

Sintropia-DS: Statistical Database

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This issue of Syntropy is dedicated to Sintropia-DS, a software developed in the last 23 years of scientific research within university structures and public administrations, which allows to use the relational methodology described in the first issue of Syntropy and which is distributed free of charge with this number of Syntropy.

Why?

Scientific research is still synonymous of the experimental method introduced by Galileo in the XVI century. This method allows to study only cause-effect relations, where causes are located in the past, and has limited science to mechanical knowledge, governed by the law of entropy. Contemporary crisis can be seen as a consequence of this limit of the experimental method when applied to economics, psychology, sociology and medicine which, in order to be scientific, neglect the basic qualities of life and human beings.

Sintropia-DS allows to overcome this limit thanks to the relational methodology which broadens science to syntropic phenomena and qualities which are now, otherwise, omitted.

Sintropia-DS

The first version of Sintropia-DS was written by Ulisse Di Corpo in 1982, distributed with the name "DataStat", and extensively used within the Department of Statistics of the University of Rome. The first publications date back to 1986.

Sintropia-DS merges database and statistical analyses (this is the reason of the extension DS: database and statistics) and allows to:

- Study simultaneously an unlimited number of variables (the free version downloadable in this number of Syntropy, allows to study simultaneously up to 4,000 variables);
- Produce instantaneous analyses even on archives of big dimensions (in this version up to 500,000 records).

Sintropia-DS statistical analyses translate all information into virtual records, in which data is treated in a dichotomic form (Yes/No). This solution allows to handle together quantitative and qualitative information, and increases the power and quality of results. For example, Sintropia-DS allows to study:

- Any type of relation (causal, non-causal, linear and non-linear);
- Cross an unlimited number of variables.

Other characteristics of Sintropia-DS are:

- *On line coding of data.* Statistical analyses require data which has been translated in a numeric form. On line coding makes data-entry easy, more efficient, and allows to check constantly the quality of data, reducing in this way errors.
- *Unity of structures.* Commercial data-bases are organized in many sub-archives related together, while Sintropia-DS records are united in one archive, one structure; this allows to perform complex statistical analyses.
- *Easy editing of forms.* It is possible to use forms of any level of complexity. Editing a Sintropia-DS form is easy, the same file used to print the form with a word processor can be used (with minor changes) to edit it. Extensive diagnostics guarantees that the final form is suitable for statistical analyses.
- *Interaction with Sintropia-AS.* Sintropia-DS can use geo-referred information, which allow to export results in ways which can be read by Sintropia-AS and analyzed using maps and indicators.

Other characteristics:

1. Integration of database and statistical analyses in one software:
 - a. Data-entry forms and archive structures are optimized for statistical analyses;
 - b. Statistical analysis lay out is produce automatically, reducing in this way errors and fatigue;
 - c. Automatic checks during data-entry drastically increase the quality of data, and reduce data-entry time.
2. Easy to use:
 - a. Only few statistical techniques, coherent with the relational methodology, are provided. This guarantees that even those users who are not expert with statistics, can handle these techniques correctly.
3. Qualitative and quantitative data analyzed together allow to study:
 - a. the complexity of natural phenomena;
 - b. relations of any type and nature;

4. Simultaneous analysis of an un-limited number of variables allow to:
 - a. produce interdisciplinary studies;
 - b. use Sintropia-DS in the most complex situations;
5. Instantaneous analyses independent from the dimension of the archive.
6. Immediate visualization of results using maps. In this way it is possible to cross results with data coming from other archives (for example census data).

Sintropia-DS is organized in two menus:

- The first one *Data* allows to edit forms and to enter and manage data;
- The second one *Statistics* allows to select and list records and to produce analyses as frequency distributions, cross tables, correlation tables, factor analyses and cluster analyses.