

## SIGNIFICANCE OF INFORMATION AND INFORMATION SYSTEMS

Demoè, V. - Alâè, P

### ABSTRACT

A goal of this article is to point at importance of information and their utilization because of gaining the competitive advantage in a business. If plants want to process these information effectively and rapidly it is necessary to implement information systems (IS).

**Key words:** information, information system, information explosion, information technology

An importance of information for business is still increasing. Demand for information and amount of processed data is much more higher. Employees and organizational units in a plant raise requirements on quality, reliability and updating of information. Information means potential for plant's success, for plant's market position under competition. It's a starting point for all steps and procedures in a plant and for creation of firm's strategy. Business information are also called as a „weapon in competition“ and there are one of the most important source of long - term firm's prosperity.

With increasing significance of information and it's extend effect on firm's position it also extends necessity of information disposed by firm: information which map plant's operations (processes), information about environment, information about competitors, suppliers, customers and about market development. Necessity and importance for strategic and operative management is also increasing. From this point of view we must approach to the design and creation of information system which should be able to support operative, strategic and tactical management and go out from global firm's goals and not only from particular interests of individual departments (divisions).

Understanding and operating (handling) of informational problems is still more complicated. It is caused mainly by quantitative growth of various kinds of information: scientific and technological, accounting, analytical, statistical, prognostic, planning, organizationally - managing, methodical, normative, legislative and others.

It doesn't relate only for economic or manufacturing area but also for general information in edu-

cational, cultural and art area. This era is so called as a information explosion.

Operating (handling) of information explosion involves of scientists to develop information theories, to introduce new methodical sources (starting - points) of IS creating. And subsequently it involves practitioners to use these above mentioned theories and sources.

Second half of 90<sup>th</sup> years is characterised by:

- growth of competition
- shifting of new products, services and technologies
- accelerating of market dynamics and production cycles
- globalization of markets - fade of protectionism
- rising difficulties at decision process

Reaction on these facts demands active approach of management (directory) based on utilization of all abilities of information technologies. In the plants where managers considered implementation of information technologies only as a redundant costs, today they have problems to stay on the market eventually to gain competitive advantage. Plant which will be ignoring IS and information technologies won't be able to compete and will be struggling the survival.

Nowadays, main importance acquire information technologies which lead to the:

- automation of routine tasks (jobs)
- enhancement of production flexibility
- backset from today's division of labour to integration of processes
- decentralization of job places during reinforcement of aspects of their centralization

- cancellation of close relation between engine and employee
- connection of employees and job places by computer nets.

In according to (9) is IS characterized like a complex of people, technical devices and methods providing data capturing, storing and processing in order to creating and presentation of information for users needs.

IS must contain:

- the creation of basic database on system level (files of exactly defined structure which are protected from insight into their content and mainly from unauthorised changes of information content what should have disastrous effects especially for banks)
- system protecting integrity of data (files) and assuring completion of each transaction also during computer fail or voltage fail
- common system of information choice which knows files structure and relations between data storage in these files
- shared approach to data files for more users whose need these data in the same time
- facilities for single, centralised data administration in the files which are core of IS
- possibility of composite hierarchical data structures creation connecting data from more files (it removes redundance of data)
- closing of files structure and mechanism of data choosing from files in according to demand
- facilities for data description and relations description in each files what means relational system.

IS should be installed because of two main reasons which clearly define it's sence. The first is effectiveness of business system and the second is immediate accessibility of all needed information. The nature of IS is transmission of all information in their flow on eletronic mediums, their immediate processing and accessibility in required output form for management in real time. Real time in informatics means accessibility of required information immediatelly without waiting.

Activity of production plant is various and extensive. It covers: employees evidence in according with job contract and labour law, evidence of job outputs, materials, costs, wages, material require-

ments, warehousing, evidence of customer requirements, sale, invoicing, transfers, accounting entries and marketing information. It is a big amount of evidence and nearly opacity flow of various, rather different information which is necessary to disposal for effective management on real time.

The difference between plant with and without IS is very large. Plant without IS must employ many registration people whose business is only to fill big amonnt of firm's blanks (schedules), summaries, reports etc. For all information is necessary to wait while somebody find it among pile of all papers and this lasts for a long time. Business economy is evaluated monthly when are presented also information about income (profit). If this profit is negative, reason must be looked over the slather of big amounts of statements in which is very hard to find answer. It is inelastic and slow bureaucratic system which is not only very expensive but often it isn't able to give needful information for effective management. Each change of a such system must project into statement column what takes longs (change of standard blank, its acceptance, new blanks printing and their distribution, change of business evidence rules, specification of responsibilities) and so in the time of realization when this bureaucratic system finally starts to offer new information at new or changed blank, these information are not actual.

If company owns good and responsible IS it not only replaces a big amount of manual evidence and processing of statements but also provides all needed information for immediate management. It provides result of economy in each manufactural unit of organizational structure but not only for last year or last month but even for previons day in cost classification and in graphical form. So it provides information which allow prompt analysis of economic result and its reasons and because of that manager disposes of all needed for real and mainly for effective management in real time.

If two plants produce the same or comparable product, plant with complex IS achieves lower production costs (unavailable in bureaucratic system) and also it is able to react elastically on market changes, forecast trends and adapt to this new trends.

When IS contains system of production auto-

mation, plant which owns such a system can modify production according to individual customer's demand. For example, in Japan 15 years ago they began to construct fully automated production plants where expensive labour force was replaced by complex automatic machines. Change of the assortment or its innovation was done by some days but without automation it will be possible for some years. These possibilities of automation were artificially stopped because it led to terrible increase of unemployment.

### Literature

1. Demoè, V., Aláè, P.: Informaèný systém priemyselných podnikov, logisticko- distribuènè systémy. Zborník referátov, Zvolen, november 1997, str. 18 - 21.
2. Demoè, V., Rajnoha, R.: Posúdenie efektívnosti informaèného systému a návrhy n a zlepšenie súèasného stvu vyu•itia informaèného systému v Drevina - Turany a.s. Expertíza pre podnik, TU Zvolen - Turany 97. str. 19.
3. Demoè, V.: Návrh systémového riadenia výroby úèelových dých a preglejok. KDP. Bratislava 1992. str. 150.
4. Grladinoviè, T., Jelaèiè, D.: The development of management/information system in small wood processing companies, „4<sup>th</sup> International Conference on Production Engineering CIM '97, Croatian Association of Production Engineering, Opatija, Hrvatska, 1997.
5. Jelaèiè, D., Figuriè, M., Motik, D.: Computer - aided production management i wood industry, Interchatedra '97, Bulletin of plant - economic department of the European wood technology university studies No. 13. Poznaò, Poljska, 1997.
6. Keen, P.G.W.: Shaping the Future. Business Design through Information Technology. Harvard Business School Press, 1991.
7. Kme•, S.: Informaènè systémy. ALFA, Bratislava, 1989.
8. McNurlin, B.C., Sprague, R.H.: Information Systems Management in Practice. Prentice-Hall, 1989.
9. Molnár, Z.: Moderní metody øízení informaèních systemù. Grada Praha, 1992.
10. Rašner, J. a kolektív: Predimplementaèná analýza nasadenia nového informaèného systému v a.s. Buèina Zvolen. TU Zvolen, 1997, 130 s.
11. Straka, M.: Vývoj databázových aplikací. Grada, Praha, 1992, 160 s.
12. Vodáèek, L., Rosický, A.: Informaèní management. Pojetí, poslání a aplikace. Management Press, Praha 1997.