



24<sup>th</sup> Population Census Conference

# **Harnessing Technology to Improve Efficiency of Data Processing**

**General Household Survey (GHS) 2005**

Singapore Department of Statistics

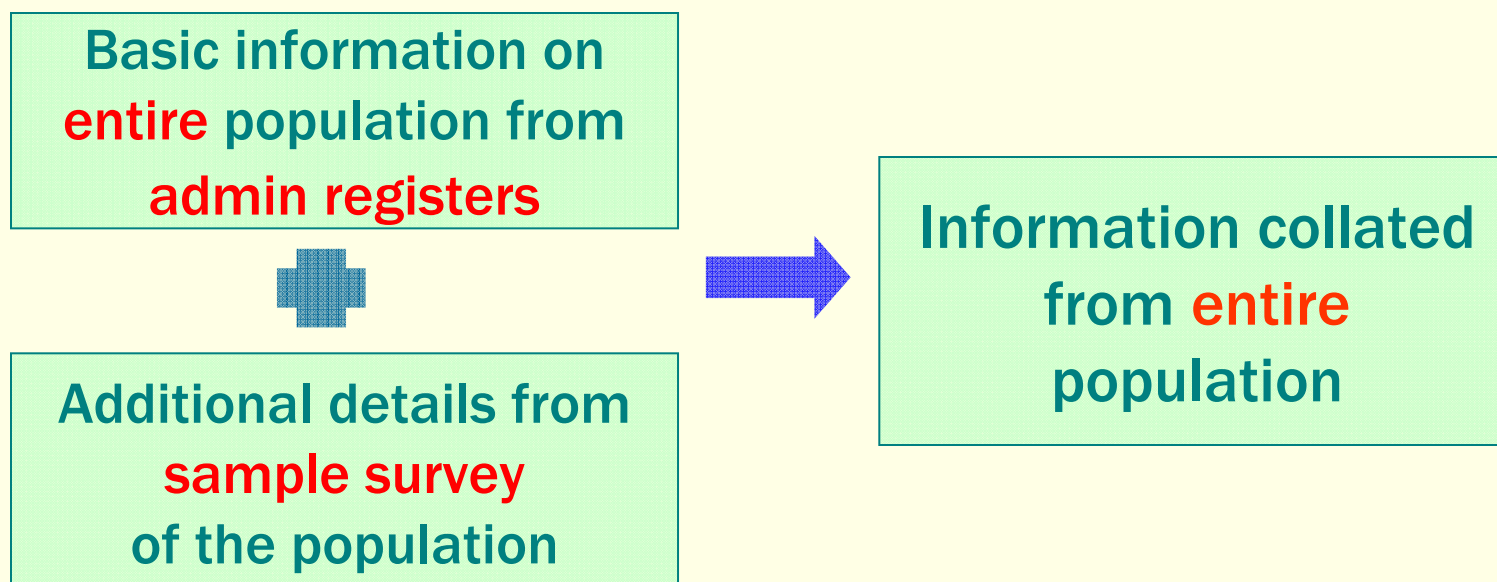
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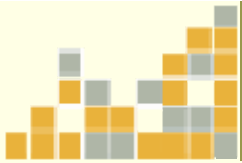
**STATISTICS**  
SINGAPORE



# About the GHS05

- Conducted in years ending '5', between Censuses
- Approach:
  - Register-Based for basic data
  - Survey collection on additional data for 10% sample





# About the GHS05

- Tri-modal data collection strategy

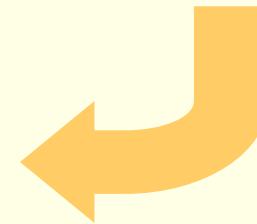


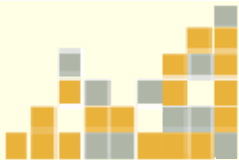
Internet



Telephone Interview

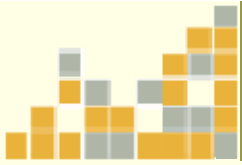
Face-to-Face  
Interview





# Use of Technology at Data Collection

- Data entry at point of collection
  - **Internet**  
Online self-enumeration, direct entry by respondents
  - **Telephone Interview**  
Computer-assisted telephone interviewing (CATI) system, direct entry by telephone interviewers
  - **Face-to-Face Interview/Fieldwork**  
Entry to Personal Digital Assistants (PDAs) by field interviewers, data synchronised



# Use of Technology at Data Collection

- Automated branching of questions
- On-line completeness and validation checks
- Data collected in different modes of collection synchronised

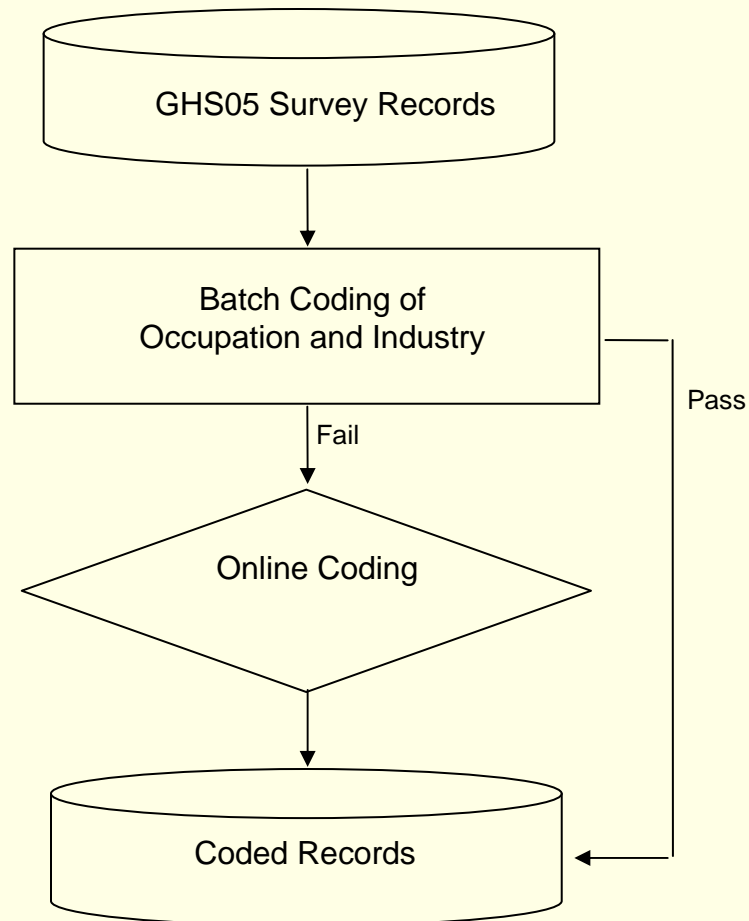


# Benefits to Data Processing

- Benefits of using technology in Collection reaped at Data Processing
  - Data input during data collection, clarifications made on the spot where applicable
  - Data entry not required during Data Processing, transcribing errors reduced
  - Incidence of Accidental Omission reduced
  - Possibility of Duplicate Records minimised

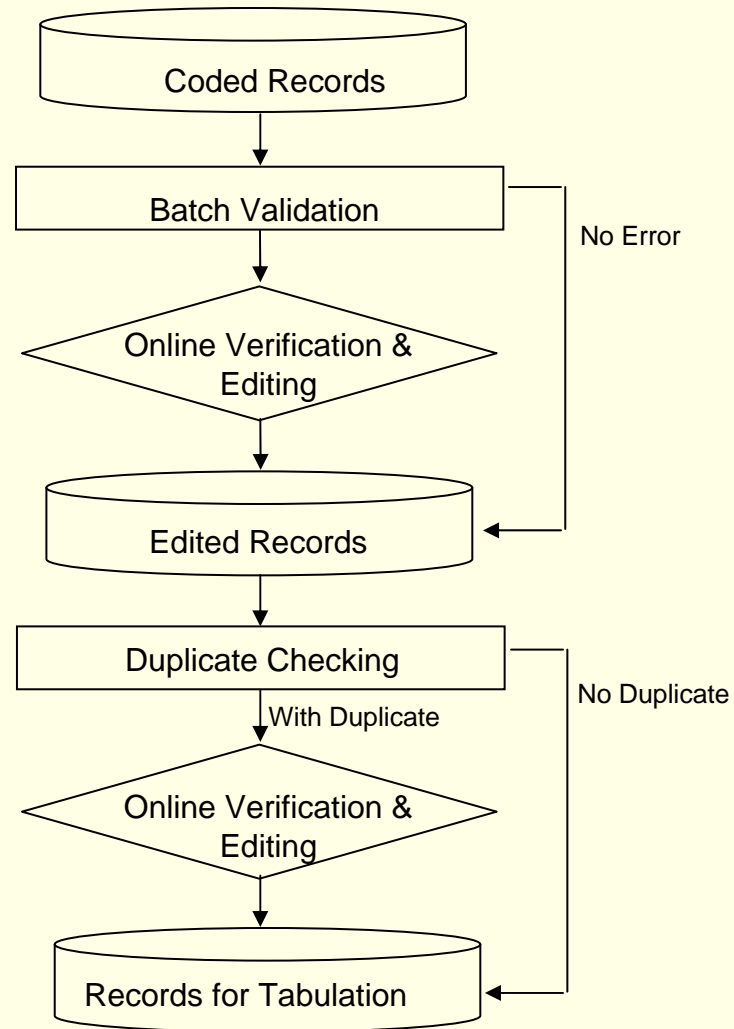
# Processes at Data Processing

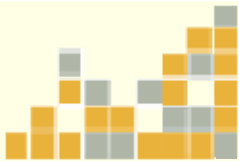
- Coding Workflow



# Processes at Data Processing

- Editing Workflow

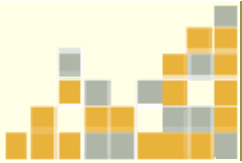




## Some Learning Points

- Batch Coding and Validation
  - Improve productivity
  - Reduce the reliance on manpower

But, effectiveness dependent on quality of input file on rules and dictionary for matching
- Administrative data can be used to improve quality of batch processes
- Adoption of technology in Data Collection extends beyond collection to benefit Data Processing



Thank You