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FLUX INSIGHTS

REAL TIME DATA ANALYTICS AT SCALE! CONCEPT OR REALITY?



DATA
INFORMATION
INTELLIGENCE
INSIGHT

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TO CHANGE
SOMETHING,
BUILD A NEW
MODEL THAT
MAKES THE
EXISTING
MODEL
OBSOLETE.

A Rapidly Digitising World

DEPLOY LARGE SCALE REAL -TIME ANALYTICS FOR CONSUMER INSIGHTS

In a rapidly digitising world. The time is swiftly approaching. Where the capacity to access, data and share, information.

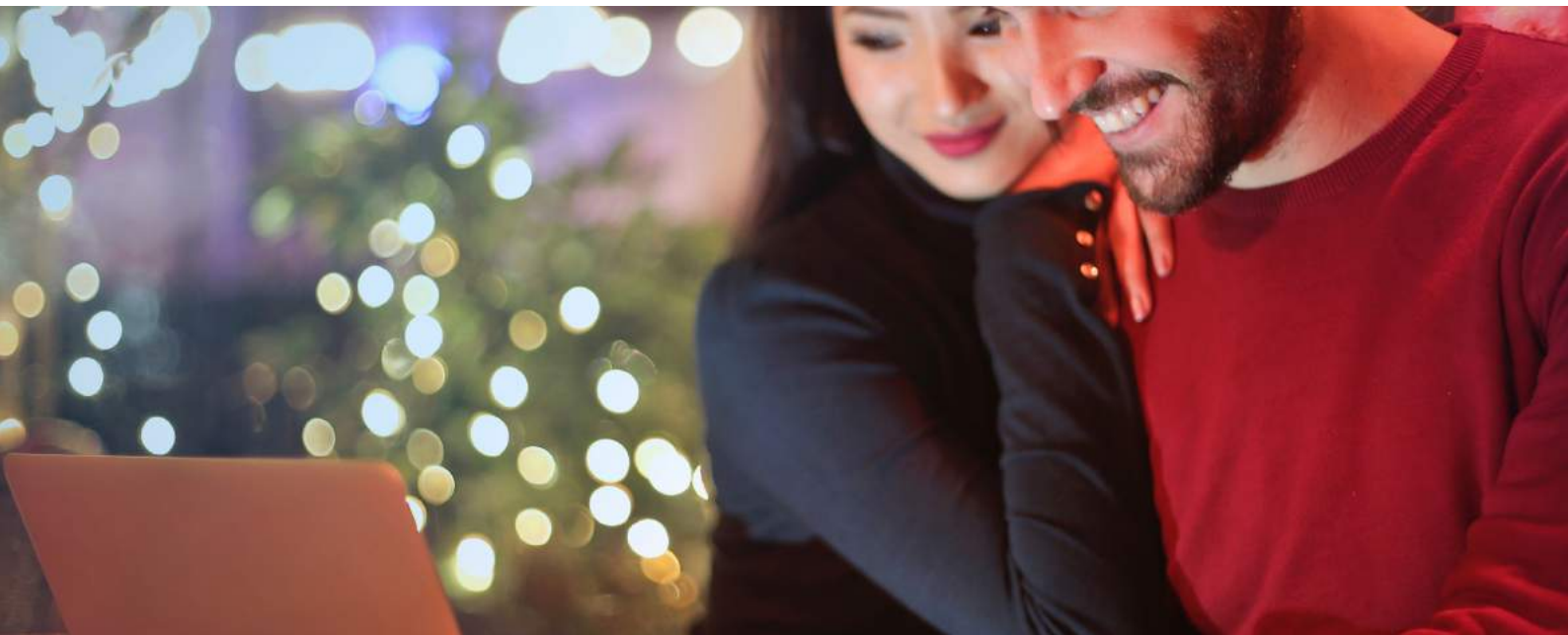
Within and across an organisations network of relationships at scale. As nice to have. Will no longer cut it!

We are already at the beginnings of trading data itself, like a commodity.

The data dividend refers to the enormous opportunity that the digitisation of economies around the globe represents. To companies and consumers alike not just financially, but at a much boarder societal level.

To be clear! The data dividend, is not, about data, nor analytics. However, it really is about strategy.

*Currently companies
only access 1% of their
data*





TRUST

&

COLLABORATION

IS

KEY

FLUX INSIGHTS



Whatever products or services, you sell on your platform. The ability to capitalise on identified trends, accurately forecast consumer behaviours and develop innovative products.

Is feasible through the transformation of multiple sources of data into useful information. To drive better business decision making.

To achieve, this however, requires a pragmatic approach to gaining access to relevant, actionable insights within an organisation.

In parallel, companies must be open to sharing data across their inter and intra relationships within an ecosystem.

Collaboration and trust are the essential ingredients for the creation of a self-sustaining information engine. The most obvious reasons are related to security, compliance and privacy concerns.

However, there are significant business opportunities, that also may be captured through the development of a robust data and information platform.

The Data Dividend
Data Analytics at Scale

Unlocking data silos will be key to appropriating the most value in a world where personalisation may be essential to success



That is accessible to key stakeholders within organisations and across their network of relationships. Issues around GDPR will need to be codified into platforms and applications.

However, for companies to appropriate the greatest value from, the migration of business and consumers online.

C-level executives, must unlock, data silos where there are pools of value, that benefit multiple internal and external stakeholders. To improve the overall financial and non-financial performance of their ecosystems.

Although it is commonplace for a network of companies, to collaborate, to get goods and services, to market.

Through the sharing of their infrastructure, people, process and technologies.

The sharing of data within and between organisations incumbent in ecosystems is currently very limited.

As a result, this is costing companies billions of pounds.

The Data Dividend
Data Analytics at Scale

The development of a successful information engine requires collaboration and trust



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Data - Information - Intelligence - Insight

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OPENING UP DATA SILOS IN A RAPIDLY DIGITISING WORLD

“Big data is at the foundation of all of the megatrends that are happening today, from social to mobile to the cloud, to payments to gaming.”

Chip & Dan Heath

”

The Returns Process

Retail



Retailers process vast amounts of data on consumers. When information regarding inventory status and consumer demand is shared in a fashion retailer supply chain.

It is demonstrated to positively influence supply chain coordination strategies and improve profitability.

Information asymmetry occurs when members in a fashion retailer supply chain own their own private information which is not observable by others.

This affects supply chain coordination strategies significantly.

One of the spill over effects of opacity within fashion retailers supply chain network is that fashion retailers and their suppliers may not share returns data. Leading to information distortion.

And the emergence of one of the most intractable challenges, impacting the apparel industry, the “return’s process”.

However, because of cost and technology constraints, relating to the sizing of garments.

Apparel brands have adopted a one-size-fits-all approach, when creating apparel for different body shapes and sizes.

The Data Dividend
Data Analytics at Scale

58% of consumers do not like return processes that are not free

**ACCORDING TO CLEAR RETURNS THE
RETURNS PROCESS COST UK RETAILERS**

£60bn

£20bn from items bought over the internet

Date: Jan 2016

**IN THE USA STATISTA ESTIMATES
RETURN DELIVERIES WILL COST**

US\$ 550bn

Per Annum

75.2%

More than the prior 4 years. Jan 2019



According to eMarketer online ecommerce sales worldwide is forecasted to reach US\$4.9trillion in 2025. Hence, we can expect the number of returns to increase.

Companies in the retail industry are leveraging the returns process as a competitive advantage. According to research by MetaPack;

25% of consumers find the returns process, for their online purchases, difficult or frustrating.

58% cited dissatisfaction because it is not free.

The inconvenience of dropping off parcels. Was cited by (46%) of consumers.

83% of consumers stated that they would shop at a retailer that made the returns process easy. This was true across all demographics, including light, medium and heavy users.

There is also a link between the returns and repeat purchases.

Organisations such as MetaPack, have developed a global returns platform, for retailers to manage the returns process.

However, reducing the number of returns, considerably, should be the long-term primary goal.

Leveraging data from across key parts of an organisation's ecosystem may be one the of the pillars to achieving this feat.

The Data Dividend
Data Analytics at Scale

25% of consumers find the returns process, for their online purchases, difficult or frustrating

MOST ORGANISATIONS HAVE
BARELY SCRATCHED THE
SURFACE. OF THE
OPPORTUNITY, THAT THE
MIGRATION ONTO THE
INTERNET & BIG DATA WILL
BRING. THE NUMBERS SPEAK
FOR THEMSELVES.

4.68 BN

The total number of mobile phone users worldwide by 2020

4.4 BN

Internet users worldwide in March 31, 2019.

1%

Equates to the amount of data exploited by organisations.

5%

Is the total amount, of data that constitutes transactional data. Yet ...

93%

Of all data in the digital universe will be unstructured.

DATA IN
ORGANISATIONS IS
GROWING
EXPONENTIALLY

4.4 ZB -

In 2013

44ZB

In 2020

DATA ACCESSED & ANALYSED
WITHIN ORGANISATIONS

0.5%

ACCESSIBLE DATA

DATA ACCESSED &
ANALYSED WITHIN
ORGANISATIONS

99.5%

Represents Inaccessible Data

Consumption Based Consumer Finance

Finance



Digital transformation, across other industries, exposed consumers, to the convenience, ease of use and the utility of tech enabled digital products.

When business owners of SME's and consumers, interact with retail finance products, they expect the same level of immediacy, with solutions customised to their requirements.

Also, the economics of banking has shifted. With the rise of cloud infrastructure, as a viable alternative to expensive data centres.

And the extensive use of mobile channels. Essentially means, according to the World Bank. That the provision of financial services no longer requires

high fixed-cost mainframe data centres and branch networks.

Also, in a mobile first economy using traditional demographics to understand the risk profiles of consumers. Now no longer addresses the demands of consumers and the SME's that service them.

The vast streams of real-time data produced from financial and non-financial apps. Requires a new way of leveraging consumer data.

Hence companies are utilising consumption-based finance, to understand the risk profiles of consumers prior to offering financial services.

The Data Dividend
Data Analytics at Scale

22% of global respondents would be happy for an automated system to make a decision based on their previous purchase behaviour in certain situations



This requires the sharing of data.

Also, consumers have become open to under certain conditions to providing access to their financial and healthcare data.

In order to facilitate in the delivery of real-time automated decision making.

The Data Dividend
Data Analytics at Scale

**48% of consumers
expect retailers to
provide on-demand
personalised
promotions**

Precision Medicine

Healthcare



There is a growing demand from consumers to gain access to more personalised health information.

That provides insights into their predisposition to diseases, guidelines into diet based on nutrigenomics, and their culturally specific needs.

As consumers connect, food choices, the environment and their genetics to health. A number of movements such as the Wellness, the Quantified-Self and the Bio-Citizen are converging around genomics.

However, to capitalise on the vast streams of information that is emanating from mobile devices.

Requires significant trans-disciplinary expertise to extract valuable information and gain actionable knowledge to deliver positive healthcare outcomes.

In parallel, organisations are leveraging cloud computing, and emergent technologies such as machine learning to analyse healthcare data at scale.

Over the past decades medicine has migrated from a **one-size-fits-all** paradigm to **stratified medicine** in which clusters of individuals with similar disease, risk profiles.

Are assumed will respond in a identical manner to a given set of medical programmes.

The Data Dividend
Data Analytics at Scale

**Consortia
comprised of
government,
academia,
companies from
the field of
genetics, venture
capital and
healthcare are
collaborating on
population-wide
genomic projects**



However, in precision medicine, each patient is treated as an individual. Hence, they receive **personalised healthcare** tailored to their needs.

However, for healthcare professionals and consumers to capitalise on the enormous benefits the accumulation of all this real-time information will bring.

Requires the sharing of anonymised data at a community and individual level.

Healthcare data falls into three broad areas, consumer level genetic data, EMR data and wearables data.

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Data Analytics at Scale

In the UK the 100,000 Genomic Project is set to sequence the genetic profiles (genomes) of 100,000 NHS patients

Supply Chain Optimisation

Industries



The emergence of the internet of things and the use of API's a new type of online marketplace is emerging.

Marketplaces that trade in data. They are essentially platforms, that create environments where data can be bought and sold.

Opening new opportunities, for the development of additional revenue streams, for organisations that have built-up proprietary monetisable data.

In this instance, information technology operates as an enabler, for collaboration and sharing of data and information, across the network of suppliers.

The activities and relationships of internal and external actors. Incumbent within the network, are supported by IT systems, and processes. That are pooled across the network of internal and external partners.

Since data is a strategic asset, it is essential to increase the access of key stakeholders to the pool of valuable data. Hidden within data silos.

The sharing of information within a supply chain requires the formalisation of a data strategy, governance, security and privacy policies around what data is shared, how it is used and who can have access to it.

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**Information
Sharing is at the
Heart of
Supply Chain
Collaboration**



This will form the foundation for building the level of trust necessary to ensure that sensitive information can be shared whilst mitigating the risks associated with data sharing.

So how can organisations with supply chains deploy modern technologies. To increase coordination and collaboration by sharing of data?

Through the deployment of modern cloud technologies such as Google Cloud Services, AWS or Microsoft Azure to conduct complex large scale analysis.

To leverage established and emergent technologies. Aiding the analysis of structured, semi-structured and external data.

Eliminating “data inflexibility” as a result of complex, rigid inflexible data and analytics infrastructure.

Additional cloud services enable the provision of an elastic and parallel resource available with pay-as-you go service models. Reducing the cost of entry into data science.

In parallel, internal and external business processes essential to get goods to market may be transformed through the deployment of robotic process automation (RPA).

All repetitive tasks that can be automated should be. Freeing employees to focus on high end business activities.

The Data Dividend
Data Analytics at Scale

Supply chains are another facet of competition, and the success of supply chains is determined in the marketplace by the consumer

OPENING DATA SILOS

We are now entering a phase of growth in the digital economy where. Companies and consumers will begin to exchange their data for hard cash.

Unleashing information hidden away within data silos.

Some savvy entrepreneurs will create new companies, solely on their ability to access this information.

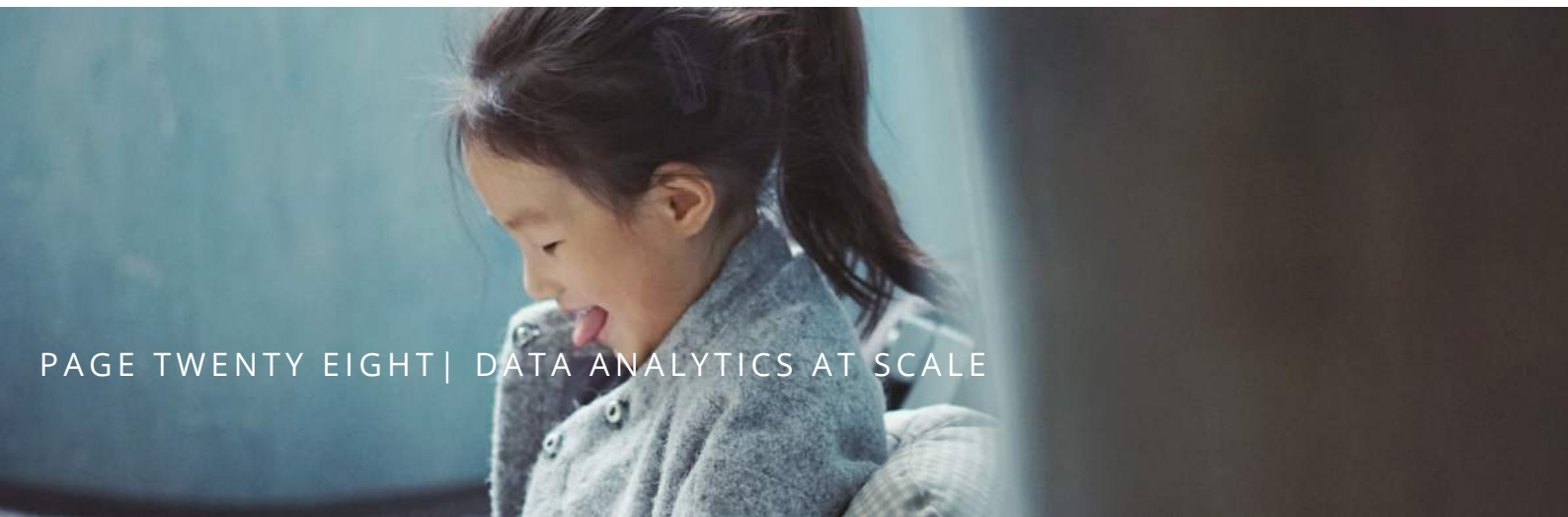
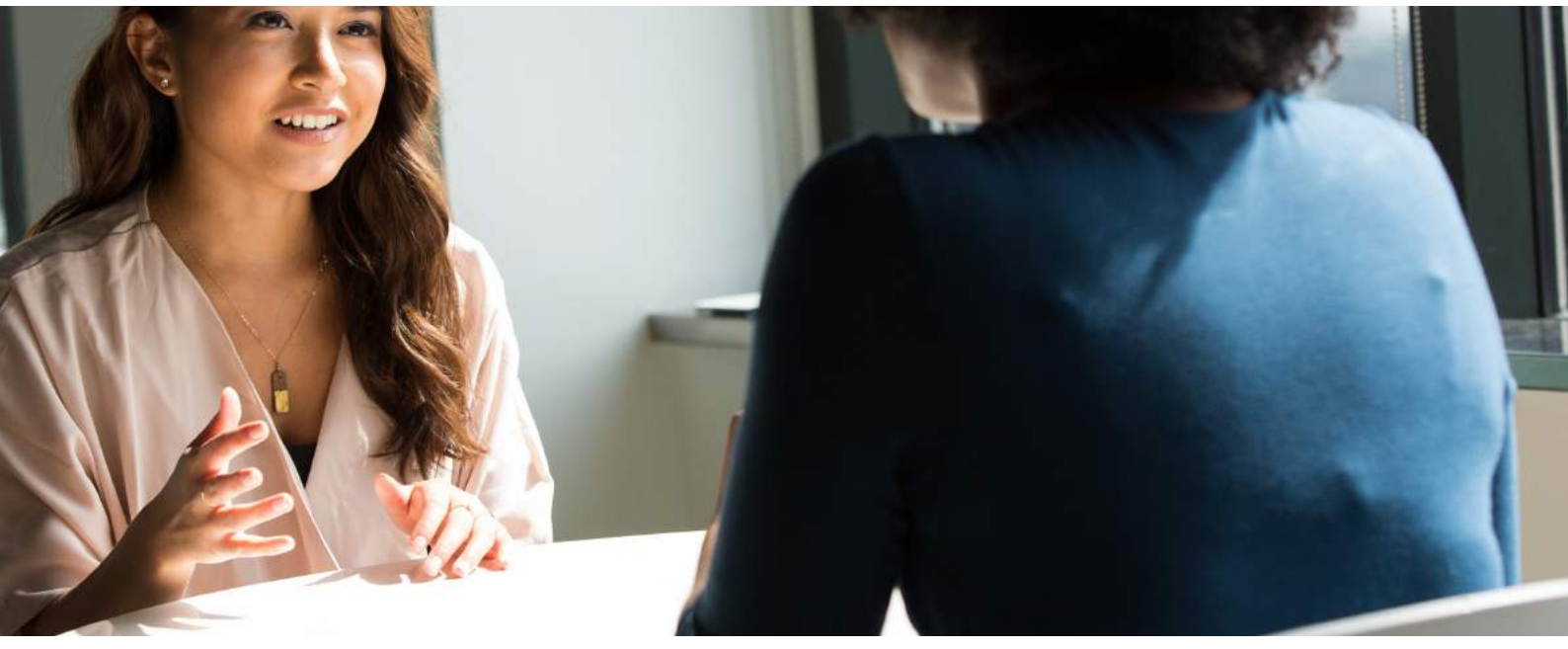
New start-ups entering into multiple industries are unencumbered by legacy technologies.

And are deploying data driven, value propositions that meet and exceed consumer expectations.

Concurrently consumers and sme's will continue to demand personalised goods and services across a plethora of industry sectors. Some of their demands include;

- * Real-time access to up to date, financial, information 24 hours a day, 7 days a week.
- * Real time access to all healthcare data 24 hours a day, 7 days a week

The sharing of this valuable resource will be key driver of success.



What Consumers Are Saying



59% of global respondents said they would be happy to hand over decision making to an expert or automated system in certain situations. (Automated Purchasing)

33% say “Most of the time I’m happy for someone else to make decisions for me” (Automated Purchasing)

46% agree “I would be less inclined to buy from a company that was not seeking ways to personalise their product/ service to me. This has become the standard I expect”. (Personalisation)

74% say “I am more likely to buy a product that has been customised to my specification”. (Automated Purchasing)

48% of consumers expect retailers to provide on-demand personalised promotions. (Personalisation)

22% of global respondents would be happy for an automated system to make a decision based on their previous behaviour and purchases in certain situations. (Automated Purchasing)



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WHERE THE
PRESSURE TO
SHARE DATA IS
COMING FROM!

“Companies that exploit data as a strategic asset are the one’s that will survive and thrive. Their view is that, it is neither about data nor analytics. However, it really is about strategy.”

”

Consumers

THE DEMAND FOR PERSONALISED GOODS AND SERVICES ACROSS A PLETHORA OF INDUSTRY SECTORS

REAL-TIME ACCESS TO FINANCIAL, INFORMATION 24 HOURS A DAY, 7 DAYS A WEEK.

REAL TIME ACCESS TO ALL HEALTHCARE DATA 24 HOURS A DAY, 7 DAYS A WEEK.

Data Marketplace Platforms

WE ARE NOW ENTERING A PHASE OF GROWTH IN THE DIGITAL ECONOMY WHERE. COMPANIES AND CONSUMERS WILL BEGIN TO EXCHANGE THEIR DATA FOR HARD CASH.

UNLEASHING INFORMATION HIDDEN AWAY WITHIN DATA SILOS.

SOME SAVVY ENTREPRENEURS WILL CREATE NEW COMPANIES, SOLELY ON THEIR ABILITY TO ACCESS THIS INFORMATION.

New Market Entrants

THE ENTRY INTO THE MULTIPLE INDUSTRIES BY START-UPS UNENCUMBERED BY LEGACY TECHNOLOGIES.

DEPLOYING DATA DRIVEN, VALUE PROPOSITIONS THAT MEET AND EXCEED CONSUMER EXPECTATIONS.

Employees

WANT TO WORK IN A SEAMLESS ENVIRONMENT. WHERE THEY HAVE UP-TO-DATE DATA ON CUSTOMERS.

ARE ABLE TO RECEIVE TIMELY ACTIONABLE INFORMATION IN REAL-TIME.

CAN AUTOMATE MANUAL PROCESSES AND FOCUS ON HIGH VALUE ACTIVITIES





In a rapidly digitising world consumers expect personalised content, products and services. Up-to-date information and short-load times.

It is impossible to build real-time applications at scale on legacy data processing systems. Primarily because the data architectures, in legacy systems are siloed off into two separate areas.

However, with the advent of modern processing frameworks, within databases able to accommodate; high volumes of operational transactions and fast analytical queries.

Through the exploitation of distributed architectures and in-memory storage.

Organisations can conduct transaction processing and operational analytics in one place.

Thus, permitting the comparison of real time data to statistical models and the aggregation of historical information.

This is what will enable firms to drive insights across their network of relationships.

The Data Dividend
Data Analytics at Scale

For supply chains to be successful, requires, “decision dominance” by the primary controller of the supply chain

CLOSING THE GAP

Applications of ML and AI in Marketplaces

To assist you on your journey to gaining greater access to inaccessible data within your organisations. And exploit readily available external data.

Complete our online [questionnaire](#) to determine if your organisation would benefit from deploying machine learning technologies.





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"ERRORS USING INADEQUATE DATA ARE MUCH LESS THAN THOSE USING NO DATA AT ALL."

Charles Babbage

JEFF WEINER

"DATA REALLY POWERS EVERYTHING THAT WE DO."

Marissa Mayer

"With data collection, 'the sooner the better' is always the best answer."

W Edwards Deming

"In God we trust, all others bring data."

Douglas Merrill

"Big data isn't about bits, it's about talent."

"DATA ARE JUST SUMMARIES OF THOUSANDS OF STORIES - TELL A FEW OF THOSE STORIES TO HELP MAKE THE DATA MEANINGFUL."

Dan Heath

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