

Using the Balanced Scorecard to Evaluate ICT Investments in Non profit Organisations

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Abstract: For nonprofit organizations (NPO's), ICT is crucial to fulfil their social objectives. However, it is rare that ICT investments have monetary returns; ICT also has indirect impact on the social activity of NPO's. So it is very difficult for them both to decide about ICT investments and to evaluate their contribution to performance. NPO's should therefore define an appropriate evaluation framework, to understand if, where, what and how much to invest in ICT, to better achieve their mission. The evaluation framework described in this paper is based on the peculiar characteristics of nonprofit organizations, on the multidimensional evaluation criteria and on the balanced scorecard, adapted to the specific nature of nonprofit activities.

Keywords: nonprofit –investment decisions – balanced scorecard – multidimensional evaluation

1. Information technology and nonprofit organizations

Information technology is a key issue in organizations of all types, nonprofit as well as for-profit. Nonprofits spend approximately 4% of their resources on IT investments on average (Computer Science Corporation, 2004). There are several reasons for the diffusion of ICT in nonprofits.

- The main concern is the progressive reduction of ICT costs, which increases the convenience of ICT investments also for nonprofits, which traditionally have scarce financial resources.
- Another reason for the increased use of ICT is the bigger dimension of nonprofit organizations; indeed they need more and more ICT to overcome some typical big corporations problems, such as management, coordination, communication, administrative expenses, and so on. They need ICT in administration processes, to support decisions, to integrate their geographically dispersed units.
- Several nonprofits are also discovering the usefulness of Internet; they understand that this technology is a very effective instrument to extend their communication power. Communication is a core process for nonprofits, which are based on social consensus and need to be known all over the environment in which they work.

However, there are also several problems about ICT in nonprofit organizations, these problems can reduce the use of ICT and the investments amount, and cause the failure of ICT projects. We classify these problems in two groups (Mason 2003).

The first group is concerned with the ICT investment decisions, that is, the ex-ante phase in automation processes.

- The main problem is related to prioritising technology investments, with respects to other investments. The scarcity of financial resources, typical in nonprofits, is a crucial aspect in investment decisions. Nonprofits tend to concentrate their investments in social actions and programs, that is, activities directly related with the social impact of their work. So they tend to neglect investments in support activities, such as information technology.
- There is also a great difficulty in identifying the more appropriate ICT solutions for specific nonprofits needs. The lack of best practices concerning ICT in nonprofits and the specific nature of these organizations need the design of ad hoc decision support instruments.
- The third concern is identifying the appropriate level of ICT investments. The lack of a direct relation between the investments amount and the financial returns makes it impossible to evaluate the resources allocation in ICT.

The second group is concerned with the ex-post ICT evaluation, that is the measurement of ICT performance. The goal is to determine if the ICT project has been useful in supporting specific action and fulfilling social objectives.

- The main problem is related to the indirect relations between the ICT and the nonprofit mission. Generally, nonprofit actions consist in furnishing social services not including technology. ICT is instead used primarily for support and administration activities. Therefore there is no direct impact of ICT on social effectiveness of nonprofit actions.

- Nonprofit organizations have no profit goal, so a common evaluation language is missing. Whereas profit serves such a simple common language for communication, delegation and coordination within for-profit firms, decisions in nonprofits have to be made with reference to the mission.

These concerns reveal that nonprofit organizations need evaluation systems, to facilitate automation analysis and decision-making and to understand and improve ICT performance. These instruments have to be designed ad hoc for nonprofits, using their specific characteristics and implementing performance measurement focused on achieving milestones on their initiatives.

2. Performance evaluation in nonprofit organizations

Before to analyse the role of ICT in nonprofit organizations and to design an evaluation framework to support investment decisions and to measure the impact of technology, it is useful to describe the peculiar nature of performance in nonprofits and their evaluation.

The core of nonprofit organizations is the primacy of their mission. This is also the base of an evaluation system. We can describe the nonprofits scheme as in Figure 1.

At the core of nonprofit organization is its mission, which is the reason for which the organization has been settled. The mission defines at a general level the goals of the organization, but it is necessary to define strategic subgoals and objectives: both short term and long-term objectives. These objectives system is the start point for the action of the nonprofit organization, to which all activities, processes, actions have to be coordinated with. Resources allocation – both financial and human resources – have also to be allocated in respect with the mission and its subgoals (Sheehan 1996).

Human resources are the core competences for nonprofit organizations, because they are mainly volunteers and the real engine of the organization. They are not only informed, they share the organization goals and values and take part in its activity.

People offers financial and work resources: work is either voluntary or paid, financial resources are loans or donations.

Resources are used in processes. The organization resources portfolio provides both an instrument and a constraint for nonprofits: instrument, because resources are used to perform the processes towards the social goals to be fulfilled; constraint, because the amount of raised resources is the real measure of their financial budgets and of their action opportunity.

Processes create actions and initiatives that nonprofits perform in a defined lapse of time, oriented to the short and long term subgoals defined from the mission.

Actions are carried out from people involved in nonprofit, both employers and volunteers. They close the virtual cycle from resources to actions.

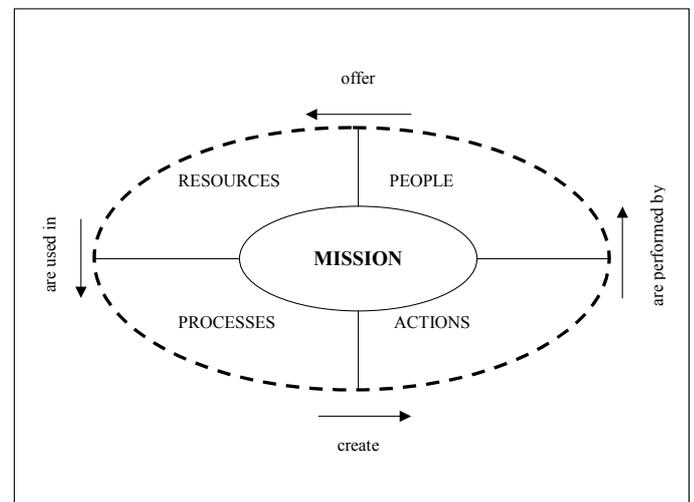


Figure. 1: The mission is the primacy of nonprofit organization scheme

However, employers and volunteers are not the only types of people involved in nonprofit organizations. We can identify:

- the recipients of nonprofits services, which are the “customer” of their actions, even if they don’t pay any price for these services; they express their satisfaction relating to quantity, quality and timeliness of benefits received from nonprofit organization;
- the constituencies who make specific investments, which express their consensus about the appropriate use of financial resources made from nonprofit organization;
- the public opinion, which values the organization whole activity in terms of the fit between the declared mission and the developed projects.

These scheme needs of several evaluation phase and instruments (Forbes 1998).

- One of the main evaluation activities concerns the process efficiency, related with the use of available resources. The resources portfolio in nonprofits is both the instruments and the constraint to their action. The use of scarce resources has to be monitored, in order to maintain a correct relation between inputs and outputs, in respects of economic efficiency. However, the qualitative nature of inputs and outputs and the absence of market prices make evaluating processes efficiency more complex than in for-profit firms; financial reports are to be replaced with quality performance indicators, built around measurable but non monetary objectives.
- The actions planned and executed from nonprofits need to be oriented to the fulfilment of social goals. Processes efficiency and actions effectiveness have to be coordinated with respect to organizational goals, both in short and in long terms. Because of the lack of financial measure of organizational success, also effectiveness should be measured by qualitative indicators, related to the quality and timeliness of offered services and the fit between these services and the expectations of recipients (Atkinson et. al. 1997).
- Actions effectiveness is not sufficient for defining the fulfilment of social goals. Effectiveness monitoring is useful to coordinate the resources allocation and the fit between processes and actions, but success should be measured by how effectively and efficiently nonprofits meet the expectations of their stakeholders, that is, recipients, volunteers, donors, the public opinion. Each of these aspects needs a specific evaluation instrument, right to control the fit between the action of nonprofit organizations and the opinion of stakeholders above them.
- The complex relation between the nonprofit organization and its heterogeneous stakeholders takes also the definition of specific disclosure programs and instruments, both financial and social, that allow verifying the fulfilment of social goals and the correct use of resources.

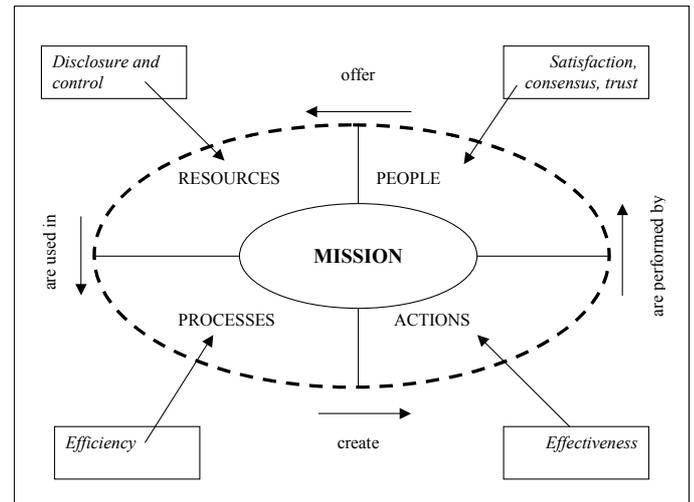


Figure 2: Nonprofit organization scheme and evaluation activities

These documents have a double role:

- they put the nonprofit organization in touch with the environment and its stakeholders, and make it possible to know, control and sanction the organization work when it is not suitable with the mission and the main values declared from the organization;
- they contemporary are an internal disclosure instrument, useful to offer guidance about how the organization should select and run actions and initiatives.

These evaluation activities are exposed in Figure 2 and can be used also to support ICT investment decision and to evaluate ICT impact, with appropriate adjustments.

3. Non profit organizations and ICT investment decisions

The same activities exposed in Figure 2 are useful to evaluate the role of ICT in nonprofit organizations, both to decide about investments and to understand the contribute of technology to the performance of each organization. Therefore, it is possible to define an evaluation framework, arranged to be focused on ICT, instead of on the general management of nonprofits.

The main concern of this evaluation framework is that ICT usually is not directly related with the actions that nonprofits carry out to fulfil their mission (Barton 2002); therefore direct relations between ICT and social performance are not easy to note. In addition, ICT absorbs part of the scarce financial resources of nonprofit organizations, that are felt disguised from primary social goals and spent in projects

that are difficult to justify, because returns are not proved (Cilek et al. 2001).

	Activities	Objectives	Impact
Processes	Activities carried out to introduce ICT into the nonprofit organization processes	Efficiency objectives related to the ICT project	Identify one or more process efficient dimension on which ICT is expected to impact
Action	Social actions interested from ICT project and expected improvement	Effectiveness objectives expected from social action and impacted from ICT	Identify one or more action effective dimension on which ICT is expected to impact
Resources	Resources used to carry out the ICT project, in quantity and quality (when possible to quantify hours of labour and expenses amount)	Objectives related to rational and economic use of resources; eventual specific financial aids obtained from government or other institutions	Identify relations between use of resources in ICT projects and saves of resources grace to automation of processes
Services	Social services involved in the ICT project	Objectives connected with ICT project in terms of offered services	Identify positive impact of ICT on quantity, quality and timeliness of services

Figure 3: Ex-ante evaluation diagram

Ex-ante support for ICT investments evaluation should therefore comes up to several expectations.

- It should individuate main processes in which ICT would be used and expected benefits due to improved efficiency of their processes.
- It should link the increased processes efficiency to an effectiveness improvement of specific social actions.
- It should demonstrate that effectiveness improvement is relevant for core services quantity, quality and timeliness.
- It should also define disclosure able to explain to stakeholders this positive impact of ICT, so that they can perceive the appropriate use of scarce resources in ICT

investments in terms of indirect but real impact on the social goals and finally on the fulfilment of the mission. In this way, nonprofit organizations aim not only at the pursuit of their objectives, but also at the obtainment of social consensus essential for their survival.

All these evaluation activities could be gathered in an evaluation system described in a descriptive diagram (Figure 3). This diagram exposes:

- in lines, all the dimensions of the organizational scheme of nonprofit organizations, that is: processes involved in automation, social actions impacted from ICT, resources used for the ICT project, obtained services;
- in columns, the link between automation activities, social objectives and the impact of ICT.

The cells of the table in Figure 3 should be filled in with the description of the specific aspects involved with automation. To understand the process of analysis of ICT in nonprofits, we can use an example, that is, a health organization which offers physiotherapeutic treatments at home. This organization wants to realize a web site to timely inform all its recipients about service schedule and the person who will perform the service.

The first, we have to individuate which processes are connected with the new ICT application: in our case study, the communication process about the service to be performed. Using the web, we want to communicate to the greatest number of recipients in one time, all the information about the expected treatment. To introduce ICT into this communication process, we have to perform several activities: to design the web site, to test it, to advertise it to our patients. We have also to train our personnel in use of this web site and to favourite the passage from the traditional communication way to the new instrument. The objectives of this project are related with a more efficient communication, especially in terms of timeliness and quickness. So we can identify timeliness and quickness as the dimension of ICT impact.

The second, we have to link the ICT project implementation with social actions and to understand if this efficiency improvement is useful to our social goals. In our case, we have to understand if to improve timeliness of communication by our web site is useful and appreciate from our customers. We can describe the objectives of the improvement of

our action in terms of more satisfaction of our recipients, because they are better

informed about the time and the person who will perform the service. We can identify the increasing satisfaction as the impact of ICT on social actions.

The third, we have to identify the resources to be allocated to the project. In this case, we should count both the persons involved and the time spent for the project, and also the money spent to realize the web site. We should not forget to count also the time spent to training the personnel and the efforts spent to win their resistance to change. We should also evaluate if money and persons allocated to the ICT project are disguised from the organization usual activity and if there is a damage or worse health service for our percipient. We should compare the resources absorbed from the project with the savings in money and persons, obtained from the ICT project. In our case, to publish information in our web site saves to phone to each patient to inform him; there is obviously a save of time of volunteers, who can be devoted to other activities.

Finally, all these aspects should be gathered to describe if our social service is better, with a better use of scarce resources and increased satisfaction of recipients. We have to connect the effectiveness of the communication service with the quality of our main service, that is, the physiotherapeutic treatments. Only if the ICT impact is effective on our mission, we can say that automation is useful for our organization.

Figure 4 shows the ex-ante evaluation diagram for the *Information web site project*. This diagram report the result of our analysis, as previously explained.

4. Information web site project – ex-ante evaluation diagram

	Activities	Objectives	Impact
Processes	Creation of a web site Training of personnel Advertising among the patients	Timeliness and quickness of communication about health services	Reduced time spent to phone to each patient Timeliness of information about health service
Action	Changement	Use of the	Patients

	of the communication process from telephone contact to web publication	web site from our patients to obtain information about the health services	satisfaction about information on health services
Resources	Money spent to realize the web site Time spent to train the personnel and the patients in the use of web site	Saved volunteers time not more used to phone to the patients, but used to offer health services	Resources spent to realize the project compared with resources saved thanks to the automation
Services	Description of the improvement in communication about the health services	Services improvement compared with patients expectation	Positive impact of the web site on the quality, quantity and timeliness of our health service

Figure 4: Case study for the ex-ante evaluation diagram

The drawing up of a qualitative and descriptive diagram that explains the virtuous cycle of ICT in nonprofit activity is useful to answer to several questions about ICT investment decisions.

- Prioritising technology investments. The lack of a direct relation between ICT and social goals of nonprofits often forces to attribute low priority to ICT investments, respect to other investments more related to the specific organization's mission. To describe the positive impact of ICT on processes, actions and – indirectly – on offered services to recipients makes it possible to compare ICT projects with other projects and perform a more informed choice, because ICT also reveals its importance.
- Selecting the more appropriate ICT solutions. Defining specific ICT objectives and ICT impact on nonprofit organizations goals is useful to support automation decisions also in terms of selection of the most suitable ICT solutions and applications. Indeed, the descriptive diagram identifies the relations between processes efficiency, actions effectiveness, offered services and therefore it is possible

to understand the more urgent and strategic ICT projects just for the specific nonprofit aims. It is not necessary having quantitative indicators in this phase, because improvement in services and in stakeholders satisfaction are expected, not increase in financial or economic measures. Qualitative indicators are therefore able to furnish the right information to support the ICT investment decision.

- The descriptive diagram is also useful as internal and external disclosure instrument. Indeed, this diagram describes all the automation objectives and ICT impact on processes, actions, services, used resources. Stakeholders receive all the necessary information to judge the organization choices.

5. The evaluation of ICT impact in nonprofit organizations

If it is sufficient a descriptive diagram to support ex-ante decisions process for ICT investments in nonprofits, it is necessary a quantitative evaluation system to evaluate ICT ex-post impact. This evaluation framework should not be based on financial measurement, but be able to demonstrate the organization performance due to the use of ICT. The better instrument to be used is a balanced scorecard, based on the specific nature of both nonprofits and ICT (Bannister – Remenyi 1999).

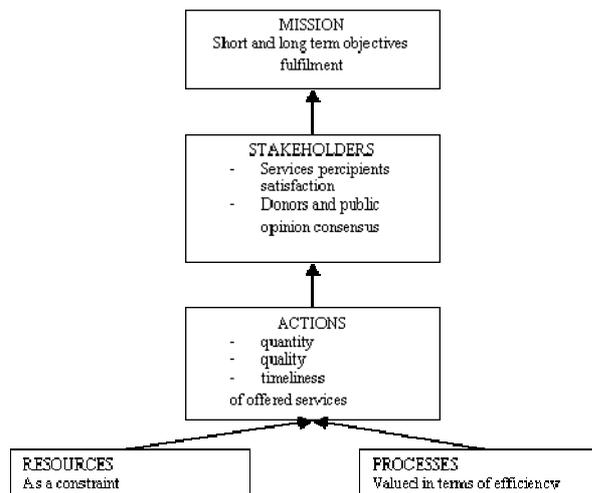


Figure 5: The balanced scorecard general scheme to evaluate ICT investments in nonprofits

To build a balanced scorecard of this type, it is useful to start from the general scheme showed in figure 4 and related to the functioning of a nonprofit organization (Kaplan 2000). These characteristics are important to

define the metrics and indicators to be used in the balanced scorecard. The model here designed put together all the specificity of nonprofit organizations:

- the mission is at the core of the nonprofit;
- the stakeholders satisfaction and consensus are the first objective related to the mission and the organization success;
- actions, processes and resources are the instruments to be used to fulfil the social objectives that define the mission.

As we can see in Figure 5, the balanced scorecard puts the mission and the stakeholders' satisfaction at the top, resources, actions and processes at the base of the scheme. The elements that form the balanced scorecard and should be used to evaluate the ICT projects are therefore the same defined as structural for nonprofits functioning.

The balanced scorecard is then built associating objectives to measures, as explained in Figure 6.

	Objectives	Metrics
Stakeholders	Percipients satisfaction Donors consensus Volunteers participation	Number of satisfied recipients Level of percipients satisfaction Level of donors consensus Increasing in fund raising Increasing in volunteers Level of volunteers consensus
Actions/services	Quantity Quality Timeliness	Increasing in the quantity of services Increasing in the number of percipients Increasing in the value of services Timeliness in services Frequency in services Services innovation New services
Processes	Efficiency	Support activities costs reduction Reduction in work used in non-social activities Better integration between organization units
Resources	Effectiveness in resources allocation Resources as a constraint	Balance between costs for primary activities and for support activities Ad hoc fund raising for ICT Shift of resources from support activities to primary activities, due to ICT

Figure 6: The balanced scorecard to evaluate ICT impact in nonprofits

- Resources are considered as a constraint; therefore, performance in resources allocation is measured with the ratio between resources used in the ICT project (financial and human resources) and saved resources (for example, volunteers not more employed in support activities and now employed in social activities); this measure should be also related to resources allocated to social actions, to resources allocated to other support activities, to the total amount of resources owned by the organization.
- Processes should be evaluated in terms of increased efficiency, for example time reduction, costs reduction, labour reduction, owing to processes automation.
- Actions should be evaluated measuring the impact of automation on the social services; this impact should be related to the quantity of services, their quality and the timeliness and frequency in answering to the requests of recipients, but also to the innovation in old services or to the offer of new services due to ICT. .
- Stakeholders' satisfaction and consensus should be evaluated with ad hoc instruments, such as interviews, etc. but could also be understood from an increasing in donations, volunteers and so on.

6. Conclusions

The ICT investments evaluation in nonprofit organizations could not be carried out using traditional instruments, based on economic and financial methods. Indeed, the mission of nonprofits is not profit, nor revenue or cash flows maximisation, but to furnish social services to several recipients, with the aim of better satisfying their expectations and obtaining consensus from their different stakeholders. This particular nature of nonprofit organizations needs ad hoc evaluation instruments, focused on the specific links between ICT investments and the organization mission fulfilment.

To solve this problem, it is useful to design an evaluation system not based on financial or economic metrics, but focused on the relations between the allocation of scarce financial and human resources and social actions. That is a balanced scorecard built contemporary on the subject of the evaluation – the nonprofit organization – and the object – the ICT projects. It requests the definition of new evaluation dimensions, new metrics, and new methods for the analysis of ICT investments and related objectives and expected returns.

The models here proposed is built upon a functioning scheme of nonprofit organizations; it puts the mission and its short and terms objectives at the core of the organization; around the mission, people, resources, processes, actions are disposed because they contribute at the objectives achievement. ICT contributes at this virtuous cycle too, by means of its role in processes automation and services effectiveness, absorbing resources but also releasing qualitative benefits.

In this framework, several performance indicators are identified, that allow individuating the direct or mediate impact of ICT on the mission. This impact is measured by increasing in processes efficiency, actions effectiveness, services quality, stakeholders' consensus, recipients satisfaction (Dameri 2001).

This model is therefore designed just for nonprofit organizations; however, it could be used also in for-profit firms, when they need to evaluate ICT projects non directly concerned with economic or financial impact, but focused on improving some qualitative business conditions, such as customers and employers satisfaction, products and services quality, the social and environment dimension of the production impact (Drucker 1989). In these cases, indeed, it is impossible to apply financial evaluation systems, but it is possible to link ICT projects to the qualitative aspects of business strategies and mission, identifying appropriate metrics for the impact of ICT on the fulfilment of business goals.

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