Viewpoints for value creation in the data driven era

6 October, 2016
Shuichi INADA
Secretary General, The Telecommunication Technology Committee
Project Professor, The University of Tokyo
Big Data and IoT are the source of innovation

- Big Data technologies enable data collection associated with social phenomena such as regional economic activities, mass movement of the people, mass feeling of the people and etc.

- IoT enables real time and continuous data collection from various things (including human being) and events.

- Those newly available data set is now promoting what is called “data driven innovation”.

- Now it is important to have insights and to find ideas in the following points:
  - data set we can collect
  - potential values derived from data set
The daily price index

Based on daily POS data information on the prices and quantities of individual products sold at approximately 300 supermarkets throughout Japan, it is possible to estimate the daily price index much faster than government announcement. The Daily Price Index (Originally from the University of Tokyo, now from Nikkei and Nowcast) is released two days after.

Figure: Changes in Monthly Price Index (Nationwide in Japan) UTokyo vs MIC
(Source: UTokyo daily price project Home Page)
http://www.cmdlab.co.jp/price_u-tokyo/media_e
Human activities and satisfaction sensing in the organization

- Following data in the organization are collected with the use of nameplate type sensor to grasp mass level of human activities and satisfaction in the organization:
  - communication among persons using infrared sensor
  - body movement of persons using accelerometer
  - location of persons (identification of location by infrared beacons)

- The big data from sensors is used to increase productivity and performance of the organization in the following manners:
  - to find a correlation between measures to change work-style and satisfaction of employees (JAL × Hitachi)
  - to extract events or working conditions which are correlated with productivity and performance improvements (The Bank of Tokyo-Mitsubishi UFJ × Hitachi)
Global Mobility Service (GMS) started EV based Tricycle leasing to low income people in Philippines from October 2015.

They are using operational logs of the Tricycle to secure the collection of leasing fees. The logs are the substitute for the credit for the people who are rejected in the loan examination. GMS prepares a mechanism to stop engine of the Tricycle and to retrieve it based on the location information as a safeguard.

EV based Tricycle is expected to ease air pollution in the metropolitan area of Philippines.
Insight for innovation

- Various data can be collected in the city; ex) traffic flows, energy flows, environment conditions, events associated with safety, information flows, ...

- Those data can be a source of innovation. We can use them for a more precise control of the city, for the resource savings, and to find ideas to create values.

- To promote data driven innovation, open data policy, formation of collective intelligence, and preparation of creative environment will be required.