HHC Data Validation and Aggregation Module Training Document
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1. Introduction

The ICP Country Software is a part of the International Comparison Program which includes a series of statistical surveys held worldwide to collect price data for a sample of commonly bought goods and services.

The ICP Household Price Collection module is divided into two sub modules:

- Data Entry
- Data Validation and Averaging

This document is mainly focused towards the Household Price Collection Validation and Averaging module of the ICP Country software.

1.1 About this Guide

This guide acts as a training document for the User and features the following sections:

- Installation
- Overview of the features

1.2 Scope

The scope of this document covers only the installation process and step by step instructions to test the features of the Household Price Collection Validation and Averaging module of the ICP Country software.
2. Steps for Testing HHC Data Validation and Aggregation Module

**STEP 1: Launch the Data Validation and Averaging application**

After the installation of the HHC Module, a shortcut with an icon for the “Data Validation and Averaging” application is created on the desktop. The installation adds a program under the Program Menu. User can click on the shortcut or click on the Start Menu->Programs/All Programs (in Vista)->ICP 2011 HHC Modules->HHC Data Validate And Average.
**STEP 2: View Observation Summary for Products**

You can view the existing observations Summary for all products by loading them in the “Products” grid. To load the Observation summary follow the steps as mentioned below:

- On the Main screen of application, select appropriate filter criteria such as From Date, To date and Averaging Method. All three are mandatory filters and all other fields are optional.
- Click on the “Get Data” button

![Load Observation Summary for Products](image)

- It will display a wait message box as shown below
Loading data Message

- Grid will be loaded with all observations that match the filter criteria.
- The Observations Summary all products (as per filter) is loaded in the Tree format.
- Initially this tree will be loaded only with Product Codes, Names and number of Observations available for each product. Clicking on Validate/Average button will calculate and load other detail which will be covered in detail later.

STEP 3: Filter Observations Summary
There are ten filter criteria’s available in the Data Validation and Averaging application which can be used for filtering the existing observations and summary.

**From Date:** This is a mandatory filter. This allows you to search all the observations starting from this date.

**To Date:** This is a mandatory filter. This allows you to search all the observations till this date.

**Averaging Method:** Method to be used for calculating Average price for products.

**Products:** This field shows a list of all available products in the form of a tree. You can select one or multiple or none (All) products for which you want to load/View the observations summary on the screen. If you don’t select any product then this filter criterion will be ignored and observations summary for all products will be loaded.

**Locations:** This field shows a list of all available Locations in the form of a drop down list. You can select one or multiple or none (All) Locations for which you want to load/View the observations summary on the screen. If you don’t select any location then this filter criterion will be ignored and observations summary for all locations will be loaded.

**Outlets:** This field shows a list of all available Outlets in the form of a drop down list. You can select one or multiple or none (All) Outlets for which you want to load/View the observations summary on the screen. If you don’t select any Outlet then this filter criterion will be ignored and observations summary for all Outlets will be loaded.

**File Name:** This field shows list of all file name to which you have exported observations previously. If you never exported observations before then it will display “None” in the list which means Empty file Name or observations which are not yet exported.

**Location Type:** This field shows a list of all available Location Type in the form of a drop down list. You can select one or multiple or none (All) Location Type for which you want to load/View the observations summary on the screen. If you don’t select any location type then this filter criterion will be ignored and observations summary for all location types will be loaded.
Outlet Type: This field shows a list of all available Outlet Type in the form of a drop down list. You can select one or multiple or none (All) Outlet Type for which you want to load/View the observations summary on the screen. If you don’t select any Outlet Type then this filter criterion will be ignored and observations summary for all Outlet Types will be loaded.

- Select Products from the Products dropdown tree (Optional)
- Select Exported File Name from the File Name drop down (Optional)
- Select From Date and To date

**STEP 4 : Include Validated Observations**

There is an “Include Validate Observations” checkbox available on the screen. Checking this box and clicking “Get Data” will include already validated observations in the grid.

**STEP 5 : Validate and calculate Average Prices for Products**

- Once you have loaded the Observation Summary for products by following steps as mentioned above, you can click on the “Validate/ Average” button.
The system will calculate Min/Max Price ratio, Average Price and Var. Coefficient for all products for which there exists at least one Observation. While calculating these values, system will display wait message as shown below.

After calculating all the above mentioned values, it will populate them for all listed products as shown below.
### Validate and Average Observations

$$\text{Min/Max Price Ratio} = \frac{0.333}{15} = 0.022$$

#### STEP 6: Min/Max Price Ratio Limit

To set Min/Max price ratio limit, change the value provided in the “Min/Max Price Ratio Limit” field. If the Min/Max price ratio for a product is less than this value then its Min/Max price ratio cell will be highlighted with the color shown in the “Color selection box” that is available next to the “Min/Max Price Ratio Limit” text field.

Each time you modify the min max ratio limit, you need to click on the “Validate/Average” button to refresh the highlighting.

- **Formula for Calculating Min/Max Price Ratio:**
  $$\text{Min/Max Price Ratio} = \frac{\text{Min Price (Converted Price)}}{\text{Max Price (Converted Price)}}$$
For example, in the above screenshot,
The minimum price for Import First Class Central Grain is = 0.333
The maximum price for Import First Class Central Grain is = 15

Min/Max Price Ratio = 0.333/15 = 0.022

STEP 7: Coefficient of Variation Limit

To set Variation Coefficient Limit, change the value provided in the “Var. Coefficient Limit” field. If the Var. Coefficient for a product is more than this value, then its Var. Coefficient cell will be highlighted with the color shown in the “Color selection box” that is available next to the “Var. Coefficient” text field.

Each time you modify this value, you need to click on the “Validate/Average” button to refresh the highlighting.

- Formula for Calculating Coefficient of Variation:
$CoV = \left( \frac{\text{STDEV} (\text{Converted Price})}{\text{AVG}(\text{Converted Price})} \right) \times 100$

The converted Price for a product can be obtained from the observations/Quotations tab.
STEP 8: View Observation Details

The observation details are shown in the “Observations/Quotation” tab of the data grid which shows the Observation summary for products. User can select more than one product at a time and view its details. To view Observation Details for products, follow the steps mentioned below:

- Load the Observation Summary for products.
- Select the product for which you want to see the observations details from the Observation Summary by checking the check box.
ICP Data Validation and Aggregation Module
Training document

Select Products for Observation Details
- Click on the “Observations/Quotations” Tab as shown in the figure below.

![Image of the ICP Data Validation and Aggregation Module interface]

**Navigate to Observation Details**

- The Observation Details will be displayed in a grid as shown above.
- Deviation and T Ratio for an observation will be highlighted with different color if they are not valid as per the values set in the “Deviation Limit” and “T Ratio” fields as shown in the figure below. The color for highlighting these invalid values will be used as per the color shown next to the “Deviation Limit” and “T Ratio Limit” text fields.
**STEP 9: Set Deviation Limit**

To set Deviation Limit, change the value provided in the “Deviation Limit” field. If the Deviation for an observation is invalid then its Deviation cell will be highlighted with the color shown in the “Color selection box” that is available next to the “Deviation Limit” text field.

Each time you modify this value, you need to click on the “Observation grid” button to refresh the highlighting.

**Formula for calculating Deviation**

\[
\text{Deviation} = \left(\frac{\text{Converted Price} - \text{Average Price}}{\text{Average price}}\right) \times 100
\]
**STEP 10: Set T Ratio Limit**

To set T Ratio Limit, change the value provided in the “T Ratio Limit” field. If the T Ratio for an observation is invalid then its T Ratio cell will be highlighted with the color shown in the “Color selection box” that is available next to the “T Ratio Limit” text field.

Each time you modify this value, you need to click on the “Observation grid” to refresh the highlighting.

- The rule for deciding invalid T Ratio is
  - If T Ratio for an Observation is greater than “T Ratio Limit” (Set in the T Ratio Limit field)
- Formula for calculating T Ratio
  \[ T \text{ Ratio} = \frac{(\text{Converted Price} - \text{Average Price})}{\text{Std. Deviation}} \]

**STEP 11: Modify Observation Details**

The Data Validation and Averaging Module allow modifying only following values for an observation:

- Observed Quantity
- Observed Price
- Observed UoM
- Rejected status
- Comments

To modify Observations, follow the steps as mentioned below:

- Navigate to any observation and modify values in any of the 5 fields mentioned above.
STEP 12: Save Validated Observations
You can validate and modify observations by following the steps above. After that clicking on the “Save” button will mark all selected observation (shown in the Observation/Quotation grid) as validated. Next time when you load the Observation summary for products, these validated observation will not be shown unless you check the “Include Validated Observations” checkbox.

STEP 13: Reject Observation
While validating existing observations using the Data Validation and Averaging application, any observation can be marked as “Rejected” by the user. The rejection could be based on certain rules/guidelines which will be followed by the user who validates the Observations. If an observation is already rejected, the “Observation/Quotation” grid will display “Rejected” in the “Rejected” column and will be highlighted with the color set/selected in the “Rejected Observations” color selection box.

To reject observation follow the steps as mentioned below:

- Click on “Save” button
Navigate to the observation you want to reject
Click on the “Rejected” field
A drop down will be shown with two options “Rejected” and empty.
Select “Rejected”
Repeat these steps for all observations that you want to Reject
Click on “Save”

You can also change the status of rejected Observation by selecting empty option available in the drop down shown in the “Rejected” drop down. After making this change click on “Save”.

The back color of a rejected observation in the “Observations” grid is customizable. You can select any color that is available in the “Rejected Observations” color box as shown in the screenshot below. As soon as you select a new color; all rejected observations will be highlighted with the selected color. The application persist this change.

The users can see the rejected columns in the Data Entry screen -> Multiple Data Entry tab as shown in the screenshot below.
STEP 14: Change the Default Database

If you have more than one database files (Household Price Collection software database file) available, you can use any of those file in the Data entry application by changing its default database. To Change the database follow the steps as mentioned below:

- Launch the Data Validation and Averaging Application
- On the Main screen check the “Change Database” Checkbox as shown below. It will Display a text filed and a button next to it. The text field will show the full path of the database that is being used by the application.
Click on the button which is available next to the “Change Database” field as shown in the screenshot above.

It will display a file Selection dialog box (screen) as shown below. Locate the database file which you want to use in the Data Entry application and click on “Open button”
Select Database file - Change Default Database

- The full path of the new database will be populated in the Change database text field.

- Now click on “Save” to connect to this database.
It will display a message as shown below and Data application will be refreshed with the data available in the newly selected database.

STEP 15: Export Average Prices and Observation Details

The Data Validation and Averaging application facilitate to download either Average prices only or Observation Details or both in an Excel file. Follow the steps mentioned below to export

- On the Data Validation and Averaging screen select appropriate filter criteria such as From Date, To date and Averaging method; all three are mandatory, then optional filters like Products, Locations and Outlets etc.
- Click on the “Export” button.
System will display a small screen as shown below with various Export options. If you want to export only average prices for products then select “Averages Only”, for exporting Observation details only select “Detailed Observations Only” or in case you want to export both in a single Excel file then select “Both”. 

Export Average Prices and Observations
- Select frequency such as Yearly, Half Yearly, Quarterly or Monthly from the drop down shown in the screenshot.
- Select Time Period. If you select Yearly frequency you can enter the year in the Time Period e.g. 2009, 2008 etc. If you select Half Yearly then the “Time Period” drop down will display H1 and H2. If you select Quarterly frequency then the “Time Period” drop down will display Q1, Q2, Q3 and Q4 representing each quarter of the year. If you select Monthly frequency the Time period drop down will display all twelve month of the year out of which you can select any one month.
- In the “File Name” text field provide name which you want to give to the Exported Excel file.
- Click “OK” to proceed with the Export or “Cancel” to return to the main screen without exporting data.
- Clicking “OK” will display the file save dialog box as shown the figure below. The file name provided by you in the previous screen will be pre-fixed with Country Code, HHC, Average Prices or Raw Prices (based on the selection in previous screen), Yearly or half Yearly or Quarterly or Monthly (based on the selection in previous screen), Selected Time period i.e. H1, H2 or Q1 Q2 etc, then year entered by you.
Clicking on “Save” will start the export process and display the wait message as shown below:

![Wait message]

On successful completion of Export it will display message as shown below and Observations will be downloaded in the Excel file which will be downloaded at the selected location:

![Completed message]
STEP 16: Common control features

This section describes important features of some of the UI controls that has been used in the ICP Country software.

Grid Control

This control has been used in both Data entry and Data Validation and Averaging modules for displaying the observations.

Grouping Rows

This feature enables you to group data against one or more columns. If you group data by a column, records with identical column values are arranged into corresponding data groups. The group row can be expanded to access the underlying data rows.

An end-user can group data by a particular column by dragging its header from the column header panel or the customization form onto the group panel. To ungroup the data, remove the column header from the group panel by dragging it. You can also change the order of the grouping columns using drag and drop.

It's also possible to group data by a column by selecting the "Group By This Field" option from the column header context menu. To ungroup data, use the "Un-Group" option from the same menu or "Clear Grouping" from the group panel context menu.
Records are always sorted against the grouping columns. If you group data against a column which isn't sorted, the grid control will automatically apply sorting in ascending order to the column. Subsequently, if you remove the column from the group panel its sort settings will be cleared.

**Sorting Records**

This feature provides the ability to sort data against one or multiple columns. When sorting is applied to a view, rows are re-arranged to meet the current sort settings.

To sort data against a Grid View's column or to change the column's sort order, an end-user can click its column header.

**Filtering Records**

Filtering allows you to display a subset of records from a data source. When filtering is applied to a Grid View, only those records that meet the current filter criteria are displayed. You can filter data against a single or multiple columns.

The following image shows the filter dropdown list invoked for a column in a Grid View:
After a filter has been applied to the current View the filter panel appears by default at the bottom of the View.

**Hiding Unused Columns**

The customization form provides facilities for adding and removing columns from a View at runtime by using drag & drop. Dragging the column by its header and dropping it within the customization form area hides the column from the Data grid. The column reappears when the header is dragged from the customization form to the Data grid. The Customization form can be opened by:

Selecting Column Chooser from the header panel context menu.

To hide a specific column/band, an end-user can do one of the following:
- Drag a column/band header onto the Customization Form.
- Drag a column/band header away from the Column Header Panel, even if the Customization Form is not visible
- Right-click a column header, and select Remove This Column from the Column Header Context Menu.
After columns/bands have been hidden, they can be restored by opening the Customization Form and dragging them from the Customization form onto the Column Header Panel.

**Resizing Nodes and Columns**
The following mouse operations can be performed by end-users to resize columns and nodes.

<table>
<thead>
<tr>
<th>Action</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dragging a column header’s right edge</td>
<td>Changes the column's width.</td>
</tr>
<tr>
<td>Selecting the &quot;Best Fit&quot;/&quot;Best Fit (all columns)&quot; item from the column header's context menu</td>
<td>Modifies the column width to &quot;best fit&quot; to the corresponding column or all columns.</td>
</tr>
</tbody>
</table>

**Reordering Columns**

The following operations can be performed by end-users to rearrange columns and nodes.

- Dragging a column header and dropping it to a new position within the column header panel.
Sorting
The following operations can be performed by end-users to apply or cancel sorting by column values.

<table>
<thead>
<tr>
<th>Action</th>
<th>Effect</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clicking a column header</td>
<td>Toggles the column's sort order. The previous sorting is removed.</td>
</tr>
<tr>
<td>Clicking a column header while holding the SHIFT key pressed</td>
<td>Toggles the column's sort order. The previous sorting is preserved.</td>
</tr>
<tr>
<td>Clicking a column header while holding the CTRL key pressed</td>
<td>Removes sorting by this column. The previous sorting is preserved.</td>
</tr>
<tr>
<td>Selecting the &quot;Sort Ascending&quot; or &quot;Sort Descending&quot; items in the column header's context menu</td>
<td>Applies the corresponding sort order to the column. The previous sorting is preserved.</td>
</tr>
</tbody>
</table>