## What is Accounting+?

**Accounting+** is an accounting system for the creation of temporary data, specially adapted to capital markets. Its abilities are based on the application of accounts/sales/production developed by **Abhijit A. Chavan**.

**Partially Dynamic**

Unlike other existing programs, the accounting engine in **Accounting+** is **dynamic**, adapting internally the number of inputs and connections depending on the problem posed.

**Multi-version**

It has been built searching for the maximum use flexibility and making sure of leaving up to each investor the highest degree of freedom in the definition of accounts and in the parameters assigned to these. Depending on these characteristics and their definition, in near future try out to present different **versions** of **Accounting+**.

**Fragmental**

The structure given to the definition of each network or module allows also an easy exchange of results among users.

In **Accounting+** you may obtain new data series supplied by other users of the program.

**Complete with respect to Results**

A large number of indicators **have been entered**, moving averages, graphical and some other elements of the technical analysis. We can then improve its validation capacity of the network, as well as the input data series. And these variables can also be other temporary or derived series from the original.

**Goal**

Unlike other accounting systems used normally, **Accounting+** may not be interpreted, its results are determined. This **objectivity** in the results offered by this project constitutes one of its numerous assets. The program will tell you how to handle accounting terms at each moment, you decide whether you continue it or not.

## Working scheme in Accounting+

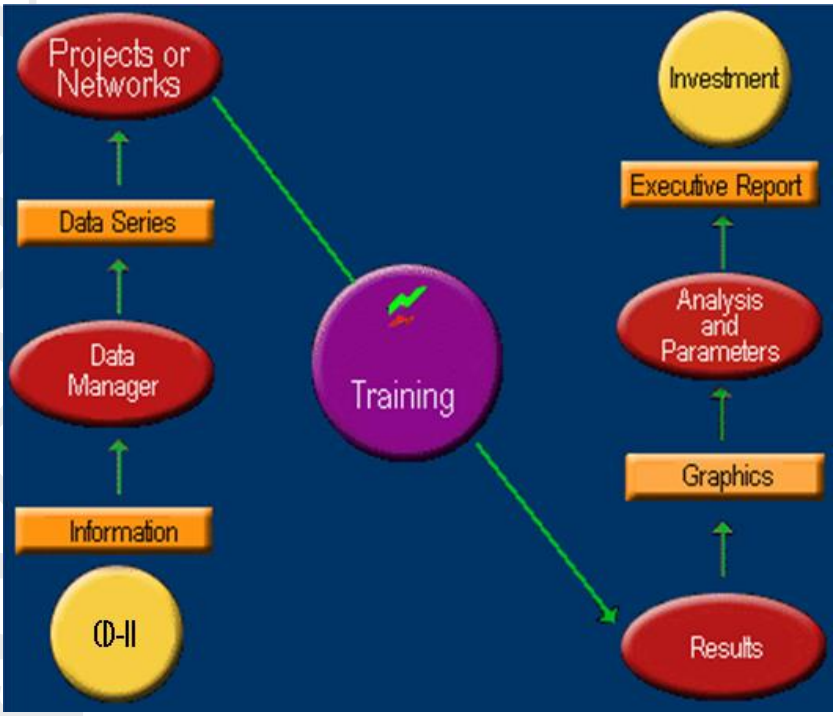


***Fig**. Working scheme in **Accounting+**.*
*where, **CD-II** implies Construction Division No.- 2, Alore*

- **Accounting+** is fed on data from **capital markets**, these temporary data series are the **information** the program needs for its working.
- The introduction and maintenance of these data is made from the **Data manager**, which then transforms the gross data into **Data series** which are used in the program. The data can be **downloaded automatically** or be introduced **manually**.
- We now visualize accounts both in the **results as well as graphics**.
- We submit the data series to **training** and obtain the **results**. These results can be viewed in the form of **graphics** or through the **Executive summary**. We analyze the results and reconsider the parameters used. This process of **analysis and parameters** can lead us to a re-training of the network.
- Once this process has finished, the network is ready to take decisions in the processes of **investment**.
- We regularly have to make **safety copies or backups** of our system.

# Data manager

There are two ways of maintaining the system with the data values updated:

1. Through the DATA MANAGER, you will be able to incorporate in the system any temporary data, either created by you or by any other financial information supplier.

2. Through the ON-LINE UPDATE system or DATA DOWNLOAD you will access on-line, through the Internet, intranet web site, or information databases of different suppliers and you will be able to download the market series. This system deals with the whole process, the update and the insertion in the database of **Accounting+.**

The **data download** enables to obtain the market data through different suppliers with whom we have signed agreements.

The data can be updated automatically through the **data download** system. In many cases, **data can updated at any time** (*), without having to wait for the closing of the market.

The **data manager** allows us to maintain the database containing the quotation temporary series every user wishes for study.

- **Update** allows us to update the database with new information, modify or add more to the database. The process is automatic. The files feeding the program need to be of the appropriate type**,** which are the most frequent formats amongst suppliers of financial markets information.

- **Administrator** enables us to define the historical temporal series the program will use.

- **Configure** enables us to establish some general parameters in the program.

- We will also see in this chapter the **type of files** used by **Accounting+**.

# Automatic data update

The automatic data update allows you to include new series or to update the existing ones from external data sources. The user has to care about updating. Any updation causes the market series database in your program has been updated and your prediction models have been put up-to-date.

In order to update the data, we only have to press the button **Add**. It views you a list in which we can select the file or collection of files with data we want to insert in our data in database.

Once we have selected the files necessary to update we can proceed to the information update, by clicking on the button **Save**.

If in the selection of files necessary for update we have made a mistake, for example adding files which are not necessary, we simply mark them with the mouse and click on the button **Delete**.

In other words, if we make a mistake and update a file that had already been updated at some other time, the information will not be duplicated. On the other hand, (consider **dd/mm/yyyy** format) if we have updated our information up to 10/01/05 but we still have to update the day 08/02/05, even it is a preceding date, we can do it at any time. **The data manager is responsible for putting correctly in order the information**.

The executive value depends not only on the correct definition of the project, but also on the correction of the data series used. **The whole network is very sensitive to the information they analyze**, you should therefore make sure that the information you use is correct. Avoid to the maximum extent mistaken data.

**NOTE :-**

The on-line data update system not only downloads them, it is integrated with the administration system of the internal **Accounting+** database. If we modify the selection of data collection that we have to download, the system database will be modified.

The update system is not sensitive to repetition or disordered insertion mistakes.

The project needs a valid data-series perfectly adjusted to reality if we want the results to be correct.

It does not mean that previous data will not be taken into account. Several mathematical processes run in the network. Although we would like to point out that especially the network will work with your knowledge of all data series, detecting valid series, relations between several elements ... and will observe what happens during the xx previous days in order to take the decision. xx is the value that we have assigned in "with data of ..."

The network we would created **does not have any knowledge, or experience**, it does not know what future means, it does not know anything. It is like an empty structure but prepared to be an expert in something very specific, the objective which has been assigned to it with its parameters and variables.

## Training project for analysis

There are several types of training intervals available. We will explain them one by one:

- **Automatic:** takes all available data for the training; if we add new data, the value for UNTIL increases.
- **Fixed start:** takes all available data for the training from the selected date until the end; if we add new data, the value for UNTIL increases, but the one for FROM remains the same.
- **Moving start:** takes all available data for the training from the selected date until the end; if we add new data, the value for FROM increases to the same extent as UNTIL.
- **Fixed range:** takes all available data for the training selected between FROM and UNTIL; if we add new data, both FROM and UNTIL remain the same.
- **Moving range:** takes all available data for the training selected between FROM and UNTIL; if we add new data, the value for FROM and UNTIL. Increase proportionally to the number of days of data we have entered.

Depending on the type of the training interval selected, we can define the staring date and/or the end of this interval. Therefore, a very intuitive selector of the working date is provided.

## Introduction to the analysis of results

Each project that is maintained in **Accounting+** is provided with the option to display the obtained results via the graphic format and in report format.

If a network has not been trained, we will see only the graphics of the series and an empty report.

## Expected Executive report of results. Configuration

It will allow you to define those options that you want to appear by default in your reports.

**Summary.** Alternate between presenting or not presenting the project summary. Here, as it is in the summary where the executive recommendations are presented.

**Balance.** It shows you a summary or operating balance of its prediction model.

**Stop Loss.** If you wish to work with Stop Loss you just have to select the percentages here, independently for operations with an upward or downward trend. Once you have configured the system, Stop Loss will send you recommendations and will consider that these have been executed at the exchange rate that you define in the working series: Opening, Closing ...

**Profitability.** Total of accumulated profitability, annual profitability.

**Statistics of operations.** Summary of operating statistics.

**Project features.** Definition of how the predictive project is built, that is, the goal, variable, last training or learning session and learning cycles accumulated. This section is especially useful for reproducing the model in another computer.

**Report features,** the basic features of your report. Together with the previous one it allows you to create an exact reproduction of the model and its use in another computer

**Graphics.** They present you in the lower part of the report window the evolution curve of your investments and of assets, there where they operate.

**Log**, includes the daily fluctuations, which take place in your investment, in the balance graphics. That is, it evaluates every day your investment according to the quotation of the assets. Then the graphics will interconnect the days in which some operations are carried out and will illustrate the balance value for those days.

**Capitalization of results.** Marking it your log, result graphics... it will appear capitalized, supposing that the total balance is invested in every operation. Then the investment system carried out the one to invest always the same amount, 100 monetary units, per operation.

**Normalizing**, allow you to display the graphics in normalized format, taking as **base Rs.10** in the beginning of the study period for both series. Thus, we can compare more easily the relative evolutions of the underlying series and of the series that reflect the balance of the earnings.

**Export.** It allows us to save the generated report both in plain as well as in rich text format..

**ATTENTION!**

The same prediction project, trained in the same way, in the same time period ... will deliver different results based on the different marketing strategies. The behavior of the model will generally be the same, but there will be some differences. This is a consequence of the system's optimization process during the training and learning sessions.

In order to reproduce exactly the same predictive model, apart from its features, the code or the "seed" of the model should be passed on.

# Executive report of results. Development.

The body of the executive report elaborated by **Accounting+** is divided in various parts. We recommend you to select the parts of the report you want to display.

We are going to deal with all sections of the report, explaining more detailed those aspects that require it.

## Summary.

Here you will be able to read the Present Position, the Last Quotation, the Recommendation, the Market Value and the pending warning of Loss if any.

The Loss warning appears only if you have to recommend a Stop Loss, the one for upward or the one for downward trends, with a value not being zero.

The market value is equivalent to the current market strategies in the moment when the report is displayed.

It is the balance with the **last closed operation + latent earnings in the open operation – commission**.

Usually, the summary should be displayed, because it is in the summary where the executive's recommendations are presented.

There will also be an indication of whether the prediction for the last day has been computed by using **data extrapolated**. In that case, the prediction will be less reliable.

## Balance by date.

Here you will read only the initial balance, final balance, total commission and total earnings. The current market strategically specified value is included in the calculation of the total earnings of the open position, if it were the case.

The information 'open position' refers to the following scenario: in the moment of the elaboration of the report the network still keeps some position invested on the market.

## Profitability.

**Accumulated.** The total earnings expressed as % of the initial capital invested. The open position, if present, is taken into account in the calculation and is added to the results calculating your earnings and losses with the last quotation available.

**Annual** The total earnings in % updated per year.
**Annual profitability = total earnings *365/Days.**

Later a summary of profitability is presented, both the accumulated and the annual one. It is the profitability that the network obtains in its working process.

## Indices.

Index of Global Security. Relation between earnings and global risk.

Index of Exploitation. Relation average between earnings and opportunity.

Index of Presence. Percentage of days invested.

Index of Successful Days. Percentage of days in which the model manages to increase the balance.

Index of efficiency. It measures the relation between the operations with earnings and the operations with losses.

Index of Average Security. Average of the relation between earnings and risk.

Index of Mobility. Degree of duration of the operations.

Index of Successful Operations. Percentage of successful operations.

There are several indices with different measurements.

## Statistics of Operations.

The statistics of the operations are clear. We explain the concept of **Maximum Negative Run** and **Maximum Positive Run**.

**Maximum Negative Run,** this is the maximum of the negative runs, being the negative run for a given operation. The maximum negative difference between the investment carried out and the daily value of this investment during the life of this operation.

**Maximum Positive Run,** this is the maximum of the positive runs, being the positive run for a given operation. The maximum positive difference between the investment carried out and the daily value of this investment during the life of this operation.

***Example.***. We invest 100 monetary units on day 0 and on day 4 we disinvest by 115 monetary units. The investment is evaluated every day delivering the following table:

| Day | 0 | 1 | 2 | 3 | 4 |
|---|---|---|---|---|---|
| Value | 100 | 90 | 110 | 120 | 115 |

Earnings 15
***Positive run 20***
***Negative run -10***

The statistics of the operations allow us to establish comparisons and measurements of the behavior of the network.

## Project features.

This part of the report contains basic information such as: project title, date of the report, defining data of the project, report type and date an interval of the training session.

Providing this part of information, anyone can reproduce a similar project.

## Operations log.

| | |
|---|---|
| **Operation Type.** | Indicates if the position is **short** or **long**. |
| **Operation.** | Date and initial price of the operation according to the type and date and price of the closing of the operation. |
| **Days.** | Number of days that the operation lasted. |
| **Earnings.** | Total earnings obtained in the operation. |
| **Commission.** | Paid commission, according to values in fixed Commission and Commission in % those have been indicated. |
| **Balance.** | Balance accumulated. The whole available balance or the same quantity per operation carried out depending on the box **Capitalization of results** will be invested in every moment. |

The operation log reflects the operations carried out by the network in the selected interval.

The legend is simple:

| | |
|---|---|
| **C** | **Buying** |
| **V** | **Selling** |
| **W** | **Selling at downward trend** |
| **Z** | **Buying to cover downward trend** |

# Tools and utilities in Accounting+

In **Accounting+** the section **"Tools"** is included where you can start several back-up processes.

| | **Global** | **Project** |
|---|---|---|
| **Back-up copy** | It allows you to make a global back-up copy, that is, will saves all your project files, your system ... We recommend you to make global back-up copies periodically. | It allows you to make a global back-up copy for specific modules. If you work, for instance, with a typology of predictive models, make individual back-up copies of those projects that interest you. |
| **Restore a back-up copy** | It allows you to recover everything that is stored in your global back-up copies. | You will be able to recover the back-up copies of those projects for which you have made back-ups. |

**ATTENTION!**

Through the back-up copy or backup of a project you will be able to clone a specific project in another computer. Remember that prediction projects with the same parameters but created and trained in different computers are similar. However, they will never be exactly the same. In order to get an exact copy of a specific project, after having made a back-up copy, restore this copy on the computer where you want to work with this exact copy of the project. Bear in mind, which the data base of the assets has to be updated with the series used by the project.

Do not make back-ups nor restore them with open projects or with projects being trained.