Use of Latest Technology in Data Capture for Consumer Prices: Philippine Experience

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Introduction
Introduction

- This presentation discusses the digitized price collection for the Consumer Price Index (CPI)
- Monthly collection of prices for commodities ranges from 271 (Guimaras) to 693 (National Capital Region) and a total of 301,000 price quotations throughout the country
- 2006 is the base year for the current CPI; 2012 based is soon to be released
Introduction – (cont.)

- The indicator being generated for the CPI shows the change in the average prices of a fixed basket of goods and services commonly purchased by an average Filipino household for their day-to-day consumption relative to a base year.
- The CPI is widely used in the calculation of the inflation rate and purchasing power of the peso (PPP).
- Serves as basis for economic analysis, for collective bargaining agreements, for wage adjustments, and for monitoring the effects of government economic policy.
Activities Undertaken in the Digitized Price Collection System
Preparatory Phase

- Planning, testing, review and implementation on the use of android-based price data collection system for the generation of the monthly CPI involved the Philippine Statistical Research Institute (PSRTI), a research arm of the statistical system
Preparatory Phase – (cont.)

- Development of customized Windows-based system named CPI Store Merger to serve as a tool during the data cleaning and merging of the reference files for the names of stores/outlets of the two CPI market baskets.

- Development of databases for the names of stores.

- Preparation of the User’s Guide on CPI Store Merger system.
Preparatory Phase – (cont.)

- Data cleaning and updating of the two reference files for the names of stores/outlets by item from the 2006-based CPI (CPI2k6) market baskets for all income households and the 2000-based CPI for the bottom 30 percent per capita income households (CPI2kb30)
Preparatory Phase – (cont.)

- Development of Price Tag system for recording, processing, validating, and transmitting of price observations directly from the tablet from the provincial/field offices to the Central Office

- Development of Product Image Capture (PIC) system for the tablet to allow the user to capture an image for a particular commodity
Implementation Phase

- Preliminary implementation on the use of tablets in price collection and processing started in October 2015

- During the preliminary implementation, simultaneous with the use of tablet in the collection of prices, the current method in recording prices through the traditional method of pencil and paper was not stopped.
Implementation Phase – (cont.)

- Data encoding and validation of price data were also done through the use of the CPI Data Processing system.
Features of the System

1. CPI Store Merger system
   - A Windows-based system designed to help the provincial statistician clean and update/merge the two reference files for the list of stores/outlets used in the price collection for the generation of the two CPI series (2006-based and 2000-based CPI);
   - The output file of this system is *Pricespp.mdb*
Features of the System – (cont.)

2. Price Tag system

- A customized, android-based system for tablet used in the encoding, recording, validating, processing and transmitting of price observations from the field offices to the web server (https://prices.psa.gov.ph)

- Has database Pricespp.mdb generated by the CPI Store Merger system as input database file in the Price Tag system
Features of the System – (cont.)

- Has *Manage Store List* Module in the tablet for sample stores to be displayed in the list of stores

- Has GPS feature which tracks the exact location of the stores/outlets and registers the exact date and time of visit in the store
Features of the System – (cont.)

3. Product Image Capture (PIC) system

- An android-based application that allows the user to capture an image of a particular commodity in the tablet, which will help the price collector to determine the product specifications to price;

- The image captured contains the important price determining characteristics of the item, such as the brand, the packaging, quantity and unit of measure, etc.;
Challenges in the Digitized Price Data Collection System
Challenges in the Digitized Price Data Collection System

1. Building of Reference Files
   a. Some commodity items are incorrectly mapped in sample stores in the databases. Hence, the price collector moved from one sample store to another sample store, and back again.
   b. The exact names of stores appeared more than twice in the list of stores. This resulted from the encoding of the names of stores in the two separate databases (CPI2k6 and CPI2kb30). Thus, the commodities which were supposed to be priced in one store are being mapped in two or more sample stores.
Challenges in the Digitized Price Data Collection System – (cont.)

2. During the pre-testing and pilot-testing phase
   c. Safety and security
      ▪ The use of tablet is applicable in price collection area that is enclosed and secured area like supermarkets
      ▪ The use of tablet might pose some problems during wet season and in open markets
   d. Weight of the tablet
      ▪ The weight of tablet causes discomfort when holding the device for a period of time
Challenges in the Digitized Price Data Collection System – (cont.)

3. During field operations
   a. Establishing the GPS signal takes some time in some area
   b. Difficulty in sending the price data to the web server via Internet for some provinces
   c. Price data are not sent directly from the tablet to the web server. Instead, data are exported to an external disk (CVS) and sent to the provincial offices.
Way Forward
Way Forward

- Development/Improvement of price data collection, validation and processing systems using the tablet whereby features such as search option, summary of price quotations collected are to be improved.

- The use of tablet shall be extended to the different price statistics specifically for the generation of the Construction Materials Retail Price Index, General Wholesale Price Index, and Construction Materials Wholesale Price Index.
Way Forward – (cont.)

- The data on GPS shall be used to check the consistency of the sample stores visited in every survey round.

- Provision of mobile Wi-Fi connection in provinces identified where internet connection is slow.
Conclusion
Challenges experienced such as unavailability of Internet connections and security in some areas, the use of tablets in collecting, processing and validating price data, nonetheless, provided more benefits in terms of reliability of price data, speed and cost efficiency.

Continuous improvements of the system should be done.
Thank You!