

## СЕКЦІЯ 2

### АНАЛІТИЧНЕ ЗАБЕЗПЕЧЕННЯ РОЗВИТКУ СУБ'ЄКТІВ ЕКОНОМІЧНОЇ ДІЯЛЬНОСТІ

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### INFORMATIONAL AND ANALYTICAL PROVISION OF MANAGEMENT WORK

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In today's society, there is an increasing complexity in the management process. This is due to the increased complexity of the management objects and to the need to take into account both the objective development trends of the situation and the reactions to the decisions made by persons influencing its development. In complex situations, a manager may not have all the necessary information. There is too much risk in making a decision without the necessary information and without a clear understanding of the trend. The risk of erroneous decision-making can be reduced through the use of modern information and analytical technologies. A well-established information and analytical activities increases the efficiency of management activities. It allows you to see the full range of solutions, not just those that seem obvious or that you are used to.

The complex socio-political and economic situation in the country and the growing competition in various spheres of society require the heads of organizations to improve the quality of their management decisions. It is impossible to make the right decision without having comprehensive information about the explicit and implicit processes occurring in the managed structure and in the external environment. As practice shows, the issue of the quality of management decisions in the present context has been transformed into the issue of ensuring high quality in the work of information-analytical units.

Analytics is close to the humanities based on hermeneutical methods. That is, on the interpretation of texts, if the latter are interpreted in a universal-informological way as documents, texts, data, reports on events, etc.; and also to those branches of science and kinds of scientific problems, when the deduced knowledge is obtained not by experiment, but on the basis of analysis and interpretation of existing theories and factual descriptions, by means of

informational modelling of reality. An analyst, relying on information models (imprints in the information space of events, facts, actions, ideas, opinions of people, natural, social, political, financial, economic processes, etc.), identifies objective patterns and trends in them, determines the mechanisms that drive them, cause-effect relations. In this sense, the analyst creates new knowledge about the fragment of reality that is in the field of his professional interest, acting as a de facto researcher of his subject area.

In analytical documents, sources are often not cited, although almost every fact they present could be attributed to a source. However, the publication references can neither confirm nor deny anything. The fact is that it is always possible to find a publication with a reasonably accurate description of any significant event, but in the same way you can find another one with factual errors or incorrect interpretation of facts. And also the third, which deals with an event that did not happen (Unfortunately, it has become standard practice to speak of an intention as a *fait accompli* or to report some plan, but not to say anything about its failure).

The analytical materials published by various companies are not always flawless: they are almost entirely error-free, but there are deliberate omissions or ambiguities. For this reason, information in the media can only be considered sufficiently reliable if it is repeated several times. And it is better if this information has been noted in media of various kinds and affiliations, for example in a newspaper, and after some time in a business weekly, or a professional magazine. The most important facts need confirmation from at least the two types of sources mentioned above. However, this may not be enough, as quoting without reference to the primary source is a widespread practice in modern journalism.

Due to the large volume and complexity, the analysis aspect of the problem itself has two directions - operational data (information) analysis - On-Line Analytical Processing - OLAP. The main task of operational or OLAP analysis is to quickly (within seconds) extract the information the analyst needs to justify or make a decision. Intelligent analysis of information is also widely known as Data mining. Designed for fundamental research into problems in a particular subject area. The time requirements are less stringent, but more sophisticated techniques are used. As a rule, tasks of strategic importance are set. When solving complex problems in data mining mode, it is necessary to use powerful special software tools.

In general, a market has developed for tools to create and support OLAP systems, data warehouses (DWH), (DSS), data mining intelligence (DMg), which has been summarised as Business intelligence (BI). However, all these technologies depend on an analyst capable of generating new and productive ideas. The analyst's personality, social and personal experience, i.e. the subjective factor, plays an important role.

All the tasks that are assigned to analysts must usually be done in a very limited timeframe and with high quality. The latter implies that the analyst's conclusions and suggestions are highly informative and well-founded. At the same time, many of the problems faced by analysts are extremely complex and they

require prior research, specific information and a long time to solve, which they are not given. Moreover, even the most qualified analyst cannot be an expert on the full range of issues within his or her remit. Analysts need regular information and analytical support to carry out their daily functional activities. This support should include the timely delivery of current information, background information from relevant departments and analytical studies on topical issues by departmental, academic and independent scientific organizations or individual scientists.

Analysis of the specifics of management decisions leads to the conclusion that, at the highest level, the use of any formal methods for preparing and making decisions is not possible. Under these conditions, the task of the information-analytical support system is to provide practically developed and traditional informal procedures for the preparation and adoption of decisions at the strategic management level.

## **ВИКОРИСТАННЯ МЕТОДУ КЛАСТЕРНОГО АНАЛІЗУ ДЛЯ ДІАГНОСТИКИ ФІНАНСОВИХ РИЗИКІВ ПІДПРИЄМСТВ**

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В сучасних умовах економічної нестабільності суб'єкти господарювання мають постійно здійснювати моніторинг фінансового стану підприємства, щоб мати змогу діагностувати наближення кризи та виникнення ризику настання банкрутства. За допомогою сучасних методів аналітичних досліджень стає можливим виявлення певних ознак розвитку кризових явищ на підприємстві за деякий час до того, як вони почнуть негативно впливати на ефективність функціонування та стійкий фінансовий стан.

В той же час слід зазначити, що сучасні методи діагностики фінансових ризиків та глибини кризових явищ, хоч і є досить розвиненими, можуть бути доповнені використанням методів статистичного багатомірного аналізу, серед яких важливе місце займає кластерний аналіз.

Кластерний аналіз – це метод багатомірного статистичного дослідження, до якого належать збір даних, що містять інформацію про вибіркові об'єкти, та упорядкування їх у порівняно однорідні, схожі між собою групи. Мета кластерного аналізу полягає в пошуку наявних структур, що виражається в утворенні груп схожих між собою об'єктів – кластерів. На відміну від інших методів, цей вид аналізу дає можливість класифікувати об'єкти не за однією ознакою [1].

Кластеризація може здійснюватися двома основними способами, зокрема за допомогою ієрархічних чи ітераційних процедур.