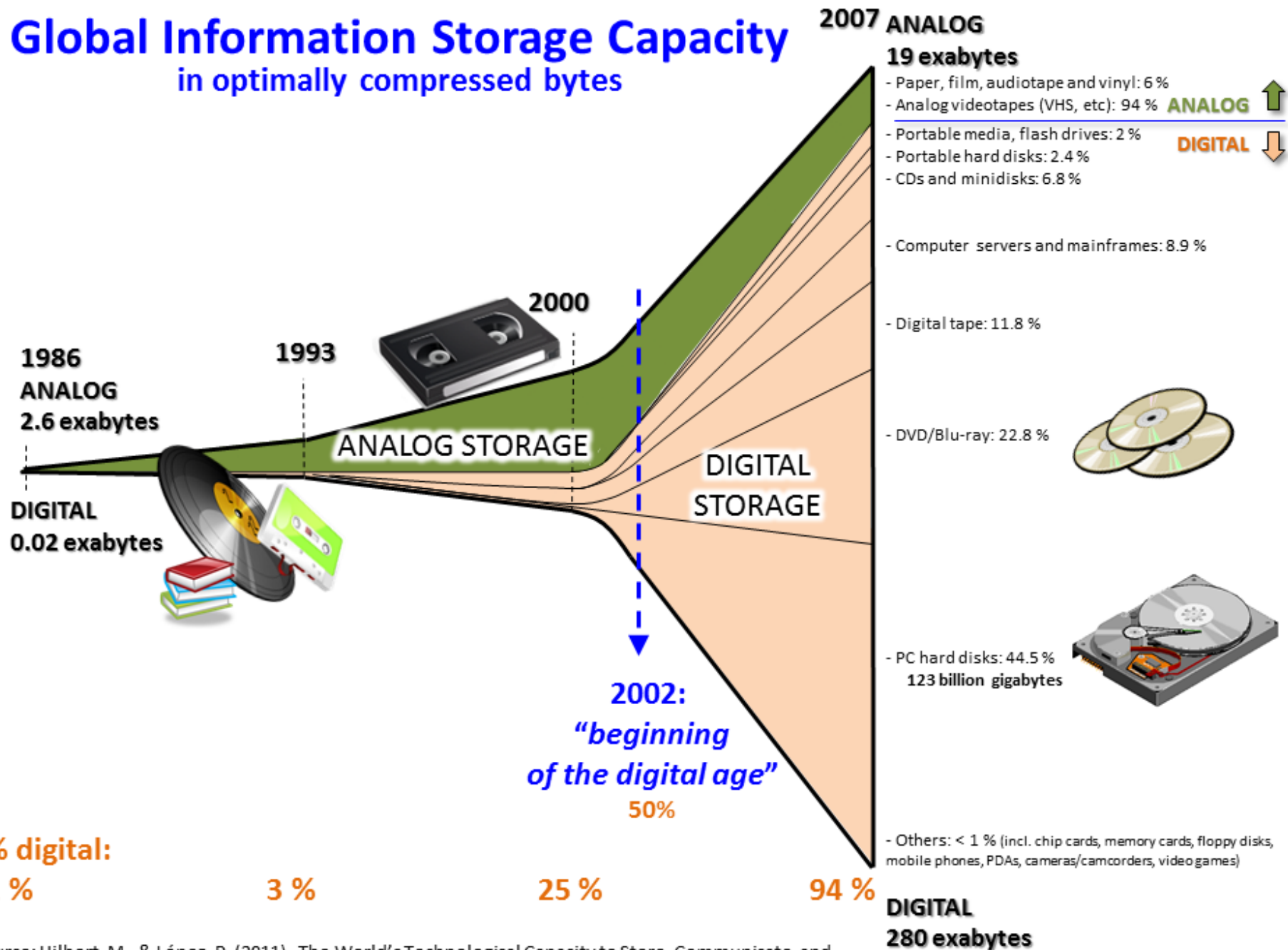
While my dataset is big,
it's currently manageable

My findings measure
past performance



**NORMAL
DATA
SCIENCE**

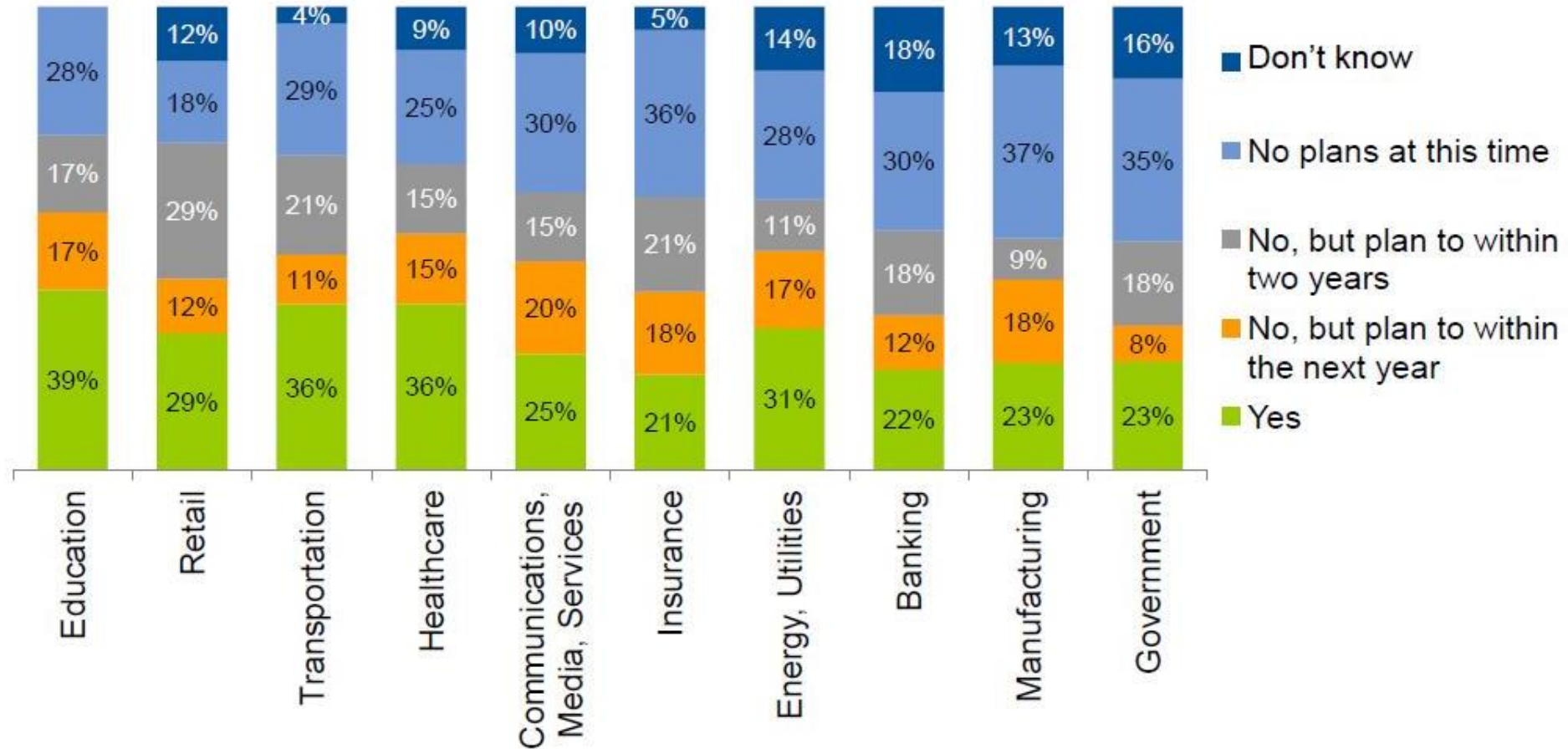
Global Information Storage Capacity in optimally compressed bytes



Source: Hilbert, M., & López, P. (2011). The World's Technological Capacity to Store, Communicate, and Compute Information. *Science*, 332(6025), 60–65. <http://www.martinhilbert.net/WorldInfoCapacity.html>

Big Data Investments by Industry

Has your organization already invested in technology specifically designed to address the big data challenge?



Source: Gartner (July 2012)

The Explosion of Data in the Enterprise

Tremendous amounts of data—both structured and unstructured—are being generated by organizations and individuals.

in zettabytes*

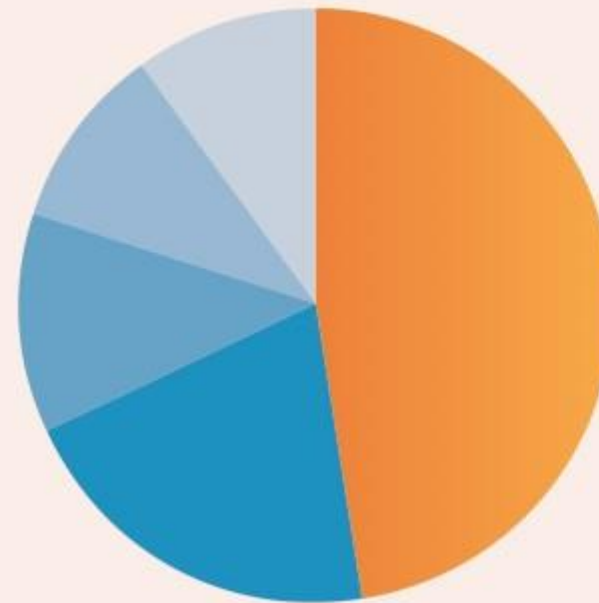
	Size of Total Data	Enterprise Managed Data	Enterprise Created Data
2009	0.79	0.00	0.00
2010	1.27	0.96	0.36
2015 [†]	7.90	6.32	2.37
2020 [†]	35.00	28.00	10.50

*A zettabyte is a unit of computer storage equal to 1×10^{21} bytes.

[†]Projections

Source: Computer Sciences Corp.

BIG DATA "USE CASES" WITHIN BUSINESSES



48% Customer Analytics

21% Operational Analytics

12% Fraud & Compliance

10% New Product & Service Innovation

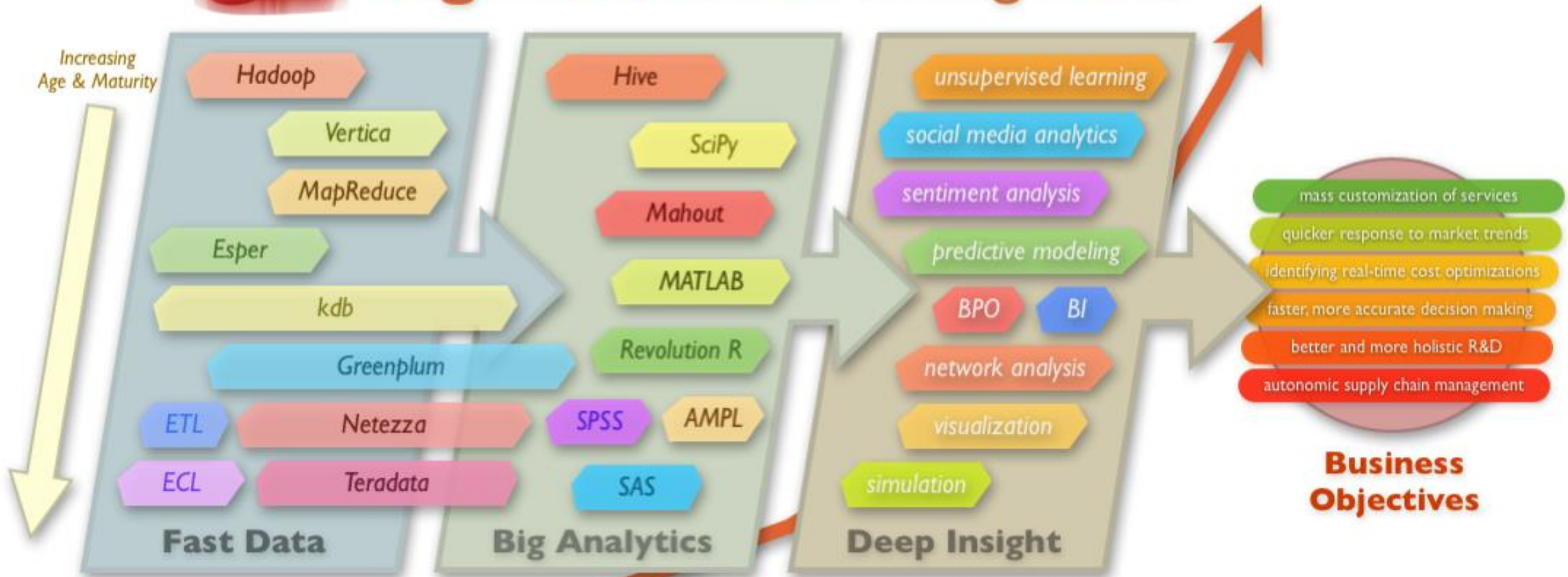
10% Enterprise Data Warehouse Optimization

**Adds to 101% due to rounding*





Big Data: The Moving Parts



From <http://blogs.zdnet.com/Hinchcliffe>

the growth of data will be exponential for the foreseeable future



the amount of data stored by the average company today

Big Data Technologies Comparison

Features	Cassandra	HBase	Hive	MongoDB
Description	Wide-column store based on ideas of BigTable and DynamoDB	Wide-column store based on Apache Hadoop and on concepts of BigTable	data warehouse software for querying and managing large distributed datasets, built on Hadoop	One of the most popular document stores
Developer	Apache Software Foundation	Apache Software Foundation	Apache Software Foundation	MongoDB, Inc
Initial release	2008	2008	2012	2009
License	Open Source	Open Source	Open Source	Open Source
Implementation language	Java	Java	Java	C++
Server operating systems	BSD	Linux, Unix, Windows	All OS with a Java VM,	Linux, OSX, Solaris, Windows
Database model	Wide column store	Wide column store	Relational DBMS	Document store
Data scheme	schema-free	schema-free	Yes	schema-free
Transaction concepts	No	No	No	No

The Dataflog Open Source Landscape 2.0

Data Analysis & Platforms

Hadoop
Storm distributed and fault-tolerant realtime computation
Dremel
Spark
SAMOA
APACHE DRILL
IKANOW | **BRILLIANT DECISIONS**
Hortonworks

Databases / Data warehousing

bigdata
INFOBRIGHT
Cassandra
4store
H2
GlobalSDB
InfinitiDB
riak
Infinispan
HYPERTABLE
MariaDB
Drizzle
SQLite
RethinkDB
Firebird
ORACLE
BERKELEY DB
HyperSQL
monetdb

In-Memory Computing

GridGain IN-MEMORY COMPUTING
hazelcast
TERRACOTTA by Software AG
NMemory

ERP BI Solutions Business Intelligence

ERP BI Solutions Open Source Business Intelligence Solutions for ERP
talend* open data solutions
Jaspersoft
Palo Open Source Business Intelligence
openi.org Open Intelligence
jedox.
BIRT
spagobi
pentaho

Data Mining

orange
KNIME Data Analytics Made Easy
rapidminer
mahout
WEKA The University of Waikato
KEEL
togaware
SPMF

Big Data search

Lucene™
Apache Solr
elasticsearch.

Multivalued database

Rocket
U2
REVELATION Open Ladybridge Systems
QM
northgate Reality
iBASE INTERNATIONAL FREEDOM. OPENNESS. POWER. ScarletDME

Programming

R
Julia

Data aggregation

CQOOO
zhukwa

KeyValue

AEROSPIKE
leveldb
redis Chordless Beta
Tokyo Cabinet 8192PB
MEMCACHED
SCALIEN
Project Voldemort A distributed database. hamsterdb
RAPTORDB
FairCom
STS DB DATABASE & VIRTUAL FILE SYSTEM
HyperDex
OpenLDAP
ioremap.net STORAGE AND BEYOND
Scalaris

Document Store

mongoDB
Couchbase
CLUSTERPOINT
Tokutek.
RaptorDB
EJDB
djon
JasDB
SchemafreeDB
sisodb

Graph databases

Ceph makes graphs handy
Gremlin
GraphBuilder Large Scale Graph Construction using Apache Hadoop
Franz Inc
Sparksee
InfiniteGraph Powered by Objectivity
INFO GRID
HYPERGRAPHDB
Neo4j the graph database
FlockDB
GraphBase
BrightstarDB

Operational

VOLTDB SMART DATA FAST.

Multidimensional

FIS
SciDB
rasdaman raster data manager

Object databases

db4objects
ZOPE
mobject precision data management
Magma
Picolisp
siaqodb
NEOPPOD Distributed Transactional NoSQL for the Cloud
RAMER D
PERSEVERE
EyeDB
STARCOINTE
Sterling
NDatabase C# Lightweight Object Database

Multimodel

ArangoDB
alchemydatabase A Hybrid Relational-Database/NoSQL Database

XML Databases

e:istdb
BASE
Qizx
sedna
LIQUIBASE

Grid Solutions

GIGASPACE
Galaxy



chiefmartec.com Marketing Technology Landscape

January 2014

MARKETING EXPERIENCES

Email Marketing

Constant Contact, LiveIntent, MailChimp, Campaigner, STRONGVIEW, Bronto, dotMailer, yesmail, tower@ta, zeta, Stream, Send, ReturnPath, JangoMail, product, profusion, emma, Email, acxiom, Campaign Monitor, VerticalResponse, LeadSpend, epsilon, Experian, bluehornet, CalmSea, rapidmail, Movable Ink, Customer.io

Mobile Marketing

airpush, mobility, Tapjoy, vibes, SponsorPay, ShopPad, hipcricket, adelphi, momentfeed, dotMobi, tapad, URBAN AIRSHIP, REVMOB, LeadBolt, mojiva, MARCH EX, FLURRY, tatango, mobileStorm, millennialmedia, veiti, Trumpia, PlaceIQ, inMOBI, OpenMarket, ePrize, kahuna, waterfall mobile, VERVE

Search & Social Ads

AdProof, KENSHOO, ADCHEMY, Marin, acquisition, matchcraft, brandnetworks, Adaptly, TRIGGIT, ADSPERT, nanigans, InsideVault, SearchForce, ADGOODROO, FINCH, sidecar, MAGNE+IC, SHIFT

Display Advertising

doubleclick, DataXu, bizo, sitescout, BRANDSCREEN, neustar, netmining, AdRoll, critico, TruSignal, OpenX, FLITE, Admant, rocketfuel, kwanzoo, bluecava, OPTIMINE, Simplifi, Chango, Taykey, Adobe

Video Ads & Marketing

OOYALA, vimeo, brightcove, eyeview, Jivox, BrightRoll, VIZCOP, AdapTV, WISTIA, onescreen, ramp, SpotMixer, pixability, vidward, optent, TubeMogul, vidcaster, spot, change, optimistic, piksel, ustudio, SundaySky, YuMe, Kaltura, videology, mixpo, vidler

Creative & Design

SPONGECCELL, fluid, persado, adacado, Adobe, balsamiq, Offinova, AdReady, AdExtent, STEELHOUSE, axure, MockFlow, COGNITIVE MATCH

Communities & Reviews

jive, gigya, ietoo, Hoop.la, NING, pasenger, telligent, reevoo, livefyre, bazaarvoice, forumbee, DISQUS, inGage, sociious, chute, satisfaction, networks, communispace

Social Media Marketing

TOPSY, SOCIAL.FLOW, sprinkl, bottlen'se, ATTENITY, Socialware, Brandwatch, engagor, Visible, WILDFIRE, hootsuite, viralheat, shoutlet, awareness, NETBASE, payin, TrackMaven, ArgyleSocial, awe.sm, EXPION, NCAPSE, tapinfluence, moxie, colligent, socialvolt, ListenLogic, Advocate, Buzzient, SCOREBOARD, LITTLE BIRD, extole, Lithium, UNIFIED, synthesio, infegy, influential, mzinga, mention, CAMPALYST, hearsay, spreadfast, metavana, track, socialbakers, UBERVU, engage123, CURALATE, KLOUT, conversocial, thismoment, EngageSciences, Simply Measured, SocMetrics, Zuberance, MUTUALMIND, BuzzBundle, meltwater, Onalytica

Events & Webinars

Eventbrite, CITRIX, CISCO, Brandscopic, Acteva, ON24, INXPO, xert, event, Adobe, FUZE BOX, InfoNeedle, ACTIVE, InterCall, tmi, implex, etouches, MeetingBurner, PBI, Ungerboeck, anymeeting, TalkPoint, USI, arkadin, saba, connex, LENOS, WebinarsOnAir, EventKloud, ReadyTalk

Calls & Call Centers

keymetric, ifbyphone, liveops, twilio, Five9, INVOCA, CallRail, callmodo, CallFire, response, eGain, CALLSOURCE, tap, mongoosemetrics, calltracking, metric88

Customer Experience/VoC

KANA, MEDALLIA, customerville, VERINT, perceptions, FORESEE, Confirmit, CLARABRIDGE, Genesys, enkata, mindshare, gainsight, opinionlab, RESPONSETEK, Kampyle, SATMETRIX, Qualaroo, ALLEGIANCE, uservoice

Loyalty & Gamification

Badgeville, CROWDTWIST, TIBC, SOCIAL TWIST, loyaltygator, BIGDOOR, vemt, 500 friends, PunchTab, NextBee, AIMIA, REWARDSTREAM, Actionable, BUNCHBALL

Personalization

insightera, evergage, Baynote, RapLeaf, DEMANDBASE, LIVEPERSON, monetate, MONOLOOP, PREDICTA, enecto, MYBUYS, richrelevance, APPTUS, SAILTHRU, choice@stream, PERSONYZE, CERTONA, PREDICTIVE EDGE, Nuggets, MAGIQ

Testing & Optimization

webtrends, maxymiser, Google, Wingify, SITESPECT, Optimizely, APT, accenture, Adobe, unbounce, atmio, UserTesting.com, Lander, PageMutant, Experiment.ly, GROWTHGIANT, pluralis, userlytics, SYNPERENCE, SeeWhy, INSTA PAGE, Vertster, NELIO, CONVERSION, ziten, AVENSEO, AB Tasty, Marketizator, VIBETRACE, PAGEWIZ, GlobalMaxer, IMPREGO, LeadPages

Marketing Apps

wishpond, on, wizehive, SnapApp, cubio, offerpop, kontest, WOBOX, Gleam, votigo, CONTESTFACTORY, VIRALSWEEP, WUFO, SocialAppsHQ, Rafflecopter, SURVEYMONKEY, PollDaddy, NORTH SOCIAL, FluidSurveys, tagga, Formstack, snap, surveygizmo

SEO

BRIGHT EDGE, altruiK, SYCARA, lotusjump, RANKABOVE, conductor, Wordtracker, AuthorityLabs, gShift, rioseo, RAVEN, seoClarity, colibri, UpCity, bloomreach, web ceo, traffic trovis, CAPHYON, yoast, ANALYTICS, SERPICO, Linkdex, MOZ, SEOlytics, searchmetrics, GinzaMetrics

Content Marketing

visual.ly, kpost, curata, cadence, Zerys, springcm, DIVVY, Percolate, Skyword, COMPENDIUM, Contently, squeezeCMM, GatherContent, Zemanta, MARKETING.AI, collective bias, PAPERSHARE, Kontera, easelly, outbrain, NewsCred, atomic reach, RebelMouse, ceros, Scoop, CrowdSource, Intweet, publishthis, cloudwords, Cooperatize, LOOKBOOKHQ, trapit, Überflip, voraka, copyblogger, magnify.net, Storify, Scripted, triberr

Sales Enablement

elastic, postwire, cloze, innovation, Stride, Bloomfire, Salespod, Qvidian, Yesware, scepos, SKURA, MindMatrix, clearslide, KnowledgeFree, shoupad, WilbyParrot, toutapp, Allean, FISHBOWL, pipedrive, SAVO, Primary Intelligence, Velocify, UpSync, Contactually, pipeliner, TappCtrl

Marketing Data

Experian, epsilon, axiom, NETPROSPEX, ALLANT, InsideView, D&B, zoominfo, HART, infogroup, informatica, OwnerIQ, salesgenie, LEADS Explorer, CATALINE, OneSource, datalogix, factual, LiveRamp, AccuData, GNIP, VisualDNA, salesforce.com, Freebase, IRI, Lead411, spoke, DATASIFT, STRIKEIRON

Channel/Local Mktg

PTCA9, IceHouse, sprout, loud, netsertive, Ziftolutions, GorillaToolz, distribution, Channellivity, brandmuscle, EggZack, Mar-ke-t-ing Advocate, nitro, mojo, Balihoo

Marketing Resource Mgmt

infor, MarcomCentral, saepio, mtivity, northplains, BrandMaker, Allocadia, DIREXXIS, Elateral, Tags:cmd, Meta, COX, PAPIRFLY, Adnovate, Cordeo, SyncForce, MarketingPilot, Black Ink

Digital Asset Mgmt

WIDEN, Bynder, EMC, CELUM, MOSAIC, Adgistics, Cognizant, mediavalet, ADAM, DigiEyeZ, AssetBank, WebDAM, MEDIA BEACON, brandworkz, Chuckwalla, ThirdLight

Agile & Project Mgmt

liquid, PivotalTracker, 37signals, clarizen, ATLIASSIAN, task, Wrike, sprintly, Trello, asana, LeanKit, VERSIONONE, KanbanFlow, HOMEBASE, Flow, kanbanery, xtelarik, smartsheet, gantter, mindjet, Scrumwise

MARKETING OPERATIONS

Marketing Analytics

[BECKON] collective, adometry, visualiq, nielsen, PivotLink, ThinkVine, converto, MARKET EVOLUTION, ijento, SHOP2MARKET, quantcast, dstillery, comSCORE, MarketShare, Angoss, Anametric, marketing QED, iSpot.tv, ACE, bi:science, MOAT, ANALYTIC PARTNERS, measureful

Dashboards

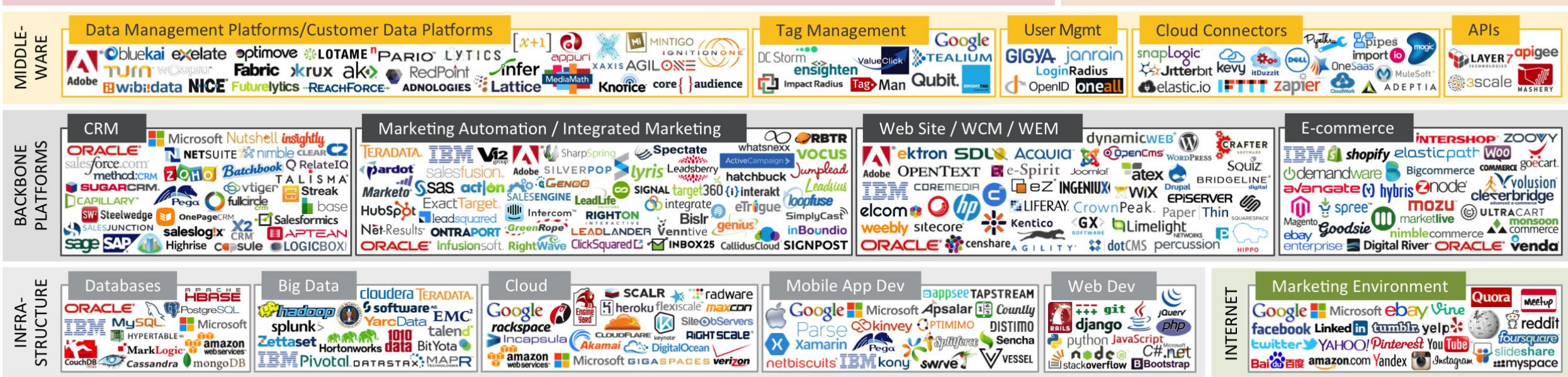
Dundas, chartio, Logi, R.J.METRICS, Dashboards, sweetspot, GECKOBOARD, LEFTRONIC

Web & Mobile Analytics

Google, CLIC, TALE, Adobe, KISSmetrics, crazyegg, IBM, webtrends, CLUCKY, compete, Chartbeat, ServiceTick, EVIDON, spring, VisiStat, inspectlet, MouseStats, MOZ, mixpanel, mouseflow, Kontagent, seevolution, bitly, Clickdensity, Localytics, GoSquared, celebrus

Business Intelligence

pentaho, alteryx, ORACLE, Information Builders, QlikView, DataFlux, IBM, MicroStrategy, jedox, GoodData, PROGNZ, tableau, BITAM, SAS, Predixion, ACTUATE, TIBCO, entrinsik, Microsoft, PANORAMA, spagobi, REVOLUTION, THINKMAP, LAVASTORM analytics, JASPER SOFT, board, Entalysis, Yellowfin

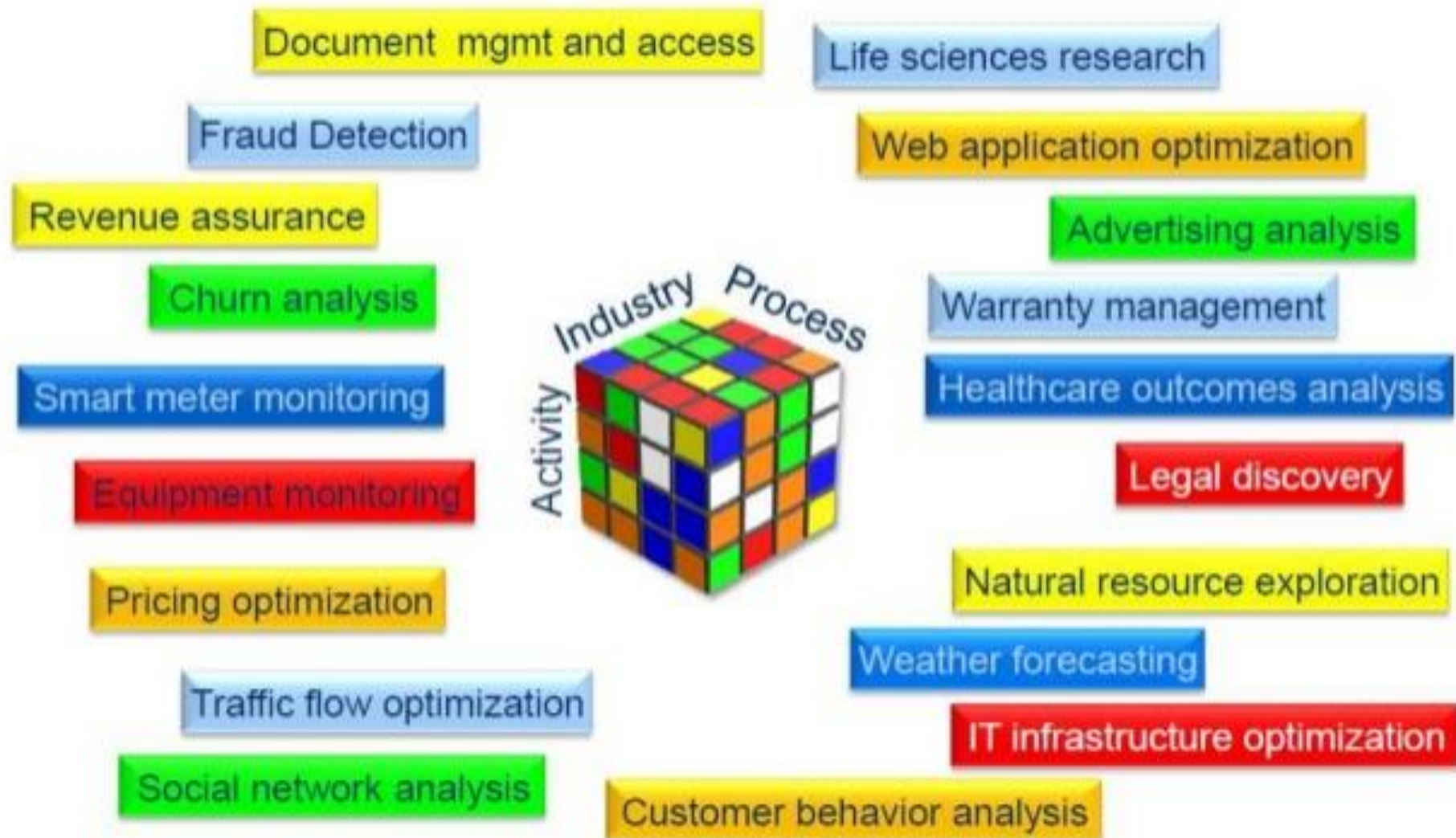


by Scott Brinker @chiefmartec <http://chiefmartec.com>

Pertanyaan yang dapat dijawab dengan Big Data

1. Bagaimana pergerakan IP Kumulatif antarjurusan dan angkatan?
2. Seberapa banyak potensi pajak properti, pajak penghasilan, dan pajak penjualan setiap bulannya?
3. Seberapa banyak potensi pajak kendaraan kalau bisa dibayar bulanan?
4. Berapa cepat pertumbuhan kendaraan setiap bulan dan kapan akan terjadi kemacetan lalu lintas?
5. Produk apa saja yang mulai melambat atau melaju penjualannya?
6. Ada *trend* apa dalam bidang kesehatan sehingga bisa disediakan obat yang sesuai?

Big Data Use Cases



Impacts on Auditing

Analytics dilemmas

The auditing profession is governed by standards that were conceived some years ago and that did not contemplate the ability to leverage big data. Below are four areas that require further consideration.

Substantive analytical procedures: these examine the reasonableness of relationships in financial statement items, to uncover variations from expected trends. However, the standard doesn't cover using big data-based analytics to provide "substantive evidence."

Precision: an audit is designed to detect a material misstatement. When companies record revenues amounting to billions of dollars and users of the financial statements expect them to be free of material misstatements, what level of precision do the auditors require of their data analytics?

Defining audit evidence: the standards provide a hierarchy of evidence, with third-party evidence at the top and management inquiries at the bottom. However, the standards do not indicate what type of evidence analytics provides.

Validating the data used for analytics: auditors receive information from the client and determine its clerical accuracy and completeness. But audit analytics do not use or rely on reports generated by the system but on master and transaction data, extracted directly from the underlying databases.

Ultimately, the audit of the future could look quite different from the audit of today. But to achieve this transformation, the profession will need to work closely with key stakeholders, from the businesses they are auditing to the regulators and standard-setters.

Impacts on Accounting

Big Data can Improve Plans, Operational Results and Reduce Fraud

Profit & Loss Statement

	Total Revenue	\$ 10,000,000		
Less	Cost of Goods Sold	\$ 6,000,000		
	Gross Profit	\$ 4,000,000		<ul style="list-style-type: none"> Identify upsell opportunities Increase traffic Identify supply chain opportunities Identify best time to buy
Less	Expenses			
	Accounting and Legal Fees	\$ 100,000		
	Advertising	\$ 300,000		
	Depreciation	\$ 220,173		
	Electricity	\$ 65,000		Use smart meter data to better time production
	Fuel	\$ 22,000		
	Insurance	\$ 16,231		
	Interest and Bank Charges	\$ 412		
	Postage	\$ 877		
	Rent	\$ 45,231		
	Repairs/Maintenance	\$ 78,871		<ul style="list-style-type: none"> Schedule repairs with minimal impact on production Identify parts before imminent failure Identify high risk drivers
	Training	\$ 92,320		<ul style="list-style-type: none"> Minimize voluntary attrition
	Wages and Salaries	\$ 223,145		<ul style="list-style-type: none"> Reduce workforce acquisition costs Optimize staffing
Less	Other	\$ 871,000		
	Total Expenses	\$ 2,033,260		
Equals	Net Profit	\$ 1,964,740		

DRONE QUADCOPTER JXD 509W 2.4Ghz WiFi FPV HD Camera Drone

Tambahkan ke wishlist [Facebook] Bagikan 0

★★★★★ (1) [Tulis ulasan](#)

Brand: Drone | [Selanjutnya Aksesoris Handphone & Tablet dari Drone](#)



- Jarak Terbang 100 M
- Lama terbang 30 Menit
- Fitur : altitude hold mirip yunneec, dji phantom
- Fitur : auto landing (mendarat sendiri dengan baik hanya 1 tombol)
- Fitur : Pure headless mode
- Bisa Dilihat langsung melalui Handphone

RP 988.000

Sebelum ~~RP 1.680.000,~~
Diskon 41%

BELI SEKARANG

Bagaimana Cara Berbelanja

Pilihan pengiriman (Gratis untuk order minimal Rp 30.000 di kota tertentu)

Propinsi anda:

Apakah Anda tahu?
Anda dapat memilih lokasi Anda untuk melihat...

Dijual & dikirim oleh **Drone Center** ★★★★★

	100% PERLINDUNGAN PEMBELI		Jaminan Kepuasan
Produk Asli	Pembayaran Aman	14 Hari Pengembalian	

Semua Kategori Cari produk, kategori, atau merk Bayar di Tempat Pengiriman Gratis

- | | | | |
|--|---|---|---|
| Drone Syma X8HW + Camera 2 Mega Pixel FPV HD real time/RC
RP 1.399.000 -26%
RP 1.899.000 | Drone MJX X101 + Camera 5 MegaWIFI FPV JXD 509W Headless Pixel FPV HD real time/RC drone
RP 1.549.000 -23%
RP 1.899.000 | Aerial 6Axis 4CH RC Quadcopter
RP 726.750 -15%
RP 855.000 | Syma X8 4ch 6 Ax
RP 1.19
RP 1.699.0 |
|--|---|---|---|

Pelanggan yang melihat produk ini juga melihat



- | | | | |
|--|---|--|---|
| DJI Inspire 1 Pro Quadcopter with Zenmus X5 4K Camera
RP 75.000.000 | Syma X5SW 4CH 2.4G 6-axis Gyro RC Wifi FPV Quadcopter with
RP 761.000 -48%
RP 1.469.000 | Phantom 3 DJI Phantom Standard Putih
RP 6.990.000 -42%
RP 12.000.000 | 2016 Bes 2.4G RC
RP 379.
RP 1.127.0 |
|--|---|--|---|

8 tips for teaching Big Data

Cheryl Meyer (Published January 12, 2016) in www.aicpa.org

- 1 Follow the trendsetters.** Some universities are taking a big leap forward into analytics. [Michigan State University](http://www.msu.edu) and [West Virginia University](http://www.wvu.edu), for example, offer a Master of Science degree in Business Analytics. The University of Mississippi offered a special session this past summer called “Data Analytics for Accountants.”
- 2 Do your homework.** Read about the topic and engaging with practitioners who are dealing with the realities of Big Data every day. Visit sites such as the AACSB, coursera.org, or any of the analytics sites.
- 3 Study up.** [Coursera](http://www.coursera.org) and [Lynda.com](http://www.lynda.com) offer online courses on Big Data for a fee, while [Big Data University](http://www.bigdatauniversity.com), an IBM initiative, and [Teradata University Network](http://www.teradata.com) provide them free. Faculty should also consider attending conferences and workshops that focus on business analytics.
- 4 Familiarize yourself with new hardware and software tools.** The tools include business analytics software [Tableau](http://www.tableau.com), open-source predictive analytics platform [Rapid Miner](http://www.rapidminer.com), Excel add-on [Power Pivot](http://www.microsoft.com), and [Apache Hadoop](http://www.apache.org), an open-source software framework for large data sets.

8 tips for teaching Big Data (cont'd)

Cheryl Meyer (Published January 12, 2016) in www.aicpa.org

5 Start small. Big Data is a big subject, so teaching it on a level that is not overwhelming is key. “You have to teach the concepts of Big Data in a small context so that people can understand it.”

6 Incorporate real-life examples. Wenger’s students gather information from the U.S. Census, which provides free data sets that they can download and work with in his courses. They also “work with baseball statistics to get a feel for how to work with Big Data sets,” he said.

7 Emphasize visualization and storytelling. Big Data makes more sense when students can see why it is actually important to an organization. Show students, for example, how accountants can use software “to analyze a Twitter feed for patterns in order to determine potential fraud scenarios.”

8 Stress that learning Big Data should not be optional. Many CPAs now need to be able to analyze huge volumes of both structured and unstructured data, put it into context, and use it to determine trends and discover theories.

The big data challenge

"How can we analyze all this data?"

"How do I know which attributes and variables are relevant?"

"What key variables are we currently overlooking when it comes to data analytics?"

"How can I make it easier for my organization to analyze big data?"

"What biases may be skewing my results?"



Terima kasih