

# THE ROLE OF INFORMATION SYSTEMS IN ECONOMY

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**Abstract:**

*The importance of information systems lies mainly in the effective and responsible understanding by all leaders (managers) or people in an organization of the need to adapt to the global information society. Today's information systems are becoming more and more a vital component of business success for an organization or an entrepreneur. An information system is one in which information passes through a digital format - in other words, it is transformed, processed or expressed in a digital form.*

**Key words:** *information systems, economy, organization, digital format.*

**JEL classification:** *O10*

In the 60's, most enterprises were designing, developing and integrating applications that integrated, in a whole, preexisting elements, conceived through their own efforts (the *in-house* phrase identifies itself with this situation). The maturation of the installed MRP systems has conditioned their evolution, through encapsulating new economic functionalities.

As such, in the 70's, the Manufacturing Resource Planning (MRP II) has taken shape, a resource that generated the establishment of operations and buying of raw materials based on the production demands for accomplishing the proposed target.

The increase of the scope of the MRP II series has defined the appearance of the first ERP procedures, at the end of the 80's; these incorporate all the economic processes: production, administration, distribution, accountancy, financial, personal, service and maintenance, logistics, facilitating the visibility and informational consistency in the entire enterprise.

At the end of the 80's, the first ERP systems have been introduced on the market, a new enterprise software notion, that has regarded, in the beginning, multinationals.

An ERP application is outlined by combining some business management practices with information technology, through which the business procedures of a society are integrated within the information system, for the purpose of achieving the characteristic business objectives.

A general manner of viewing the part of information systems and integrating them in the economy is found in the following image.

Starting from this general aspect, we can safely say that entire fields of economy are almost inconceivable without a technological system, and also, without substantial investments in informational systems. Service, finance, insurance industries, real estate, as well as personal services as travel, medicine and education could not function without information systems.

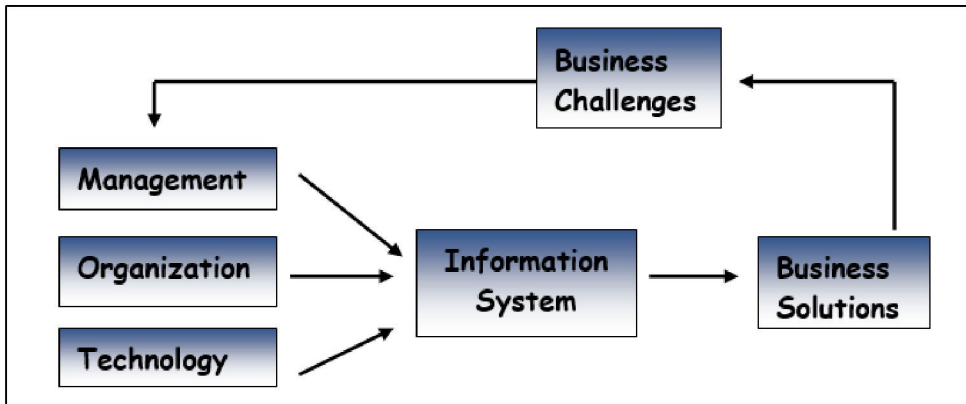


Image No. 1: The efficiency of the information system in economy  
 Source: personal projection, pursuant to literature

There is an increasing interrelation between the capacity of a company to use technological systems and its capacity to implement corporate strategies and to achieve the proposed objectives. The increase of market share, the development of new products and the increase in employee productivity depends more and more of the types and quality of information systems within the organization. This aspect can be rendered in the following manner:

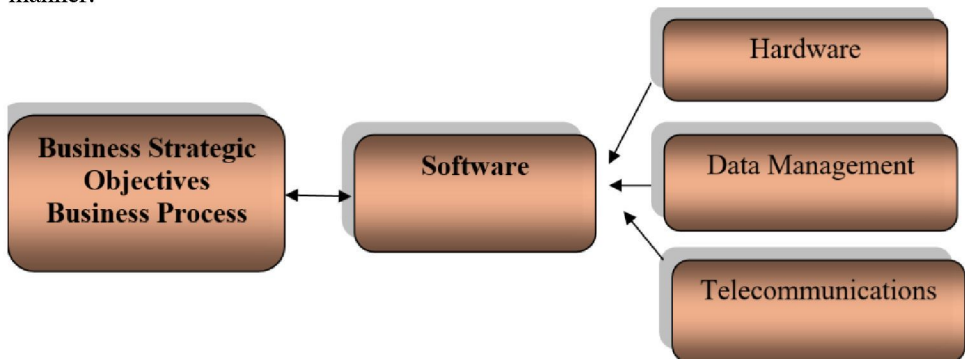


Image No. 2 The Interrelation between organizations and information systems  
 Source: Management Information Systems, Kenneth C. Laudon, Jane P. Laudon, page No. 43

An informational system can be technically defined as a set of component interrelations that collect, process, store and distribute information for supporting decision making and supervision within a company.

The functions of an information system are the following:

- Entry – captures or collects raw data from within the organization or from its external environment.
- Processing – converts, brings this unprocessed entry to a significant form.
- Output (result) – transfers the processed information for the individuals that will use them or for the activities for which it will be used.

The information system represents more than a simple computer, its dimensions refer to the fact that they represent its capacity of offering solutions to challenges and problems emerged within an organization.

Therefore, the information knowledge is, first and foremost, focused on knowing information technology. Informational systems are part and parcel of an organization.

A database management system (DBMS), is a software that allows the organization to centralize its data, to efficiently manage it and to offer access to the stored data.

DBMS acts as an interface between the application programs and the physical data files. When the program requests an element of the database, such as gross payment, DBMS finds this article in the database and presents it to the application program.

Using traditional data files, the programmer should specify the dimensions and format of each data element used in the program and then, to indicate the program where they were localized.

DBMS frees the programmer or final user of the task of understanding where and how is data stored by separating the logical part of the part of physical data visualization.

The logical visualization presents the data as it would be perceived by the final users or by experts, while the physical version shows the manner in which the data is organized or structured on physical storage means.

DBMS includes capabilities and instruments for organizing, managing and accessing data from the database. It has a data defining capacity for specifying the structure of the database contents. This information on the database will be documented in a data dictionary. A data dictionary is an automated or manual file that stores definitions of data elements and their characteristics.

Companies use their databases for keeping track of basic transactions, such as paying providers, order processing, tracking clients and employee payments. But they also need databases for providing information that would help company growth from an efficiency point of view, as well as to help managers and employees to make better decisions.

For example, if a company desired to know what products is the most popular, or who is its most profitable client, the answer can be found in the data.

From an economic point of view, the IT field alters both the relative costs of capital, as well as information costs. The information systems' technology can be regarded as a productive factor that can be substitute to traditional capital and labor. With the decrease in information technology costs, it replaces the labor force, which has represented a rising cost over time. As the information technology cost decreases, it replaces other capital form such as buildings and equipment, that remain relatively expensive. According to the transaction costs theories, companies and individuals seek to save the costs of transactions, as they seek to reduce production costs.

Information technology, particularly using information systems, can help companies to decrease market participation costs (transactional costs), this aspect helping companies to collaborate with external suppliers.

As such, companies can come to have a reduced number of employees, because it is less expensive to outsource labor on a competitive market, that to hire workforce.

Also, information technology can reduce internal management costs. An owner hires individuals (workforce) for working in his behalf. Nevertheless, employees need supervision and constant management; otherwise, they will tend to follow their own

interests. As companies develop (in dimension and in their field), coordination costs increase because the owners must spend more with managing and supervising employees.

Information technology, by reducing acquisition and analysis costs allows organizations to reduce the agency's costs, as it becomes easier for managers to supervise a greater number of employees.

Therefore, as, with the help of IT, managing and transaction costs are reduced for companies, this should lead, in time, to reducing the number of managers, proportional to the increased investments in IT. Companies should have less managers, and thus, they could increase employee income in time.

## CONCLUSION

Any economic analysis of an economic unit is based on information, regarded as a resource, and the manner in which it is circulated.

Gathering, storing, processing, analyzing and transmitting information are activities that must use efficiently and effectively, informational and human resources for the purpose of obtaining economic success.

Organizations need a plan of information systems that describe the manner in which information technology supports reaching their objectives.

From an economic point of view, the information system alters both the relative costs of capital and information costs, following that, in the future, the dimension of the enterprise to endure an alteration due to implementing technology within the company, this aspect leading to cost reductions.

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