Human Resource Training to Enhance Intellectual Capital in the Public Sector: A proposal of a Training Evaluation Model

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Abstract

The evaluation of Human Resources (HR) training, particularly in Public Administration (PA), has been the focus of studies and in-depth analysis for several decades. This paper proposes an additional model of evaluating HR training in Public Administration. The improvement of performances in PA is indeed an HR issue. Therefore, it is necessary to plan and invest in HR training, as a key component of empowering the employees’ knowledge, skills and abilities, with the intention of enhancing the intellectual capital of the organization, adding value to the PA. Another contributing point of this research is the assessment of training HR on intangible aspects, such as the reputation of the PA. Lastly, it is essential to build and to adopt an optimal process of evaluation of HR training to measure the return on investments in terms of tangible and intangible assets.

Keywords: training, Public Administration (PA), Human Resources (HR), evaluation, intellectual capital, stakeholders

1. Introduction

Over the last few decades, Public sector organizations worldwide have been under pressure to improve their performances and win public trust (Talbot, 2010, Miao et al., 2017). This pressure may result from the notable inefficiencies within the Public sector, such as in economic (Rothstein and Downer, 2012; Meier and O’Toole, 2011), social (Knott and Miller, 2006), organizational (Mayer et al., 1995; Meyer et al., 2014), and institutional aspects (Magone, 2011).

There are various reasons behind these failures, such as an obsessive and strict focus on rules and procedures that often fail to recognize and adapt to substantive changes. Despite the fact that NPM (New Public Management) doesn’t expose real solutions for the different problems, there is a movement of new concepts surrounding Public Administration in the direction of “performance-oriented management” (Pollitt & Bouckaert, 2000), and the rise of an “audit society” (Power, 2000), indicating that the world of public management has now become a world of measurement (Noordegraaf & Abma, 2003).

The literature still acknowledges that Public Management continues to be anchored to an ancient tradition of bureaucratic, standardized, and repeated activities characterized by high rationality (Meek, 2010). There is still a need for significant progress towards a broad improvement of the quality of public services for stakeholders. There is a lack of attention focusing on individual behaviors in the public service environment that may affect individual and organizational performance. Behaviors shape, and are shaped by, personal qualities, interpersonal relationships, and are context-related (Tomo, 2018).

New models of governance, stretching from organizational structure to employee training, are therefore proposed to accommodate these new needs, for the quality of the people and employees. A strong foundation in a PA workplace, incorporating “knowledge” on Human Resources (Knowledge-based HR configuration), will directly enhance the intellectual capital, and affect organizational performance overall (Lin & Tang, 2016). Furthermore, there will be an improvement in employees’ commitment to the organization, and subsequent lowering of turnovers and absenteeism, which are notable problems in Public Organizations, and in Italy specifically. For these reasons, this paper will be focused on the training process and will propose a framework to evaluate this process through an audit system.
2. Theoretical Background
The literature grounded in the public sector presents few studies examining behavioral issues (Hinna, et al., 2010). Scholars in this field have investigated aspects related to governance and expectations concerning boards’ tasks in public administrations, using evidence related to strategic tasks (Jørgensen, 1999; Sullivan et al., 2006), control tasks (Hood et al., 2000; Sanderson, 2002; Smith and Beazley, 2000), or networking tasks (Klijn & Skelcher, 2007; Lowndes & Wilson, 2003). However, there have been a limited number of researchers focused on human aspects.

Human Resources (HR) is always the first element in every firm, company, or non-profit association, and a significant portion of investments are devoted to achieving competitive advantage, with employees enhancing their human capital as intangible assets (competencies, skills) which in turn affects the intellectual capital of the Organization.

It was during the 18th century that Adam Smith raised the importance of human capital in his study “The Wealth of Nations,” in which he wrote an analogy comparing men and machines. He stated that economic resources are used for both the production of machines, and for the professional growth of people. It would be a mistake to neglect the economic growth achieved both internally and at a macro level, which is considered the nation's wealth factor.

Next, Marshall (1890) defined human capital in a holistic manner, including the energies, faculties and habits that directly contribute to the productive efficiency of men. Finally, the most meaningful contributions regarding the theories of human capital date back to the twentieth century and explain the impact at the macroeconomic level.

In 1986 the Organizational Support Theory (OST) explained the organizations’ general contributions to the economy and its emotional connection, through the social exchange concept and the reward principle (Eisenberger et al., 1986). By this standard, the promises of organizations to their employees are the first priority, followed by the employees’ commitments to organizations. The chiefs and the other members in an organization should create a relationship of mutual support according to the need for “self-fulfilled men.” By general means, if an employee feels support and concern from their working managers, they will respond positively to managerial decisions. However, should the management level fail to create a supportive and sympathetic environment, with emotional connections to their workers, the staff are more likely to respond negatively to managerial decisions. The Perceived Organizational Support (POS) is one concept supporting the Organizational Support Theory. It refers to employees’ overall perception of organizations’ concerns for their contributions and welfare. Later on, scholars discovered three factors that affect employees’ POS (Rhoades and Einsementger, 2002):

1. fairness of procedures,
2. support from leaders,
3. rewards and work conditions.

Focusing in on HR, there have been a lot of visable changes in this theme and various differences in terms of improvement (Juarez-Tarraga et al., 2019). The well-known resource-based view theory (Penrose, 1959; Wernerfelt, 1984; Barney, 1991) affirms positive associations between HR systems and organizational performance: furthermore, these researchers argued that organizational success is determined by internal resources. These resources are represented in either tangible or intangible assets (Collis, 1994), or capabilities such as knowledge and accumulated skills (Teece et al., 1997). HR represents an essential resource that makes sustained competitive advantage possible when the human capital possessed by employees is unique, difficult to replicate, difficult to substitute, and adds sufficient value to organizational production processes.

Some studies showed that effective HR practices affect intermediate outcomes, turnover, and productivity with a lower employee turnover and greater productivity, which in turn enhance corporate financial performance (Guthrie, 2001; Huselid 1995). They have also examined positive work attitudes (e.g., commitment, job satisfaction) and behaviors (e.g., organizational citizenship behavior) as possible intermediate outcomes to link HRM systems and firm performance (e.g., Gong et al., 2009; Rodwell & Teo, 2008; Sun et al., 2007). Intellectual capital (e.g., Ordóñez de Pablos, 2004; Youndt & Snell, 2004) and relation-based variables, such as top management team social networks (Collins & Clark, 2003) and social capital manifested by interaction density, cooperation, and a shared code (Jiang & Liu, 2015), can also serve as plausible mediators to explain why HR practices can influence organizational performance.

In the PA, organizational performance consists of elements such as knowledge on creating utility, problem solving management, enhancing satisfaction citizenship level, and having the ability to respond to the community's needs. These are just a few examples referring to an efficient and effective use of resources: tangibles and intangibles,
aimed at obtaining maximum results from an increasingly limited quantity of resources available (Borgonovi, 2004). A trained and competent employee is the most valuable asset that an organization can have. For this reason, HR managers have increasingly shifted their mindset to consider training spending as more than cost, but as a real investment contributing to the implementation of the organization's strategies.

3. The Added Value in Public Administration: The Public Value

Since the start of the 1990’s, scholars have been creating new theories about value creation in PA. One such theory, Porter’s value chain, was introduced and is now considered well-known in the private sector. Porter analyzed firms and identified the sources of competitive advantage using the value chain model (Figure 1) which "disaggregates a firm into its strategically relevant activities in order to understand the behavior of costs and the existing and potential sources of differentiations" (Porter, 1985, p.33).

![Figure 1. Porter’s value chain - Porter (1985)](image)

Primary activities are directly involved in the physical creation, sale, maintenance and support of a product or service. Support activities effectively support the previous primary: each support, or secondary, activity can play a role within the primary activity. For example, procurement supports operations with certain activities, but it also supports marketing and sales with other activities. HR supports every primary activity: allowing for the recruitment of a company, hiring, training, motivating, rewarding, and retaining its workers. People, better defined as employees, are a significant source of value, so businesses can create a clear advantage following the establishment of good HR practices (Porter, 1985).

The “translation” of this model in PA, as the value chain model applied to the PA, is shown in the Figure 2.

![Figure 2. The value chain of quality services in PA - Meneguzzo (2005)](image)
The value chain for the private sector becomes the "service quality chain" for the public sector, thus focusing on the two concepts of service and quality. The service, as the final product of the PA, and the quality, as a key determinant for assessing the PA performance.

Therefore, the management of human resources becomes an integral part: it is among the primary activities, unlike the Porter model which includes among them those of support. Indeed, the HR in the PA is the characterizing element of the offer and management of the outgoing services. In some Organizations, such as healthcare, nursery schools, kindergartens, or universities, the activity aimed at managing HRs exceeds 65% of the entire costs of the structure. In this vein, HR becomes a privileged area in the process of creating public value.

As previously mentioned, the most valuable asset in an organization is a trained and competent employee. However, these skills don't remain forever: they deteriorate over time and can become obsolete as technology and expectations develop. For this reason, it is fundamental to implement training and develop activities which optimize the gap between employee's present and requisite knowledge and skills, thereby contributing to knowledge creation (De Winne & Sels, 2010) and enhancing the value of the Human capital (Cabello-Medina, et al., 2011). Lastly, continuous employee development can be ensured through regular knowledge-based training and development, that works to expand the employees’ knowledge and expertise on a consistent basis. Others scholars have noted a good relationship between knowledge-based HRM, Intellectual capital, and innovation performances. In this vein, HRs have a pivotal role: knowledge-based HRM practices impact the structural and relational capital in part through human capital, and human capital affects innovation performance by enhancing the structural and relational capital (Kianto et al., 2017).

The Figure 3 shows the overarching conceptual model assumed in this study, which permits to establish the pivotal role of HR, specifically focused in a PA.

![Figure 3](http://ijba.sciedupress.com)

Figure 3. The role of HR in terms of intellectual capital and the final performance. source: own elaboration (adaptation framework by Kianto et al., 2017 p. 14; Lin and Tang, 2016, pp. 5 and 7)

4. The Implementation of Training and Development Activities

The foundation lies in designing a successful training program, which can serve as a fundamental incentive to encourage innovation in the workplace, and therefore establish creative organizational and managerial change aimed at creating new public value in the PA. Then, an efficient training program must be implemented in order to obtain the results in terms of Intellectual Capital and Innovation Performance. In this study it is suggested to follow a
general guideline (Figure 4), as a basis to begin. In time, it is necessary to implement a more personalized design, according to the specific needs of the PA.

![Diagram](http://ijba.sciedupress.com)

Figure 4. The guidelines about a training project

Immediately following the conclusion of the training activities, there is a pivotal evaluation phase which judges the efficiency and success of the activities. The evaluation of the investment in training activities has an inherent complexity, and includes two types of risks. The first type risk is recognizable in any type of Organizational investment, while the second type of risk surrounds the delicate nature of creating intellectual capital and realizing innovative performances.

With reference to a PA, the reporting of resources employed is drastically more important than in private companies, as they consist of public resources. The evaluation phase represents a central moment that impacts future decisions too, especially in consideration for future training actions. The main risk related to the evaluation moment would be misconceptions or mistakes formed off of a collection of data that was incorrectly or poorly gathered. Therefore, only after a correct evaluation will it be possible to decide which new training projects can be projected and implemented for the organization’s future use.

5. The Training Evaluation Model in a PA: A Proposed Idea

As previously expressed, when the moment comes to carry out the evaluation for the training activity in the Public Sector, it is a wise to utilize evaluations regarding the three different phases:

1. ex-ante evaluations;
2. ongoing evaluations;
3. ex-post evaluations.

The first ex-ante evaluation is done with the initial required analysis of training needs, and leads to the choice of which training activity is considered the most adequate for obtaining the desired results. The second ongoing evaluation is adopted during the training activity and operates by monitoring whether the desired results are being achieved. In the case that good results are not obtained, it is possible to instantly correct the activities in order to avoid further waste of resources (Figure 5).
Finally, the ex-post evaluation is aimed at obtaining the information about the ended training activities. During this phase it is possible to determine a final judgment about the distance (or not) to initial objectives and final results.

In the literature, the most popular approach to the evaluation of training in organizations is the Kirkpatrick’s framework (Kirkpatrick, 1959a, 1959b, 1960a, 1960b, 1976, 1994; Kirkpatrick & Kirkpatrick, 2005) of four levels of criteria. The four levels created by this model are: reactions; learning; job behavior; and company's results. On a deeper level, this model examines the content, therefore the changes recorded at work as a consequence of the effects of the course. The company's financial performances are quantified as the final moment generated by the training intervention. Then, further studies are focused on improving the evaluation phase concerning the training process. Among others, a significant result of this research was the benefit-cost ratio (BCR), well-known as the ROI of training (Kearsley - Compton, 1981; Kearsley, 1982; Philips, 1991, 1996, 1997; Phillips PP - Phillips JJ, 2001).

The cost-benefit analysis allows for a more detailed examination of costs and revenues with reference to a training project. It is a kind of analysis that is becoming increasingly important as a preventive assessment of the costs/opportunities and in regards to risk management as well. In this context, the risk associated with a training program would be failure of the program, or negative situations that diverge from the initial projections. In order to create an ideal framework to evaluate training activities in a PA, the model of utilization-focused evaluation is used (Patton, 1998). This model, unlike other evaluation systems, focuses on the results considered significant by the main users of the program; therefore, a small number of program's users are selected to work with the evaluator. Uniquely, it will consider the limitations of Kirkpatrick’s training evaluation model (Bates, 2004) and attempt to go beyond these.

The evaluation activities focus on the following points:

a) functionality of the training program;

b) identification and measurement of training program performances;

c) identification of any proposals to improve the obtained performance.

In this vein, it is necessary to conduct an audit activity with the utilization-focused evaluation approach. Furthermore, according to a systematic approach to evaluation planning, a generally successful evaluation model must be able to answer the following ten questions:

I. What is the program to be evaluated?

II. Why is the program being evaluated?

III. How are people to prepare for the evaluation?
IV. What are the main issues/questions with which the evaluation is to deal?
V. Who will do what?
VI. What are the resources for the evaluation?
VII. What data needs to be collected?
VIII. How will the data be analyzed?
IX. What will be the reporting procedure?
X. How will the report be implemented?

Then, it must build an evaluation process that includes the following phases:

1. identifying both who are the stakeholders to be involved and what are the objects of the evaluation (about the training program);
2. determining the criteria for quality assessments (KPIs, reference standards);
3. collection, selection and organization of data (methodologies to be adopted);
4. comparison between the performances obtained and the planned objectives;
5. identifying the causes relating the variance (objectives-results);
6. identifying the improvements to adopt in order to reach new future training programs.

5.1 Identifying the Stakeholders Involved and the Objects of the Evaluation

At the outset, the specific stakeholders who will be involved must be defined (Mark - Shotland, 1985; Greene, 1988; Reineke, 1991) and the object (or objects if there are more than one) which will be under evaluation must be decided upon. Then, stakeholders in the evaluation process must be immediately engaged following identification, as many critical decisions affecting evaluation occur early on in the process, and their involvement ensures higher fairness in the evaluation process. This is particularly relevant in the phases of defining the criteria, identifying the KPIs and collecting and analyzing data.

The Table 1 shows the main stakeholders involved in a training project so called, for instance, "X":

| Kind of Stakeholders       | Role                                                                 |
|----------------------------|----------------------------------------------------------------------|
| Target Participants        | Stakeholders directly involved in the training program               |
| Decision Makers            | Individuals who activate the training project (and probably finance or ask to be financed by the Organization). They must monitor this implementation. |
| Program Staff              | Individuals who carry out and support the planned activities by the training project |
| Program Managers           | Individuals involved in the oversight and the managing of the training project |
| Contextual Stakeholders    | Individuals not directly involved in the training project but they are able to influence the final results |

Subsequently, the objects of the evaluation are identified. Following are some possible objects of evaluation:

- level of learning;
- satisfaction of direct and indirect users;
- work skills acquired;
- efficiency of working methods;
- validity of training tools;
- effectiveness of the professional trainer;
suitability of the training methods adopted;
comparison between results of productivity (in term of core business of the organization) before and after the training program development.

5.2 Determining the Criteria for Quality Assessing (KPIs)

In order to draft a final report focused on the quality of the training project, a series of evaluation criteria must be identified to establish the single "area" submitted to further evaluation. These criteria are briefly shown in Table 2.

Table 2. The evaluation criteria

| Evaluation Criteria | Question to be asked |
|---------------------|-----------------------|
| Relevance           | Is the training project to be implemented? Does it concern the needed requirements for the Organization? What must be done to meet these needs and standards? |
| Adequacy            | To what extent are employee needs and standards met? |
| Innovation          | What new skills could be used to produce the desired changes? |
| Efficacy            | Is the training program having the desired effects? What is the level of coherence with the employees emerged needs? |
| Efficiency          | Has the formed intervention implemented and satisfied positive relationships between expected objectives, available resources, and possible constraints? |
| Cost-benefit analysis | Are program effects attained at a reasonable cost? What is the alternative to financing the training project beyond the internal funds? |
| Results             | Is the training program operating as planned? Do the results reflect what was initially planned? |
| Sustainability      | Is the training program effectively sustainable with the other job commitments of the involved employees? Is it a potential cause of stress and absenteeism? |
| Multiplying effect  | Did the training program generate positive circuits? For instance, is it reproducible, transferable, with the possibility to repeat the same training program in similar contexts? |
| Image & Reputation  | How should the effect be put in terms of image (internal and external)? Which of the possible alternative programs is best to create better results in terms of reputation? |

Then, the single "area" is shown in the Table 3. This is the basis to proceed to identification of key performance indicators (KPIs). This is simply an example of the complete framework and it is identifying n. 5 AREA submitted to evaluation judgment from A to D:

A. Excellent
B. Good
C. Sufficient, Just adequate
D. Poor, inadequate.
Table 3. The KPIs identified to evaluate the single “area”

| AREA                        | KPI/Evaluation, Opinion | Evaluation, Opinion (To A since D) |
|-----------------------------|-------------------------|-------------------------------------|
| **1. Time Management AREA** | **KeyTMA**              |                                     |
| The duration of course was  | too short               |                                     |
| The duration of course was  | too long                |                                     |
| The duration of the course  | was really optimal      | compared with what I needed to know |
| **2. Hours Management AREA**| **KeyHMA**              |                                     |
| The course schedules have   | been studied in a very  | good way                            |
| The course schedules were   | difficult in terms of   | attention and commitment            |
| **3. Teaching AREA**        | **KeyTA**               | Evaluation, Opinion (To A since D)  |
| The professional trainer    | or trainers if there    | was really prepared                  |
| The professional trainer    | are more than one) was   | not adequate                         |
| The content of the course   | was completely inadequate for our sector |
| **4. Content AREA**         | **KeyCA**               | Evaluation, Opinion (To A since D)  |
| The content of the course   | was too technical       |                                     |
| The content of the course   | was too “light”         |                                     |
| The content of the course   | was completely inadequate for our sector |
| **5. Organizational AREA**  | **KeyOA**               | Evaluation, Opinion (To A since D)  |
| The course was held in an   | appropriate classroom   |                                     |
| The course was held in an   | inadequate classroom    | (light, acoustics…)                 |
| **6. Reputational AREA**    | **KeyRA**               | Evaluation, Opinion (To A since D)  |
| The course was optimal to   | improve the image of PA | (thanks to high knowledge of       |
| The course was excellent to | enhancing the          | employee and the capability to offer a best quality services) |
| With reference to the        | enhancing the          | Reputation of PA through their own employees (thanks to more skills of employee, to obtain best performance) |
| standard-values referring to | Reputation of PA through their own employees (thanks to more skills of employee, to obtain best performance) |
| KPIs, it is first necessary to know if there are limits imposed by the actual regulations (for instance in terms of the amount of training hours to be carried out), secondly, if they do not
exist, a series of threshold-values must be prepared and then compared to the results of the relevant KPIs. The Table 4 shows an example of this formulation.

Table 4. The KPIs identified to evaluate the single “area”

| AREA            | KPIs Standard Value                  |
|-----------------|--------------------------------------|
| Time Management |                                      |
| KeyTMA          | No more 10% for D                     |
|                 | At least around 40% for A             |
|                 | At least around 30% for B             |
|                 | No more than 20% of C                 |
| Teaching AREA   | No more than 5% for D                 |
| KeyTA           | At least around 30% for A             |
|                 | At least around 40% for B             |
|                 | No more than 15% of C                 |

5.3 Collection, Selection and Organization of Data

Generally, a questionnaire is the most widely used tool in these evaluation cases. In recent years it has become increasingly common for the questionnaire to appear in digital versions, in replacement of the old paper version, supporting the environmental responsibility to avoid the pollution and wasteful attitudes. The Table 5 shows an example of results.

Table 5. Results deriving from questionnaire

| Time Management AREA | Data Results |
|----------------------|--------------|
|                      | A(%)         | B(%)         | C(%)         | D(%)         |
| KeyTMA               | 55(61%)      | 12(13%)      | 18(20%)      | 5(6%)        |
| KeyHMA               | 11(12%)      | 63(70%)      | 4(5%)        | 12(13%)      |
| Teaching AREA        |              |              |              |              |
| KeyTA                | ...          | ...          | ...          | ...          |
| Content AREA         |              |              |              |              |
| KeyCA                | ...          | ...          | ...          | ...          |
| Organizational Area  |              |              |              |              |
| KeyOA                | ...          | ...          | ...          | ...          |
| Reputational Area    |              |              |              |              |
| KeyRA                | ...          | ...          | ...          | ...          |

5.4 Comparison Between the Performances Obtained and the Planned Objective

This is the first important phase of evaluation utilizing the first result. With the comparison of results from tables 3, 4 and 5. To analyze the proposed example, the results for KeyTMA is useful because it is adequate with the threshold-values established in tab. 4. But the results of KeyHMA express values which are not adequate with the threshold-values established in the tab. 4: specifically the value of A below-level, the value of B and C are expected, and finally the value of D is high, so it is necessary to intervene to alter these results.
5.5 Identifying the Causes Relating the Variance (Objectives-Results)

A consequence of the previous step, which allowed to highlight which variances are generated with the comparison with objectives planned and results. The analysis in this step refers to identifying the causes of these variance and to go towards the determination of possible solutions to adopt in further steps.

5.6 Identifying the Improvements to Adopt in Order to Reach New Future Training Programs

In this step, decisions should be made about what changes will be provided and appropriate ways to do this. This step is important to both the determination of the activities to adopt for the future improvement of the training program and the conclusion of the evaluation process.

A final evaluation of the entire process should be made in this moment. In order to improve both the future training programs and the training evaluation models, is important to define the positive and negative elements referred to in this process. Step by step it will be possible to personalize these models with reference to characteristics of PA involved.

6. Conclusion

In this article, a focus was placed on the evaluation of training projects, specifically in the sector of PA. A participatory philosophy is adopted, by the involvement of individuals who actively participate in the training project (stakeholder-based evaluation), since it is believed that they provide more information for evaluation. A final report was reached, but in this study, it is considered just the first step. The most important element realized was the necessity of protecting resources that may potentially be invested, especially in the public context, to avoid a waste of resources (in this case, public resources) that could be generated as a result of bad investments.

The training audit is therefore essential on this end: thanks to a deeper evaluation, carried out at different times (ex-ante, ongoing, ex-post), a series of information can be obtained that allows decision making to act promptly.

6.1 Limitation of the Study

The main limit of the research is that this study is still at an early stage of building of the proposed model. This study, like every initial study, presents numerous limitations given by the first step of the research. The limits are also contained in the identification of the criteria of used methods, since being one of the first processes started in the determination of the final evaluation in a training, it is understood that it must undergo successive revisions and modifications.

6.2 Future Research

The models and work schemes proposed in the present study follow a logical path marked by the different moments of analysis and activity.

The aim is to propose an idea about the method to be acquired and to be personalized for each organization, based on different characteristics of each public structure. A necessary assessment activity is requested. The approach used is inductive.

The starting point is a rigid scheme, which is based on the assumptions of classical studies, based on the analysis of needs up to the evaluation of the results but, within the same scheme it was introduced a series of different subjective elements towards a "personalization" of the evaluation process.

They depend on the characteristics of the organization, the knowledge needs, which stakeholders have been involved, and finally, which performance indicators must be identified. KPIs are both subjective and objective, and therefore permit assessments and qualitative and quantitative results.

Future steps of research in this field will be mainly focused on empirical research, through case studies on which to test the experience of customization of the audit process and permit the evaluation methods contained in this paper. Furthermore, the assessment of training HR on intangibles aspects must be optimized, such as further emphasis on the increasingly important Reputation of the PA.

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