Total Cost of Ownership (TCO) Analysis as a Support for the Budget of Technological Resources

Alexandro Barbosa
UFRN-Programa de Mestrado Multiinstitucional e Inter-Regional em C. Contábeis, Natal/RN, Brasil
alex@ufrnet.br
José Vicente de Assis
UFRN-Programa de Mestrado Multiinstitucional e Inter-Regional em C. Contábeis, Natal/RN, Brasil
assismm@ufrnet.br
Gerlando Augusto Sampaio Franco de Lima
Universidade Federal do Rio Grande do Norte – Bolsista CNpQ, Natal/RN, Brasil
gerlando.lima@uol.com.br
Dr. José Dionísio Gomes da Silva
UFRN-Programa de Mestrado Multiinstitucional e Inter-Regional em C. Contábeis, Natal/RN, Brasil
dionisio@ufrnet.br

Abstract

In the competitive environment where the companies are today inserted, the opportune information at the best time is very important for the decision taking.

In this context, this article intends to first inform the paper of the information technology in the enterprise environment. The second point will be the analysis of the total cost of ownership and its perspectives as a tool to make reductions of costs with the technological resources of the companies. As the third point, we are going to show a relevance view of the budgetary system.

And, finally, we are going to conclude that the insertion of the TCO as a great support to manage the technologic resources inside the "Generic Model of Budget for Economic Evaluation of the Strategy" is a good help to the managers take their decisions.

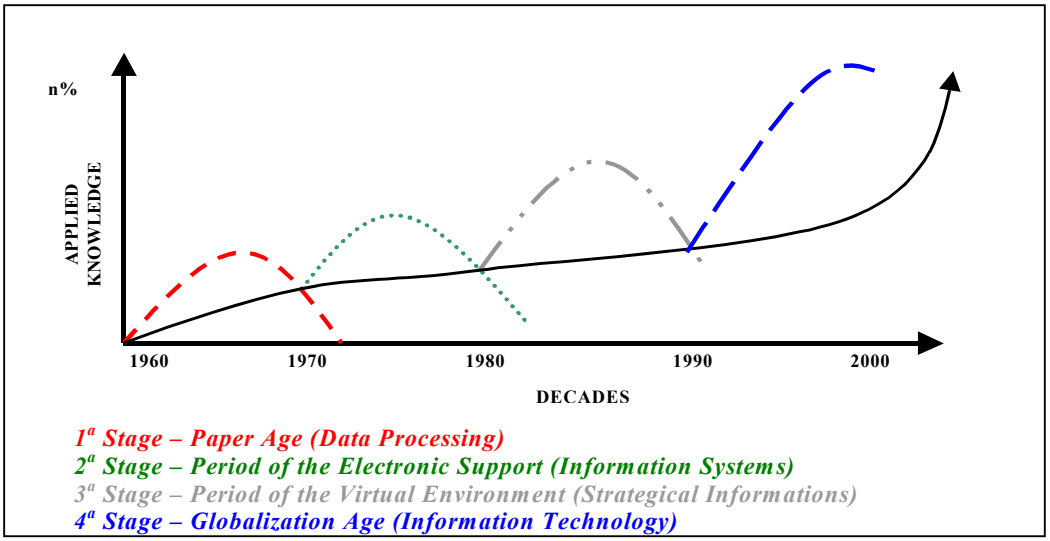
Key Words: Total Cost of Ownership, Budgetary system, Information Technology

1 Introduction

In these last decades, through the beginning of the information age, the enterprise position is being argued in a global scope. There is the necessity of reductions in enterprise costs, occurring the sprouting of innovations as: reengineering, downgrades, downsizing, among others.

In consequence, race has begun in the search of improvements of performance in the companies, reduction of costs in the commerce areas and competitiveness was initiated more, that each time more is directed for the globalization (fact, consequently, already occurred).

According to [Souza and Ramos 2000] "many companies have withdrew in the global markets because they are very slow in implementing new technologies". This confuses the advance of any company, as we perceive below in the Graph 01. In it, [Cruz 1998] analyzes the steps of the Information Technology (IT) with the knowledge degree "n". acquired with passing of times, demonstrating that the more advanced the company technology is the more will be the degree of applied knowledge and the safe degree of quality for the management and continuity of the businesses.



Graph 01. The IT stages versus the applied knowledge degree

The administration of the computer resources inside the companies take time and resources that nor always result in benefits, being able themselves also, to enter in a spiral of costs, from the frequent technological update.

The costs are primordial instruments for any taking of decision, since simplest until most difficulty. Either for a strategical or operational option, the costs say which directions the managers must follow for the decision taking.

Despite this, and knowing that IT is a basic part inside the companies, there are several criticisms in relation to the lack of criteria on how to measure the relation between costs and benefits for it.

The TCO is a primordial recommendation for this problem. It is demonstrated as a methodology to calculate the costs and the returns of the companies in the IT use, in order to subsidize the inserted planning in the management process.

2 Historical resume and TCO Perspectives

The TCO (Total Cost of Ownership) is a model developed by the Gartner Group to analyze the direct and indirect costs of possessing and using "hardwares" and "softwares". As [Souza and Ramos 2000] “company managers use some versions of TCO to reduce costs while they wait to increase the benefits of information technology use”; as also [Müller and Panitz 2001] indicate that a model based on computers supports the boarding standard used in the TCO generally.

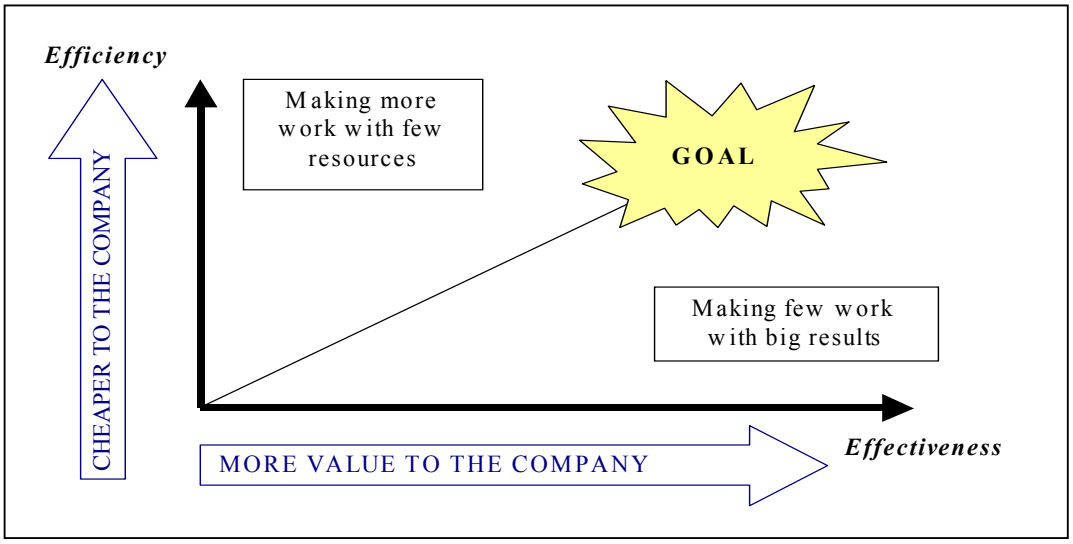
In addition of this, [Souza and Ramos 2000] says that the Total Cost of Ownership has entered in the Information Technology vocabulary since 1987 when Bill Kirwin, vice president and director of research in Stamford, Conn. - headquarters of the Gartner Group – applied from the first time the model to the PC's. Since then, the Gartner has extended the model through LANs, Softwares Client/Server, nets, telecommunications, mainframe, datawarehouses and, more recently, Windows CE and Palm OS.

The TCO of a company is composed for the budgeted costs and not budgeted costs, or direct costs (those items participate in the Cost Centers of the system area, such as: software, hardware, administrative and operational staff) and indirect costs (the costs that normally, in the majority of the companies are not treated by the budget, such as: informal and formal support, informal training, and the loss of productivity from non-availability (downtime) of the equipments, among others). The concern with these costs for the TCO management aims:

- to contribute and line up the strategies of IT;
- to optimize processes;
- to reduction of costs;
- the improvement of the service levels;
- to develop the productivity of the user.

This makes us believe that all this structure generates a final component that can be an information, product or service; having, in any one of the hypotheses, to satisfy its user and/or the final consumer of the best possible form, or either, with quality and quickness.

The TCO is being used as tool to make analysis of the indirect and direct costs of possessing and using hardware and softwares associated with the necessary level of quality, or either, worried about the efficiency and effectiveness. This can be perceived observing itself in the graph to follow [Souza and Ramos 2000]:



Graph 02. Concern with the Efficiency and Effectiveness

3 Budgetary system

The budget is another important tool for the manager functions. It is through the budget that they develop the work of planning that will go to guide the direction and desires to reach the objectives that had been preset in the operational planning.

The budgetary planning is only one start for the activity of controlling, however, another aspect is related with the accompaniment of the accomplishment budgetary, where the managers will be able to observe some aspects in the performance of the company, as the sales percentages of products and services, the expenses and costs related to sales or services, and thus for ahead.

The budgetary accompaniment can assure many valuable information to the managers, therefore, it is important that it has a well budget planned to be well controlled with direct accompaniment, extracting from it useful information as preset indices that will go to measure the performance of the company, the performance of some sectors of the company, as also to verify the possibility of making some reductions etc. The accountant must have the care for the budgetary execution to reflect the reality of the moment, therefore a measurement error and evaluation will be able to cause a mistake in the information process and provoke an inadequate decision.

By the way of this, [Kanitz 1976] reaffirms the following one: "When we follow the implantation of the budgetary systems, the controllership will be able to decisively assist the good functioning of the company: pointing solutions to the found problems".

With the security of that the budget was well planned, compared with its execution, the managers will be able to take position with lesser risks, and if the budgetary accompaniment present some shunting line, this will be detected more easily with bigger precision.

The controller must directly become involved with all the budgets of the entity, but the information necessary to plan inside of each budget are responsibility of the controllers that are involved directly in the budgetary processes. As well as, the employees of all levels of the company must contribute with the information and must be engaged with the results, so the works of its area of responsibility can be evaluated, not leaving controller as only the responsible one.

According to [Figueiredo and Caggiano 1992] "A successful budgetary planning depends on several other factors, for example, a formal organizational structure that assigns clearly to the areas of authority and responsibility, as well as a accountant information system which can permit a financial control".

There are another types of budget that also will go to depend in accordance with company objectives, which are desired to control, being able to have a short term budget, a long term budget and flexible budgets. The management model and the type of business is what they will go to define the type of budget that the company needs.

According to [Figueredo 1995] “The long term budget is very important, mainly when premises are taken in account as growth and expansion, established in the characterization of the considered models. However, it is good to remember that the models are the reality to be portrayed, and would not never exist an applicable budgetary package to all the companies”. This author also says that “the short term budget translates and quantifies the plans of the company by means of its operational goals, determining, in terms of use of resources, what to make, when, as to make and which resources to use”.

The information on the operational transactions of the company, extracted of the budget, can be quantified and qualified in the financial level as in the operational level, and will be presented in form of managerial written report or graphical reports thus it facilitates the comprehension of the information by the user.

The planning must be established in previously definite goals, that can identify the result that wants to goal, being able to be short, average or in a long term, since that they have realistic goals.

When discoursing about cost budgets inside a “Generic Model of Budget to the Strategy’s Economic Evaluation”, [Silva 1999] tells that: “In this proposal is added an item called ‘technologic resources’ aiming to become more evident the structure of costs”.

This item is not found in a specialized literature which is disconnected from the indirect costs, but to the current largeness of the resources registered there, it was opted from this segmentation.

The importance of this element becoming transparent is in function of the increasing use of technological innovations that has made a strong impact on the indirect costs, therefore the profits.

The basic idea is to show the importance of the analysis of the TCO in the elaboration of the budget of the technological resources commented by [Silva 1999] as shows below in the on the figure 01:

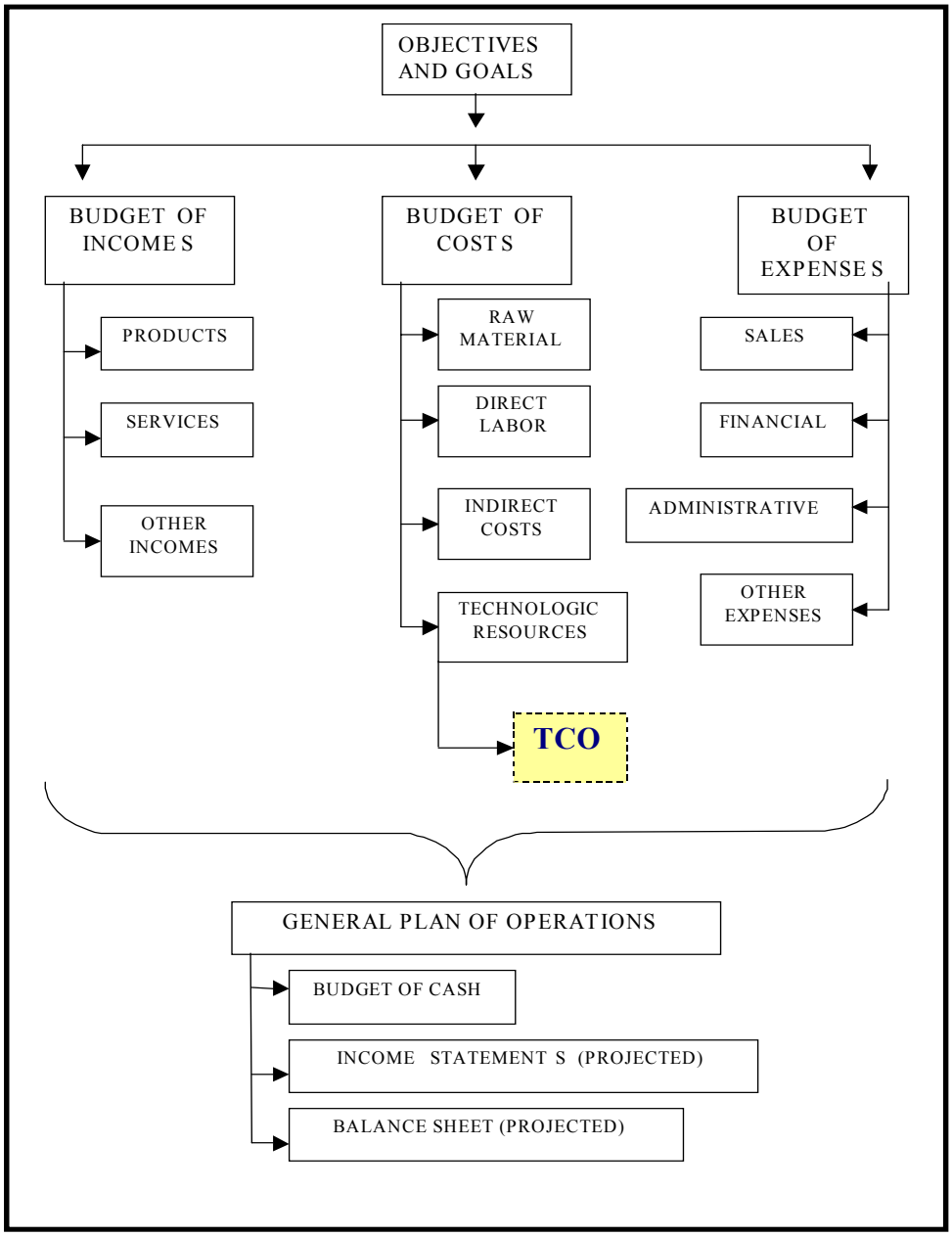


Fig. 01. Budget of the TCO as an element of the generic model of cost budget: Adapted from [Silva 1999]

Certain industrial companies of great transport, who use the global budgetary system, possess complex technological structures, therefore more difficult to be planned and controlled, in this context, a budget of technological resources can, leaving the concepts spread out from the TCO, with the identification of all the budgeted and not budgeted costs, to make that the first ones should be measured and implemented in the budgetary system, while the second behaviors should be studied individually and jointly with budgeted and not budgeted variables.

Empirical research as made by [Augusto 1999] shows that about 59% of the costs related with the TCO are budgeted (Hardware and software; management; support; communications and development) and the remain would be costs not budgeted as costs of the final user and downtime (indirect).

5 Conclusion

There is not a complete boarding about the absolute parameters which we can be used in the budget of technological resources inside a company to evaluate and measure them. To include the budget of technological resources in a global a budgetary vision, will not go to decide the problem of occult costs inherent to the TCO, but it will facilitate the process of planning and control in basis of reliable levels of acceptation.

In certain cases the difficulties esteem itself how much a technology goes to cost itself can be sufficiently complex in detriment of the not budgeted variable that can, in certain cases, be uncontrollable and not to be nor contemplated qualitatively in the management process. In this in case, a TCO detailed analysis can be viewed as a support for the budget of the technological resources. And it will be able to minimize the consequences of such aspects, that either for the budgetary effectiveness of the elaboration, or by the pertinent corrective actions to the processes of control.

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