Big Data Era for Business Intelligence

BIG DATA?

"There were 5 exabytes of information created between the dawn of civilization through 2003, but that much information is now created every 2 days."

Eric Schmidt, of Google, said in 2010

"Without big data, you are blind and deaf in the middle of a freeway"

Geoffrey Moore, management consultant and theorist

"Information is the oil of the 21st century, and analytics is the combustion engine."

Peter Sondergaard, Gartner Research

Conv. Between Nathan and Caleb

"Almost every cell phone has a microphone, a camera, and a means to transmit data. So I switched on all the mikes and cameras, across the entire fucking planet, and redirected the data through Blue Book. Boom. A limitless resource of facial and vocal interaction."

When Dr. Caster Awake in the System

"I just couldn't see it before. I can't describe it. It's like my mind has been set free. You need to get me <u>online</u>. I need to access financial markets, educational databases."
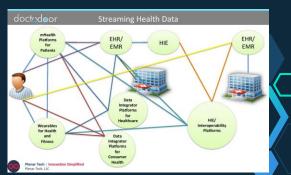
Why is big data growing?

Data from Retailing

2012

Wal-Mart Stores	328.7
Kroger	92.2
Target (formerly Dayton-Hudson)	72.0
Costco	71.0
Home Depot	66.0
Walgreens	65.0
CVS Caremark	63.7
Lowe's	49.4
Safeway	37.5
Amazon.com	34.4

From EC.com

Why it is growing

Log, Finance, Health

Logistics, financial & health data

From EC.com

Streaming Health Data

Why is big data growing?

Social Media

Logistics, financial & health data

From EC.com
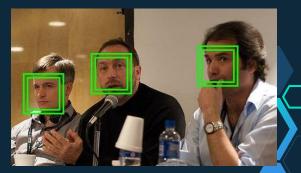
Why is it growing

Facial and other automatic Recognition

Social media

Why is it growing

IoT

From EC.com

Why it is growing

New Forms of Data

Mobile data collection brings an opportunity to collect new forms of data. New types of data now possible to collect from mobile surveys include taking or uploading photos, videos and audio recordings.
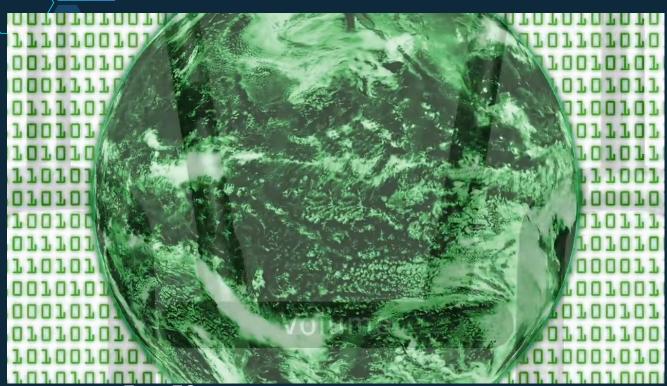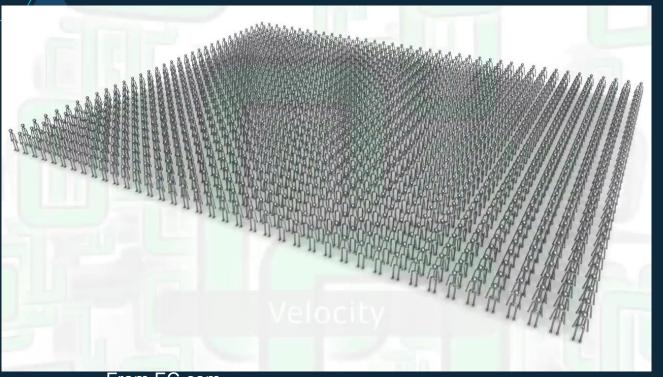
10 Mobile Survey Tips

SURVEY ANALYTICS
Enterprise Research Platform

Internet of Things

From EC.com

2

Key Characteristics?

The 3 V

The 3 V's

Volume

From EC.com

The 3 V's

Velocity
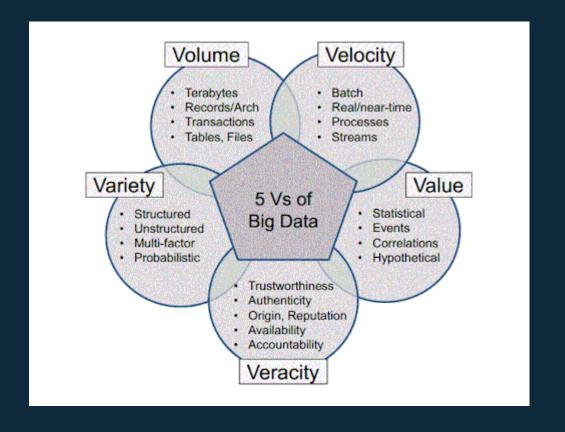
From EC.com

Volume

Velocity

The 3 V's

Variety

Volume

Velocity

Variety

From EC.com

Now it describe as 5 V

Big Data, Statistic, Machine Learning
(it is naive trying to differentiate them)
High Volume Data

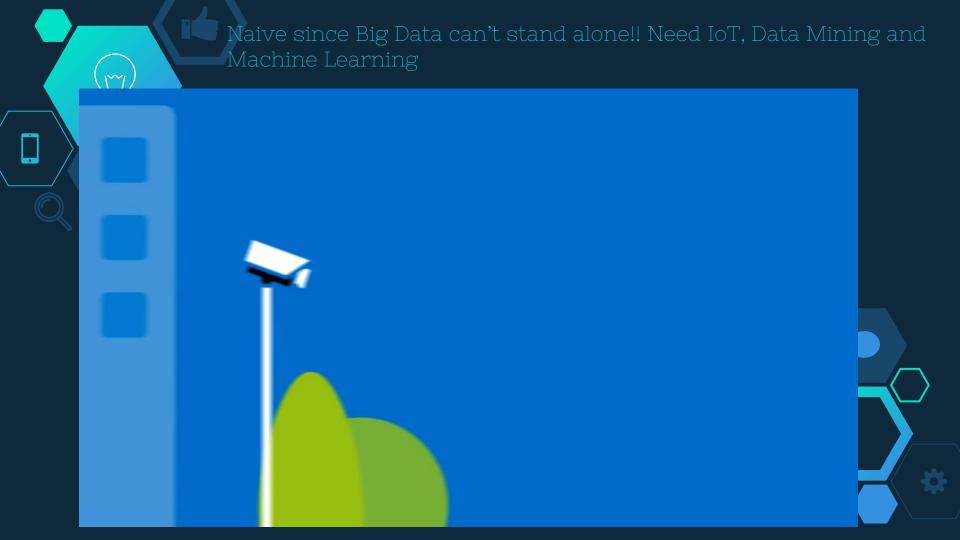Korelasi
Interseksi
Menemukan Pola
Menghasilkan Hipotesis

Pemodelan dan
Menguji Hipotesa

Moderate Volume Data

T. Otsazek, 2014

Naive since Big Data can't stand alone!! Need IoT, Data Mining and Machine Learning

A few Research in AIMP? Before I state business Related

3

- Forex Prediction → ML (yes), Data Mining (yes), Big Data (?)
- Rainfall Forecasting → ML (yes), Data Mining (yes), Big Data (?), IoT (?)
- Intelligent Transportation System → Pattern Recognition (yes), AI (yes), Big Data (?), IoT (?)
- **What is AI in this case**??? How big Data Help Us Improve research?

Forex Prediction

◇ Based on Supply and Demand Theory (for Technical Analysis).
◇ Traders usually use combined method of statistic
◇ We have developed ML Approach and good at H1
◇ 'What if' we can learn Fundamental???

Prediksi Nilai Tukar Valuta Asing Dengan Menggunakan Metode Support Vector Regression (SVR)
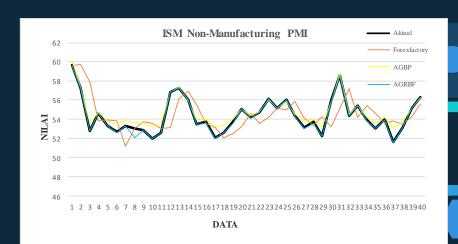
Forex Prediction

◇ Start DM on Forex Factory
◇ **Second What IF Question????** → if its online

Forexfactory justru menghasilkan prediksi yang berbeda dengan nilai aktual.

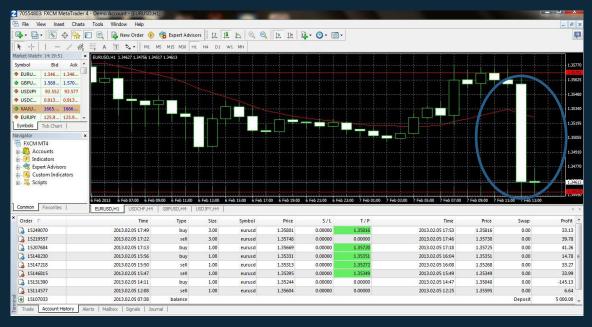Gambar 22. Pengaruh Nilai Berita ISM Non-Manufacturing PMI.

Pengaruh berita ini pada pergerakan nilai mata uang pada 6 juli 2015 jam 17.00 yang ada pada gambar 22 pergerakan cenderung naik. Namun pengaruh berita justru terjadi sebelum keluarnya nilai berita pada jam 17.00. Maka dari itu dilakukan uji prediksi untuk mengetahui seberapa

Forex Prediction

◇ How we can solve sudden fundamental treath???
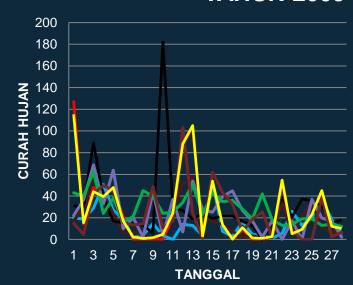◇ Third What IF Question???? → Big Data???

Rainfall Forecasting

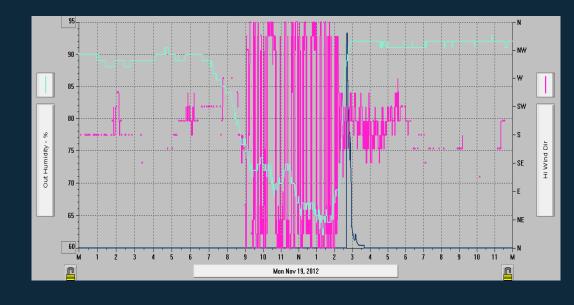◇ DM on metheorological variables (localize)
▪ **Target in : Mostly has Covariance**
                    Which time lagging factors

WeatherLink Network

LAPAN - Civil Eng UNHAS, South Sulawesi

26°   HIGH 26°C   at 06:58
  LOW 24°C   at 04:17

Wind	Calm	High Gust 1.8 mm at 00:40
Humidity	85%	Feels Like 29°C
Rain	0.00"	Seasonal Total 107.29"
Barometer	1008.6hPa	Rising Rapidly

Current Conditions as of 7.23 Thursday May 17, 2012

DAVIS

TAHUN 2009

Legend:
- DATA AKTUAL BMKG
- PREDIKSI SVM
- PREDIKSI NN - FUZZY
- PREDIKSI ANFIS
- PREDIKSI WAVELET
- PREDIKSI GA
- PREDIKSI ARIMA
- PREDIKSI ASTAR

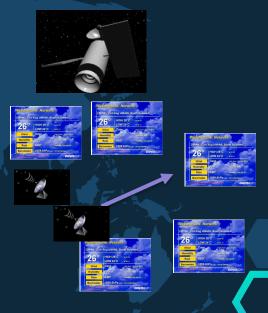# Intelligent Transportation System
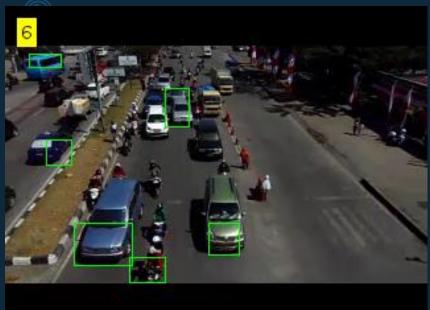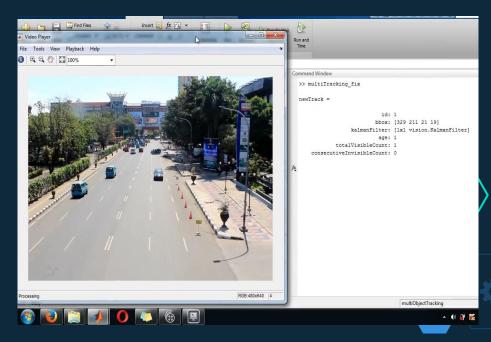
Smart Adaptive Traffic Light

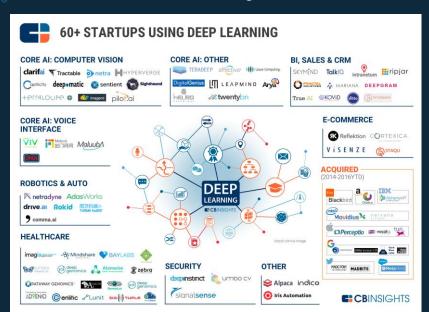# Target in Counting Number and Velocity
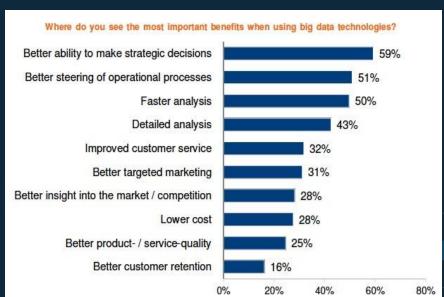
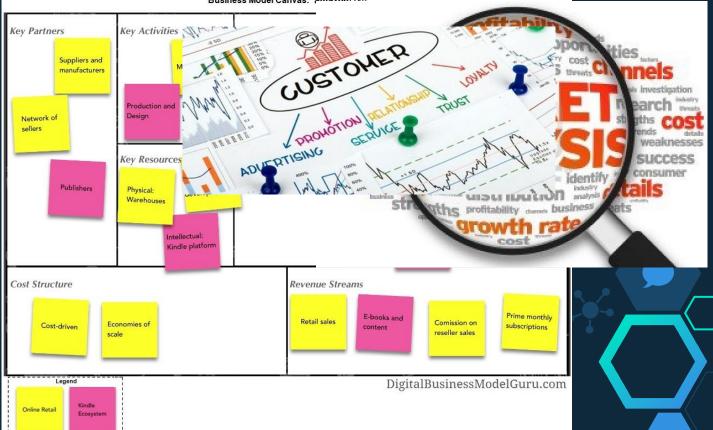# Ok Enough Research! Let's see business in big data.

Business in Big Data   or   Enhancing Business through Big Data
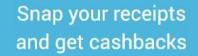
Business Model Canvas: amazon.com

Key Partners

- Suppliers and manufacturers
- Network of sellers
- Publishers

Key Activities

- Production and Design

Key Resources

- Physical: Warehouses
- Intellectual: Kindle platform

Cost Structure

- Cost-driven
- Economies of scale

Revenue Streams

- Retail sales
- E-books and content
- Comission on reseller sales
- Prime monthly subscriptions

Legend

- Online Retail
- Kindle Ecosystem

DigitalBusinessModelGuru.com

"Personal data is the new oil of the internet and the new currency of the digital world."

— Meglena Kuneva
European Consumer Commissioner

Thanks!

Berhenti Menghujat, Saling Menyalahkan, dan Saling Menyindir. Dan berhentilah MENGELUH, karena kita semua anak bangsa.

Mari buktikan kecintaan ke negeri ini dengan KARYA NYATA!!!

A.I.M.P

Artificial Intelligence and Multimedia Processing
RESEARCH GROUP
HASANUDDIN UNIVERSITY