

РОЗДІЛ 1

ЗАСТОСУВАННЯ ІНФОРМАЦІЙНИХ ТЕХНОЛОГІЙ У СФЕРІ ОСВІТИ, НАУКИ І УПРАВЛІННЯ ВИРОБНИЦТВОМ

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DEVELOPMENT AND RESEARCH OF INFORMATION TECHNOLOGY WHICH ALLOWS ANALYSING PERFORMANCE OF RETAIL ENTERPRISE

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Problem statement. Every business including retail is changing uninterruptedly. Therefore, to guarantee progress and success of this business permanent monitoring is needed. It is possible to do such monitoring by special numeric values called Key Performance Indicators. [1] Moreover, analysis of these values has to be automated.

This problem consists of such sub problems:

- which key performance indicators have to be analyzed;
- which data has to be stored for analysis;
- which format of data storage is the most suitable;
- how to analyze stored data.

For retail enterprises such key performance indicators are applicable [2]: conversion, gain (in monetary and natural units), average check, gain per square meter, quantity of returns, salary capacity. Besides main key performance indicators useful are average number of articles in every check and gain per seller. In addition, money equivalent of gain should store not only in national currency but in foreign too.

To calculate aforementioned indicators next values are needed: amount of checks, number of visitors, paid-up salary and area of the shop. They also have to be stored. Furthermore, developed technology suggests storing information about factors which can affect the key performance indicators. These factors are: assortment, manufacturers, suppliers, markup, prices, discount, availability of articles, advertisements, trainings for sellers, staff, shops, modernizations and loyalties.

In authors' opinion, OLAP-cube is the right data structure for analytical purposes. [3] In this case good solution is to create two cubes. Measures and facts of these cubes are listed in table 1.

The structure of the OLAP - cubes

Cube	Measures	Facts
Cube №1	Assortment, markup, prices, discount, article availability, advertisements, trainings for sellers, staff, shops, modernizations, area of the shop, loyalties, date.	Quantity of checks, amount of visitors, conversion, gain (in national and foreign currencies, in natural units), average check, gain per square meter, paid-up salary, salary capacity, average number of articles in each check, gain per seller.
Cube №2	Article, manufacturer, supplier, seller, date.	Gain (in national and foreign currencies, in natural units), number of returns.

Number of returns located in separate cube, because measures needed to analyze it are different. Moreover, the first cube stores total gain all day while the second cube allows detailed analysis of this indicator.

Conclusion. An information technology which allows analyzing performance of retail enterprise was developed according to foregoing thesis. It stores, accumulates and analyzes statistical data of the retail enterprise. To provide advanced analysis the Deductor analytical platform was used. [4]

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