

**ADVANTAGES BROUGHT ON BY IMPLEMENTING THE
e-MANAGEMENT WITHIN S.M.E.s IN ROMANIA BY
CREATING A DURABLE DEVELOPMENT
ON THE TROUBLED BACKGROUND WITHIN THE
BUSINESS ENVIRONMENT**

CORNELIU GÂRJOABĂ *

ABSTRACT: *The informational systems management represents today an indispensable instrument of the modern management. Their continuous improvement doubled by the improvement of calculus techniques offer increased possibilities to take over larger segments of the decision making activity developed by the deciding human factor. In order to obtain economic advantages through capitalizing the benefits brought by the informational society and by the presence of internet, it is necessary to implement the e-Management that ensures an increased business management capacity.*

KEY WORDS: *SMEs; opportunities; informational society; knowledge society; e-Management; e-Business; Management; performance; durable development.*

JEL CLASSIFICATION: *O3*

**1. PREMISES FOR IMPLEMENTING A NEW TYPE OF MANAGEMENT
FOR ROMANIAN S.M.E.s, FOLLOWING THE BUSINESS ENVIRONMENT
EVOLUTION**

Our society is characterized as a society where communication and internet play the role of “key for success” in business, even more since at present the business environment is characterized as being a dynamic one, extremely unpredictable and changing, typical for the informational era.

The period between 2008-2010 is considered an extremely critical one for the economic development of countries all around the world, following the manifestation of the phenomenon called the world crisis that attracted changes of the business

* *Ph.D., Free International University of Moldova, corneliugarjoaba@yahoo.com*

environment that were among the most difficult to anticipate and control especially by the entrepreneurs. It is the period that, based on the economic crisis, created a total chaos, most organizations, regardless of their size and development level were confronted with difficulties in maintaining their market position and revenues gathering.

The immediate consequence of these economic turbulences was the considerable decrease of various countries' prestige, notable economic losses being recorded because of the bankruptcy of a high number of S.M.E.'s at the end of 2008 and in the first half of 2009.

At the same time, alongside these changes, representatives of the developed countries have understood the need to invest in the fields of IT and communication that is based on the use of internet, unarguably the "greatest discovery of all times", as pointed out by the specialists of the time, and have allocated substantial funds in research that connected this field to the business environment.

The S.M.E.'s sector was the one that was given the greatest attention, due to the fact that, as statistics from almost every country show, it participates to the greatest extent to the economic development of a country, having significant quotas in obtaining the G.D.P. and supplying work places (employment).

The entrepreneurs have identified and capitalized the opportunities brought by the internet and have effectuated transactions faster than usual and have reached more efficient cost for these transactions. Every S.M.E. that decided to operate in the virtual environment managed to redress its activity, the software used in the management of e-business allowing that the choices made by the managers for the economic transactions be more precise, thus eliminating costs for "uncertain decisions" or errors.

Having these changes as a background, a re conceptualization of management and leadership has been achieved, according to the requirements of the knowledge society, by adopting the e-Management, the software developed for business management at this moment constitutes a viable solution for their durable development.

Due to these investments, the 2011 balance is a favourable one from the economic point of view, in the developed countries of the world.

In Romania, the S.M.E.s (Small and Medium Enterprises) sector is represented by companies that have registered most of the difficulties. From a number of 600.000 existing S.M.E.s at the beginning of 2009, over 100.000 S.M.E.s went bankrupt, most of the companies being confronted with a sale decrease between 21% and 50%, according to a study from June, realized by the National Fund for Credit Guaranteeing for S.M.E.s. A series of other studies (one study effectuated by Mednet Marketing Research Center in November 2010, one by the Perspective Groups in October 2010 and one by U.G.I.R.-1903 in May 2010, etc.) show that in January 2010, in Romania, another 30-40% of the S.M.E.s went bankrupt, although these S.M.E.s implemented measures to decrease the impact of the economic crisis, as follows: 36% have reduced their administrative expenses, 19% have reduced the number of their employees, and 9% have reduced their employees' incomes.

The surprise came from the S.M.E.s that have not been given chances for continuity, approximately 90% have managed not only to redress their situation but to number themselves among the few to start the year 2011 with a positive result of the financial exercise, this aspect being motivated by the efficiency of implementing a new management system based on capitalizing the opportunities offered by the use of internet. Following the example of the S.M.E.s from great countries of the world, the Romanian entrepreneurs have managed to make the transfer to „e-business” which, through the internet, has created for them the possibility to connect faster with the outside world contracting loyal and repetitive partners, their economic results proving that they succeeded to obtain maximum results with minimum costs.

These aspects would not be possible without adjusting the management system, the old management methods proving to be inefficient in managing the e-business and leading to the failure of the organization as consequence.

2. e-MANAGEMENT AS A SOLUTION TO OVERCOME THE CRITICAL PERIOD AND TO ENSURE A DURABLE DEVELOPMENT

Making an analysis of the S.M.E.s’ evolution in Romania, it can be noticed their passage through a series of stages, at first, based on efficient constitution, the creation of strategies with an impact on the European economy, the increase of the employment rate, the extension of products and services’ range, the increase of the turnover, the transfer, afterwards, to the necessity for technologies and an efficient management, and at present the research for innovation that helps maintaining their position on the market and the development of Romania’s economy under the conditions imposed by the integration to the European Union.

While trying to overcome the critical period presented above, over 50 % of the S.M.E.s in Romania have been preoccupied with the introduction of innovative elements, be it within the product / service’s structure, be it within the equipments and tools employed in the production process or within the company’s management. Nevertheless it has been noticed a lower preoccupation (under 1%) for the realization of an own informational system, for scientific research or for the application in practice of results never applied before. This reluctance is a general characteristic of the Romanian business environment that avoids launching in great expenses, opting for successive accumulations, but giving priority to the steady and continuous economic growth and afterwards becoming interested in the top performance. It also can be noticed a lack of mobility of the companies, meaning that there are fewer business transfers, little relocations or changes of the activity object.

Conservatism can be interpreted as a positive aspect from the constant and continuous economic growth’s chances point of view, but it has been proven damaging from the point of view of change management and fast adaptation to a new conjuncture.

With regards to computerization, almost all the companies own a computer (over 97%) and over 65% are connected to the internet. Nevertheless, 20 % of them, mainly micro enterprises from small cities, were not aware of the computer’s utility for

the daily activity of the enterprise. The computerized system was being used for access to information and very little for on line reporting, for payments or e-commerce.

A major objective for overcoming critical periods and for finding solutions for a durable development can be achieved, as shown above, only by ensuring and continuously improving the S.M.E.s' management, for this aspect being necessary the capitalization of the opportunities created by the internet.

The e-Management represents such a solution, following the positive response to the challenges of the 2011 business environment. The competition process will not begin according to the imposed deadlines, as it has already begun.

From the development and enterprises' dimension's point of view, we must signal a positive aspect, that is the Romanian S.M.E.s no longer represent negligible entities as few years ago, being now comparable from the turnover and patrimony value's point of view to the S.M.E.s from the European Union, having almost equal chances in the entrepreneurs' competition.

The competition process on the world market has already begun, ignoring the previously settled deadlines. By implementing these new e-management programs, more benefits can be obtained on several levels. Firstly, it can be obtained an increase of S.M.E.s efficiency, this leading implicitly to the economic development of the country and secondly, the implementation creates a trusting environment for the collaboration with S.M.E.s from Europe for which they supply resources and bring profit.

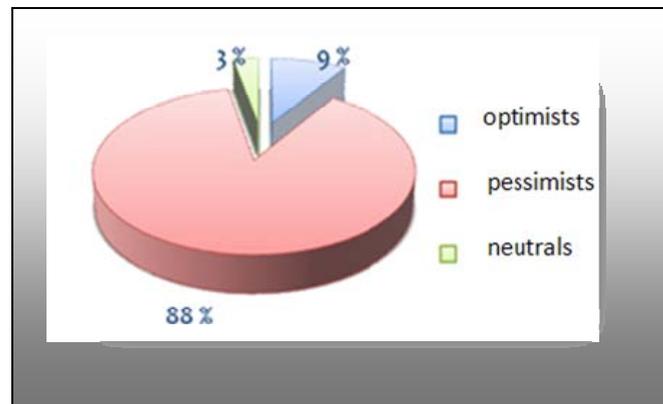
These premises together with the fact that this concept of S.M.E.s' e-Management is more often used in Romania show that the difference made in the past by opportunities, resources, quality, environment protection, is, at present, made by the only truly important element: detaining and practicing a performing management.

3. CASE STUDY REGARDING THE EFFICIENCY OF APPLYING THE e-MANAGEMENT WITHIN ROMANIAN S.M.E.s

3.1. General date about the company

The analyzed S.M.E. is a Romanian company with integral private capital, specialized in the multiplication and trade of seeds destined to field cultures, created in 1991; during the first five years of activity has placed among the top five companies of profile activating on the Romanian market, obtaining in 1996 the award for Quality and Management in Madrid (Spain).

The S.M.E. is the commercial representative of the Fundulea Institute for Agricultural Research and Development on the external market for: wheat, barley, oat, corn, soy, sun flower, fodder plants, as well as for technologies for seeds multiplication, culture technologies and technologies for plants protection against diseases and pests, and the only company in Romania with this specific activity profile that is a member of the International Seeds Federation (since 2009). The S.M.E. created in 1998 the Scientific Research Department, being the first Romanian commercial company with private capital that had as an activity object the research for plants' improvement.



Source: the economic-financial document at the company

Figure 1. The evolution of the company (2009-2010)

Approximately two years ago, the S.M.E.'s management decided to make substantial investments in assets that were to get into use at the beginning of 2010, a fact that would involve a triplication of the company's incomes, this aspect being possible due to the results of the company's economic and financial status analysis that showed favourable circumstances.

At the same time, the S.M.E. managed to contract business partners, leaders on the cereals market in U.S.A. with the most difficult to meet requirements. The beginning of the economic crisis phenomenon at a time of "big investments", practically leaving the company without liquidities, made it impossible for the company to develop its activities in profitable conditions; therefore, most of the economic agents, knowing its situation, were not optimistic with regard to the S.M.E.'s chances to redress in the immediately following period. The challenge for the S.M.E. is in finding redressing solutions and solutions for satisfying their American partners. Analyzing the research made by the S.M.E.'s personnel evidenced the fact that the S.M.E. is incapable pose a threat on the market, considering the fact that the competition is twice faster with regards to the relationship with clients and 10 times more profitable. In this context, the S.M.E. wants to find the fastest way to redress itself economically and to be able to honour the engagement towards its business partners, thus being able to get back to the leader position it held previously on the market.

Taking into consideration the present status of the company and the fact that it belong to a category of companies with a simple organizational structure that can be modelled fast to the new requirements of the business environment, the solution of development by using the virtual environment has been chosen, this involving the creation of a virtual company which implicitly attracts the adaptation of the company's management system to the new "virtual" reality and the transformation of the management science into what may be called e-Management.

Practically in this time of speed, on a dynamic and more and more "virtual" market, the S.M.E.'s managers must manoeuvre the digital universe in order to obtain a competitive advantage. The economic and technological arguments support the

necessity of re-evaluating the company's management and administration methods, taking into account a doubtless economic and social shift towards the virtual environment. The survival of the dynamic environment of the virtual company depends on the fast reply to the outside stimuli and on the adaptability to sudden status changes.

The implementation of e-Management has been achieved by contacting a specialized company in conceiving and implementing software that would help transforming the classic management into e-Management, including particular elements regarding the increase of the company's potential.

3.2. Efficient software for implementing the e-Management within the analyzed SME

For implementing the e-Management within the analyzed S.M.E. SSD type software has been applied which, once implemented, would realize a positive correction of its economic status and would increase its efficiency. SSD represents „those informational management systems that rely on using analytical patterns, specialized data bases, judgment and intuition of the decision maker, and a computerized modelling process, interactive and which supports semi structured and non structured decisions taking by the managers.”

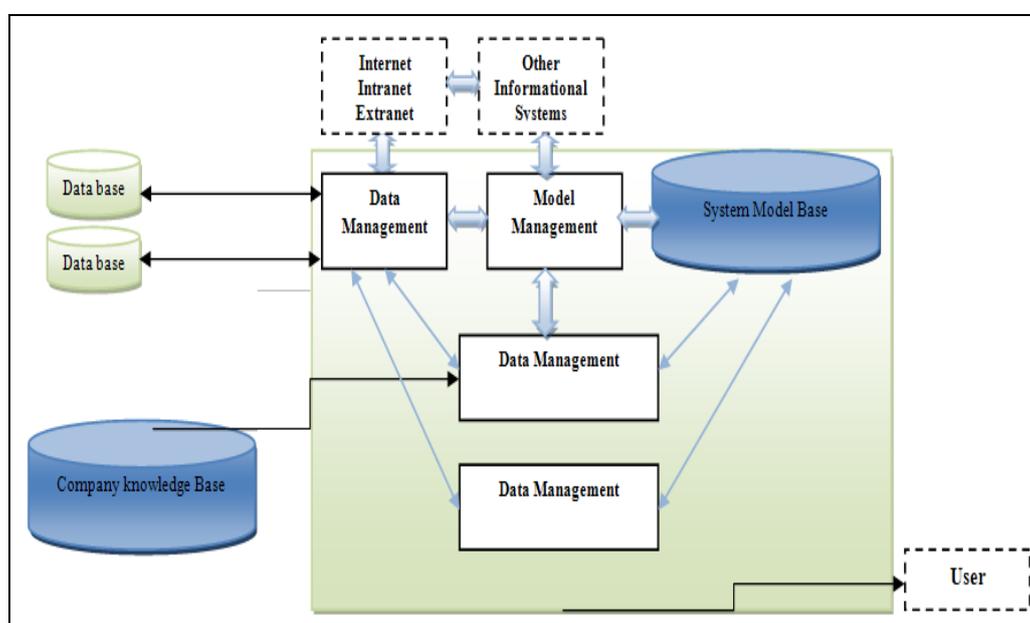
These systems offer „on spot” answers in an interactive session man – computer and are adapted to the personal work style of the manager. They manage to simulate “what if” questions that are present often lately within the organization.

The main and immediate objectives of the SSD are the improvement of the method for taking decisions, the realization of a preparatory study in view of taking the decision in case the totality of activities that must be developed for this purpose cannot be scheduled, or the effective elaboration of the decision. According to data and management patterns, the decision support systems are grouped in two distinctive types: one oriented towards the data that it processes for informing the decision makers, and one oriented towards the models that it operates with.

Choosing for implementation the spectre of the systems, reunited under the name of SSD, which is very broad and easy to realize, the S.M.E. will benefit from the advantages offered by the fundamental characteristics of this system that individualize this particular system from the other types of management information systems, as:

- SSD assists the decisions of the S.M.E.'s managers, especially for the semi structured and non structured situations, combining knowledge and human intuition with the computer's speed. Decision assistance can be achieved on all levels of management;
- *SSD can assist more inter dependent decisions and /or sequential ones;*
- *SSD supports all stages of the decisional process and can be easily adapted to the decisional styles within the analyzed S.M.E.;*
- *SSD is time adaptable.* The decision maker must have a reactive behaviour in using SSD, to notice the change of the conditions and to adapt the system accordingly.
- *An ad-hoc SSD can be easily defined by the user,* based on an environment that is friendly to development, a flexible one, with capacity, powerful

- graphics and an interface adapted for non professionals (1/3 in the case of the analyzed S.M.E.);
- SSD promotes learning and the accumulation of new knowledge, which leads to new requirements and refinement, going up to the changing of the organizational culture;
 - SSD is based on standard patterns or patterns defined by the user. The modelling capacities of the system favour experimentation, in the context of more configurations.
 - SSD includes various categories of analysis, from „what if” to the elaboration and selection of scenarios.



Source: Adapted according to the specifications generated by the IT Department

Figure 1. The SSD Components

The table below shows the SME’s evolution form the time of investing in assets till the results of the e-Management implementation.

Table 1. The financial evolution of the S.M.E. for the duration of the study

| Indicator | Period | | |
|-----------|-----------|------------|--------------|
| | 2009 | March 2010 | January 2011 |
| Turnover | 7 229 014 | 907 478 | 7 002 160 |
| Profit | 74 929 | -225 741 | 80 712 |

Implementing the e-Management brought a spectacular improvement on the economic and financial situation of the SME at the beginning of 2011, following an

increase of sales especially due to honouring the on line orders from enterprises in U.S.A. and outside Europe.

3.3. Textile Company Case Study

This company produces textile sub-parts in outsourcing mode for its German partners. The company has 15 employees and 12 production machines. The production unit manufactures several types of products, and the average number of pieces manufactured monthly is around 30.000.

One of the main management's challenges is to keep track of all products, a compulsory requirement of the German partners, an ISO certified company. All defects must be tracked and an archive of 5 years of all production must be kept. In order to integrate with the partners' e-Management system, the company has to provide monthly reports in a fixed electronic format with all production records (around 15 items for each product).

The other major challenge was stock management, especially handling different wire coil colours. The same colour can have different shades which cannot be mixed for the same product; therefore a very precise management is required.

To keep up with those demands this company implemented a basic document tracking system, which afterwards was manually translated to electronically format, send and archived manually. This system introduced many errors and the final reports were not accurate which caused a lot of complaints from the German partners. The stock management was poor, using some basic worksheets and manual operations, causing frequent chaos and production delays.

The company management contacted a software development company to implement a custom e-management system, which had to overtake all manually work.

The main requirements were:

1. All production data to be centralized into a single electronic database, accessible from several production units and from management offices;
2. All data inputs to be automated into a user-friendly software tool, with very strong proof (most human operators didn't have any computer-usage knowledge). The manual human inputs should be minimized, so inputs from weighting machine and bar codes will be automated.
3. Stock will be handled automatically – the only inputs will be just simple data entries. Warnings will be issued when items are below thresholds and data collection with reporting features for the management will be available.
4. Several reports and data aggregation will be available to the management, which will provide manufacturing status and times per machine and per human operator, number of defects, wire colour usage, packed products and products ready to be shipped.
5. The data will be automatically exported to the format required by the German partners, and all information and reports will be automatically archived for future usage.

The system was developed and implemented in three months, with two weeks of trial period. Several month after the implementation, the management feedback

stated total control of stock with huge improvements in production times, a speed-up of the production and no delays or errors. Receiving the defect-orientated reports, the management could easily identify machines with high defect rates and replace the part in time to minimize losses. The German partners are also pleased with the accuracy of the data provided. The company made a step further and implemented a production calculation feature to enhance short-term planning and future company strategy. The e-Management system will be also the platform the ISO 9001 certification process.

Visual Effects Studio Case Study. This is a small company with 5 employees which provides visual effects and video animation services. The team works in the same time at multiple projects, and the challenge is to keep track of the time spend for each project, because there are many last-minute requests and changes from the customers.

The specificity of the activity requires a lot of customer reviews before the final delivery, so a team member must meet the customer and spend some time for reviewing and recording comments. This implies a lot of production time lost with meetings and travel. Customer communication was done by phone and by email, and after several communication sessions the track of customer requests is lost or misunderstood.

They contacted a company to develop an online e-Management system with the following requirements:

1. Every team member will use an online website interface (for mobility) to keep track of all actions performed on a specific project (time spend, modification of requests, comments, prices offered, etc.).
2. The team and the management will have access to visual reports for deadlines, the use of resources, total time spend for each project and other related information.
3. Customers will have a dedicated client area on the website, and they will be able to visualize their products online, with the ability to post comments. The team members will address those comments and will be able to respond, also online.

After the implementation of this e-Management system the company management was able to correctly issue an invoice for every client, according to the time spend for each project. The mobility and productivity of the team increased, since they didn't have to travel so much, and they could see from any location the status of the project and to receive customers' requests or comments.

3.4. Negative Case Studies

As previously stated, not all e-Management systems can be successful: The management of garage (service station) wanted to implement a form of system for keeping track of employees' time spend on each operation and to generate an invoice automatically. Because the garage management didn't contract a support service as well, the employees weren't able to handle the new system and it was soon abandoned because generated more delays than before.

Another SME from the logistics segment acquired an "off the shelf" system for an E-Management implementation. But the system didn't meet an important

requirement: accepting data input formats from partners, so without this key-feature it was soon abandoned.

4. CONCLUSIONS

Implementing an e-Management system within a Small and Medium Enterprise requires rigorous planning with regard to a series of factors and indexes. Otherwise the new system can become an obstacle for the development of The Small and Medium Enterprise, because of the high risk of generating within the enterprise true economic disasters.

The services offered by the e-Management help to improve the activity of the Small and Medium Enterprises, to organize, to facilitate communication on work fluxes thus giving the opportunity to take better informed decisions on management collection, on cost reduction, as well as on improving the entrepreneurs' experiences.

Applying an e-Management system within a relatively short period of time, without major costs and delays in production, is materialized in a true challenge for the Romanian Small and Medium Enterprises.

e-Management is not a very complex science and in the following years will become a requirement for any SME which aims for the European market and success. It will be something imposed both by the competition and by the customers. Any SME management just has to realize that it needs an e-Management system.

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