
Introduction

INTRODUCTION

The Census of Population is conducted once in ten years by the Singapore Department of Statistics (DOS). It is the largest national statistical exercise undertaken in Singapore, collecting information on key characteristics of the population and households. The Census 2020 was the sixth census carried out since Singapore's Independence and the fifteenth in the series of census-taking in Singapore.

The Census of Population 2020 Statistical Release 2 - Households, Geographic Distribution, Transport and Difficulty in Basic Activities is the second and final statistical publication on detailed census results. This release provides the broad trends and changes in the households and housing, married couples, geographic distribution of residence and transport of the resident population since 2010. New data on geographic distribution of workplace and difficulty in performing basic activities are also made available for the first time in the Census. The report comprises detailed statistical tables to facilitate users carrying out more comprehensive studies and analysis.

Census of Population – Concept and Coverage

Since 2000, Singapore's Census adopted the de jure concept for population estimates based on a person's place of usual residence. Under the de jure concept of "usual residence", Singapore residents (citizens and permanent residents) with valid local addresses and who were not away from Singapore for a continuous period of 12 months or longer were included in the total population count in Census 2020. Non-residents comprising foreigners who were working, studying or living in Singapore but not granted permanent residence were also included in the total population. The transient population, such as tourists and short-term visitors, was excluded.

Register-based Census of Population

Similar to the last two Censuses, the Census 2020 adopted a register-based approach, supplemented with a large-scale sample survey. Basic population count and characteristics such as age, sex, ethnic group, place of birth, type of dwelling and geographical distribution of place of residence were obtained from administrative records from multiple sources.

Sample Enumeration

A sample enumeration of some 150,000 households was conducted to obtain additional information not available from administrative sources. The sample survey supplemented the register-based data with detailed survey information on selected

topics including language, transport, household characteristics and new data on geographic distribution of workplace and difficulty in performing basic activities.

Tri-Modal Data Collection Strategy

To facilitate data collection for the sample enumeration, the Census 2020 adopted a tri-modal data collection strategy. The tri-modal approach was first successfully implemented in the Census 2000 and improved on in Census 2010. In 2020, it comprised Internet Enumeration, Computer-Assisted Telephone Interviewing (CATI) and face-to-face interviews using mobile devices.

Available 24 hours a day, 7 days a week, Internet enumeration provided respondents with the flexibility to provide their Census returns anytime, anywhere, using any Internet-accessible device (e.g. desktop, laptop, tablet or smartphone), without having to go through a third party (i.e. the interviewer). In the light of the COVID-19 situation, this mode allowed respondents to complete their Census without the need for physical interaction with the field interviewer.

For respondents who were unable to complete their returns via the Internet, CATI was an alternative with no face-to-face contact. Respondents called the Census 2020 Hotline to provide their returns over the phone with the assistance of CATI interviewers. CATI interviewers also contacted households which did not complete their returns by a stipulated date for telephone interviews.

The COVID-19 pandemic and ensuing Circuit Breaker and other safe management measures implemented nationwide meant that adjustments had to be made to ensure the continued participation by households. DOS used data analytics to monitor progress and optimise operational efficiency in the outreach and follow-up. With delays in responses due to the pandemic and measures, DOS sent more reminder letters to encourage respondents to respond through Internet or CATI, while physical visits to households were reduced.

For households which did not respond via the Internet and could not be contacted by CATI after several attempts, field interviewers made visits to conduct face-to-face interviews. Respondents who preferred to be contacted in person could also opt for the face-to-face interviews.

Mobile tablets were used in the Census 2020 field collection. The use of tablets to submit responses via web-based form enhanced the data security for respondents' returns. Data were captured and updated to the system directly and authentication processes and security measures were in place to prevent unauthorised access. Automatic branching of questions, consistency checks and electronically coded data were captured directly in the field and designed to reduce back-end processing efforts.

Data Processing and Reports

Census returns submitted from the various data collection modes were then processed for statistical coding, data validation, editing and verification of records to ensure consistency and data quality. Machine learning was first adopted in the coding process in Census 2020, which helped to reduce the manpower resource and time taken for data processing.

After stringent quality checks and the completion of data processing, statistical reports by specific topics, together with detailed statistical tables were prepared for public release.