Experience in the Establishment and Service of the MDIS

26 September 2017

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Statistics Korea
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   • MDIS Timeline
   • MDIS Implementation Project
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INTRODUCTION

**MDIS**

**Timeline**

- **Sep. 1st, 1896**
  - Enforced population census regulations

- **1948**
  - Established Statistics Bureau of the Ministry of Public Information

- **1990**
  - Established statistical data provision regulations
  - Upgraded to the National Statistical Office

- **1996**
  - MicroData Service (Off-line only)

- **2000**
  - MicroData Service System (MDSS)

- **2005**
  - MicroData Access System (MDSS)  
  - Remote Access Service (RAS)

- **2006**
  - MDSS On-line Services

- **2008**
  - MDSS based on Data Warehouse

- **2007**
  - MicroData Access Center (MDAC)

- **2010**
  - Remote Access Service (RAS)

- **2014**
  - MDIS* Implementation

- **2015**
  - MDIS Services

- **2016**
  - “MDIS SI Project” Completed

* Microdata Integrated Service (MDIS)
INTRODUCTION

MDIS Implementation Project

~ 2013
Preparation

2014 (Phase 1)
Integrated DB Development
- ISP (Information Strategic Planning)
  - Developed 31 kinds of microdata
  - Pilot service of 5 kinds of microdata

2015 (Phase 2)
Integrated Services
- Developed 71 kinds of microdata
- Service of 21 kinds of microdata

2016 (Phase 3)
Expansion of the Integrated DB
- Developed 121 kinds of microdata
- Service of 30 kinds of microdata

Current (Enhancement)
Enhancement of MDIS
- Developed 289 kinds of microdata
- Service of 151 kinds of microdata (cumulative)
One-Stop Service through MDIS

https://mdis.kostat.go.kr
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MDIS System

Integration

More than 150 Data Sources

Dispersed microdata storage

Dispersed microdata management and service

- Dispersed storage of data and risk of data loss
- It’s not easy for users to make access to microdata.

Integrated storage of 289 kinds of official microdata and services of 151 kinds of microdata

Microdata Integrated Service system

- Integrated management: Improved data quality and storage
- Integrated service: Improved users’ access and convenience
Integration

Variety of Data Contents

Population/Household
- Population and Housing Census
- Internal Migration Statistics
- Vital Statistics
- Family Survey, etc.

Employment
- Economically Active Population Survey
- Local Labor Force Survey
- Labor Force Survey by Occupation
- Labor Environment Survey, etc.

Income/Poverty
- Household Income and Expenditure Survey
- Consumer Price Survey
- Survey of Household Finances and Living Conditions, etc.

Family & Living Arrangement
- Causes of Death Statistics
- Childcare Survey
- Survey of the Elderly
- Domestic Violence Survey, etc.

Environment
- Korean Environmental Health Survey
- Environmental Technology Survey
- Terrestrial and Meteorological Statistics, etc.

Economy
- Economic Census
- Survey of Business Activities
- Business Trend Survey of Small Business Owners, etc.

Business (mining/manufacturing)
- Mining and Manufacturing Survey
- National Industrial Complex Statistics
- Robot Industry Survey, etc.

Business (retail/wholesale)
- Wholesale and Retail Trade Survey
- Service Industry Survey
- Traditional Market Business Management Survey, etc.

Housing
- National Housing Price Survey
- Consumer Sentiment Survey for the Real Estate Market
- Construction Survey, etc.

ICT/Transportation
- Mobile / Internet Usage Survey
- Road Traffic Survey
- Automobile Mileage Statistics, etc.

Agriculture/Forestry/Fishery
- Census of Agriculture, Forestry and Fisheries
- Agricultural Production Statistics
- Farm Household Economy Survey, etc.

Education/Culture
- National Education Statistics for Gifted Students
- National Leisure Activity Survey
- Broadcast Media Usage Survey, etc.

Administration Statistics
1. Profit Corporation Statistics
2. Statistics on Returned Farmers and Migrants to Rural Regions
3. Newlyweds Statistics
4. Statistics of House Ownership
5. Retirement Pension Statistics
• Meter-rate billing system: High service charges in proportion to data volume

• Public data: Free
• Non-public data  \rightarrow  Service charge in option
Data Usage

Explosive Increase of MDIS Usage

- Explosive increase after beginning ‘public data free’ services on Dec. 10, 2015
- Increased by 2.2 times to 31,653 cases in 2016, compared to 14,498 cases in 2015
MDIS System

3-tier Use Mode | How to Use?

Data for special purpose
- Include sensitive information
- Possible to produce secondary data

Non-public data
- Include sensitive information
- Possible to produce detailed tables

Public data
- No sensitive information
- Publicized data level tables

Physical security environment
Online security environment
General web environment

MDIS approval

Research Data Center
Remote Access Service
Extraction & download

Easy to use*
Service Charge**
Data Richness
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Who is using MDIS?

User Profile

<table>
<thead>
<tr>
<th>Year</th>
<th>Extract Download</th>
<th>Remote Access Service</th>
<th>MicroData CD</th>
<th>Research Data Center</th>
<th>On-Demand Service</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>85.2%</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>2015</td>
<td>91.7%</td>
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<tr>
<td>2016</td>
<td>96.7%</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2017.1H</td>
<td>97.8%</td>
<td></td>
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<td></td>
<td></td>
</tr>
</tbody>
</table>
Who is using MDIS?

**Extraction & Download**
- Universities: 35%
- Research Institutes: 26%
- Government: 15%
- Enterprise/Corp.: 13%
- Personal: 11%

**Remote Access Service**
- Universities: 40%
- Research Institutes: 37%
- Government: 11%
- Enterprise/Corp.: 8%
- Personal: 4%

**Research Data Center**
- Universities: 47%
- Research Institutes: 37%
- Government: 16%
- Personal: 3%
MDIS System | Policy Establishment

**Use Cases**

**Policy Making**

- **Job**
  - Performance evaluation of youth employment policies
    - Microdata of “Supplementary Results of the EAPS”

- **Child abuse**
  - Policy making for the prevention of child abuse by local governments
    - Microdata of “Causes of Death Statistics” by area and age group

- **Suicide**
  - Policy making for the prevention of suicide by local governments
    - Microdata of “Causes of Death Statistics” by area

- **Aging**
  - Policy making to cope with low fertility and aging by local governments
    - Microdata of “Vital Statistics” by area

**Data Analysis**

- **Preschool victims of starvation**
  - Microdata of “Supplementary Results of the EAPS”

- **Analysis of the effect of suicide prevention policy**
  - Microdata of “Causes of Death Statistics” by area

- **Production of OECD Healthcare Quality Indicators**
  - Microdata of “Causes of Death Statistics”
Use Cases

MDIS System

Business

Manufacturing

Real estate

Medical sector

Finance

Development of Bluesumer-related commodities
(e.g. Cooked rice for one-person households)

Microdata of “Population Census”

Analysis of house rental market

Microdata of “Survey of Household Finances and Living Conditions”

Analysis of surgical and therapeutic effects of renal failure patients

Microdata of “Causes of Death Statistics”

Assessment of financial portfolio risks

Microdata of “Survey of Household Finances and Living Conditions”

Change the target group of a commodity
(e.g. Low alcohol “Soju” for females)

Microdata of “EAPS and National Health & Nutrition Survey”

Estimation of house prices by using internal migration statistics

Microdata of “Survey of Household Finances and Living Conditions”

Cost-effectiveness analysis of lung cancer screening

Microdata of “Causes of Death Statistics”

Analysis of household housing expenditures

Microdata of “Survey of Household Finances and Living Conditions”
Use Cases

MDIS System

Personal

**Start-up**

Analysis of type of industry and establishment density in potential start-up regions

*Microdata of “Census on Establishments”*

**Housing**

Analysis on residential places by considering work places and child education

*Microdata of “Internal Migration Statistics and Economic Census”*

**Research & learning**

Contents for statistical experience, in particular, during the autonomous semester of middle school students

**Analysis of household housing expenditures**

*Microdata of “Survey of Household Finances and Living Conditions”*

**Estimation of house prices by using internal migration statistics**

*Microdata of “Survey of Household Finances and Living Conditions”*

**Research paper on foreign workers**

*Microdata of “Foreigner Labor Force Survey”*
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**Next Steps**

**Service Innovation with Users**

### Diversification of services

**Quantitative growth**

- 151 kinds
- As of Sep 2017
- Step-by-step expansion
- 289 kinds $+ \alpha$

### Expansion of users

**To be used for policy making, research, education, marketing, etc.**

- Expand user base to general users other than expert users
- Talent donation through sharing research results

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**Providing more data, more abundant information by MDIS**
Microdata Integrated Service (MDIS)

Thank You