



# **How to establish an ICT Indicator database in Indonesia**

**ICT Household Statistics -The Case of Hong Kong, China**

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## Presentation Outline

- Major stakeholders of ICT household statistics
- Household Survey on IT Usage and Penetration
  - Survey Methodology
  - Core indicators on Access to, and Use of ICT by households and individuals
  - Data Dissemination
- ICT Household Statistics at a Glance
- Major Issues and Challenges



## **Major stakeholders of ICT Household Statistics**

1. Commerce and Economic Development Bureau (CEDB)
  - Main ICT policy maker
  - Digital 21 Strategy was set out in 1998
  - Goals and targets were updated in 2001 and 2004
2. Office of the Government Chief Information Officer (OGCIO)
  - Coordinator and executive arm of CEDB on IT matters
  - Policy and strategy advisor on IT matters
  - Main source of funding for IT surveys



## **Major stakeholders of ICT Household Statistics**

3. Census and Statistics Department (C&SD)
  - Official statistical agency responsible for compilation of various ICT statistics including
    - IT Household and Business Statistics
    - ICT Sector Statistics
    - IT Expenditure Statistics
    - IT Manpower
    - E-commerce Statistics



## Household Survey on IT Usage and Penetration

- Conducted annually since 2000
  - 8<sup>th</sup> round of the survey has been conducted during Jul to Sept 2007, results of which will be available around Dec 2007
- A voluntary survey conducted under Part IIIA of the Census and Statistics Ordinance
- Major survey work is commissioned to a private research firm
- C&SD plays a co-ordination and management role throughout different stages of the survey



# Survey Methodology – *Survey Coverage*

- Sampling Frame
  - *Register of Quarters* (computerised records of permanent quarters with identifiable addresses in built-up areas)
  - *Register of Segments* (records of segments in non-built-up areas with no clearly identifiable addresses)
- Sampling Units
  - permanent quarters (in built-up areas)
  - segments (in non-built-up areas)



# Survey Methodology – *Sample Design*

- Sampling Method
  - Stratified Systematic Sampling with records in the register of quarters stratified by geographical area and type of quarters (records of segments are stratified by geographical area only)
- Sample Size
  - Covers some 13 500 households, among which about 10 000 households can be successfully enumerated



## Survey Methodology – *Questionnaire Design*

- Basic data items covered:
  - PC and Internet facilities in the household
  - Usage of PC and Internet at different locations
  - Usage of electronic business services
  - Usage of online government services
  - Awareness of information security
- Conduct review every year to address changing needs, e.g.
  - New questions on types of wireless technology used by mobile devices in 2004 survey
  - New questions on electronic government services and electronic games in 2005 survey
  - New questions on IT spending and animation programme viewing pattern in 2006 survey



## Survey Methodology – *Data Collection*

- Notification letters are sent to respondents at the start of each survey cycle
- Face to face interviews
- Persons aged 10 and over
  - asked their knowledge of and pattern of using PC and Internet services during the past 12 months before enumeration
- Persons aged 15 and over:
  - further asked about their usage of electronic business services and electronic government services
- Response rate is about 75%



## Survey Methodology – *Data Quality Control*

- Commissioned Research Firm is required to
  - Set up field work monitoring system to monitor fieldwork progress and data quality
  - Institute measures to increase response rate (e.g. telephone enquiry hotlines; revisit non-response cases by fieldwork supervisors)
  - Carry out audit checks to ensure data quality



## Survey Methodology – *Data Quality Control*

- Census and Statistics Department (C&SD)

### *On fieldwork monitoring*

- Inspect the weekly fieldwork progress submitted by the commissioned research firm
- Send field staff to conduct joint visits

### *On data quality*

- Closely monitor audit check procedures instituted by the commissioned research firm and to ensure that errors are properly recorded and rectified
- Conduct separate sample audit checks with respondents



## Survey Methodology – *Estimation method*

- Adopts ratio estimation method to estimate parameters of the population and household

$$\hat{Y} = \sum_{i=1}^N X_i \left( \frac{y_i}{x_i} \right)$$

- where  $\hat{Y}$  - Estimated population total having characteristic Y  
N - Total no. of age-sex group  
 $y_i$  - Sample count of population having characteristic Y in  $i^{\text{th}}$  age-sex specific group (obtained from survey)  
 $x_i$  - Sample count of population in the  $i^{\text{th}}$  age-sex specific group (obtained from survey)  
 $X_i$  - Independent population estimate in the  $i^{\text{th}}$  age-sex specific group (obtained from Population Data System)



## Core indicators on Access to, and Use of ICT by households and individuals

Some indicators in the core list are available in Hong Kong

### Basic core

Core list of ICT indicator	Related statistic available in the survey
Proportion of households with a mobile cellular	Proportion of households with mobile phone
Proportion of households with a computer	Proportion of households with PCs at home
Proportion of individuals who used a computer (from any location) in the last 12 months	Proportion of persons aged 10 and over who had used PC in the past twelve months
Proportion of households with internet access at home	Proportion of households with PCs at home connected to internet
Proportion of individual who used the Internet (from any location) in the last 12 months	Proportion of persons aged 10 and over who had used Internet services in the past twelve months
Location of individual use of the internet in the last 12 months	Persons aged 10 and over who had used internet services in the past twelve months by location of using internet services
Internet activities undertaken by individuals in the last 12 months	Persons aged 10 and over who had used internet services in the past twelve months by major internet activities



## Core indicators on Access to, and Use of ICT by households and individuals

### Extended core

Core list of ICT indicator	Related statistic available in the survey
Proportion of individuals with use of mobile telephone	Proportion of persons aged 10 and over who had mobile phone
Proportion of households with access to Internet by type of access	Proportion of households with PC at home connected to Internet by mode to connection to Internet
Frequency of individual access to Internet in the last 12 month (from any location)	Persons aged 10 and over who had used internet services in the last 12 months by location of using internet services



## **Core indicators on Access to, and Use of ICT by households and individuals**

The following indicators are not applicable in Hong Kong as a developed economy

- Proportion of households with a radio
- Proportion of households with a TV
- Proportion of households with a fixed line telephone
- Proportion of households with electricity



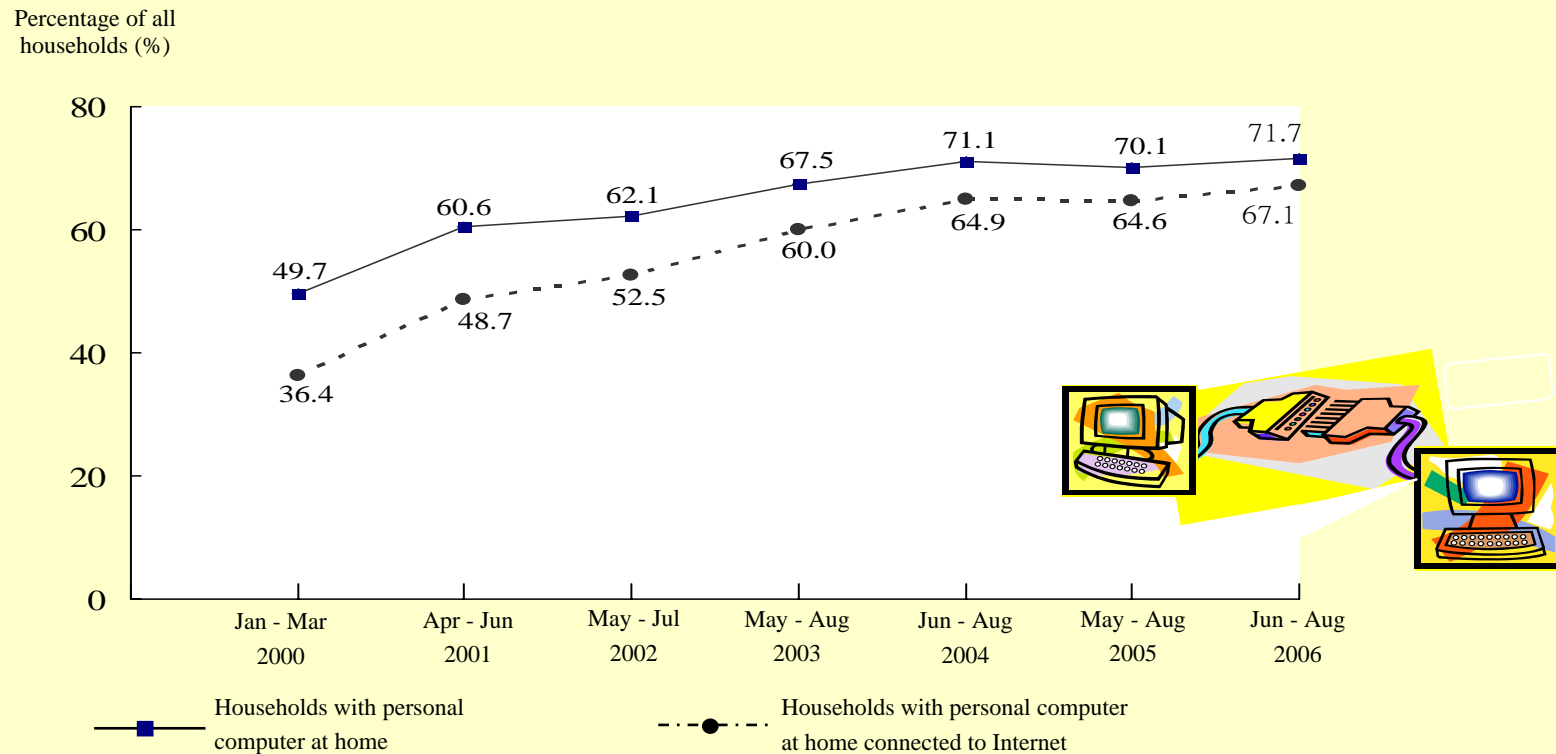
## Data Dissemination

- Survey results of ICT surveys are released by C&SD within less than 6 months after the survey period
  - C&SD's website serves as a one-stop portal for
    - Press release of statistical data (including key ICT statistics)
    - Free download\* of all survey reports and official statistics
- \* C&SD has implemented a free download policy for all publications since June 2006*



# ICT Household Statistics at a Glance

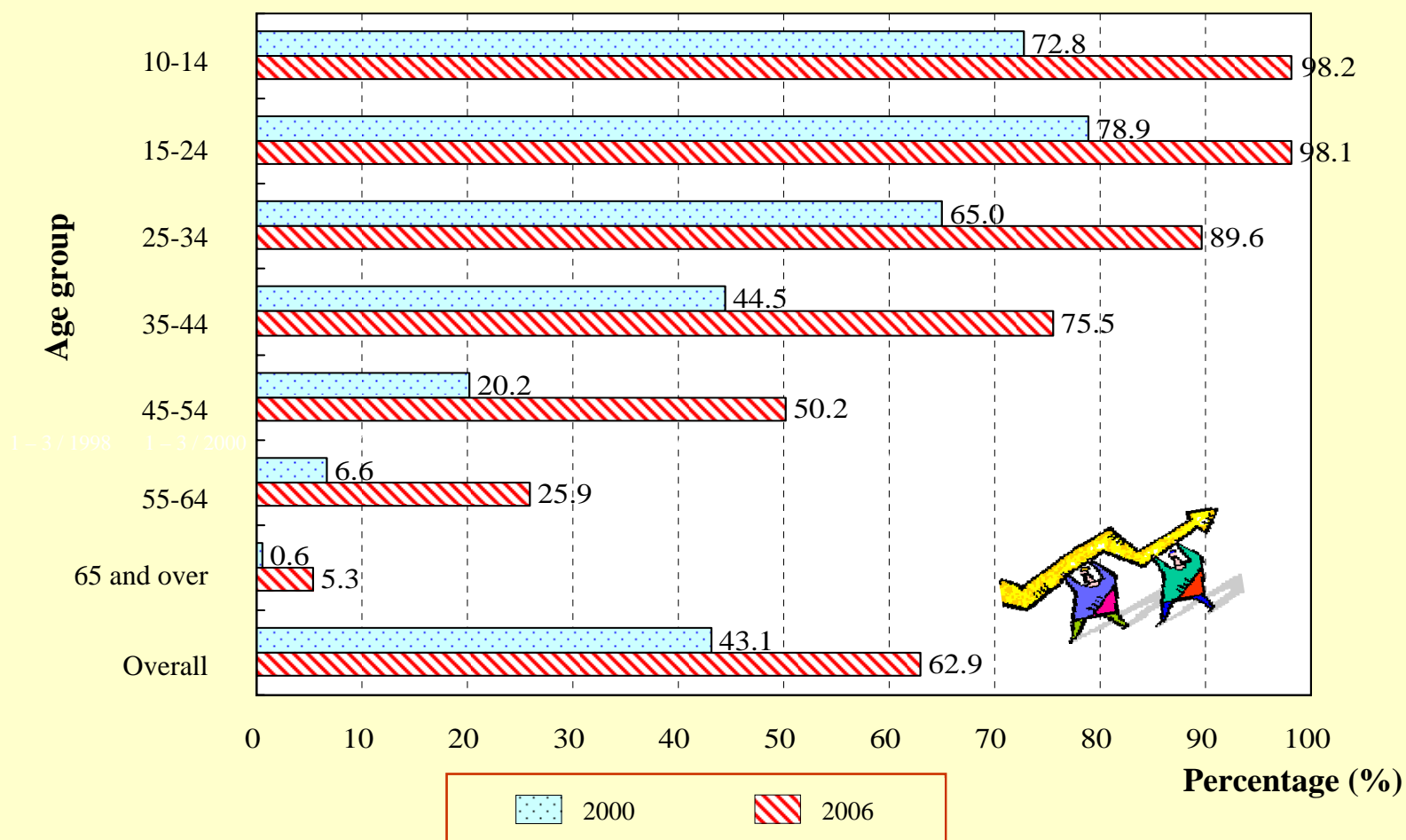
Chart 1: % of households with personal computer (PC) at home and % of households with PC at home connected to the Internet





# ICT Household Statistics at a Glance

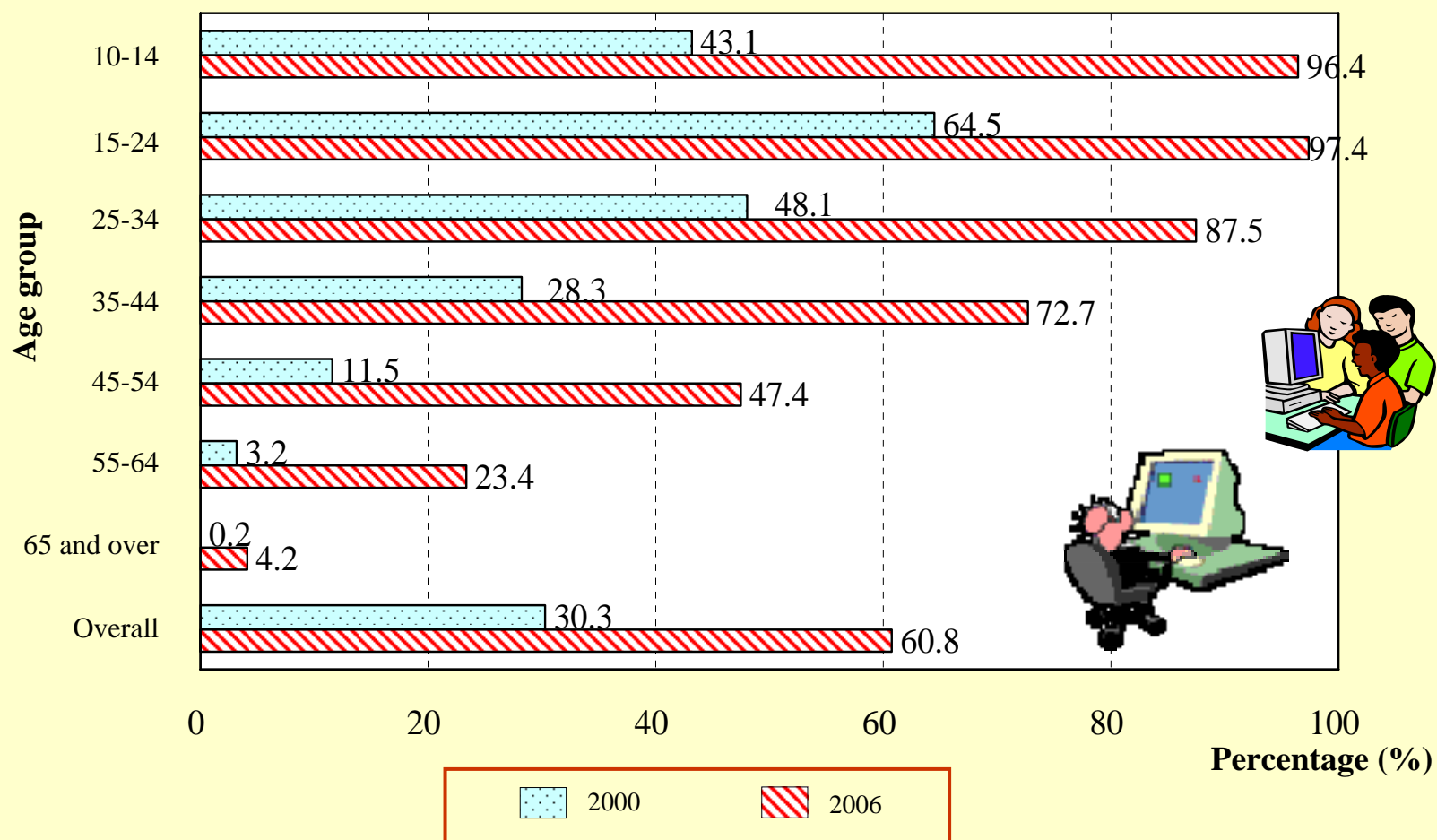
Chart 2: Percentage of PC users by age group





# ICT Household Statistics at a Glance

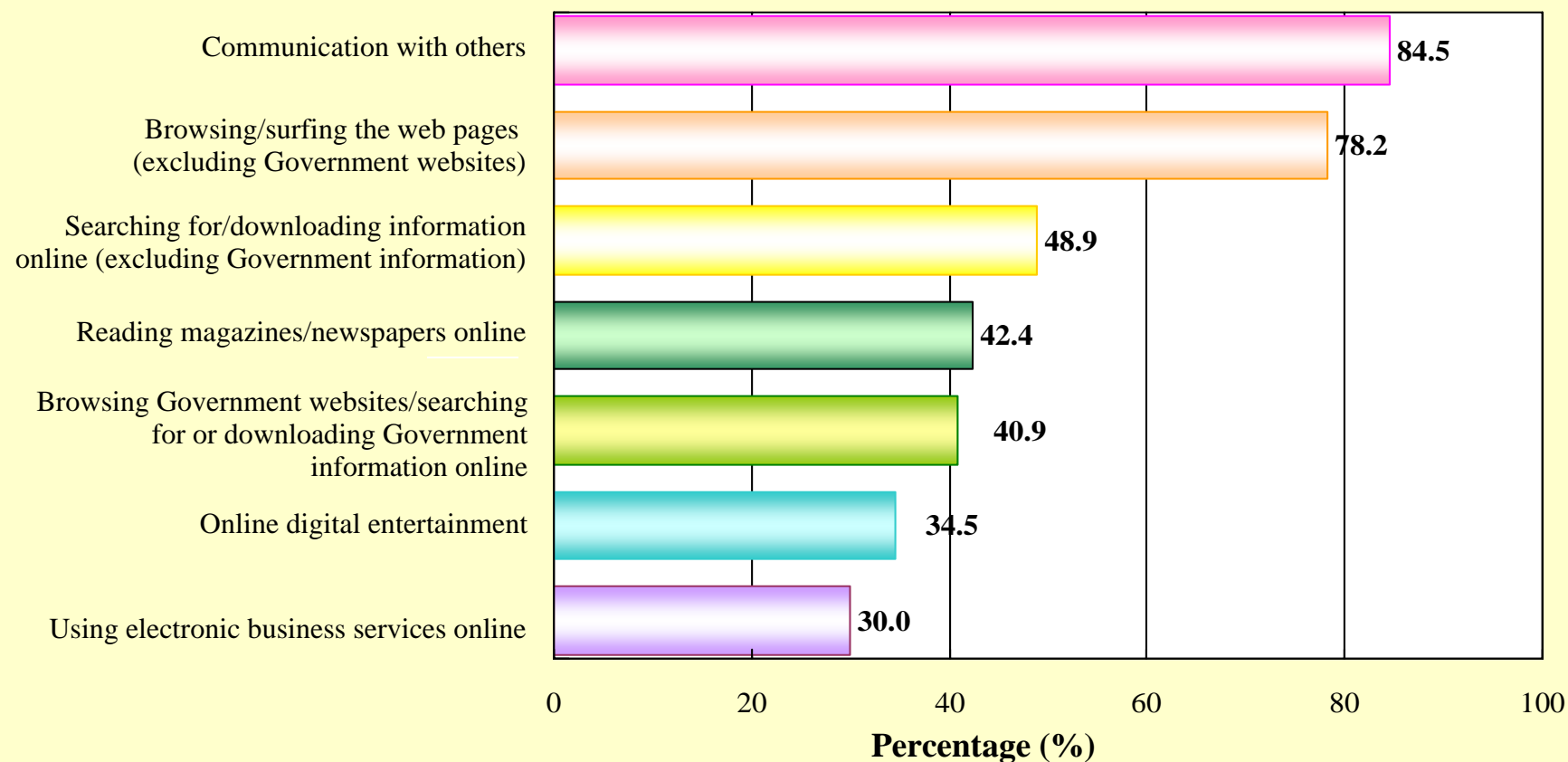
Chart 3: Percentage of Internet users by age group





# ICT Household Statistics at a Glance

Chart 4: Percentage of Internet users by major purpose of using Internet service via non-mobile web device in 2006





## Major Issues and Challenges

- Rapid development of ICT makes statistics on PC/Internet penetration rates over years not strictly comparable
- Sometimes difficult to meet the sophisticated needs of data users (e.g. assessing the digital inclusiveness of disadvantaged groups)
- Balancing the needs of data users and the reporting burden of respondents



# Thank You !



**C&SD Website:**  
**<http://www.censtatd.gov.hk/>**