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Aspects of Information Management in Context with IS Selection by SME

Marie Černá*

KFU FEK ZČU v Plzni, Plzeň 306 14, Czech Republic

Abstract

Constantly changing market environment forces companies to make changes in their daily activities. This often leads to implementation of new tools that can optimize current business processes and to implement new ones if necessary. To decide on the use of new techniques, managers need relevant information. Information represents one of the most scarce and important asset of the company. Correct and complete information base helps managers to make the decisions that lead to future successful running of the business. One type of important decision making in the company is the decision making connected with information system selection. Suitably selected information system enables company ensuring error-free business processes and effective cooperation between the company departments. It enables to maintain current market position of the company or to improve it. This study describes the relationship between information, information management and selected information system. Main aim of the article is to assess the suitability of new information system implementation in the selected company. The article is prepared using literature review and useful information gathered by the expert interview with employee of the selected company. The findings may be used as a starting point for more extensive research in the area of innovation for SMEs.

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1. Introduction

The period we live in is characterized by constant change. Everything, technology, culture, economy, business, politics, changes quickly. New business environment places greater requirements on business units. They have to change ordinarily used tools and methods for newly created ones in a very short time period to be able to offer successfully their products or services in today's competitive environment. [1]

* Corresponding author. Tel.: +420-377-633-001; fax: +420-377-633-002.
E-mail address: macerna@kfu.zcu.cz

Information management tools are aimed at better use of the information base required for any decision making. Truthful, clear, timely and relevant information became indispensable in everyday life. [2] Its availability is necessary in all business processes especially in decision making on financial matters. Decision making processes are ensured by selected group of people that is responsible for setting all business processes in a quality which enables smooth running of the organization. To achieve such a state, it is necessary to use suitable methods and tools which facilitate decision making. It is usually a combination of tools provided by management and its sub disciplines (economic and financial management, risk management, information management). This article tries to specify the relationship between information, information management and information system implementation in the selected company.

2. Information

Currently, an industrial society is transformed into an information society. Information is a specific type of asset that represents value for the company (base for decision making processes) and has to be treated carefully. According to [3] information does not lose its value due to the effect of time. Its value can rise due to such an effect.

Information is the valuable asset for the company, but it also represents the source of risk, information risk. [4] Information risks can be divided to:

- Risk arising from the possibility that there is a threat to the quality of information
- Risk arising from the loss of information
- Failure to work with information

These types of risk can be managed using the tools of information risk management. It is the scientific discipline usually included to activities of risk management of the company.

Information is seen as the base for knowledge creation. This is the reason for not designating current society information society, but knowledge based society. [5] These two terms often overlap.

3. Information management

Definition of the term information management is not clear. There are many reasons for such a state. Widely spoken three of them are according to [6]:

- Ambiguous understanding of the term management
- Ambiguous understanding of the term information
- Effect of the change in understanding the term information management during the period since its establishment

Information management passed through three development stages which were focused on various objectives:

1. stage - information management is primarily focused on solving technical problems
2. stage - information management is focused on the efficiency of labor (first description of the transdisciplinarity of this discipline)
3. stage - information management is focused on effective achievement of objectives of the organization using computing and information

Current approaches to information management describe this discipline as a discipline, where applications of information systems and applications of information technologies do not represent the managers goals. Managers use these tools to ensure the improvement of their activities using the description of their individual information needs. This view brings together modern management, informatics, system approaches and other disciplines like

economics. In accordance with a shift in designation of the current society, information about information management can be found also under the titles like knowledge management or requirements management.

4. Information systems - ERP, APS

ERP system (Enterprise Resource Planning) represents administration and management of all business processes and sources, tangible and intangible. It can be seen as the summary of skills and knowledge of individuals or groups to produce and sell outcomes of their creativity. ERP is divided to many more or less separate areas of management and information sharing. To a considerable extent, it depends on the business characteristics. The significant functionalities are identical, therefore general ERP solution exists. [7]

ERP systems are used for managing a wide range of business processes. The number of processed information rises year to year. Information technologies are currently often used also for processes that had to be evaluated manually. [8] That is the reason for integration of external applications to ERP.

APS system (Advanced Planning System) is a system of advanced planning in the conditions of limited capacity that enables to simplify, improve and increase the planning processes of the company. This system helps to compare the capacity of the business process with customer requirements. [9]

5. IS selection by SME - case study [10]

5.1. Characteristics of the business entity

Selected company is the producer of non-alcoholic beverages. Its manufacturing plants are situated in two locations in the Czech Republic, West Bohemia and Central Bohemia. The company headquarters is situated in West Bohemia. Number of the employees is higher than 100. It is the family business with no foreign participation.

Company is divided to five departments:

- Economics Department
- Sales Department
- Production Department
- Dispatch Department
- Laboratory

During the preparation of this study, the selected company was the fourth greatest producer of non-alcoholic beverages in the Czech Republic. Future situation may be different, because of the acquisition of the majority of the market for soft drinks by large foreign companies.

5.2. Objectives of the company associated with the need of new IS implementation

Main objectives associated with IS:

- Optimization of business processes (especially in the Sales Department and Dispatch Department)
- Ensuring effective cooperation of all departments
- Improving the business image in the eyes of customers
- Improving the business image in the eyes of suppliers

Limiting factors:

- Available funds
- Time
- Human resources

Current market environment (the market for soft drinks) is so competitive that the functional information system is the necessity to maintain the market position of the company and to avoid the risk.

5.3. Situation before IS selection and implementation - risk areas

The company uses old internal information systems supplied by local provider of information technologies. These systems are useful for small business units like sole traders, not for the studied company.

Main risk areas:

- Information system speed
- Compatibility of the systems
- Appearance of the outcomes
- Clarity of the outcomes (clear information)
- Further process ability of the outcomes - reporting (information processing)

The old information system does not meet the requirements of the company management. Managers require better conditions for the cooperation between the departments of the company, better cooperation with the suppliers and increase of the company attractiveness in the eyes of the customers.

5.4. Selection of suitable IS (ERP, APS)

IS selection is connected with risk. Weak areas have to be detected and preventive actions have to be made. As can be seen in the next paragraph, the main risk area is usually the failure to work with information.

As was written in 5.2, limiting factors are available funds, time and human resources. There are several options for solving the problems with information system selection. All possibilities have advantages and disadvantages that are summarized in the following table.

Table 1. Possible solutions.

Solution	Description of the solution	Main advantages	Main disadvantages
1	No changes - keep the current IS	No additional costs No additional requirements on time and human resources	No progress
2	IS used by companies in the same industry (ERP, APS)	Adequate additional costs Adequate requirements on time and human resources Proven functionality of IS	May not meet all requirements of the management
3	Newly created IS (ERP, APS)	High additional costs Significant requirements on time and human resources All requirements of the management are met	Functionality of the IS is not proven

Decision making uses the information provided by employees of the company and IS suppliers. Final decision, that seems to be the best possible choice, is to buy prepared IS according to the solution 2. Then the IS supplier have to be selected.

First step is to select and implement new ERP system, as was written in [9]. The next possible step is to gather information about APS and then try to make the decision about its implementation.

Supplied ERP systems are:

- MFG Pro
- K2
- SAP

After gathering all available information, the management of the company decided to implement MFG Pro. The main reasons for such a choice were the price, the length of implementation, the supplied outcome and the attractive user interface. Benefits of described decision are mentioned in the next paragraph.

5.5. Results of the IS selection and implementation

The control process required after IS selection and implementation detected and described further positives and negatives.

Benefits (positives of IS implementation):

- Simplification of cooperation between the company departments
- Simplification of cooperation with the suppliers
- Improvement of the relationship with customers (transparent price setting, timely goods delivery)
- Easier access to information
- Unified integrated system database
- Attractive user interface
- Fewer misunderstandings resulting from the lack of information
- Faster and more accurate business processes (more effective work with receivables, more effective price setting, more accurate delivery, more accurate records)

Weak areas connected with risks (negatives of IS implementation):

- More time consuming data entry
- Complicated data corrections
- Higher demands on employees
- Final outcomes with no possibility of further processing
- High additional costs connected with all necessary modifications

Expected benefits were achieved only partially. The supplier did not describe all weak points of the system in connection with additional spendings during the presentation of IS. Most attention was given to the user interface not to the functions and preconfigured outcomes of the system. In such a comparison, the selected system is not better than other two supplied systems. This choice seems not to be the best one in a case of the studied company.

6. Conclusion

Information became indispensable in everyday life. Information represents the valuable and scarce asset that forms the base necessary for all decision making processes in the company. [11] The need to manage information led to the establishment of new scientific discipline, information management. Information management is currently focused on effective achievement of objectives of the organization using computing and information. Managers use the tools of this discipline to improve the company processes. [12] The cooperation of modern management and informatics became the ordinary thing. Informatics brings new possibilities to the management. Information systems, and information technologies generally, imply the possibility of more comfortable information processing. [13] This enables to achieve the best results in decision making in a short time period.

Information systems are currently used in most SMEs. It is a response to an increasingly competitive market environment. [14] The selection of suitable IS represents one of the most important decision making processes [15] connected with many risks, information risks. This means that outcome of such a decision making depends also on correct information risk management. Underestimation of some risk factors can cause the adoption of incorrect decision, unsuitable IS. Implications of such a decision are presented in section 5.5 Results of the IS selection and implementation.

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