

# Developing The Utilisation of Big Data in Local Government: Opportunities and Challenges



# The Importance of data for local government

- As a documentation – identify process, stages, opportunities, challenges
- As a tools to determine success and failure
- As a source of information to stipulate programs and public policies

velocity

veracity



volume

variety

# Why Do We Need Big Data?

- Decrease of financial and human resources.

December 2017: 5564 employees  
Lost 1.054 employees in 3 years.

Ideal numbers 10.724 employees.

Number of citizens: 412.000

Population growth 4.6% each year

- Increase of citizens' knowledge and expectation regarding public services

Sandoval-Almazan & Gil-Garcia, 2012 (as cited in Lovari & Parisi, 2015) -  
- most significant interaction between society and government occurs at the local level – policies on local level affect citizens quotidian life

# STAGES IN IMPLEMENTING BIG DATA

- Nascent
- Pre-adoption
- Early-adoption
- Corporate adoption
- Mature/Visionary

Halper et al., 2013 (as cited in Sirait, 2014)

# HOW DOES YOGYAKARTA CITY DEVELOP THE UTILISATION OF DATA?

## **FIRST STAGE:**

Conventional methods of to collect data: Survey, Focus Group Discussion.

Financially Ineffective. Requires a lot of human resources and much time.

## **SECOND STAGE:**

Initiation of information technology usage

Development of online application

Government-Citizens collaboration.

Reducing time and cost to deliver services and to obtain input from citizens.

There was no single ID or 'key' to identify the user therefore create difficulties in concluding the data.



## **THIRD STAGE:**

Development of the application and infrastructure (62 applications by now)

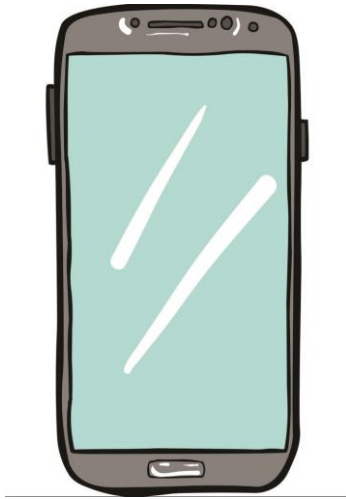
Development of 'the rules of the game'.

Implementation of single window, single sign in and single ID concept.

Attempt to record the data for each citizens from the birth until the death.

# THE IMPLEMENTATION OF JOGJA SMART SERVICE (JSS)

- Android and website – based application

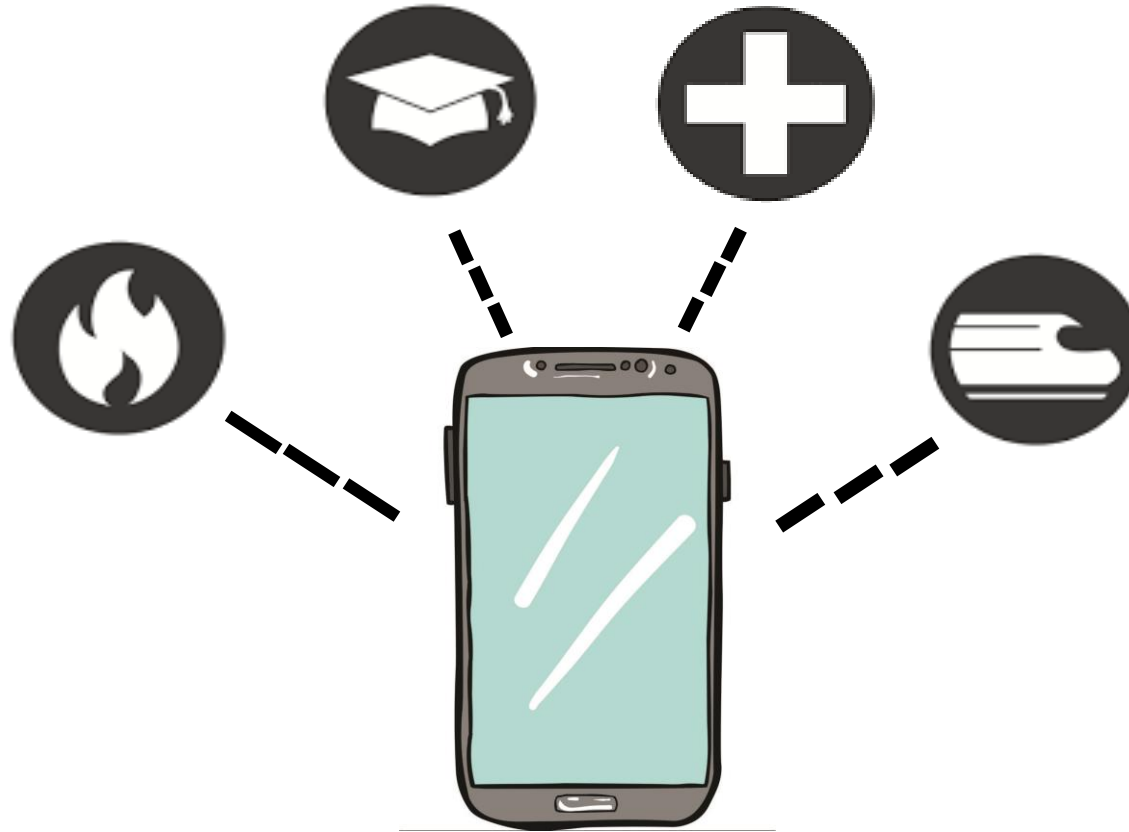


JOGJA SMART SERVICE



JSS.JOGJAKARTA.GO.ID

- 'Single Door' to access public services provided by Yogyakarta City Government



- Launched for public on June 7th 2018 with 22 types of public services available on the application
- Have been developed into 26 types of public services by now.

## Kedaruratan



Gawat Darurat



Penyelamatan Jiwa



Kebakaran

## Informasi dan Pengaduan



Pengaduan



Statistik



Pertanyaan

## Layanan



E-SPTPD



Layanan Kel&Kec



Mobil Jenazah



Konsultasi Belajar



PPDB

## Layanan Data dan Informasi



Informasi PBB



Informasi



Realisasi Anggaran



Produk Hukum



Lowongan Pekerjaan



Kualitas Lingkungan



Harga Bahan Pokok



Pendapatan Daerah



Lelang



Produk Hukum



Lowongan Pekerjaan



Kualitas Lingkungan



Harga Bahan Pokok



Pendapatan Daerah



Lelang



Info Stock Darah



Tempat Penting



Event Wisata



E-retribusi Pasar



Agenda Rapat



PDAM

# WHERE ARE WE NOW?

- Nascent
- **Pre-adoption**
- Early-adoption
- Corporate adoption
- Mature/Visionary

(Halper et al. 2013 cited in Sirait 2014, p. 121)



# OPPORTUNITIES

- The increasing number of citizens using the mobile technology

- Support from the leaders/Top Management
- Big data provides complete, detail, and real time-based information. Proper analysis will assist Yogyakarta City Government in managing the city effectively -→ SMART CITY



# CHALLENGES

- Awareness and competency of the stakeholders on how to treat the available data.
- The Data collected in the past has variety of identities. Difficulties in data categorization and integration.
- Establishment and maintenance costs are quite expensive

- Limited number of employees who are expert in designing the development and security for big data and its system.
- The habit in using technology – for consumptive and entertainment purposes rather than for productive ones.
- Formulating interesting public services to attract the users.
- Issues regarding representativeness, privacy, and the ownership of the data.