Application of Information Technology in Statistical Activities in Vietnam

National Statistics Office of Vietnam

1. Context

The Fourth Industrial Revolution is transforming statistical methods

There is a growing demand for statistical data

Big data, cloud computing, and artificial intelligence are rapidly advancing

2. Purpose of IT Adoption in Statistics

Improving data reliability and precision

Ensuring timeliness, transparency, and cost efficiency

Better serve the needs of leadership and policy-making

3. Results – Digital Transformation in Statistical Surveys

- Before 2017: Paper questionnaires and manual data entry

- Since 2017: Transition to electronic questionnaires (CAPI, Webform))

- 90% of surveys now use IT – faster, more economical, transparent, and accurate

4. Results – Database Management

- Survey and statistical reporting data are centrally stored using Microsoft SQL
- Administrative data integrated from tax, customs, and treasury sources helps reduce costs and burdens for businesses
- Data is shared through the National Government Service Platform (NGSP) via API

4. Results – Database Management

- Utilizing and connecting administrative data sources from various economic sectors such as taxation, healthcare, etc.

5. Results - Dissemination

- Website modernization: timely updates and improved transparency
- Use of infographics, videos, and online statistical reports
- Enterprise White Paper and data on the top 1,000 enterprises
- Development of user-friendly tools for data exploration and visualization
- Application of GIS in visualizing statistical data

6. Results – Analysis and Software Tools

- Use of software tools such as STATA, SPSS, R, SQL, and Excel
- Application of IT in statistical analysis and forecasting
- Digitalization of the report compilation process

7. Results – Infrastructure and Digital Government

- 90% of surveys are conducted electronically, with centralized data management, nationwide online connectivity, and ensured data security.
- Develop an integrated electronic reporting system
- Implement electronic statistical information and online reporting projects

8. Results – Human Resource Development

- Organize IT training for statistical staff
- Collaboration with international partners including Korea, Italy, FAO, and the World Bank
- Capacity building in the use of smart devices and data collection software

9. Current Constraints and Gaps

- Lack of interoperability between software systems at different levels
- Shortage of IT personnel and weak infrastructure
- Insufficient legal framework for accessing and using administrative data

10. Future Directions (1)

- Digitize all surveys and integrate real-time data
- Employ satellite imagery and GIS tools
- Establish a standardized survey framework by target group

10. Future Directions (2)

- Leveraging big data, AI, and report automation
- Connecting micro-level databases for citizens and businesses
- Create a centralized national database, connecting ministries, branches and localities

10. Future Directions (3)

- Utilize information and communication technology (ICT) to disseminate statistical results
- Invest in more modern and secure ICT infrastructure
- Strengthen ICT human resources

11. Conclusion

- Information technology (IT) is an essential tool for modernizing the statistical sector
- Contributes to building a digital government and improving management efficiency
- Effectively meets the needs of leaders and information users

Thank you!