

DATA SOURCES OF DECISION SUPPORT IN THREE SIGNIFICANT FOOD INDUSTRY COMPANIES

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1. INTRODUCTION

Managerial decision making is a complex task where the manager supervises the process by which the organization reaches its goals and mission, and he also ensures the concordance of the activities. The manager has a lot of tasks to do: he employs, directs and supervises. The manager inspires others to work, appoints the goals of the employees' activities, coordinates the different actions, ensures the conditions of work and uses all the possibilities of influence. The manager is the one who makes decisions. Sometimes he makes good and sometimes bad decisions, but always he is the one who makes decisions. Some of the most important tasks of the managers are: planning and decision making, organizing, supervising. (Berde, 2003)

Making proper decisions requires planning. Planning is a decision about the active forming of future, and it is an inevitable tool of corporate competitiveness. Besides advantages, planning has disadvantages as well, for planning — due to its nature — is burdened by uncertainties and requires a considerable investment. Uncertainty can be reduced by proper information; albeit, certain pieces of information are not available and defining the optimum information quantity necessary for planning and forecasting future information is also difficult. As far as investment is concerned, one should take care that planning costs should not exceed profit available by planning. (Hampel, 2006) "The main objective of the planning system is: to make it real that the company can work successfully in the future, achieve its objectives on a high level and manage its business effectively." (Hanyecz, 1995) Generally speaking, decision making is a process of selection, with a scope of different action (or non-action) possibilities, i.e. decision making is deciding about an option to act. The gist of decision making is "to define if it is necessary to act, and if it is, what should be done, when, and in what order". (Hanyecz, 1994) Decision is objective (i.e. reality limits and determines actions available) and subjective, for it is inseparably linked to the subject of the decision maker.

Traditional paper based information systems of companies tend to be replaced by computer aided enterprise (resource planning) systems. There are three stages in the development of computer aided information systems: (1) Electronic Data Processing aiming at the efficiency and automation of information management; (2) Management Information System, enhancing executive information supply; (3) Strategic Information System, aiming at the improvement of competitiveness and activity development.

Current groups of computer aided information systems used these days at the enterprises are: office automation systems, production scheduling systems, enterprise asset management systems, enterprise management information systems, executive information systems, workflow systems, process simulation systems, expert systems, and business intelligence systems. Some of these systems are capable of standalone operation, others may run as subsystems embedded into other systems, or they can have overlapping functions with other systems.

Any decision support system works as an element of the enterprise information systems mentioned herein, and not as an independent system. A decision support system (DSS) may cover various systems and technologies. (1) Some say that the future is for On-Line Analytical Processing, by which controlling and executives may receive immediate answers concerning the management of the company. (2) Others say that the establishment of knowledge based decision support systems should be urged. (3) Those involved in operations research primarily focus on optimization and simulation, and they consider these two as real DSS.

So DSS means multiple information systems, which are capable of supporting decision making. DSS can help executives to access, summarize and analyse data necessary for decisions. It can be based on data and models, may cover the entire enterprise, serving many executives via the network and connecting to an appropriate data warehouse in a client-server architecture, or can even be a single user system running on an executive's desktop computer. (Hampel, 2006)

In our days the Southern Great Plain is in for a historical decision. Because of the region's backwardness a direction of development takes shape which offers the possibility of competitive closing up. The enterprises, respectively their managements have to react suitably on several environmental challenges. It is of capital importance for the managers to maintain the competitiveness of the enterprise, but other factors (like economic, social and environmental consequences) have to be considered too. (Gál, 1999)

2. THE SURVEY

There are many food manufacturing companies in the Southern Great Plain that face stiffer competition after European Union accession. For these companies prompt decision-making by the management is crucial. To make good decisions it is essential to have accurate and reliable data and information.

On the one hand, data required for managerial decision making are data necessary for the management of the company at all times: these data appear in the finance, accounting and statistics documentation of the company (e.g. data about production, stocks, supplier, sales, customer, financial standing of the company, plan implementation, assets, etc.), and on the other hand managers need information at times when making specific decisions in business (e.g. information about how well the company is doing on the market or the image of the company).

In summer 2007 the managers of three bigger companies were asked in Szeged city. The companies were Pick Szeged Close Company (CCo.), Sole-MiZo CCo. and Szegedi Paprika CCo. Pick Szeged is involved in meat processing, Sole-MiZo is the biggest dairy product processor in Hungary, while Szegedi Paprika is an important participant in the Hungarian paprika and canning industry. The objective was to survey the source of data and the information the managers use for managerial decision making.

In order to acquire the necessary information a questionnaire was prepared and the managers were asked to fill it in. The questionnaire contained different aspects of decision making and the possible sources of data and information, such as:

- the field of decisions: finance, production and services, marketing, trade, production factors etc.
- the subject of decisions: market-economic, technological, organizational etc.

Data and information can come from different sources, such as:

- people: shareholder (owner), manager, employee, supplier and customer;
- business environment: bank, competitor etc.;
- governmental organizations: nation-wide, regional and local organization;
- non-governmental (civil) organizations: nation-wide, regional and local organization;
- internal reporting systems: decision support system, planning, finance, accounting, controlling, supply, sales, production, quality assurance, inventory adjustment, human resource management etc.;
- statistical information sources: annual report, monthly report, periodic statement, methodology publication and analytical publication;
- research institutes: organization of the Hungarian Academy of Science, higher education, economy research institute or company research done by research institutes;
- data banks: statistical data bank, name and address register or company register;
- professional communities: newsletter, forum etc.;
- public media: television, radio, professional newspaper, non-professional newspaper and internet.

The managers were asked to classify each data source with numbers (3: most often used, 0: not used). The given numbers were then transformed during the processing of questionnaires so that they could be compared.

The managers were also asked some questions about the computer aided information system of the company:

- Are there one or more integrated information systems, or different information systems with connection between them or with no connection?
- Does the company use computer systems to do office tasks, accounting, invoicing, stock management, supplier and customer management, logistics tasks, resource planning or other important tasks?
- Is the applied system a standard (already built) system set up for the company's needs, which can be bought on the market or is it a uniquely developed system ordered by the company, or both?
- Is the information system capable of analysing the current situation and can it also present forecasts based on the supplied data?

3. THE RESULTS

As expected, the company's internal reporting system was marked as the most often used source of data for management decision making (65.36 points). The second most often used source was the people (59.80 points). Then the third information source, the public media followed far behind (33.40 points). Statistical information sources (19.60 points), data banks (18.40 points), research institutes (17.40 points) and non-governmental (civil) organizations (5.00 points) are the least used data and information sources for decision making. (See figure 1)

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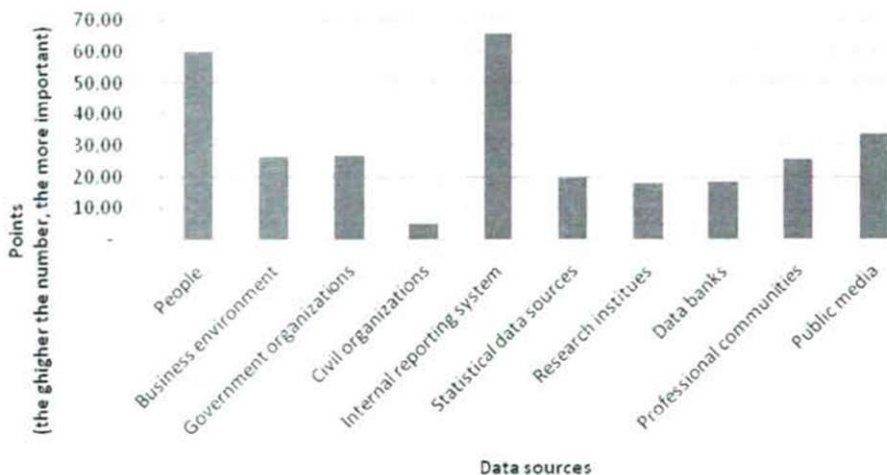


Figure 1. Data sources used by company managers (Pick, Sole-MiZo, Szegedi Paprika)

Regarding the internal reporting system, all the subcategories (decision support system 8%, planning 8%, finance and accounting 10%, controlling 9%, supply 10%, sales 9%, production 9%, quality assurance 11%, inventory adjustment 11%, human resource management 10%) were marked equally important and frequently used. (See figure 2.)

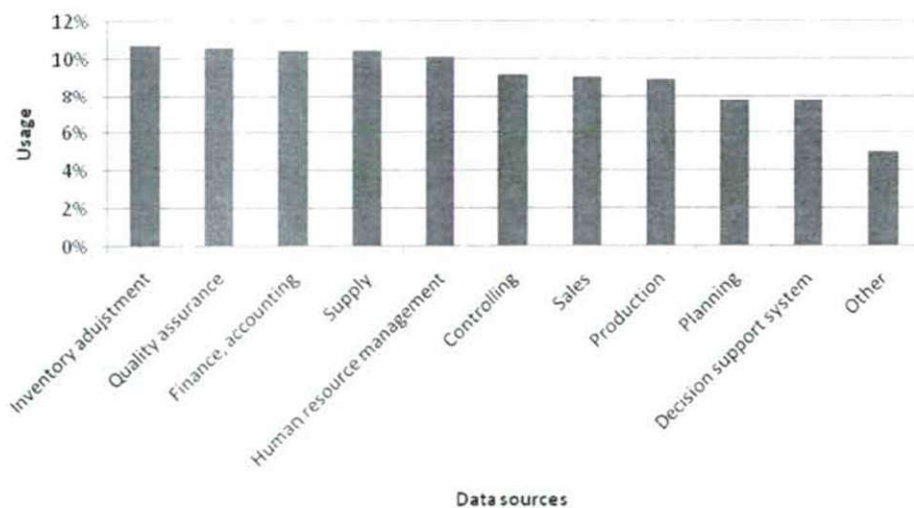


Figure 2. Internal reporting system

Among the people, managers (27%), employees (25%) are the most used data sources, owners (14%) are the least used according to the managers. (See figure 3.)

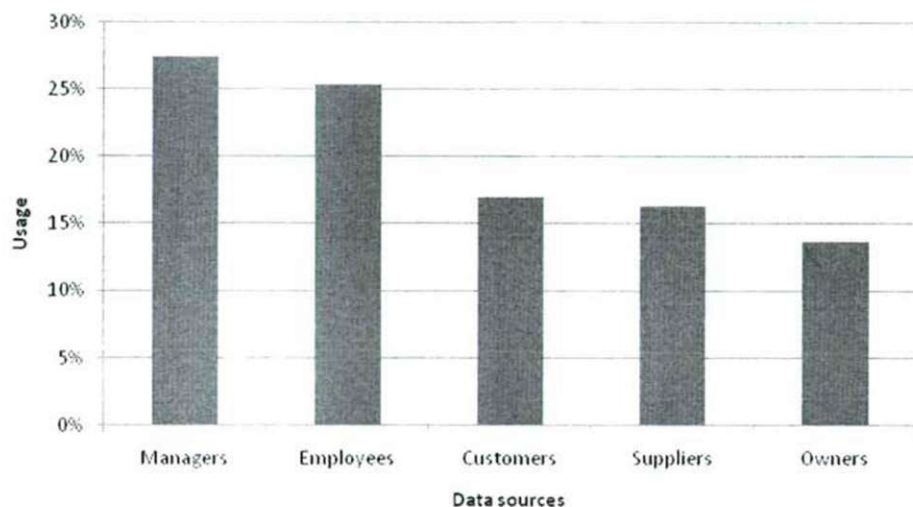


Figure 3. People

The public media also plays an important role as source for managers. (See figure 4.) As a decision source, the television (8%) and the radio (4%) are negligible, the internet (39%) and the professional newspapers (37%) are important.

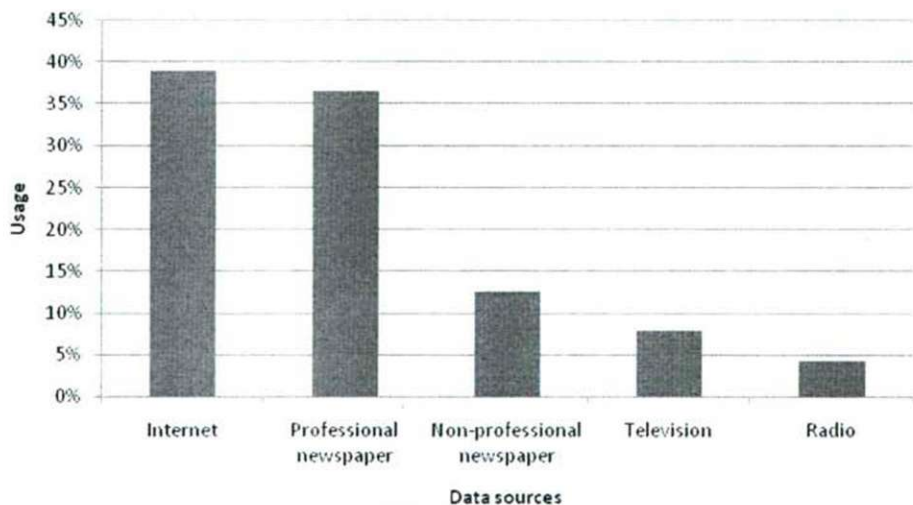


Figure 4. Public media

When speaking of government organizations one can note that the most used sources are the national organizations (40%), regional (31%) and local (29%) organizations are considered less important.

In the business environment the competitors are the most significant data sources (59%), the banks – as source of information – are less important (32%).

The other sources of data and information – at least according to the surveying in the three companies – are infrequently used. (This includes higher education institutes too.)

According to the answers of the managers, the computer aided information systems used in the three companies are mainly integrated information systems with some of the modules already working and other modules are under development or introduction. The programmes are capable to do all the necessary office work (office tasks, accounting, invoicing, stock management, supplier and customer management, logistics tasks, etc.). Formerly the companies used uniquely developed systems but now they are moving towards using standard systems.

In terms of the analysis capabilities of the information system the managers' answers did not tally. Some of them indicated that their system was able to analyse the current situation but cannot forecast, while others answered that the system was able to do both. This discrepancy may be because some are not acquainted with the capabilities of the system, or do not use those services.

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