

# Big Data Technology

---

## Business Cases Sharing

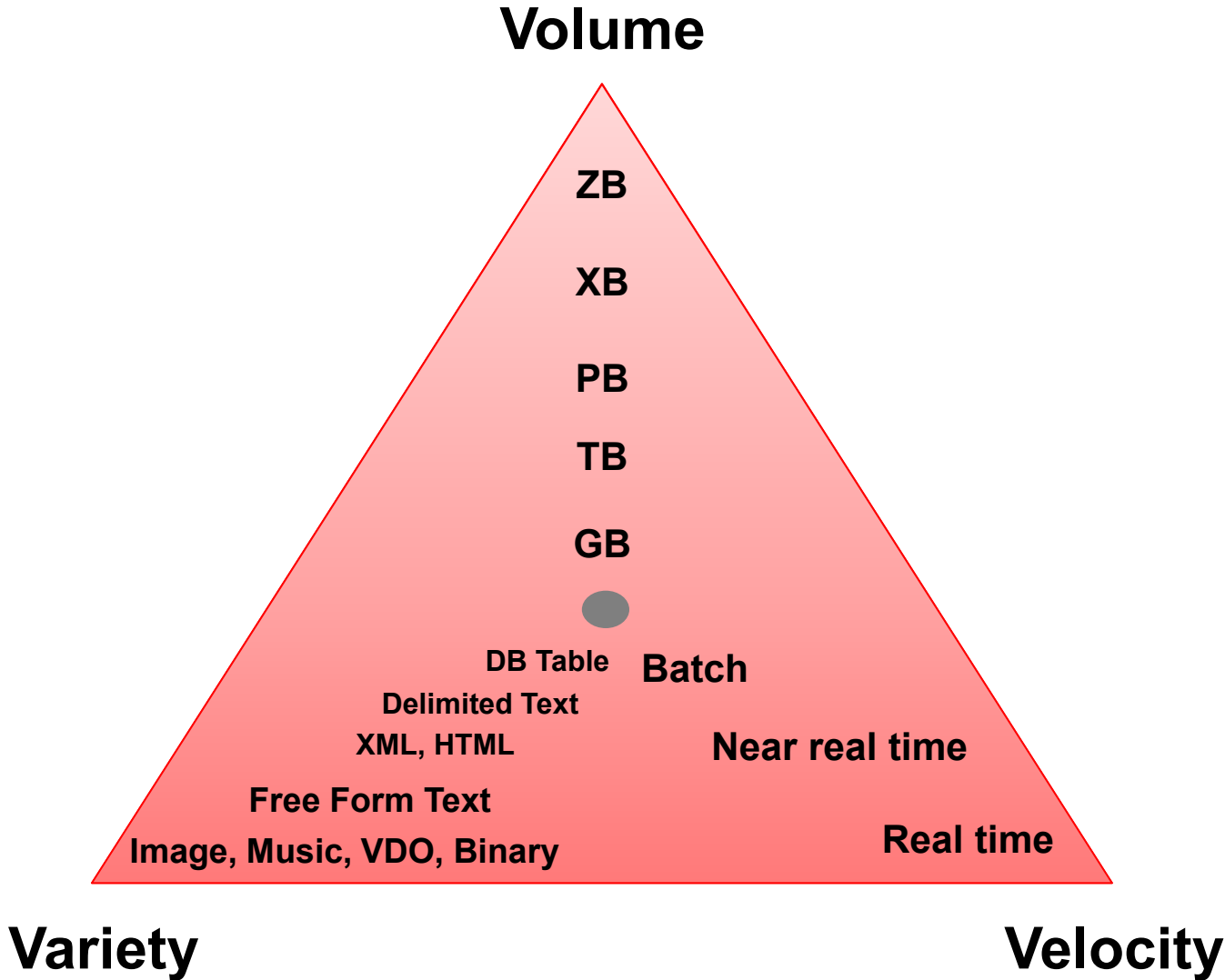
Danairat T.

Certified Java Programmer, TOGAF – Silver  
danairat@gmail.com, +66-81-559-1446

# Agenda

- **Introduction to Big Data**
- **Big Data – Driving Data to Business Value**
- **Big Data Use Cases**
- **Internet of Things and Use Cases**
- **Project Life Cycle**
- **Big Data Discovery Worksheet**
- **Big Data Platform**
- **Key Success Factors**

# Big Data Introduction



# Driving Data to Business Values

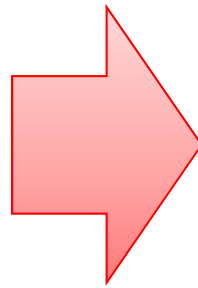
## Data Inputs:-

- **Business Activities**
- **Conversations**
- **Web Logs**
- **Social Media**
- **Words**
- **Picture**
- **Voice**
- **Videos**
- **Sensors**
- **Etc.**

# Driving Data to Business Values

## Data Inputs:-

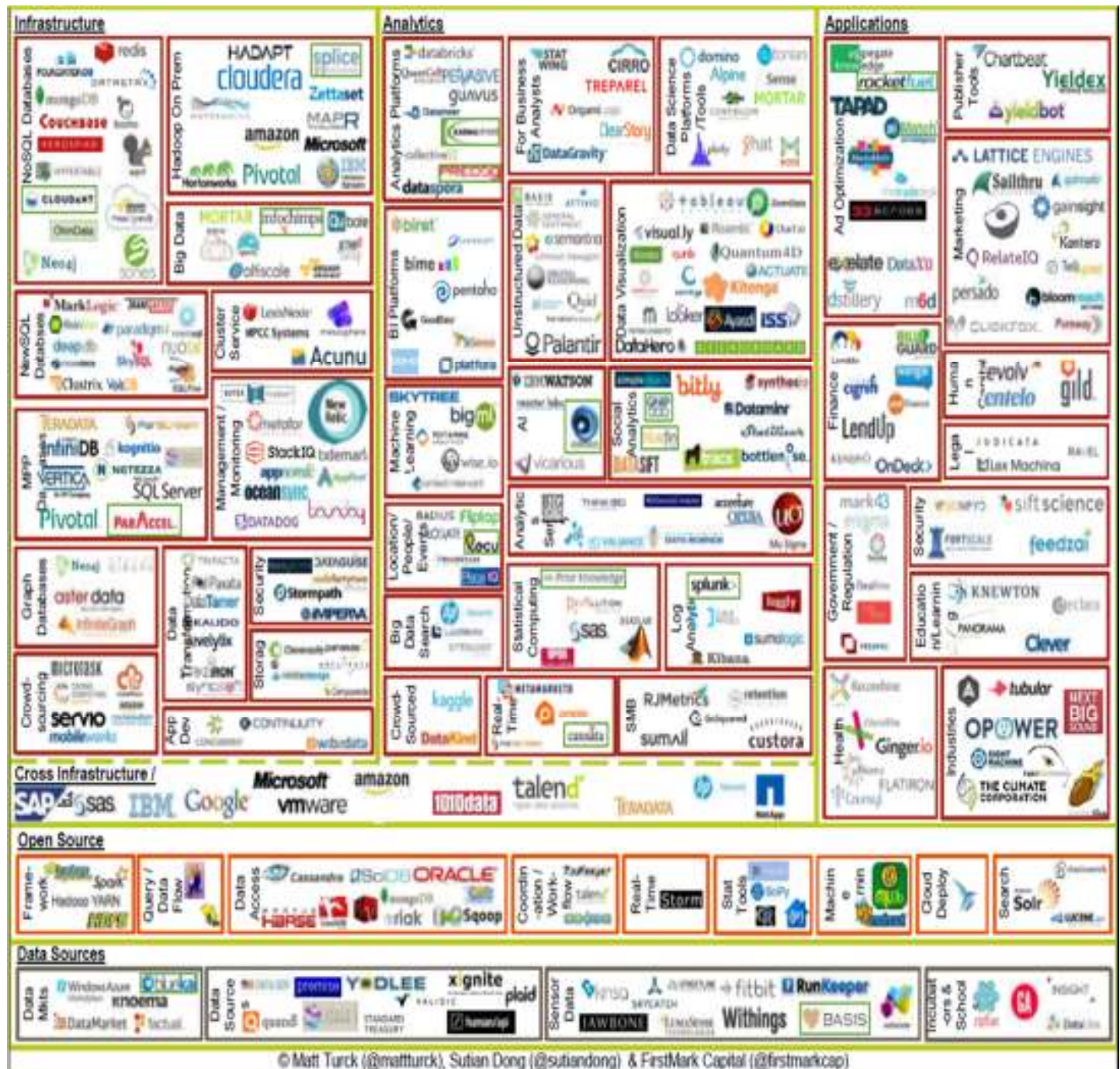
- Business Activities
- Conversations
- Web Logs
- Social Media
- Words
- Picture
- Voice
- Videos
- Sensors
- Etc.



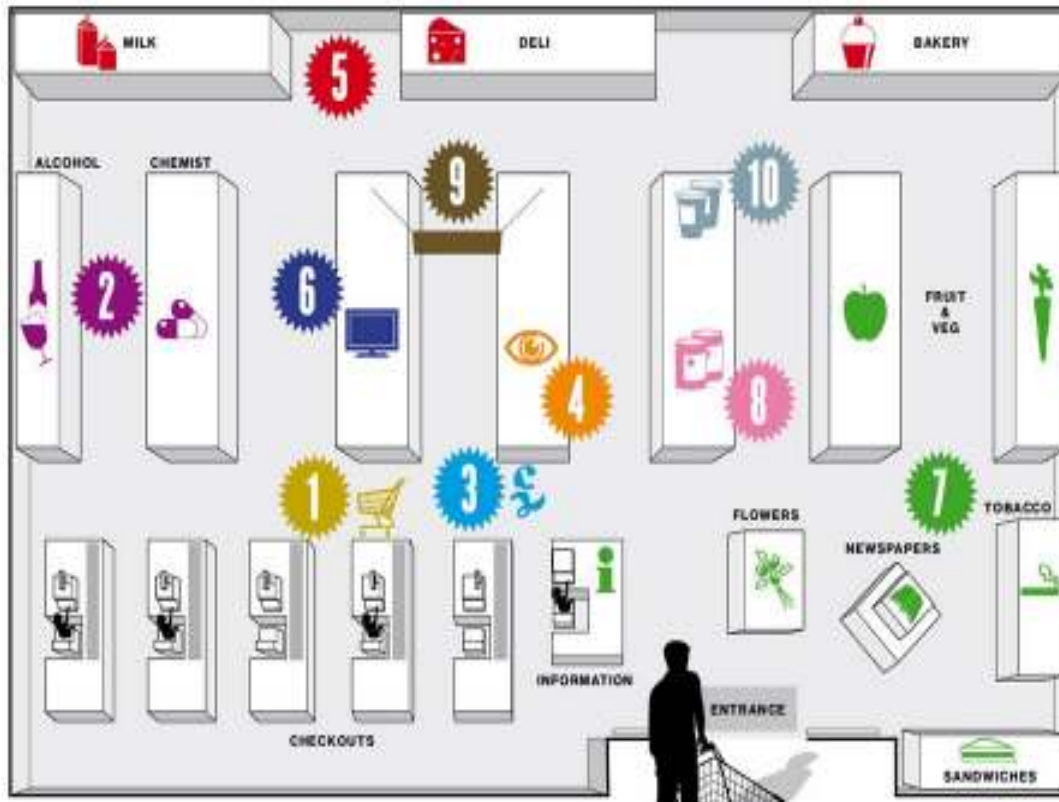
## Business Values:-

- Pricing analytics
- Text Analytics
- Sentiment Analysis
- Relationship Analysis
- Contextual Analysis
- Face Analysis
- Voice Recognition
- Behavioral Analysis
- Fraud analytics
- Etc.

# Big Data Players



# Retails Store Use Cases



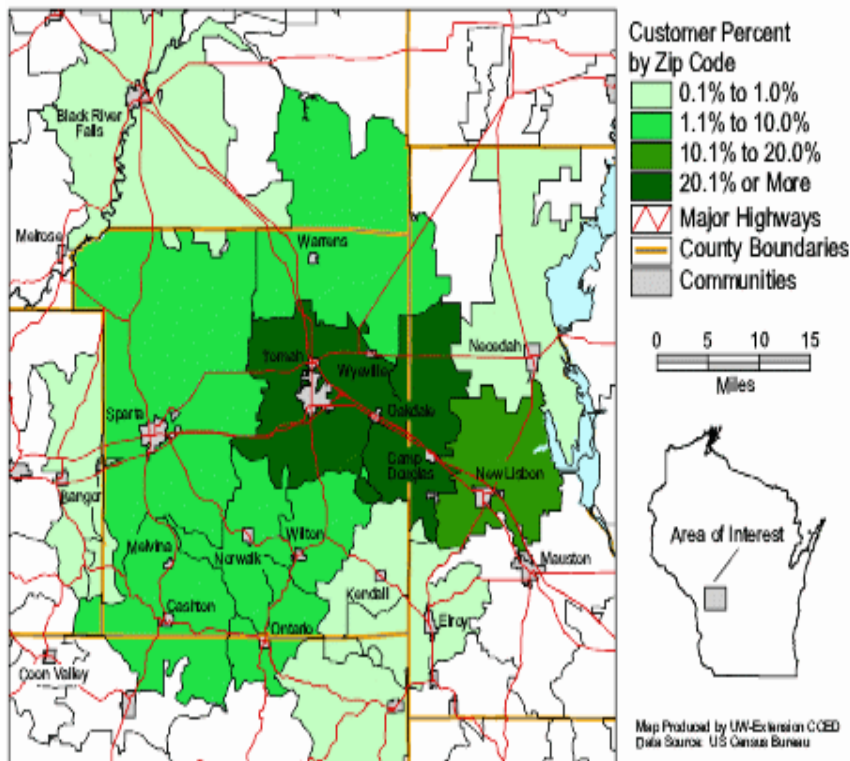
1. Golden zones
2. More expensive items with bigger margins
3. Endcaps
4. Buy level
5. Traffic builder
6. Action alley
7. Front of shop
8. Signpost brands
9. Hanging signs and shelf signs
10. Range reduction  
Less can be more. Average household uses 300 products in a year

independent.co.uk

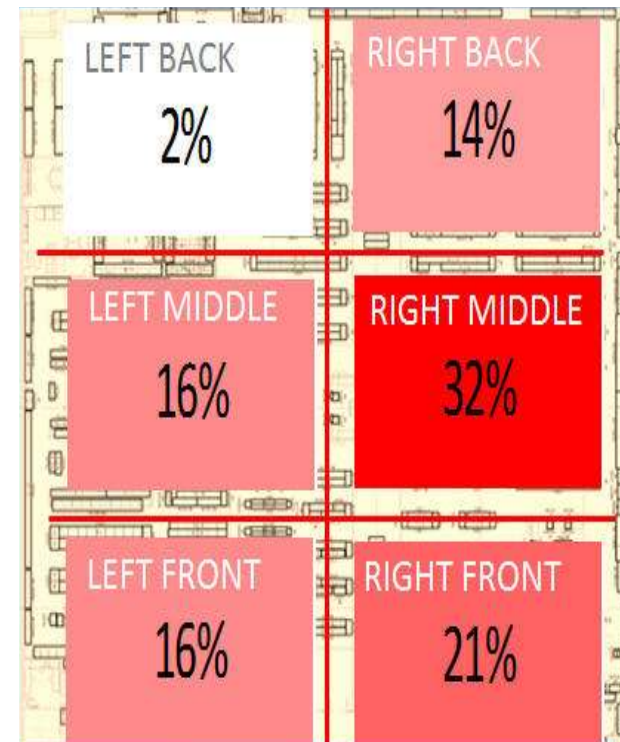


# Retails Store Use Cases

## Customer Density



## Store Layout Profits

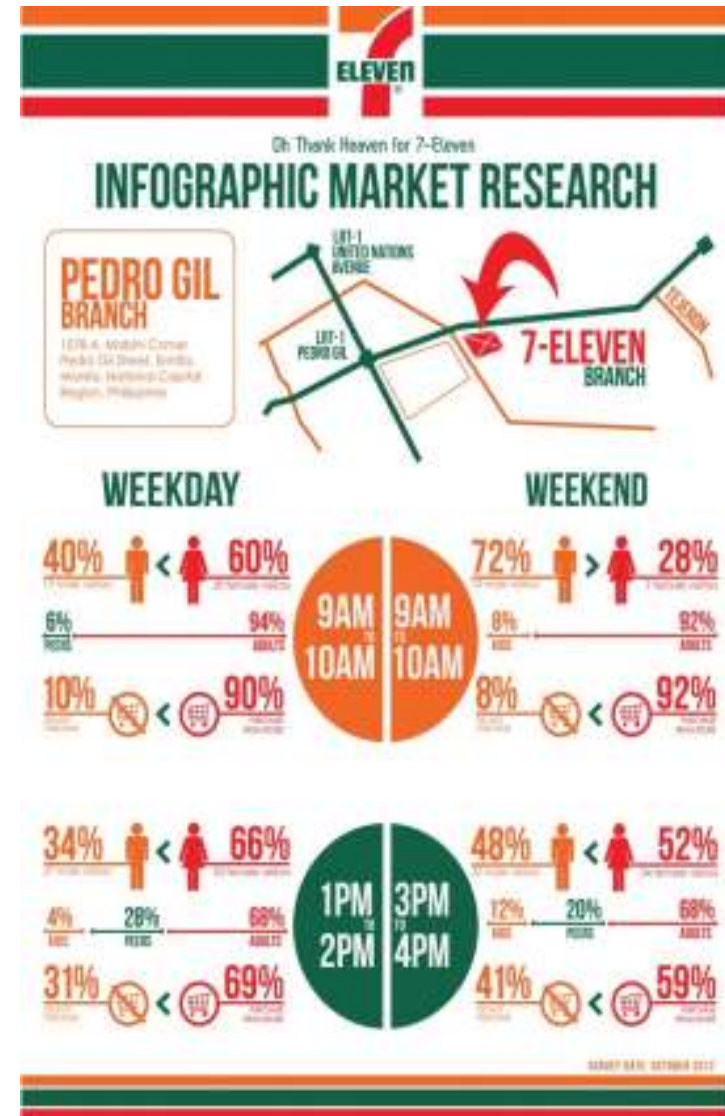


independent.co.uk

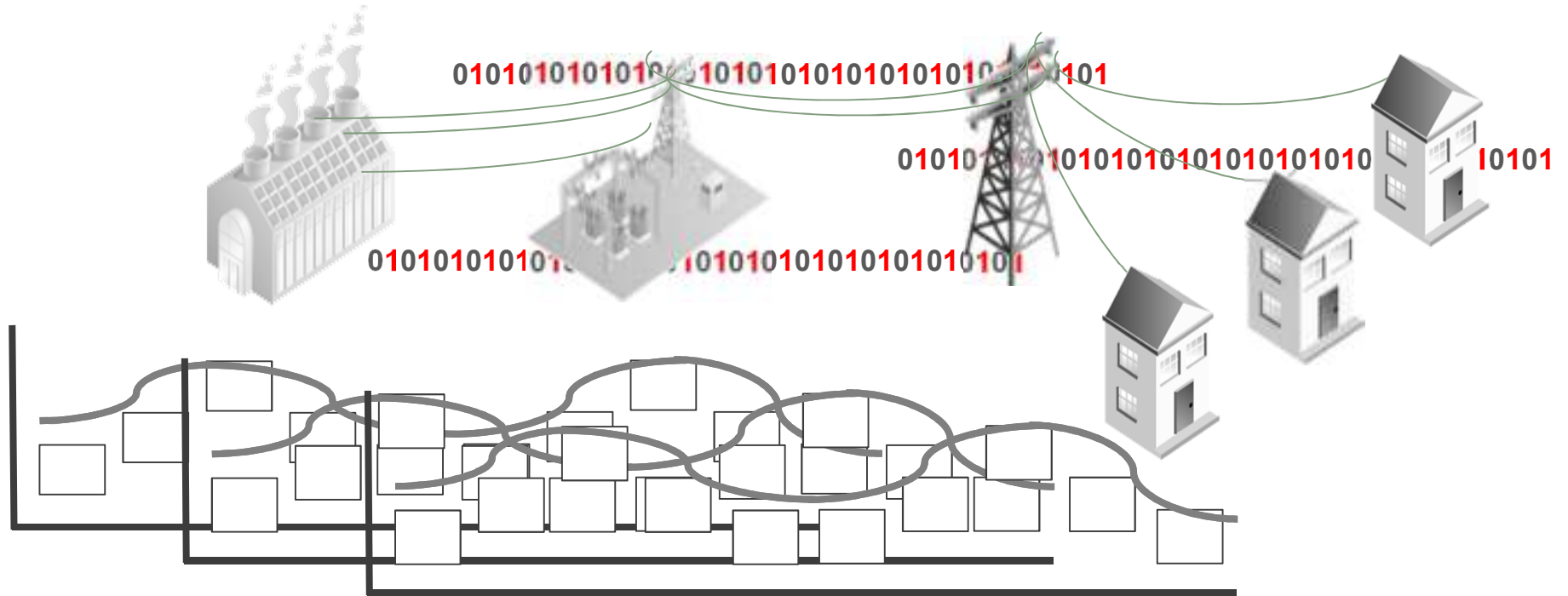


# Retails Store Use Cases

1. Product Profitability
2. Real-time Inventory Analytics
3. Production Cost and Time Optimization
4. Packaging Time Optimization
5. Products Distribution Optimization
6. Shelf Analytics
7. Return products analytics



# Energy User Cases



## What they collect

Smart Metering - *Monitors power usage*

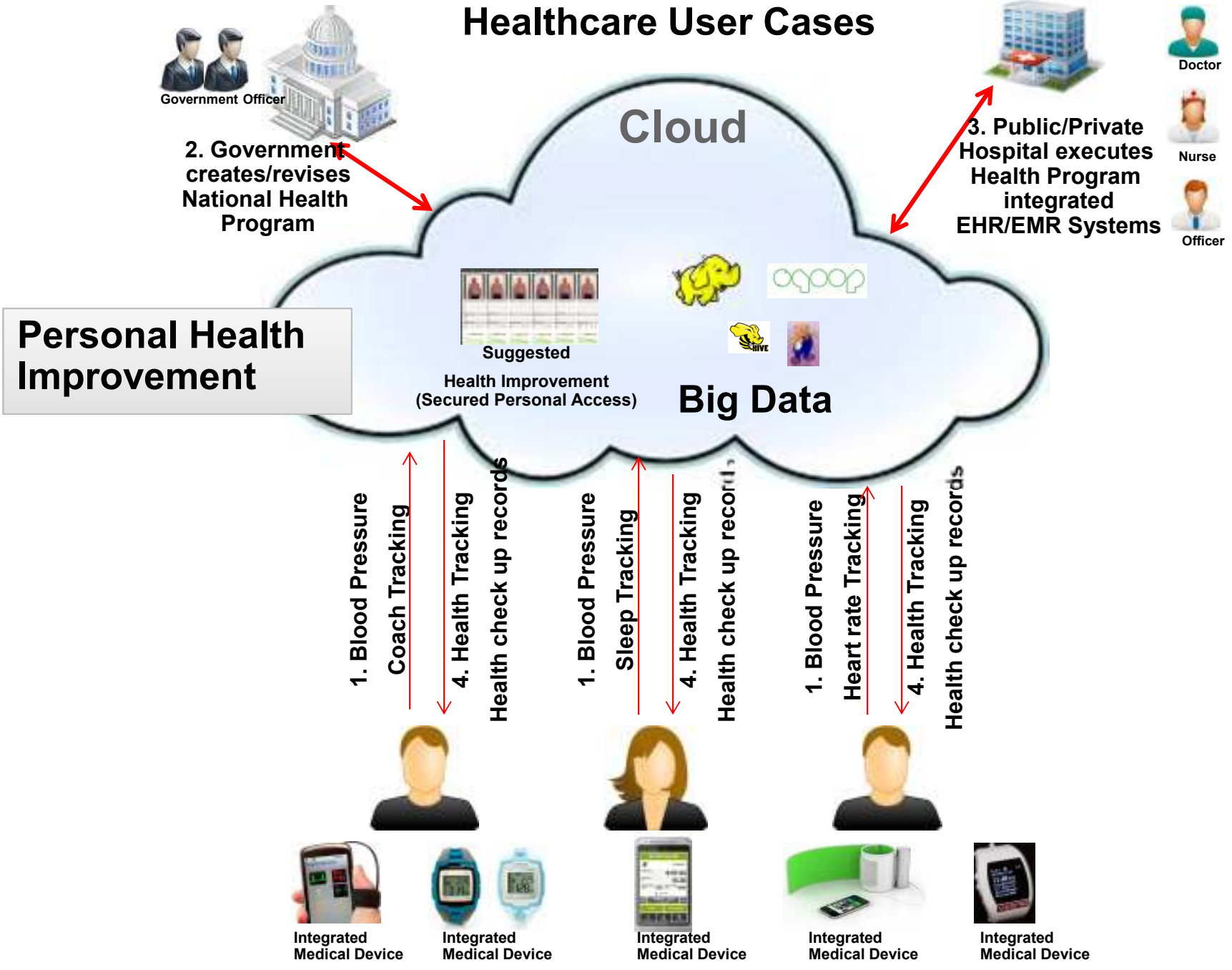
## How they use it

Better demand planning  
Better targeted marketing  
Better targeted products based on individuals power needs

## Big Data means...

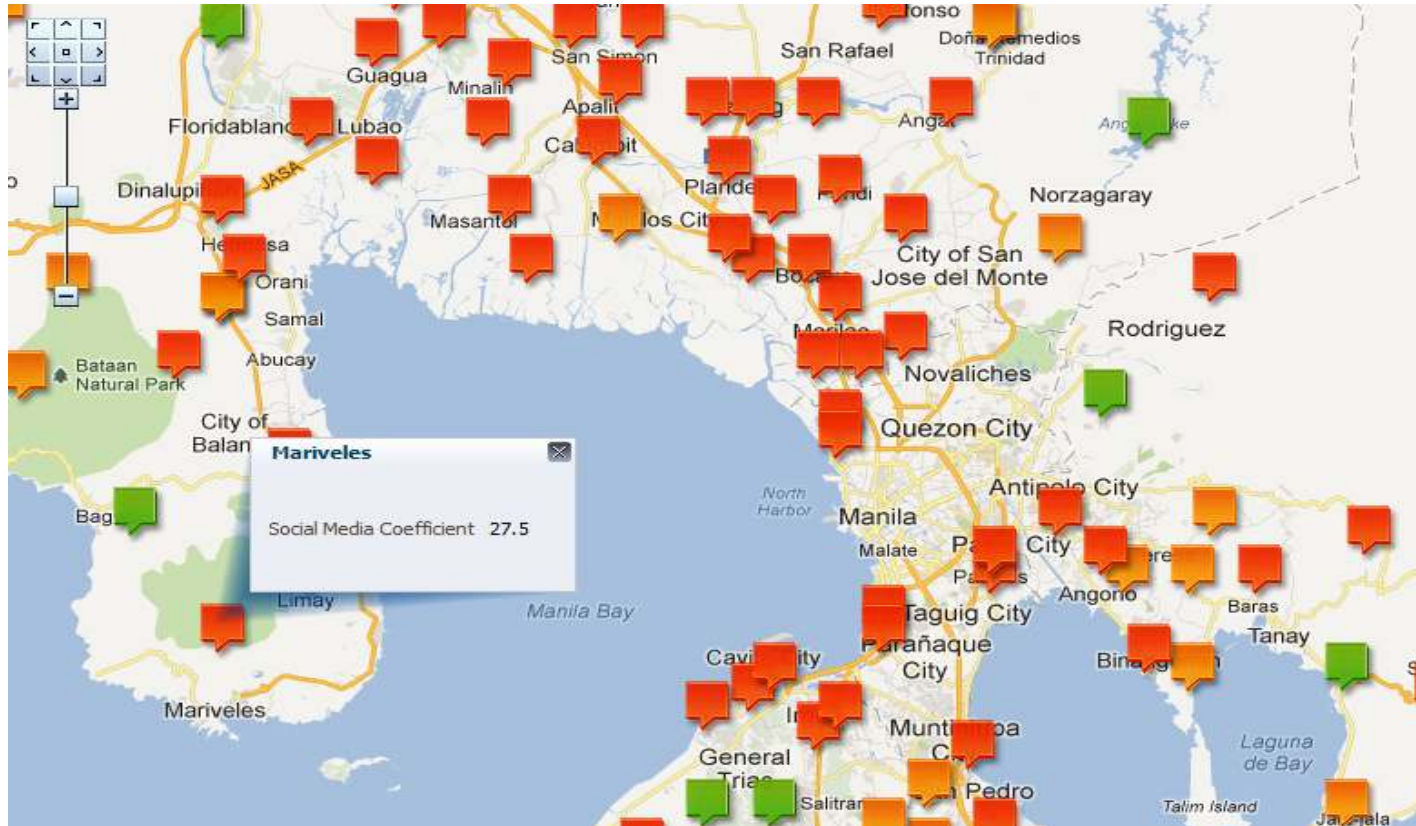
The ability to predict demand at household level  
*Reduce exposure to spot market*

# Healthcare User Cases



# Healthcare User Cases

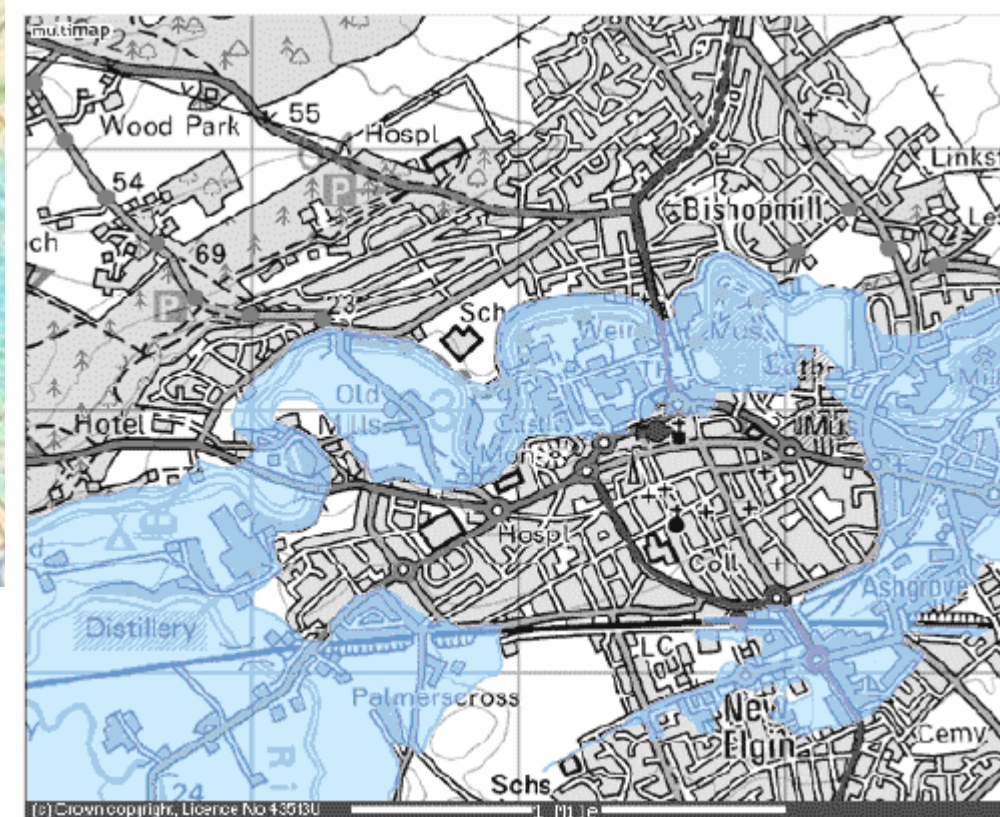
## Management of Outbreak with Early Detection



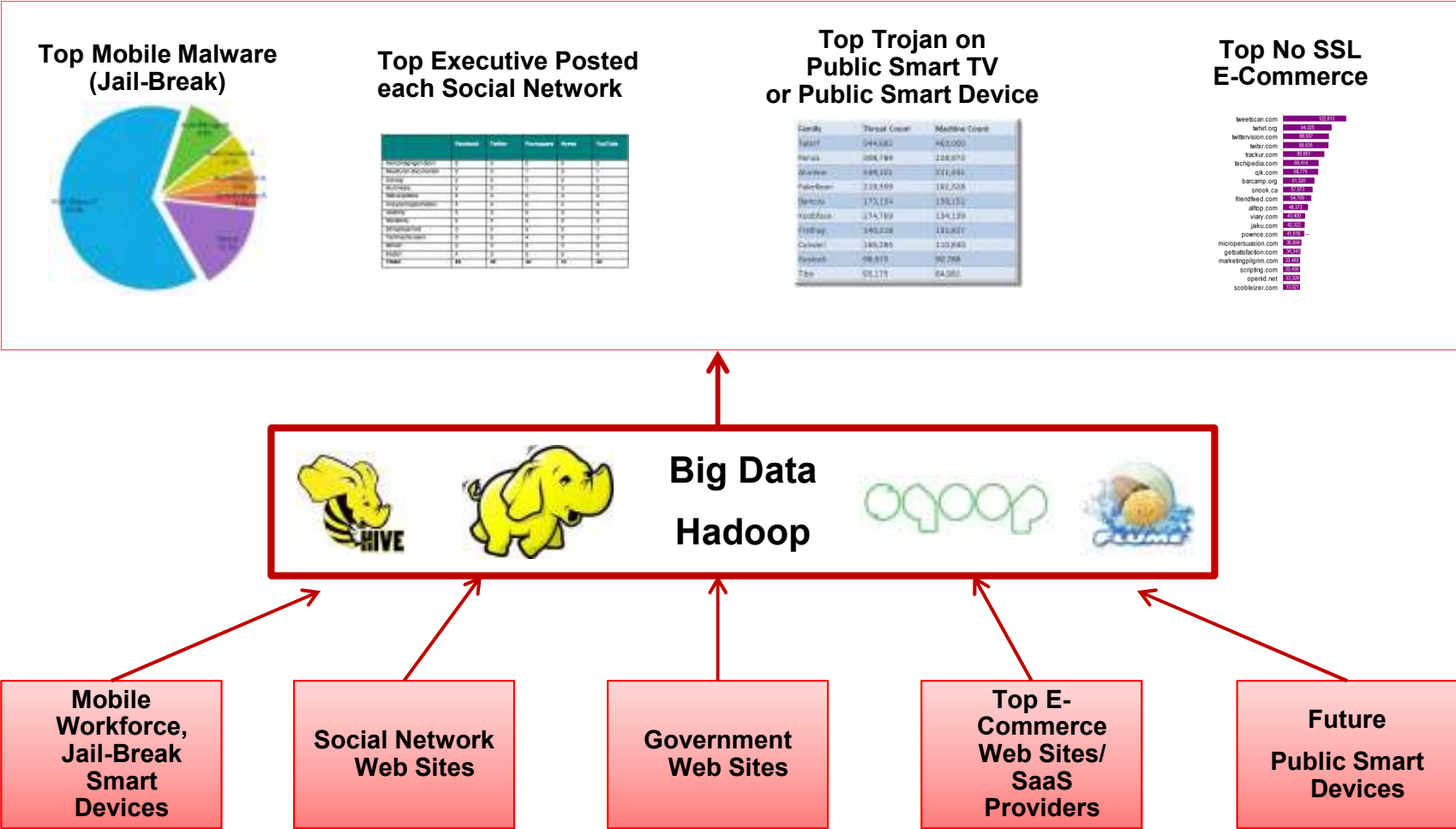


# การเตือนภัยพิบัติ

**Sensor ปริมาณน้ำฝน น้ำในเขื่อน ปริมาตรเขื่อน, แสดงแนวโน้มสภาวะน้ำท่วม Nearly Real-Time**



# Cyber Security Use Cases



# National Cyber Security Use Cases

- 1. Analyzing and Enhancing Mobile Workforce Access Management Security**
- 2. Analyzing and Advising Senior Government Officers who are most active in Social Network Web sites**
- 3. Government Web Sites Ports Scan Detection**
- 4. DDOS Pattern Detection using Hadoop and Flume for Government Web Site Log Streaming and Real-time Analytics**
- 5. Trojan Detection by Hadoop Weblog Analytics**
- 6. Detecting Top E-Commerce Web Sites Hacker**
- 7. Analyzing SME Cloud Migration Security**
- 8. Detecting Security Thread on SmartTV User Agent, Motion Censor**
- 9. Analyzing Jail-Break and Root Mobile Device**
- 10. Detecting New Cyber Criminals in New Technology eg. M2M Network Area**



# Internet of Things

## Application Areas

Smart Cities

Smart Environment

Smart Energy

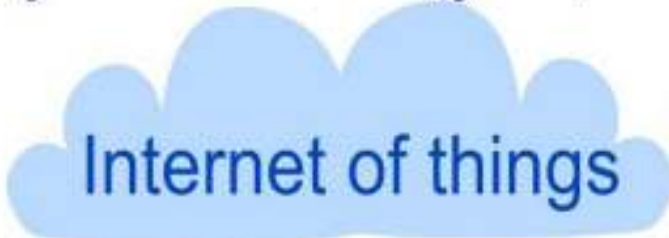
Smart Agriculture

E-Health

Retail

Logistics

Industrial Control

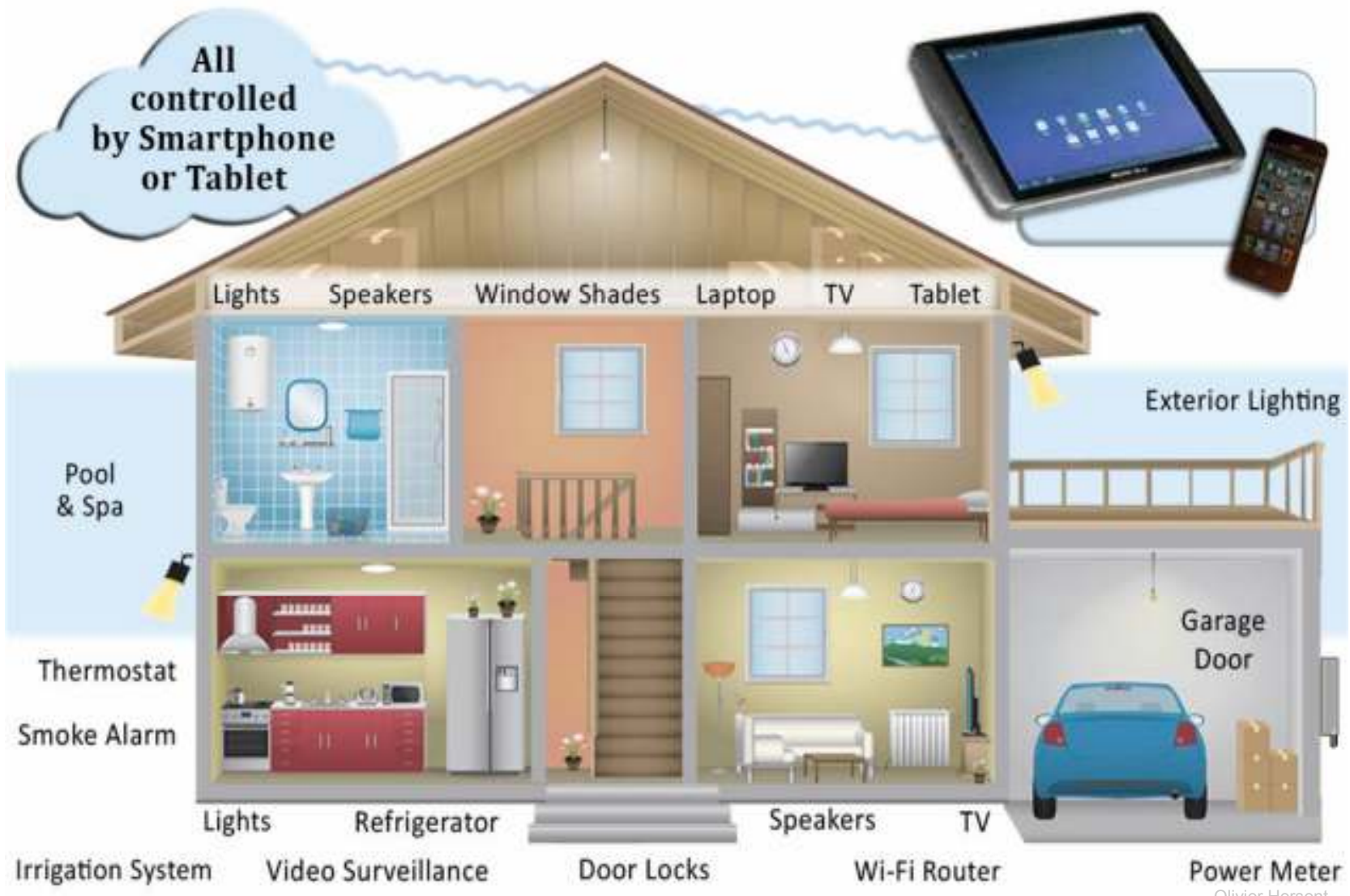


Everyday things get connected for smarter tomorrow



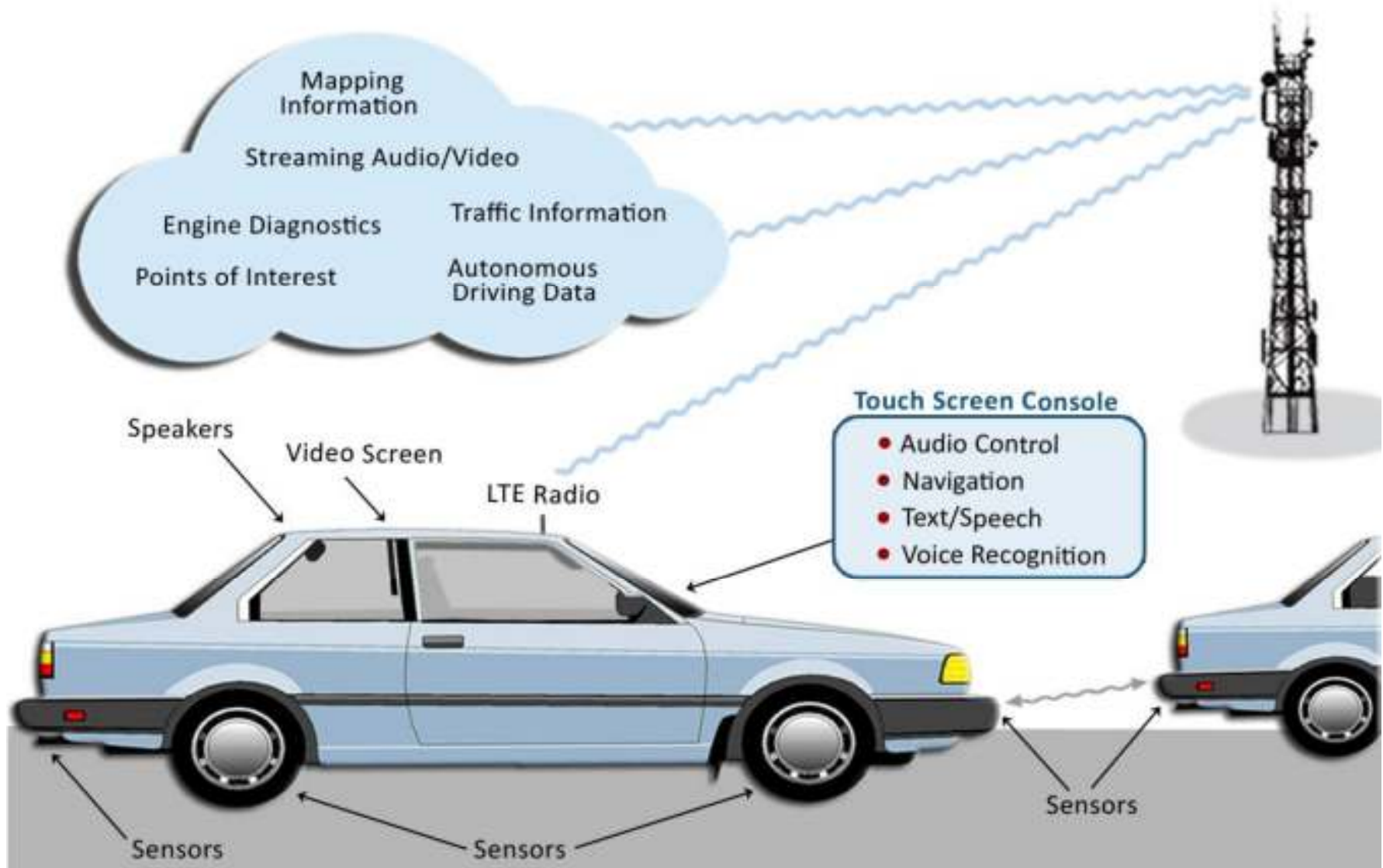
Olivier Hersent

# Smart Home



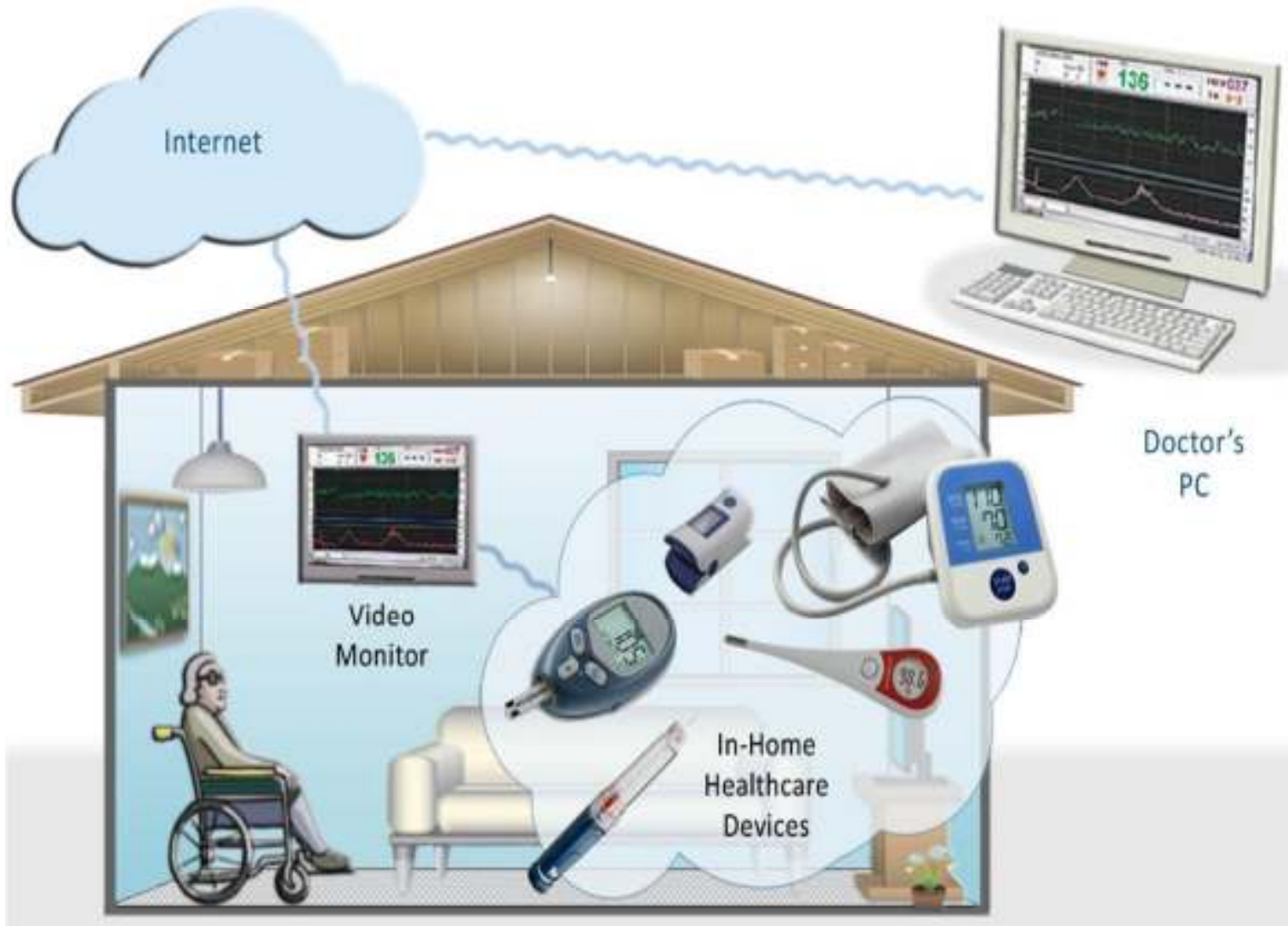
Olivier Hersent

# Smart Cars



Olivier Hersent

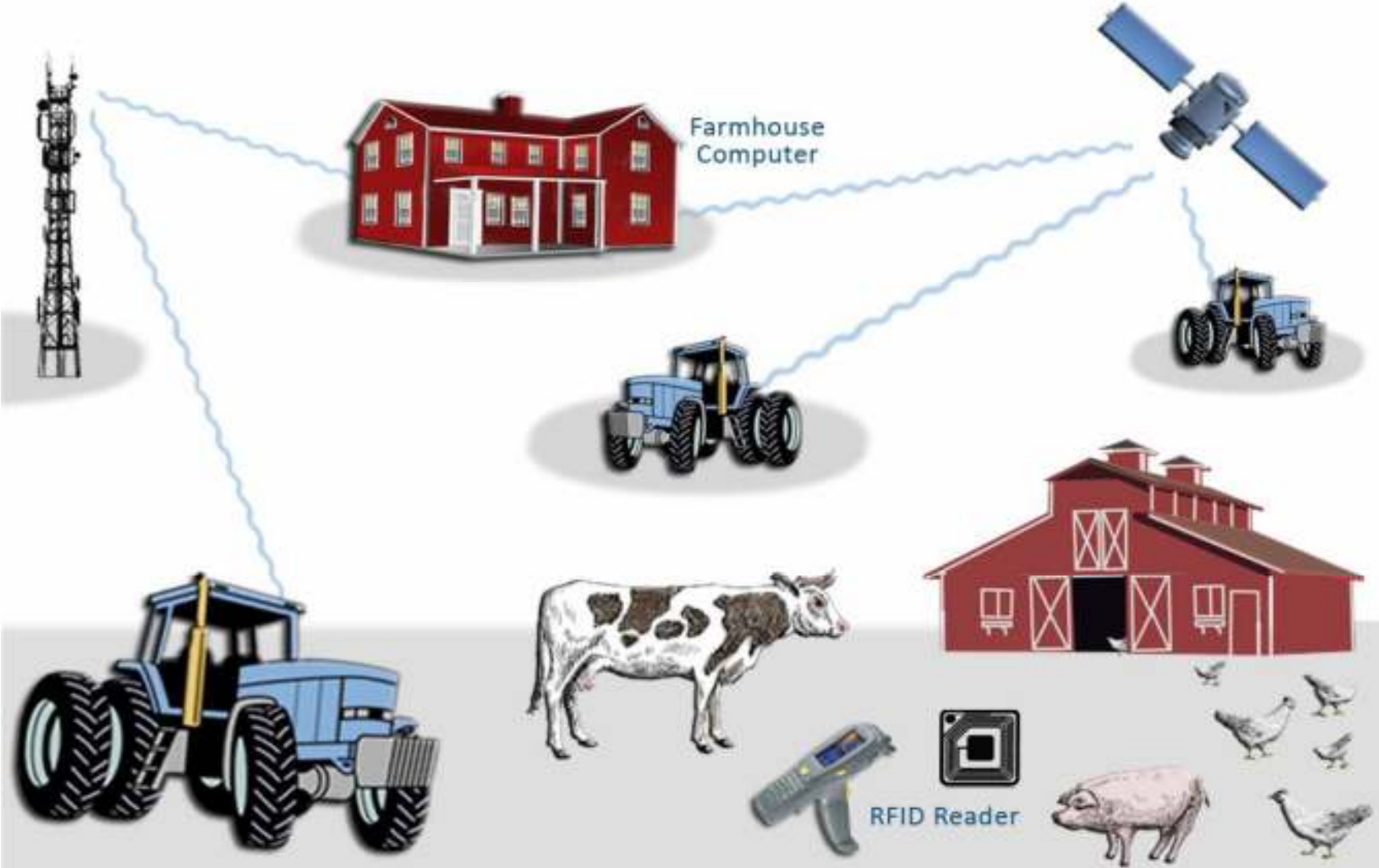
# E-Healthcare



Olivier Hersent



# Smart Farms



Olivier Hersent

# Big Data More Use Cases

- **CRM, Customer Analysis, Social Marketing**
- **Telco: Network Analysis, Quality of Service**
- **Public Service: Crime Analysis, Flooding Alert, City Planning**
- **Healthcare: Patient Safety, EMR, Next Best Action (NBA)**
- **Retail: Everyday Low Price, Offer better quality products, Next Best Action (NBA)**
- **Finance: Risk Management, Loan Origination, Credit Line, Wealth Management**
- **HCM, Talent Management, Social Analytics**
- **Etc.**

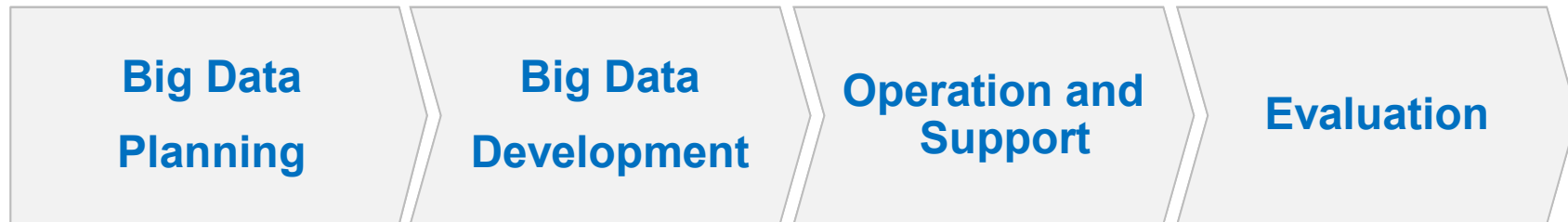
# Big Data Project Goals Worksheet

## Sample

#	Domain	Increasing of Value or Revenue	Resource Optimization	Reduce Risk
1	Finance	Increase Revenue	Create Services Portfolio	Compliance with laws regulations
2	Customer	New Products, Service, Promotion Innovation	Reuse Business Channels	Service Continuity and Availability, Customer Complaint Management
3	Internal	Create New Business Process	Eliminate Production Cost	Standardize Change Control
4	Learning and Growth	Seek more Talent People	Standardize Skill Required	Enterprise Knowledge Repository



# Big Data Project Life Cycle



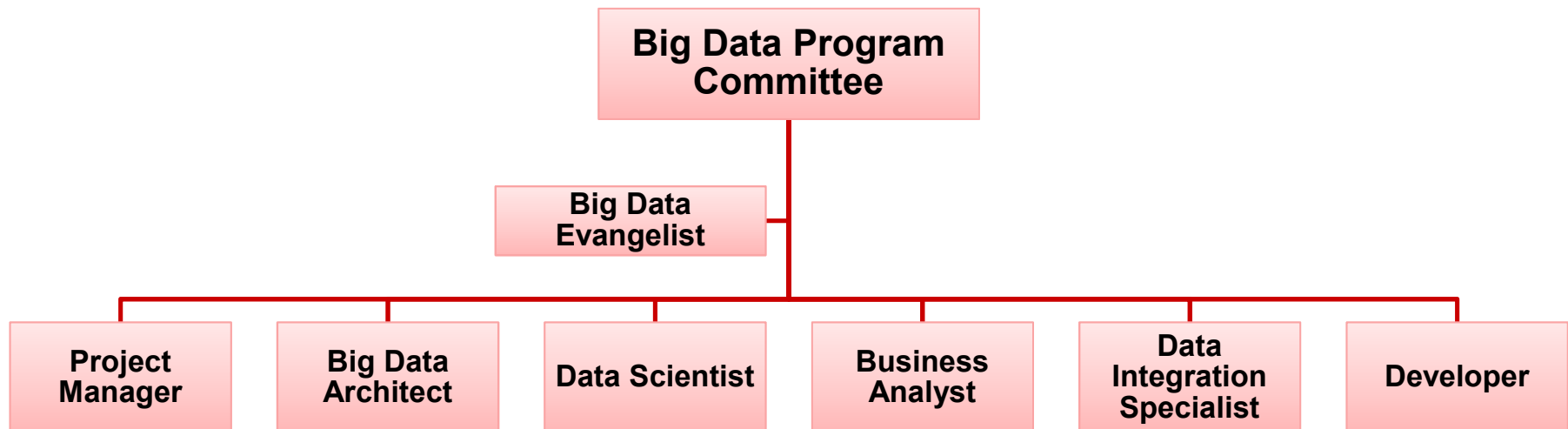
- Identify Targeted Users
  - Identify Target Opportunities
  - Identify Team Structure
  - Identify Data Sources/Types
  - Identify Data Capturing Approaches
  - Identify Data Processing and Visualization Planning
  - Identify Big Data Platform
  - Identify Security
  - Identify Governance and Change Control for Operation
  - Identify Phasing, Budget and Cost
- Develop Use Cases
  - Develop Requirements Definition
  - Develop Big Data Solution Framework
  - Develop the Development and Test Environment
  - Develop Data Capture
  - Develop Analytics
  - Integrate Visualization
  - Manage Assets and Configurations
- Monitor Big Data Platform Availability, Utilization and Capacity Planning
  - Manage Operation Tasks (Admin. Scripts, Commands), Data Capturing System, Upgrading or Patching
  - Manage Service Requests and Incidents
  - System admin. Training
  - Helpdesk Training
  - End-User Training (Analytic Results)
- Adoption Rates for each analytics results
  - No. of Missing Analytic Results
  - No. of Missing Data
  - Lost hours per month
  - Avg. of each Analytic Result Response Time
  - No. of Technology System Failure per month
  - Evaluate Activity Conformance with Policies

# Big Data Discovery Worksheet

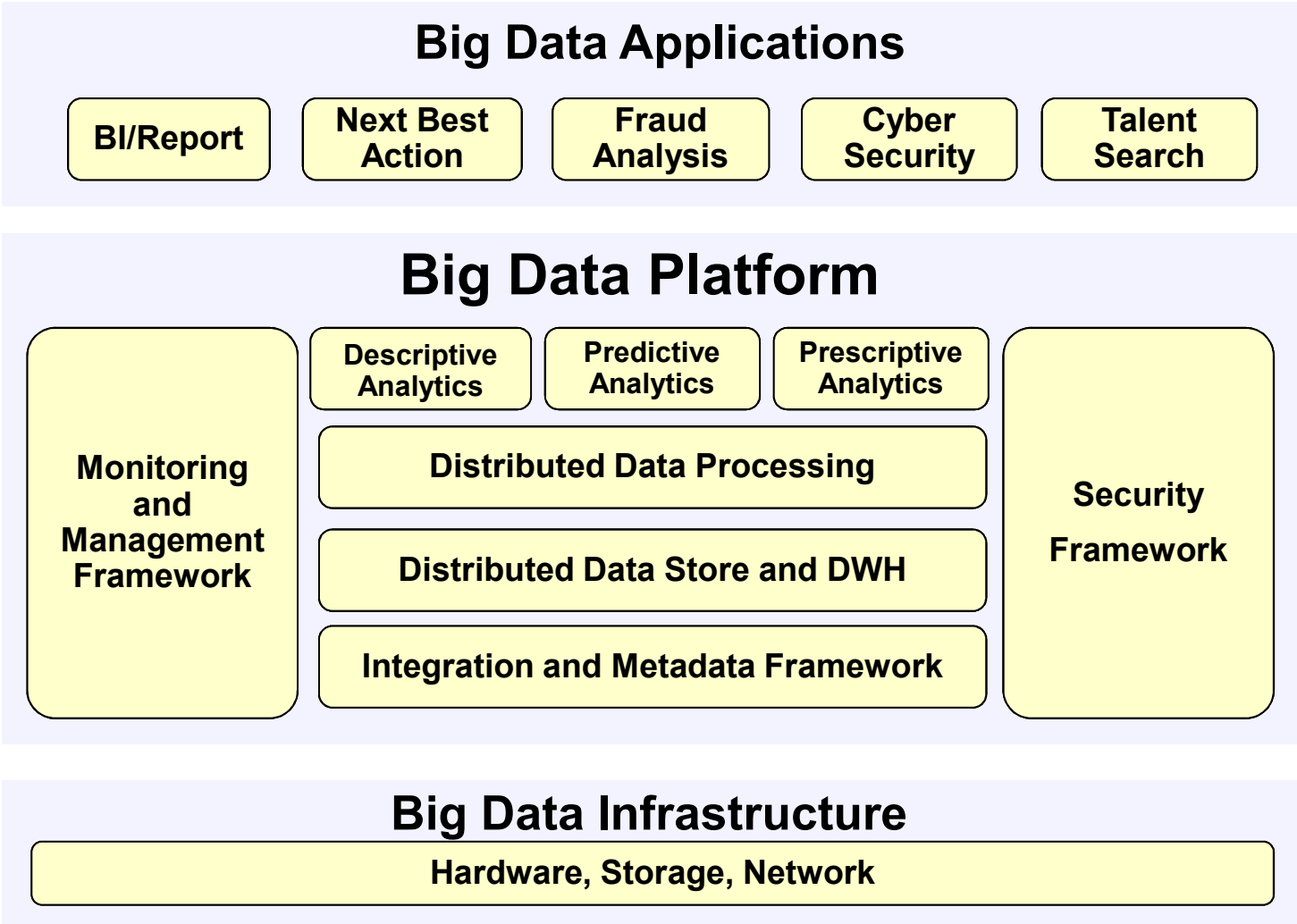
## Identify Big Data Opportunity - Sample Customer Complaint

Who	What	Why	When	Data Sources
<b>CEO</b>	แนวโน้มจำนวนเรื่องร้องเรียน และ แนวทางการตอบสนองความ ต้องการของลูกค้า	รักษาภาพลักษณ์ที่ดีขององค์กร ผู้ใช้บริการมี Loyalty รายได้เติบโต	Monthly/Ad-hoc	Call Center GIS/Map Pantip.com Products/Services Master Data Billing System – Revenue/Month
<b>COO</b>	ประเภทของการร้องเรียน และ ความถี่ของเรื่องร้องเรียน	พัฒนาบริการให้ดีขึ้น เรื่องร้องเรียนลดลง	Monthly/Ad-hoc	Call Center GIS/Map Pantip.com Products/Services Master Data
<b>CIO</b>	ประเภท จำนวน และแนวโน้มของ การร้องเรียน	เพิ่มสื่อ และช่องทางการให้ข้อมูล ระดับการตัดสินใจแก่ผู้บริหาร ระดับสูง และทีมงานด้านธุรกิจที่เกี่ยวข้อง	Monthly/Ad-hoc	Call Center GIS/Map Pantip.com Products/Services Master Data
<b>CMO</b>	วิเคราะห์ประเภทและความรุนแรง ความถี่ของเรื่องร้องเรียน	ปรับปรุงบริการในเขตความ รับผิดชอบให้มีประสิทธิภาพสูง	Monthly/Ad-hoc	Call Center GIS/Map Products/Services Master Data
<b>Business Line Manager</b>	วิเคราะห์ประเภทและความรุนแรง ความถี่ของเรื่องร้องเรียน	เพื่อส่งต่อข้อมูลร้องเรียนให้กับ หน่วยงานที่เกี่ยวข้อง และติดตาม ปัญหาจนสิ้นสุด	Monthly/Daily	Call Center GIS/Map Products/Services Master Data

# Big Data People and Team Structure



# Big Data Platform



# Key Success Factors

- 1. Support from Business Sponsor**
- 2. Start with Outcome Answer First**
- 3. Involve Real Users and Create Effective Use Cases**
- 4. Define Quick-Win and Phasing**
- 5. Sufficient Data Source**
- 6. Choose the Open Technology Platform**
- 7. Identify SLA for Service Operation**
- 8. Project Review**

**Thank you very much.**