

## PROJECT CONTROLLING IN MANAGEMENT INFORMATION SYSTEMS

C. Cârstea

„George Baritiu” University, Brasov, Romania

*“It’s not the strongest of the species that survives,  
nor the most intelligent; but the one most responsive to change.”*

*(Charles Darwin)*

### INTRODUCTION

Management has to decide what to reasonably invest for security and control in IT and how to balance risk and control investment in an often unpredictable IT environment. While information systems security and control helps manage risks, it does not eliminate them. In addition, the exact level of risk can never be known since there is always some degree of uncertainty. Ultimately, management must decide on the level of risk it is willing to accept. Judging what level can be tolerated particularly when weighted against cost, can be a difficult management decision. Therefore, management clearly needs a framework of generally accepted IT security and control practices to benchmark their existing and planned IT environment.

### 1. INTERDEPENDENT FACTORS IN THE SUCCESS OF A PROJECT

Frequently, auditors have taken the lead in such international standardisation efforts because they are continuously confronted with the need to substantiate their opinion on internal control to management. Without a framework, this is an exceedingly difficult task. This has been illustrated by several recent studies on how auditors judge complex security and control situations in IT – studies that come about almost simultaneously in different corners of the world. Furthermore, auditors are increasingly being called on by management to proactively consult and advise on IT security and control-related matters [2].

In an era that demands increased accountability and transparency of business practices, much of a company’s potential exposure and risk hinges on the integrity and reliability of its information systems. IT organizations must juggle the growing scope of change needed to support a variety of business initiatives — information security, application integration, the development and deployment of web services—while at the same time supporting vital everyday business needs ranging from compliance with regulatory changes to mergers and acquisitions to changes in supply

chains. In the quest to increase efficiency and gain competitive business advantage, IT organizations have embraced numerous methodologies and technologies over the past two decades. While these efforts were based on the best technologies and thinking of the day, and while they delivered adequate value for the time, they can no longer support today’s more complex technology-dependent business. Although technologies designed to improve automation and increase business intelligence have yielded some measurable benefits, the prolific use of technologies applied to individual business problems has frequently resulted in nonintegrated, complex, expensive and inflexible IT silos that are slow to adapt to changes in business processes and strategy [2].

Every business decision triggers a series of IT events. In that sense, and especially in this business climate, an adaptive IT can actually enable agility. However, many IT infrastructures cannot keep up with the pace of change—much less turn these changes into an advantage. To understand how to best adapt your current architecture so it can better adapt, it’s important to examine how IT has evolved over the past two decades.

The management of the complex IS offering the economic unit through this the possibility to receive the full advantages in regard of its information and achieving in this way full benefits, taking advantage of the opportunities and earning competitive advantages. The managers usually come upon situations in which they have to take into consideration a business depending on resources and expenses in order to maintain control upon informational infrastructure. The majority of the questions are about: *“how far should we go and is the price justified by the profits?”* Taking into consideration the increase of interconnections and the dependence of IT in the global economy which is more and more automated, the management of risk and safety is more and more dependent of the specific practices of the management. In the complex economic medium, the manager is in a continuous search for compressed information and in real time, considering that difficult decisions must be taken in conditions of risk and even uncertainty quickly and with chances of success [4].

## 2. CONTROLLING MANAGEMENT INFORMATION SYSTEMS

The design of a flexible evaluation systems offered the advantage that each company will understand its own performance and will be able to measuring its own progress offering in the same time the manager of project the possibility to correctly evaluate and in due time the degree of accomplishment of the tasks of each team work:

- Witch is the correct level of control for its own informatics systems in order for this to support the aims of the economic unit
- How much do we automatism
- What do we automatism
- Do we have enough resources
- How far should one economic unit go with the IS implementation and is the price justified
- What international recognized standards exist and what relation do we have with them
- What is regarded as best practice in economy and what is the position of the society in regard of this best practice
- Based upon external comparison can we say that we have taken „reasonable” cautions in order to keep safe the information?

Is difficult to answer and to argument because the instruments necessary in such evaluation are not always available. The management of complex IS in a continuous need for instruments for self evaluation and control on levels as an answer to the need of knowing what the manager of project should do in a more efficient manner.

Based upon the help of the design product the project manager can evaluate the degree of the accomplishment of the targets.

This means

- a relative evaluation of the position of the company
- a manner to efficiently decide where the company is going to
- a tool in the measurement of the progress of the projects in comparison with the target

With the help of a flexible evaluation system, we can establish how well achieved is a process from an IT point of view. Such a generic model could help the manager of project to argument explain to the economical unit manager the deficiencies in the development of the IS and also could help him establish targets regarding the level he wants to reach comparing his own results to those from „the best practice”.

An essential point for the manager of project in order to improve the control and safety could be analyzing the international standards as they appear in the „ best –in –class” practices. The nowadays practices can the tomorrow level and this is the reason why they are useful in establishing the

status of the organization in time. The evaluation is built on levels of analyze as it follows:

- Understanding, evaluation and controlling the results;
- Training and communication applied on the results;
- Processes and practices which are implemented;
- Atomization techniques in order to make the processes more efficacious and effective;
- Satisfying the internal policy of laws and rules;
- Type and number of expert employees.

Generally all methods, techniques and tools used in the planning and control activities and projects implies the achievement in advance of the following activities: making a list of all the actives involved in the project, establishing the logical succession of the activities, estimating the length of each activity and realizing which of the activities involved can be done simultaneously. The I.S. is the results of I.T. The activities of accomplishment and maintenance of an I.S. must be efficient, that is the effort involved in the making process must be smaller than that involved in the obtained effort. We must always take into consideration the informatics context in which an I.S. is realized and developed, that is on the hardware and software support used by the existent I.T. The introduction of an I.S. involves important expenses, which must be recovered in time [1].

All projects have the same characteristic – designing the ideas and activities and their transformation in new projects. The presence of risk and uncertainty shows that the events and the necessary tasks for the achievement of the project can never be absolutely predicted. The design of complex I.S. is initiated by different sources for different reasons. Some of the suggested projects will be able to survive to different studies of evaluation, some will not. Businessmen suggest of such systems from two reasons:

- Because they experiment problems that lead them to informatical solutions and
- Because they come to recognize the opportunities to improve the performances through systems’ upgrade, transformation and putting into service.

A complex system is among other things composed by heterogenic elements, bounded by strong but fluctuant interaction. Emergent qualities appear from the organization of all the activities and can react upon parts from within. This is true in case of complex I.S. projects which support many **risks**, and whose **difficult development must be carefully predicted**. A complex system is a system which can be irreducible to a finite type, as complicated, stochastic, and sophisticated, no

matter the type or size, the number of components and the intensity of their interaction. A project has two main complexity causes. The first refers to **time**, the problem dealt with in the 3rd chapter, and the second being represented by **participants from within the project, which is**, beyond all, a human accomplishment, if we take into consideration the fact that a model is never quite the same with the work itself.

**The project manager** will have to decide which the best project is and he will have to choose the control structure for the project. His success will be determined by the shortest delivery period of the completed product, with a minimum budget of good quality and functionality.

Good managers realize that the recognition of the symptoms of the problems, the diagnosis of these problems and then the confrontation are imperative solutions for the business if we want the business to work in the most proper way.

Problems come out in different ways. The **Feedback** can offer information regarding the gap between actual performance and the desired one. We could say that feedback highlights the problems. Also the external feedback is extremely important and must not be ignored.

The three most relevant and key elements in order for the project to be fulfilled are:

- Technical feasibility – added to the present system, available technology for the users requests
- Economic feasibility – the period of time in which a project is designed, the cost for its planning, the cost for the employee's time of study, the estimative cost of the hardware and software equipments and their development.
- Operational feasibility – The well function of the system after it has been installed, the usage of the designed project.

For the approval of each project there must be identified needs at first... This identification is not easy because generally we cannot specify a scientific need but by an approximation of the desired result. Next you have to compare the identified needs with the estimative costs, the aim being the justification of the investment... It is also necessary that the project is possible from the technical point of view. The question is if the present technology allows its accomplishment, and if these technologies exist, are they accessible taking into consideration the knowledge, the abilities, the budgets, the human and material resources. [4]

**The project manager is responsible for the correct investment of the resources, as well as for their usage in order to obtain the desired result...**

The demand for the management teams is to think in terms of process and not in divisions and functional units if the companies want to

successfully compete among them, they must frequently modify the processes, to adapt them to the market requests and to add new tools which have to adapt to these changes.[3]

Taking the decisions without a proper subversion of their well function has usually no effect whatsoever. It is the same in the planning activity which will bring lesser benefits if the planned activities are not supervised and controlled. The control implies a continuous evaluation of the progresses made in the process of achievement of the project, as compared with certain criteria. Generally, these criteria are time, quality and budget. The degree of complexity of the project is a factor, which determines the report and control method. Taking into consideration the size and complexity of the whole project it is possible that its manager will not be able to make the control of the project from a quality point of view, situation in which he must appeal to the designation of a person in charge with the quality control of the project. A complex project necessarily requires intermediate levels of leadership and report [3].

**The complex I.S. project planning includes all the required activities for:**

- The selection of the working team,
- The designation of the job requests for each member of the team,,
- The evaluation of the time necessary for the accomplishment of the tasks,,
- The planning of the project so that the tasks should be fulfilled in due time.

The beginning of a complex I.S. system means the design of the project on four major activities:

- ✚ analysis,
- ✚ design,
- ✚ implementation,
- ✚ maintenance.

These activities are then separated in other detailed activities associated with the working period... Sometimes the most difficult part of a project planning is **evaluating the period of time** necessary for the realization of each task involved in the project. There is no other substitute but the experience for the evaluation of the period of time. The usage of the computer in planning the projects has become more practical and direct. **Microsoft Project** is a good example for a performant program in this direction.

After all, there is a good reason for which a project is made; in order to generate and save money... The justification of the project is a price and incomes analysis, which shows us if the project is to bring profits. The evaluation on categories of the project's costs will be made more correctly if certain basic rules are to be followed:

- Evaluation of the costs spent on employees

must be based upon its medium performances, and their planning must take into consideration the time of realization.

- All the evaluations made by the project manager with the help of the qualified personnel
- The review of the estimations of the costs is necessary and must be done by authorized persons
- The planning of the activity is based on the resources of the client in time

The control of the planning and organization activities for the I.S. systems means the use of the feedback in order to monitoring the project, including comparing the planned stage with the actual stage of evolution. In addition, the control means making the right decisions in order to accelerate or to reorganize the activities to be able to finish them in time as well as to motivate the team to do the job right and to be able to remain in the fixed budget. Once the time and financial resources are dealt with, we must take care of the human resources as well. Mainly this means to communicate with the team's members who have been selected for their competence and abilities. The aims for the project's productivity must be fixed and the members of the team must be motivated to reach the aims.

To all these we can add a great flexibility and adaptability to changes of the imposed system. The role of the project's manager in planning, coordination and control of the complex S.I. project activities is being underlined. The designed system is a necessary tool as much for the project's manager as well as for the economic unit's manager in order to obtain and maintain the competition advantage, to plan the necessary of information for the management of the technological changes, which should be one of the main goals of every company.

The need of a flexible evaluation system for the planning and organization of the activities taking place in complex I.S. projects for the acquisition and implementation, assistance and support, monitoring the performances of I.S. is being through this motivated. For the control of I.S. projects an evaluation method is being developed in order for each company to be able to self evaluate the own performances regarding the I.T. The principles are applied at informational, strategically, tactical and administrative level

The designed system allows the project manager to monitoring the activities and the costs, to evaluate periodically the progress made, to introduce some correction methods in order for the project to be applied to the managerial strategy, to be planned in accordance with the resources, to contribute to the realization of the purpose, to be practical.

Regular monitoring assures a dynamic reaction to the changes that appear, so that the project manager has pertinent information for the politics of the company's implementations.

It is highly important for the manager to establish reachable purposes, activities that are possible to administrate with the given resources.

## CONCLUSION

The process of making an I.S. is a long term and complex activity, which implies big material, human and time resources. Planning and coordinating the entire activity regarding the process of making the informatics project is the responsibility of the project manager. He must decide which is the best - planned **control structure** for the project [5].

**If we were to draw a conclusion, an evaluation and control tool:**

- Refers to the business demands and possible aspects on different levels of maturity;
- Leads to pragmatic comparisons;
- Offers the possibility to measure the differences in a more facile manner
- Leads to analyses in order to determine what must be done to achieve certain level;
- Progressively applies the success factors, despite the fact that there is not a model that can always, so that in most of the times a more appropriate standard is used. The success factors can be considered a sort of a guide for the implementation of the control of I.T. and its processes. They administrate the possibilities and the tools and must be centered and focused on actions, establishing the resources that have prime importance in that process.

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