

Information Demand As The First Step In The Decision Making Process

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Abstract: Decision making in a turbulent business environment requires dynamic management instruments, which will move the center of gravity of decisions, making it adapt to changes occurring in the environment in a very flexible way. Identifying information, is the first step in the decision making process for any Enterprise. The aim of this paper is to present the final multi-dimensional model for selecting data about processes and organizational - financial structure of companies in the cement industry. In the paper following the research question has been made: Can multi-dimensional models of data selection be a useful tool for decision-making? The testing methods applied are literature studies and descriptive analysis.

I. THE IDENTIFICATION OF THE INFORMATION DEMAND OF AN ENTERPRISE

Decision-making in an enterprise is a complex process and it is inextricably linked to the access to current and timely information. The demand for information is dependent on several factors and the emergence of information demand begins with the identification of the information required. The need for information is defined as "a state of information lack, which is necessary to make effective decision (in line with the objectives)" [1]. The causes for the information needs formation are inspired by the decision-making need, the search for new solutions and the need to evaluate and select the best solutions. The information demand arises from the work process and the position in the organizational hierarchy [2]. Management's information demand proceeds according to the following three stages:

1. Determining the purpose and the object of the study
2. Gathering information
3. Analysis and making diagnostic conclusions [3]

The information demand study is shown in diagram 1.

The demand for information is dependent on a company's stage of development [4]. The planning stage of a new business starts with mechanisms to define, search, assimilate and use information. The organization's acquiring and methods of dissemination of company information are key characteristics of its management. A. Stouton and A. Diamantopoulos describe the life cycle of information in an enterprise, as consisting of five stages:

1. Planning
2. Extraction, gathering
3. Management, processing
4. Using
5. Removal [5]

The planning phase is to identify the information needs of [6] an Enterprise from the recipients' point of view. At this stage, one must also specify the source of information. Choices of sources and source materials constitute a complex process, which is particularly important. Specifying information needs should take into account the purpose of its use and the decisions to be taken on the basis thereof. Information needs of Enterprises can be divided into three basic types:

- Information needs in generally understood environments and changes involved in the legal environment related to the operation of a company, changes in the monetary policy of the State and inflation
- Information needs concerning the activities of partner companies, in particular, changes in the markets associated with possibilities of expansion, changes in market supply and the ability to improve logistics oriented primarily to minimize costs
- Information needs relating to the activities of competitors, including the turnover of competitors, market share, the possibility of its increase, the financial condition of the entity and its changes [7].

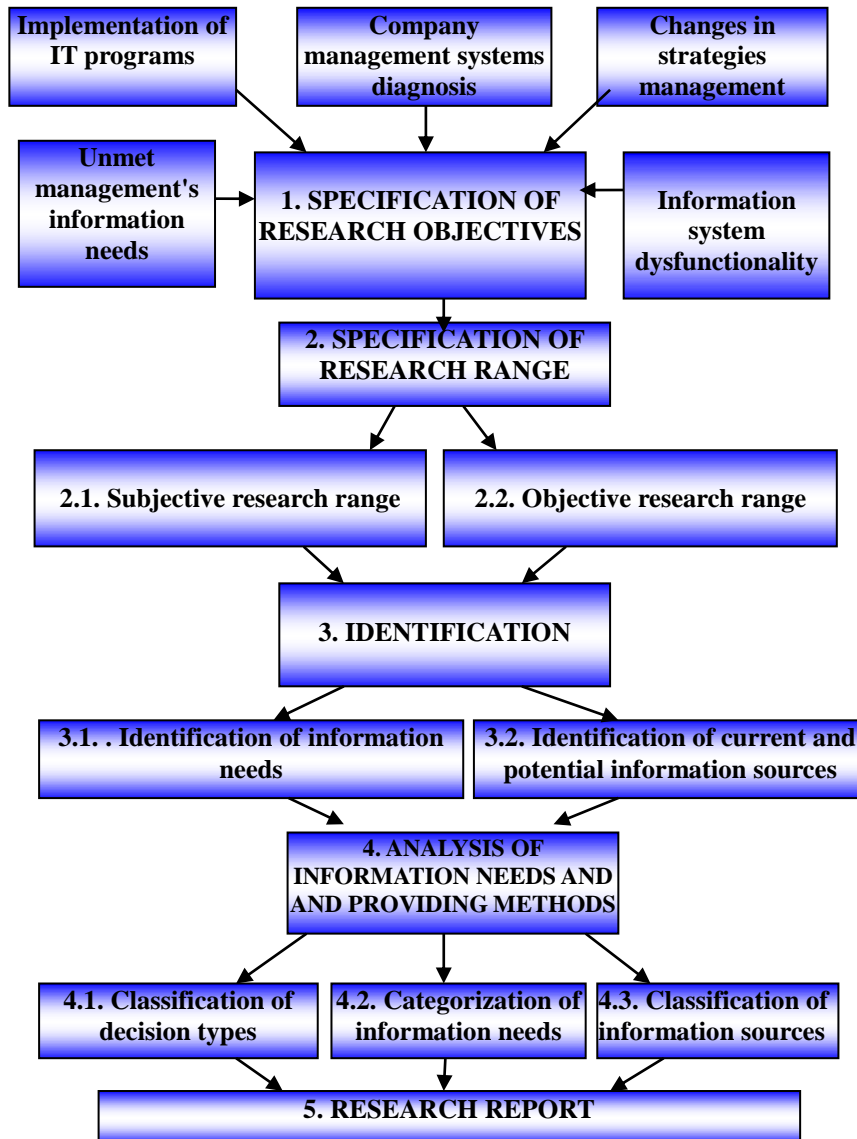


Diagram 1

Framework methodology of research on information demand

Source: K. Wozniak, Methodology of information demand at the level of strategic management, Scientific Papers No. 700 Cracow University of Economics, Cracow, 2006, p. 236.

Once the information needs and its sources are identified, the following process revolves around gathering information. In order to achieve the best results, that is, to get the best information, the process of gathering information must be carried out in a systematic, orderly and coordinated manner, eliminating the formation of information gaps and efficient use of work time. Methods of obtaining information consist of:

- **Methods of basic research** - involving the collection of generally accessible information
- **Specific methods** - involving the collection of semi-open information, legally available. Yet acquiring them often requires the use of private contacts and interpersonal skills, as holders of this type of information are reluctant to share them [8]. The examples of applied forms of specific methods may consist of the detailed observations and the

analysis of competitors in terms of their purchases or occupied premises [9].

The collected information is subject to processing consisting of selection, objective and independent analysis and recording. The processing stage concludes in getting a coherent synthesis and interpretation of information. When conclusions, concerning the information are ready for distribution, a flow of information, in which a special role is played by transmitting factors used in the process of information exchange, is initiated [10].

The demand for information increases, depending on the rank of decision validity, in order to establish which information is needed [11]. The decision making process takes place on the basis of information used to minimize the risk of decision-

making. In order to obtain such information, it is important to implement the following rules:

- **The principle of selection** - the principle is based on the selection of relevant information. The problem may be an excess supply of important information causing outdated, unnecessary information chaos or overload
- **The principle of credibility** - the information flow often causes information noise, which consequently leads to its distortion. In this way, the reliability of information is compromised and it is difficult to find a moment of distortion in order to eliminate it
- **The principle of up-to-dateness** - this rule applies to the latest information and the impact of time on its validity
- **The principle of accuracy** - the accuracy of information determines the degree of details and realistic verification
- **The principle of completeness** - this principle applies to the fact that information must be complete in order to make the decision-making process successful [12].

In addition to these principles, the literature contains examples of other rules for information selection, i.e.:

- **The principle of hierarchy** - relies on specific priority of information
- **The principle of time horizon** - includes the impact of time on the importance of information
- **The principle of balance between the value of information collected and efficiency of activities** - this happens when the cost of acquiring information exceeds the profit that a company obtains from it (after the decision based on it) [13].

After its use, information life cycle terminates and the information is deleted, but if necessary, information can still be stored for re-use [14].

The identification of information demands in a cement industry enterprise, in the area of its operation was presented further herein, with the help of multi-dimensional final data model concerning the organizational - financial processes [15].

II. A MULTI-DIMENSIONAL MODEL OF FINAL CONCERNING THE ORGANIZATIONAL - FINANCIAL PROCESSES IN THE CEMENT INDUSTRY ENTERPRISES

The decision-making and organizational processes must take into account the financial conditions of endogenous and exogenous operation of the cement industry companies in Poland. In this

paper it is based on an assumption that managers have direct impact on internal processes and limited impact on external developments, hence, their decisions are aimed at achieving the objectives, and first the internal financial and organizational processes will be analyzed.

The starting point of the research process, aiming to develop a multi-dimensional final data model in organizational – financial processes, in the cement industry, revolves around the identification of the decision-making related problems as well as the determination of the decision and its scope. The versatility of decision problems in cement industry enterprises forces the decision maker to take into account the conditions of endogenous and exogenous processes, both, organizational and financial ones. Information integration is the first step in organizing the stored information.

Decision-making includes the indication on the decision-making problem solution. The fulfillment of this condition depends on the efficiency of processes of selection. The management staff auditing a cement industry company acquires a large number of various information concerning both the internal processes and business environment. The efficiency of the selected information directly affects the efficiency of the decision-making process and reduces its time.

In carrying out the information selection procedure, a deduction method was used to determine the order of operations research. The analysis of the information started from the most general phenomena (pyramidal model of DuPont), next going to more specific ones (models of Altman, Holda and VAICTM) to give the answer to the question about their very cause. We analyzed selected factors that influenced the effects of the cement industry enterprise. It is assumed that each company has its own benchmark results for each of these indicators.

Developing an algorithm for the multidimensional model in the cement industry is a program of actions aimed at achieving a system of organizational – financial processes consequences. Where the assessment of each of these indicators proves to be insufficient for a given decision, it becomes necessary to implement the next stage of managerial information selection. Obtaining a negative response from the fourth predicate can result in repeating procedures, when a manager recognizes having insufficient information to make a proper decision. The presented model enables to create multidimensional potential courses of action in order to choose the organizational – financial activities directions in the cement industry companies. The proposed algorithm is a strictly formalized procedure allowing one to make a proper decision.

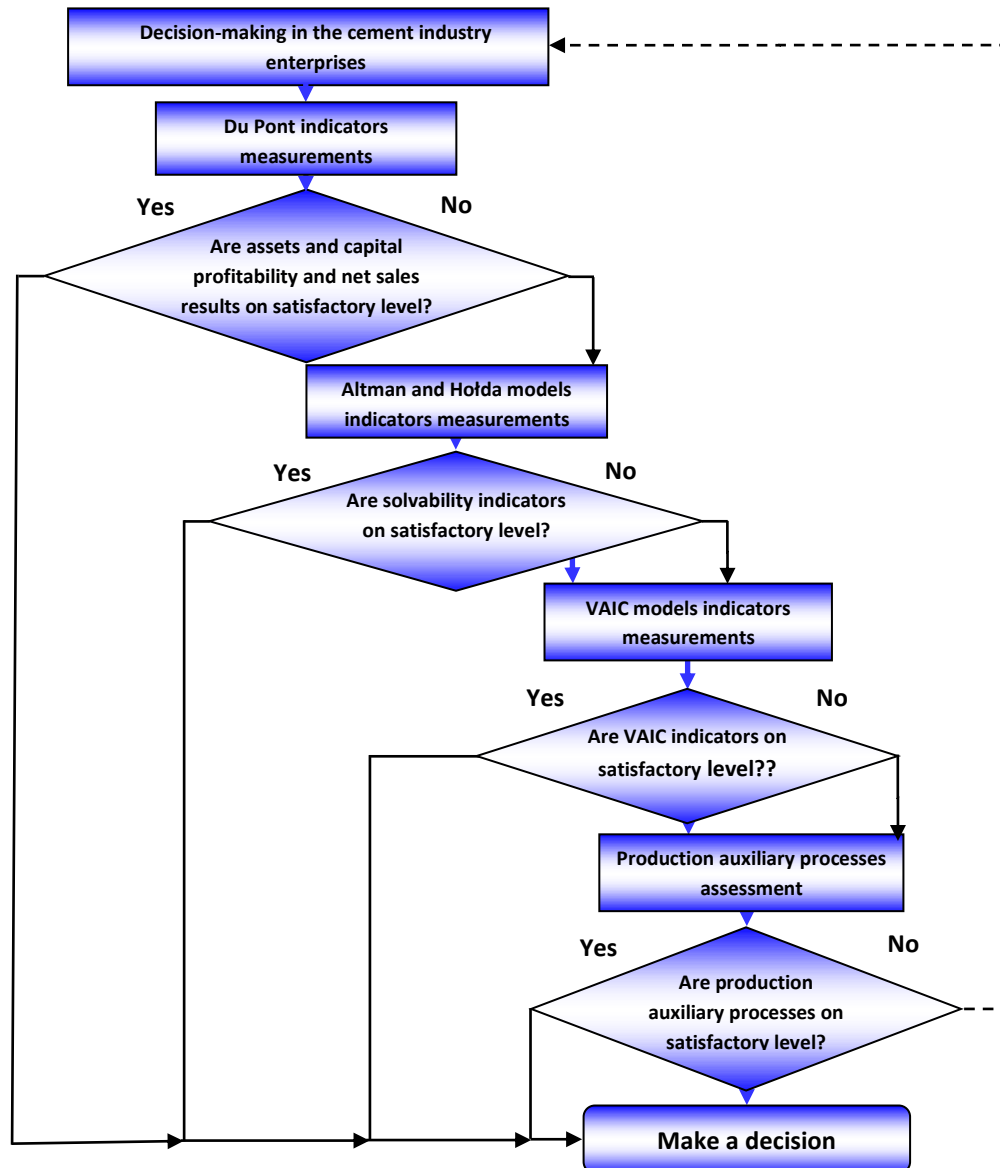


Diagram 2

Multi-dimensional model of the final data determining decision-making in the cement industry enterprises

Source: Own study.

CONCLUSIONS

In the analyzed cement industry company the level of information demand in the operation area has been defined, formalized and recorded as a multi-dimensional final data model. Referring to the question made in the research we may consider that the presented model of decision-making is a useful tool to be used by a company, provided, that the latter is aware of the rules of its application. The algorithm presented herein includes design procedures in the field of organizational - financial processes in the cement industry companies. This paper is current and valid due to its applicability.

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- [15] In the study, following definitions are assumed: Organization – financial processes include all activities of management related to organizing, grouping, analysis and assignment of employees to certain actions on the basis of information gained, in order to optimize the activities related to the financial services of a company and its current and future activities.