# The necessity of implementation of ERP systems within the actual economical-financial crisis

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**Summary**. Initially started in the USA as a subprime crisis, the actual financial crisis tends to be transformed in one of the most powerful economical crisis that was known in the last ten years, and some of the analysts predict that this crisis is even worse than the one that took place in the '30 years. In these conditions, seems to be very natural that all the companies to look up for surviving solutions during this period, and one of the most popular methods to fight against the negative effects of the crisis applied by all the companies is the cost reduction. We may consider also that such a period could represent in the same time an opportunity for the companies to reconsider the business processes and repositioned in the actual context of the market, and for this a considerable help could be implementation of an ERP system.

**Keywords:** ERP, subprime crisis, business processes, company reorganization, IT system implementation.

## 1 Introduction

**ERP** or **E**nterprise **R**esource **P**lanning systems are conceived to be the center of a company so that all the functions and departments are integrated in one information system that could answer to all the necessities of each department.

The projection of one single IT product that is answering to the requirements not only of the financial department, but also to those coming from human resources or operational department is not easy at all, because, each department has it's own IT system specialized and optimized for their particular needs. An ERP system combines all these in one informatics system connected to a common data base so that the communication between various departments will became easier.

In the case that is correct implemented, an ERP could bring special benefits to the company by being an integrated IT system.[1]. In order to emphasize the utility of an **ERP** system, will be presented a situation which underlines what is happening when no **ERP** is in place, comparing in the same time with the situation when an integrated IT system is implemented. In example, classically, the order of a client, even in the case that is received electronically, will pass from Inbox into Inbox through various departments generating delays in processing or even mislays. Also, no employee from the company is not able to really say which is the status of that order at a certain moment, because the employees from

[1] Koch C., (2006), Senior Editor CIO.com, The ABCs of ERP, Website, http://www.cio.com/research/erp/edit/erpbasics.html

the financial department can not access the IT system of the ones from the warehouse and the other way around is not possible also. The **ERP** system replaces the old IT programs from the warehouse, production, financial, human resources with one integrated system divided in many modules which has the approximate the same functionalities of the old IT systems[1]. Each department is working with its own program, the only difference is that these are connected between them, making possible in example that the financial employees can interrogate the warehouse system in order to see the status of the order.

At the beginning of the '90, the **ERP** systems had a monolithic construction, but in the meantime the manufacturers made them more and more flexible and modular, for a company being possible to install in example only the financial and human resources modules, and let the other department's installation for later on.

The aim of the **ERP** systems is to improve the activities that belong to the stage between acquiring an order from a client and issuing the invoice for that order and also the payment, stage that is known as „fulfillment process". From this reason, **ERP** is also called „back-office software"[2]. Generally, there are no preoccupation linked to the selling of the products, (although there are many **ERP** suppliers which developed **CRM** - **C**ustomer **R**elationship **M**anagement modules for this thing), but of the optimization of the path related to an order received from the client till this will be finalized and paid. When a representative of the customer service department is inputting the order into the IT system, he will have access in this way to all the necessary information like:

- ☑ **The maximum amount** that the client will be credited with, information that can be found in the financial department;
- ☑ **A history of the orders** for that client, information found also in the financial department;
- ☑ **The level of the stocks**, information found at the warehouse;
- ☑ **Transportation possibilities**, information found in the logistics department

When is correct implemented, the **ERP** could reduce considerably the costs of the company and also could accelerate the process of converting of the order coming from the client into an invoice. The communications between the departments will be considerably improved. Also due to the fact that the employees belonging to different departments will have access to the data belonging to other departments, decisions can be taken much efficient and the quality of the customer satisfaction will be improved.

## 2 The advantages and disadvantages of the ERP systems

The main advantages are below:

- ☑ The decrease of the processing time of an order. Taking into consideration that the path is automatically done, obviously the time will be considerably reduced.
- ☑ The employees from each department have access to the same information that they are able to change if it is the case. When a department is ending the activity to a certain order, this one is automatically directed from an ERP to the next department.
- ☑ The status of an order can be known every moment. For this is enough to connect to an ERP in order to see in which department the order reached.

[1] ERP Overview, (2004), *Web page*, retrieved from http://guide.darwinmag.com/technology/enterprise/erp/
[2] Axam R., Jerome D., (2003), A Guide to ERP Success, *Web page*, retrieved from http://www.army.mil/escc/docs/robbinsgioiaerp.pdf

- ☑ Similar with the operation of processing the customer's orders, ERP could bring additional values and profits to other departments of the company, like the ones that are busy with the financial reporting.

Although the advantages brought to the company are pretty consistent, in the same way the **disadvantages** could be higher then the advantages in the case that the **ERP** is not good implemented, and especially when this is not completed by a change in the company organization. Even if not sufficiently organized, the independent organization of each compartment was much simpler, and in the case that something was not functioning, that thing was other problem. The ERP implementation must be accompanied by changes in all of the company departments. Employees from the Customer Relationship Department do not simply enter data in the IT system. They have access to all the data about the customer, like orders history, orders paid or not yet paid and also from the company warehouse. And they must take more complex and complicated decisions, because their decisions affect clients and all the other departments. But not only employees from the Customer Relationship Department must change their operating mode. If before employees from the warehouse were habituated to keep their records on some pieces of paper or in their minds, right now this is not possible. Accordingly, data should be input in the ERP system in order for other departments to have access to info.

Summarizing, the main disadvantages of the **ERP** systems are the following:

- ☑ The cost of the ERP systems is very high; in the actual context in which all the companies are trying to reduce the costs as much as possible, is very difficult to take such a decision;
- ☑ The implementation of such a system is very difficult and also in a long time; although many sellers advertise that the implementation time is between 3-6 months, most of the times the real time is in average between 1-3 years;
- ☑ At the beginning the implementation could slow down considerably the activity of the company because the employees were used with the old systems and the **ERP** brings not only new programs but also changes in their activities.
- ☑ The **ERP** implementation supposes many changes in the methods of working of all the employees of the company.

Taking into consideration all these disadvantages, it can be noticed why many **ERP** implementations did not reached their goal. Due to the fact that is not so important the IT system, but the changes in the methods of working of the company. If the system is only installed without even trying changing the methods in which the employees are working, then the **ERP** will not be anything else then a very complex and expensive new accounting system. If the **ERP** is used for improving the methods in which the orders are done or the way that are delivered and cashed, then the integration brought by an **ERP** could have a lot of benefits.

## 3 The reason of an ERP system implementation

The main reasons for which the companies should install and implement an ERP[1] are the following:

- **The integration of financial information**. When the manager of a company is trying to discover the overall performance of the whole company, he can find many versions of the real situation of the company. The financial department may provide some numbers, the sales department may provide other numbers, and each department has a different opinion about the way that contributes to the profits. The **ERP** system is bringing only one version of the financial position, that can not be contested because each department is using the same version.

[1] Koch C., (2006), Senior Editor CIO.com, The ABCs of ERP, *Web page*, Retrieved from http://www.cio.com/research/erp/edit/erpbasics.html

- **The integration of the information related to the orders coming from the customers**. The ERP system could become the place where the orders coming from the customers are processed from the moment when these are received by the customer service department till the moment when the products are delivered and the invoice is issued. Keeping these information in one system (and not in may IT systems that cannot communicate between them), it can be easier to follow up the path of an order, it's stage in every moment, and also, is much easier to coordinate all the departments independent of the location.
- **The standardization and increasing of the production.** Many times, the production companies discover that some locations are manufacturing the same products using different method and IT systems. The **ERP** systems are offering the premise for standardizing different stages of the production process, standardization that will reduce the costs and in the same time will increase the productivity of that sector.
- **Reduce the time lost by the countdown process.** The **ERP** helps that the production process to become more uniform and improves the transparency of an order on the period in which this is processed within the company. All these, together with the standardization of the production processes will lead to the decrease of the number of the inventory countdown of the raw materials, merchandises and work in progress inventories. Knowing in each moment the stock situation, more precisely plans related to the products deliveries could be made, and also a much better coordination of distribution.
- **Standardize the information for human resources.** Especially in the companies that have many production units, and **ERP** system brings additional benefits because it introduces one unified system of following up the activity of the employees and communication between them.

  Although at the beginning the **ERP** systems were created for the companies with normal production with products that could be easier quantified, in these days the ERP became so complex that could be implemented in almost all the activities and all the branches, the producer of these integrated systems claiming that hundreds or even thousands of particularities brought to their systems are fitting even for oils, chemistry or utilities companies. Supporting this statement is also the fact that in Romania the national society for gas distribution **DISTRIGAZ SUD S.A**., which was taken over recently by Gaz du France, implemented such an integrated system called **SAP**.

## 4 The costs of an ERP system

The cost of implementation of such an integrated system as ERP is very difficult to predict, because it depends of many variables like:

- ☑ The number of sections of the company that will be served;
- ☑ The number of the modules that will be installed;
- ☑ The necessary work for integration of the existing systems;
- ☑ The desiring to change the company and not the last
- ☑ The complexity of the project.

There is an unwritten rule that many specialists are applying in estimating the total cost of an **ERP** implementation, meaning multiplying the cost of the license with number 6. While the competition in the **ERP** solutions increased a lot and very high discounts were applied at the licenses, these previsions related to the costs are no longer applicable. There are also ERP systems open-source, in the case that the license does not cost anything, but the technical support for the implementation of the

modules and also the adaptation of the system the concrete needs of each company[1] will be paid. The research and development departments are even not trying to make previsions of the costs anymore. A few years ago, the very well known company of research **META Group, Inc**[2]. realized a market research on a pattern formed by 63 companies from many industries and activities, from small companies to the largest ones, in order to discover which is the total cost (TCO - total cost of ownership) of the implementation of an **ERP**, including here also the cost with the equipment hard, software license, professional services and internal costs of the companies. This total cost included also the installation in the following two years, meaning the cost of maintaining, actualization and optimization of the system for that company. The average cost resulted for the 63 companies that participated to the market research process was **15 million USD**, the higher cost being **300 million USD**, and the smallest **400.000 USD**. Even if it's difficult to take a conclusion from this market research that was realized on companies that were so different, still is very clear that an **ERP** system is not cheap at all, on the contrary the price is quite high.

Besides these, at the implementation of an **ERP** there are also some **hidden costs,** which are very difficult to predict and measure. The researchers and those who implement **ERP's** software are considering that the following elements are responsible for under evaluation of the budget:

- ☑ **The professional trainings of the employees.** Usually this is the most important item that is under evaluated when the budget for **ERP** implementation is created. The expenses with the professional training are very high because almost all the time the employees have to learn new procedures and processes not only to be familiar with a new interface. More than this, the companies that are providing trainings services are not able to help a lot, because they are specialized for showing and teaching the employees how the software is working effectively, not for the way that the business is made in each company. Usually the real cost with training is two-three times the budgeted cost.

- ☑ **Integration and testing.** Creating and testing the links between the **ERP** package and other software components that the company had implemented before represents also one of the most under evaluated costs. The creation of the links is a process pretty hard, especially when the existing software are old and the supplier company does not offer technical support for those or more than this does not exist on the market anymore.

- ☑ **Personalization.** Besides the creations of the links to the existent components of the company, more expensive and also something that has to be avoided as much as possible is the personalization of the **ERP** package. This has to be made when the **ERP** does not cover one of the company's processes and has to be adapted in order to be integrated. Although it is strongly recommended to avoid as much as possible due to the fact that is very expensive and also the personalization of the **ERP** package makes more difficult the update when is available a new version of the software.

- ☑ **Data conversion.** Even if this is a true that just a few companies admit, many data that are stocked in the old systems are not for the present interest and are not relevant. The conversion and movement of the old data in the client-server system required by the **ERP** costs money and there are a lot of practical issues related to this.

- ☑ **Data analysis.** Many times, data from the **ERP** system have to be combined with data coming from outside the company in order to realize some reports. It is necessary that to the **ERP** package cost to be added the cost of some instruments like „Data Warehouse", together with the cost of the specialized people in "data drilling". The daily refreshment of the data from a very big data warehouse from the company could be hard, because the **ERP** systems are not optimized for indicating what kind of data were modified from one day to another.

[1] One example is the system made by Compiere: http://www.compiere.org/

[2] www.metagroup.com. From 1 april 2005, MetaGroup was purchased by Gartner Group (www.gartner.com)

- ☑ **Consultation payment.** The **ERP** implementation needs to ask for consultancy and training services for the employees that tend to grow without limits. In order to prevent this, when signing the contract with the company that is providing consultancy and training services, has to be established the fact that a number of the employees to be able to pass some tests when the training period ends.

- ☑ **Replacement the top employees.** The **ERP** market is a very competitive market, so that over the period when the implementation is finalized within the company also, some specialized employees in **ERP** will appear. So it becomes possible that the competitive company to attract those offering higher salaries and bonuses than the initial company is offering them. In the case that these employees will leave the company, they will return as consultant and doubled or tripled amounts will be paid to the same people.

- ☑ **The activity of the implementation teams is never ending.** Although the majority of the companies tend to treat the implementation of the **ERP** like a common project, this is not valid. It is not possible that after all the software packages are installed, each employee to return to the job that he used to perform before. Because the people that took part of the implementation know all the details of the selling process better than those from the selling department, also they know better the production process better from the ones from the operational department, these kind of employees are very valuable. The companies could not afford to send back those people to the job they used to do before, because there are also a lot of things to do after the implementation of an **ERP**. The writing of reports in order to have information from the **ERP** system will keep the implementation team busy for at least one year. Unfortunately there are just a few companies which includes in their budget expenses for the work after implementation, so that many times there will be extra founds and employees allocations right after the system is used and much earlier than the **ERP** benefits to become visible.

- ☑ **Waiting of the benefits immediately.** One of the most popular mistakes that the companies are doing is to wait for the benefits immediately after the implementation. One recent study made by *Deloitte* (2005 - http://www.deloitte.com/dtt/section_node/0,1042,sid%253D27436,00.html) concluded that more than a quarter from the companies that were questioned had decreased their performance immediately after the **ERP** implementation, because of all the changes that took place. The benefits will be visible only after using it in some period of time and also after all the changes in the production process will take place.

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