Intelligent Classification and Coding System

for Household Expenditure Survey 2002/03

For the Household Expenditure Survey (HES) conducted between October 2002 and September 2003, the Singapore Department of Statistics has developed an Intelligent Classification and Coding System (ICCS). The ICCS improves the efficiency of coding and capturing of the survey data significantly.

The ICCS is a client server application which runs on WIN 98. The database, which contains an "expandable" dictionary, resides on a UNIX host. Developed as a sub-module of the main computer system for the 2002/03 HES project, the ICCS does not require additional system licences. This makes the ICCS a good and inexpensive long time investment.

Re-Engineered Coding Process

The ICCS involves the use of an interactive search engine accessing a Master Dictionary on expenditure codes and descriptions, and allows coders to view and select the most appropriate codes. The coder needs only to enter a key word and the system will search and list out all possible codes and descriptions comprising the key word. The coder will then click on the most appropriate description and the corresponding code will automatically be captured into the system immediately.

The ICCS also allows the dictionary which caters to the diverse language usage in Singapore (eg Malay, the Chinese Dialects and Mandarin names of various goods) to be 'built up' over time. The dictionary can be updated continually with the new types of goods and services and their corresponding codes as and when they are encountered during the coding process. This special feature of building up the comprehensiveness of the dictionary will serve as a good base for coding of expenditure items for future surveys.

Halving of Data Processing Time

The effective integration of the ICCS and the relevant data-entry screens eliminates the steps involved in searching for the codes manually, writing them down and subsequently entering them into the computer system. The interactive selection of appropriate codes on screen and direct capturing of codes will speed up the overall processing time by up to 50 per cent. With the significant reduction in processing time through the use of the ICCS, the timeliness of data will be improved.

Better Data Quality

The ICCS eliminates transcribing and other human errors associated with manual coding process. With the use of the ICCS, there is significant improvement in staff morale amongst the data-entry personnel. Using the search engine in the ICCS is much more interesting and challenging compared to the monotonous head-down data entry method used previously.