

Empirical Research Paper

Opening the black box of project team members' competencies improvement in a public sector organization for a successful transition to the project society

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ABSTRACT

The purpose of this paper is to investigate the project team member's skill developmental activities within the context of a public organization, as to suggest both a theoretical understanding and a procedure adapted for this development, which is based on a reflective approach. The methodology used is based on a qualitative inductive approach subject to a single case study. For an organization with a lightweight project matrix structure to efficiently decentralize the various HR practices related to skill development, the skills evaluation must be self-administered, the development plan and training activities are integrated into the project's lessons learned sessions and support is offered to the project team by an external party (coach). The developmental approach through learning in an occupational environment also enables the organization to adapt to the project society with collaborative and qualified management. This original research stems from its descriptive and comprehensive approach to adapt project management and HRM theories to inform public management.

1. Introduction

Since the work of Midler (1995) concerning projectification and programmification of the economy, project management occupies an increasingly important role in societies, project society, especially for private companies (Wagner et al., 2021). Public management is also in constant evolution and must be integrated into the project society. Over the past decades, management has transformed from a traditional approach to a new public management in the 80's and 90's (Hood, 1991) and towards public value management since then (Moore, 1995; Stoker, 2006; Bryson et al., 2014). This evolution towards a more collaborative and qualified management (Bourgon, 2011) on the platform of the main public reforms carried out, promotes the involvement of multiple stakeholders in operations related to public administration, specifically their decision-making processes. This evolution requires, among other things, results-based management in addition to optimal resource management, both for day-to-day operations and for project management.

In this respect, project management in the public sector can promote the effective and efficient management of resources, improved integration of multiple actors (civil society, private companies, users, elected

officials, etc.) and increase the flexibility of managers to adapt to the constraints of their environment (Smith (2004) cited by Bredillet (2017) and Crawford and Helm (2009)). However, this contribution of project management to a more traditional managerial approach can cause intra-organizational tensions, e.g., in relation to resource allocation or the clarification of roles and responsibilities. If left mismanaged, these tensions could decrease the benefits anticipated by project management (Arvidsson, 2009). For Bredin and Söderlund (2011), Nesheim (2020) and Vestola et al. (2021), the main issue is linked to tension between two rationales: in terms of projects with short and medium-term constraints and those linked to an organization's long-term process management, resources, and skills. Furthermore, for Lundin et al. (2015) and Wagner et al. (2021), the integration of project skills management in public institutions also promotes the programmification of societies, described as the implementation of programs and program portfolios as a mechanism for managing in organizations. However, to achieve this, these project skills must be developed by several employees and not only project managers (Whyte et al., 2022).

Even today, the integration of project management within public sector organizations that are traditionally structured by administrative functions contribute to the expansion of the tasks or functions of some

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employees. As such, the affected workers occupy a dual function: that of responding to their administrative unit and that of responding to the projects entrusted to them. In contrast with the somewhat routine tasks that employees in functional units perform, project management is, among other things, pictured as a temporary activity that integrates a unique social dimension where members have diverse competencies and knowledge that they can share to achieve the objectives determined (Svejvig and Andersen, 2015; Geraldi and Söderlund, 2018).

Because of this dual function, the management of job and project competencies must be regarded as a major concern by virtue of being one of the fundamental factors of success and growth in organizations (Lundin et al., 2015; Blixt and Kirytopoulos, 2017; Medina and Medina, 2017; Pakarinen and Virtanen, 2017; Bolzan de Rezende et al., 2022). Traditionally, the theories of human resources management were developed using the “workstation” notion within a functional structure as their underlying premise. Here, a “workstation” is a work prescription report, i.e., a detailed and planned description of every job in the organization (Fabi and Pettersen, 1992). Viewed through this lens, HR policies and practices can be defined over the long-term. However, when an organization integrates project management into its practices, the notion of “workstation” becomes inappropriate for project teams (Huemann, 2015; Medina and Medina, 2017). Adapting HR management models, practices and tools related to skills improvement becomes necessary to ensure consistency with the nature of the tasks influenced by project management (Keegan et al., 2017; Turner and Miternev, 2019). Thus, this adaptation contributes to the transition from public matrix organizational structures to a project society (Lundin et al., 2015; Pakarinen and Virtanen, 2017).

Roë (2014; p. 319), the development “is a continuing and iterative process that progressively enlarges the person’s behaviour repertoire through learning activities that focus on a limited number of competences at the same time.” Regarding the improvement of project competencies, reflective practice is suggested by Crawford et al. (2006), as being particularly useful for project managers and should therefore be initiated early in their academic and professional training. Moreover, according to Sense (2011) and Savelsbergh et al. (2016), while doing so, there are instances where managing a project can be conducive to the development of team members’ skills, including project managers. However, Sense (2011), Blixt and Kirytopoulos (2017) point out that this idea is poorly documented by the scientific literature and underutilized by organizations. Thus, it is necessary to document the support required by the various training initiatives relative to the improvement of competencies in project management. In connection with this need, Sense (2011) and Eltigani et al. (2020), proposes to describe skills management approaches that recognize the specificities of projects that are carried out.

Consequently, to understand and propose a novel approach for improving competencies in project management contexts considering the necessity on theoretical, in addition to the managerial grounds, the present article asks:

How can the project’s team members’ skills developmental activities be adapted, with an HRM perspective, as so they’re integrated into the projects and characteristics of a public organization with a weak project matrix structure as a municipality?

This question highlights the importance of identifying possible tensions and follows a systematic approach in order to allow these competencies to be improved, which involve members of project teams, functional managers, the project office and the Human Resources department, while taking into account the matrix context. The matrix organizational structure, considered to be weak throughout this paper, refers to organizations that are predominantly structured by administrative functions and that are barely affected by the presence of project management.

The answer to the research question lies, in some aspects, in the experiences and needs of individuals who hold a dual function in a public sector organization. As skills development activities must be

integrated into project management activities to promote their appropriation by team members (Sense, 2011; Lundin et al., 2015; Savelsbergh et al., 2016), ideas, reflections, experiences and suggestions from managers and employees who function in a dual role were taken into account to answer the research question. This article’s relevance, which is intended to be inductive and qualitative, is also found in the description and articulation of various concepts present in the scientific literature, such as project management, competency development and human resource management.

The contribution targeted by this article is a more defined understanding of the HR practices to implement, as to update the potential for skills development. This contribution is made considering the work by Svejvig and Andersen (2015), which relates to project management as a work situation conducive to developing the team members’ skills. Thereby, this HR adaptation within public organizations with a weak matrix structure responds to the concerns raised by Blixt and Kirytopoulos (2017) regarding the challenges presented by the operationalization of such practices when the context and organizational culture are primarily focused on service delivery, rather than project delivery. Ultimately, the efforts aimed at improving the integration of project skills developmental practices could contribute to reducing the tensions between the operational and project roles, thus fostering the projects’ success rate.

2. Research design

An inductive approach does seem to be appropriate for improved understanding of skill development practices to be implemented with the goal of integrating them into the project management of a real public organization. This approach does make it possible to grasp knowledge from the parties involved and their organization and not from an expected finding that stems from a deductive approach. This article also focuses on the components of a typical procedure for improving the project competencies of team members and these components themselves, being related to the matrix context, implies that they cannot be studied in isolation. As a result, a case study approach was found to be appropriate given the objectives of the article. According to Yin (2018) and Martinsuo and Huemann (2021a), the scope of the case study makes it possible to understand a phenomenon (in this case the improvement of project competencies) in a real context (the weak matrix structure) when their respective frontiers cannot be dissociated from one another. Yin (2018) Martinsuo and Huemann (2021b) further specifies that case studies are a unique data collection process entailing the multiplication of information sources, as to triangulate the data and enrich the analysis of the data gathered.

The case selected is a typical public administration organization. The characteristics to highlight are that it has a weak matrix structure, a Human Resources department with formal practices, a defined hierarchical structure and a project office. In addition, the Human Resources department and managers within this organization shared a common concern about the development of project skills for employees who occupy a dual function. From this concern, the unit of analysis brings together the various processes related to project skills development.

2.1. Data and methods

The three sources of information selected are grouped interviewing (1), documentation (2) and observation (3), thus allowing for data triangulation. These make it possible to develop a global vision of the subject while enriching the unit of analysis, as suggested by Yin (2018) and Martinsuo and Huemann (2021b). In total, seven group interviews (1) are conducted involving 46 employees and managers of the organization who occupy a dual function in the organization. The first five focus groups were with employees, the 6th only involved the managers and the 7th, both employees and managers were present. The purpose of group interviews is to describe and better understand how competency

improvement can be achieved in project management situations. Thereafter, 10 skill development experts in the public sector participated in a meeting for the preliminary analysis of the findings. These experts are government employees who are mandated to offer training activities to public servants. According to [Martinsuo and Huemann \(2021b\)](#), focus groups provide easy and direct access to informants including triangulation. In addition, 688 documents (2) are analyzed. The consulted documentation consists of internal administrative documents relating to competency management, project management and HR policies and practices for competency improvement. This documentation outlines all HR and project management processes and procedures currently in place and imposed on managers and employees with dual functions. For [Martinsuo and Huemann \(2021b\)](#), documentary research facilitates access to a lot of secondary data that enables, in this case, a better understanding of the organizational context including HR practices. The specified unit of analysis and the keywords support a judicious selection of documents. The observation sessions (3) (lasting 15 h in total) report on the everyday realities and the usual course of meetings during project management. The unstructured observation sessions also allowed participants to be sensitized about the nature of the interactions between the project teams' members and the organization's HR challenges. For [Martinsuo and Huemann \(2021b\)](#), this data is rich, actual and adds to the triangulation. Lastly, empirical data saturation is achieved when the information sources no longer provide sufficiently new, or different information, to justify an increase in empirical material ([Saunders et al., 2018](#)).

After taking place, group interviews are transcribed verbatim, codified according to the theoretical framework and then analyzed using the NvivoPro software. During the focus groups, each participant had a unique number to differentiate between each of their conversations. The place value of 10 represents the attendance sequence and the single digits represent a unique number for that person, for example, the number 24 shows that this is the second focus group for employee number 4. Likewise, the documents and notes taken during the observation sessions are scanned, codified with the same grid and analyzed with the same software. The code list regroups meta-categories related to the four steps mentioned in the theoretical analysis framework. Subcategories are then created according to the analysis of all documents (see Appendix). This uniformity in coding and analysis facilitates the triangulation of data from different sources, as suggested by [Miles et al. \(2014\)](#).

3. Case study

The presentation of the findings begins with a description of the matrix context, given its influence on the process of improving project competencies. Next, a presentation of the issues and the need for a skills development monitoring process are shown, as perceived by the participants.

3.1. Matrix organizational structure

The participating organization manages its routine activities through its administrative services and six hierarchical levels where elected officials make most strategic decisions, in addition to those related to human and financial resources. The Human Resources department conducts, among other things, a competency-based assessment as well as the training activities for managers and employees. This organization believes that improving competencies contributes to the achievement of the strategic objectives. However, the various HR practices are dedicated to the supervision of functional tasks. In addition, employees verbalize their poor knowledge and mastery of project competencies, as well as the work methods that combine routine and project tasks. Within an organization with a weak matrix structure, the analysis of the findings shows that an integration of HR practices for project skills development is possible. This adapted skills development process includes the

analysis of needs, the training plan, the training activities and the evaluation of competency enhancing activities.

3.2. Skills development monitoring process: The analysis of training needs

The training needs evaluation is discussed here from the perspective of improving the project competencies of team members. For participants, a competency assessment process should be considered according to the goal to achieve, the assessment procedure and the components of the form.

When asked about the objective to attain following the implementation of a project competency assessment, managers and professionals in the Human Resources department, as well as employees of the participating organization, spontaneously emphasize the need to improve the project competencies of team members. According to them, this improvement should help employees, teams and the organization to better perform in their activities. Subordinates add that a formal assessment of project competencies would allow them and the organization to build a comprehensive portfolio of project competencies, improve the correspondence between employees' competencies and those required for each project, guide recruitment to fill missing project competencies and increase employee happiness. For managers, this evaluation could also contribute to the mobilization of employees by promoting solidarity and collaboration.

To achieve this improvement objective, employees mainly propose an evaluation activity at the beginning of each project. They believe that when a project owner or sponsor wants to appoint a project manager, they should anticipate the subsequent challenges from the tasks to be performed to target key competencies. Hence, the project owner and the potential project manager should spend time discussing the targeted project competencies. Employees add that the immediate supervisor should, at this stage, already be aware of the challenges that their subordinates have to face (*Employee 14*):

However, what leads me to think from the point of view of division heads who, for their part, mainly in a functional view, we should find a way to make them aware of what happens when we go into project mode, so that they better understand what their employees will be required to do, what they will experience when they work on the functional and on the project.

After their nomination, the project manager should follow the same procedure to form their team. Specifically, a few project competencies should be targeted by the project manager depending on the tasks and responsibilities of the project team members. These competencies should be written down on a predetermined form by the project manager and sent to the managers of the concerned administrative units in the optic of evaluating and selecting the employees who participate in the project. In this line of reasoning, all immediate superiors of the regular staff contributing to the project would be aware of the challenges faced by their subordinates. In turn, this implies that these superiors are relatively knowledgeable of their subordinates' strengths in the project's context, given the employees have a permanent status.

Project managers can perform the assessment of their team members' project competencies during the very first meeting intended to start off the project. To achieve this, they can encourage team members to complete an evaluation form accompanied with an analysis grid, which focuses on the targeted project competencies and subsequently have those evaluations read by the immediate superiors. The employees suggest, for the disclosure of results, to hire an external consultant with the mandate of developing an overall image (strengths and weaknesses) of the team. Regarding all team members, some informants specify that the immediate superiors should continue their supervisory role (*Employee 42*): "It is not up to the project manager to do this, it must come from directives given by the committee of directors or managers or human resources."

Concerning the central assessment tool of team members' project

competencies, employees produce a form that would be scanned and integrated to their existing PM tool. In their opinion, the form should contain two sections. The first section would be devoted to the project competencies' evaluation using a rating scale to determine which ones are mastered and which ones need to be developed. The second section would provide an opportunity to make qualitative comments.

From the employee's perspective, the assessment form can present the results of all team members, along with their scores obtained on the rating scale for targeted competencies, as to provide everyone with a global image. For employees, the competency that receives the lowest result for the project team then becomes the object to focus on. Employees confirm that this way of operating prevents individuals from being directly targeted, removes pressure for the project manager and makes management less demanding to the immediate superiors. In fact, for executives and professionals in the Human Resources department, it is important that this management tool be as simple as possible from an administrative point of view. Furthermore, beyond competencies, the notions of interest in the project, competency improvement, positive attitude (wanting to succeed in the project), commitment and availability must also be questioned according to the employees. Employee 31 says: "I think of what came out and they said it, it was said a lot, it is the commitment in fact, I think it is the "commitment" and the responsibility because working on a project is a collective responsibility." Other employees add: "Since they are not interested in being a project manager or project manager, they're good, they're competent, but they do not want to do it." (Employee 44); "So, interest in addition to skills." (Employee 41); "She is not present." (Employee 44); "Interest and skills." (Employee 41) and "That's what I said at the beginning, commitment." (Employee 42). Employees specify that these notions are necessary levers and favourable to a project's success, as well as to the improvement of competencies. This question of interest solicits a reflection on the notion of choice from the executives and professionals in the Human Resources department. The choices that they must make are difficult because some projects appear more attractive than others, yet all of them must be completed eventually. Nevertheless, some executives still believe that there is room for discussion.

3.3. Skills development monitoring process: The training plan

To follow up on the skills assessment results, the form ends with the formulation of a training objective based on the common competency to be improved. Some subordinates mention that the assessment of their competencies, regardless of whether these are related to their profession or assigned projects, is adequate insofar as each of the members must define an individual improvement objective with a monitoring indicator for themselves. This information should be included in their annual assessment by their department head.

3.4. Skills development monitoring process: The training activities

Following the competency assessment aimed at identifying the competencies mastered and those to be developed, the participants' subsequent discussions focus on reflective practice in project management situations. This topic is addressed since it stands as one of the propositions of this article. For participants, reflective practice refers to project's lessons learned sessions in the context of project management.

Some employees report that they are currently setting aside time in their project to collectively reflect on the actions taken. During these project's lessons learned sessions, team members discuss situations experienced, problems noted and the possible solutions. In addition, points on the cancellation of the project's lessons learned sessions due to mistakes made or tensions in the team were also discussed. To support these project's lessons learned activities relative to improving competencies, informants suggest having a list of questions to answer about the technical aspects and the competencies to improve. This initiative would end with the recording of the proposed solutions in a shared journal of

good project management practices.

3.5. Skills development monitoring process: The evaluation of competency enhancing activities

Employees make several suggestions to assess the effectiveness of the competency improvement activities that would be implemented. For some, this evaluation should consider both customer and team satisfaction, since they are the end goal of this HR activity. Others suggest assessing the degree of team members' commitment, as this is a central element of project management. Finally, a third proposition is to evaluate the progress of project results and competencies mastered at the individual, collective and organizational levels. During the last group interview, participants agreed that they would prefer this assessment to be carried out in the form of a single question related either to client satisfaction, project satisfaction or satisfaction on the service delivered. Others add that team satisfaction should be the second most important question. This idea of client satisfaction was expressed in the following terms (All 75):

[...] Customer satisfaction is ensuring that everything done in the project contributes to the project's success, it is the base premise. This means that when this satisfaction is very high, we can take for granted all the mechanisms we have implemented in the project that have contributed to it. [...] Conversely, when satisfaction is poor, we have to dig into the sponsor, the promoter, the why, etc. and maybe there is no link between them and it comes back to organizational thinking, and we then return to competency development [...]

4. Analysis, interpretation and theorization

According to several authors (Blixt and Kirytopoulos, 2017; Keegan et al., 2017; Medina and Medina, 2017; Pakarinen and Virtanen, 2017), the integration of project management into the functional structures of organizations suggests a revision of traditional approaches to human resource management. The theoretical framework that follows sheds light on the particularities of public sector project management, weak matrix organizational structures and competency development.

4.1. Management of public sector projects

The dominant schools of thought in project management propose a vision of the latter where tasks and the social dimension are interrelated (Huemann, 2015; Geraldi and Söderlund, 2018). Given that the social dimension considered in this article is limited to employees who possess a dual function, a lot of focus is placed on internal actors. The internal social system of an organization places individuals in a space of discussion that exists over the entire course of the project. To realize this collective dimension which can manifest itself through the interdependence of team members, Turner et al. (2010), argue that project management brings together a multitude of competencies and behaviours. While this perspective is mainly developed for project-based organizations, it can be relevant when examining concerns related to the context of project management and to the competencies of team members. Of these project management contexts, the public sector differs from the others in terms of bearing a responsibility towards the public interest, dealing with the management of public funds and respecting the processes pre-established by other public decision-making bodies (Blixt and Kirytopoulos, 2017). The internal social system of public sector projects is characterized, among other things, by the need to improve project competencies (Aubry and Brunet, 2016; Blixt and Kirytopoulos, 2017).

4.2. Weak matrix structure of the project

Following up on this description of the specifics of the public sector project management, it is important to explain the influence that these

distinctive features can have on the organizational structure. It should be clarified that an organizational structure outlines the tasks and authority relationships between employees and managers to achieve the organization's objectives. A project matrix structure refers to a structure that integrates both administrative functions and project management. The term "functional structure" integrates employees with similar skills or who use the same resources while working within the same function. Project management operates by assigning employees to at least one team to carry out a project in the organization. The matrix structure can be described from weak to strong, depending on the changes required by project management (PMI, 2021). In an organization with a weak project matrix structure, project managers coordinate the resources allocated to the project, can provide support to other team members and depend on their supervisor who is responsible for the project results. Project team members usually work part-time on projects.

4.3. Competency development process

Scientific literature offers varying definitions for skills development. The authors of this article embrace the definition that can be initially interpreted under the scope of a so-called traditional HR approach, all while keeping in mind the characteristics linked to the public organizational context with a weak project matrix structure. The development of competencies is an ongoing and iterative process, with the goal of enriching the inventory of employee behaviours through training activities, in which a precise number of competencies are targeted (Roe, 2014). The development of competencies must align with the organization's strategy to achieve specific objectives (Storey et al., 2019). To promote employee learning through training activities, Surface (2012) and Kraiger and Cavanagh (2015) propose a typical four-step procedure: analysis of training needs, training plan, training activities and evaluation of competency enhancing activities.

Although the four steps proposed for competency improvement are linear and generally associated with the context of organizations with a functional structure, they nevertheless serve as a reference for studying a process potentially adapted to the weak matrix context considered in this article. This four-step procedure is relatively simple for the project teams' members and the managers to make operational. This is important since the skills development activities deployed must be integrated both into the various policies of the traditional HR function and into the multiple activities of project management to promote their support by team members, as proposed by Sense (2011) and Savelsbergh et al. (2016).

4.3.1. Step 1: Analysis of training needs

According to Surface (2012), the analysis of training needs requires procedures for gathering accurate information that should promote organizational performance.

In project management settings, the literature explores different approaches to identifying training needs. The alternative approach considered in this article is the assessment of training needs for "agile" organizations (Trost, 2017). Trost (2017) does not precisely define the "agile" organization, but evokes some of its characteristics, such as the prominence of uncertain and evolutive tasks, the autonomy of employees, plus the existing collaboration and interdependence between project teams' members. For Trost (2017), the competency assessment must be voluntary, include a collective aspect and remain the property of the employee or team. The role of managers is limited to content monitoring. The suggested evaluation procedure is to provide regular feedback based on situations experienced by the employee. The author adds that when an organization wants to adopt such an alternative approach, managers should identify the desired benefits and take into consideration the context (the organizational structure) to define the tool and its content. The content should be consistent with a feedback procedure to achieve the targeted benefits.

To proceed beyond this first stage of the needs assessment, the

organization should define a training plan, as suggested by Surface (2012) and Kraiger and Cavanagh (2015).

4.3.2. Step 2: Training plan

Employee training generally holds a great importance to organizations, since according to some studies, it bears a positive impact on the success of projects (Tabassi et al., 2012; Yang et al., 2014; Huemann, 2015; Lundin et al., 2015; Blixt and Kirytopoulos, 2017) and on team performance (Hackman, 2002; Pirola-Merlo and Mann, 2005). However, there is no scientific consensus surrounding this claim. According to Zwikaël and Unger-Aviram (2010), the various project team development practises (process of improving competencies, interactions between members, etc.) have no significant impact on the projects' success. Some authors suggest that administrative constraints, often linked to late assignments, the lack of availability of the project manager, as well as their lack of authority could explain the ineffectiveness of these practices (Globerson and Zwikaël, 2002; Kavadias and Loch, 2003; Meredith and Mantel, 2009; Zwikaël and Unger-Aviram, 2010). Given that in an organization with a weak matrix structure, more so during project management, these same constraints are present and special attention must be paid when elaborating the training plan to ensure its favourable effects on the project's success. It is necessary to maintain the training activities on competency development relevant to the weak matrix structure of the organization. Likewise, the training objectives, the resources required and the timeline for carrying out the plan must be identified while keeping its deployment in mind.

4.3.3. Step 3: Carrying out the training activities

For this third stage, different pedagogical means are available to organizations. The situation refers to the work format (e.g., face-to-face, group work, individualized training or in a professional setting), while pedagogical techniques encompass the actions carried out to attain the objective pursued by the training approach (Kraiger and Cavanagh, 2015). In project management situations, Crawford et al. (2006), Sense (2011) put forward the idea that project management is conducive to competency development given its social dimension, an aspect which, according to Sense (2011), is scarcely documented by the scientific literature. Van den Bossche et al. (2015), concur, stressing those social interactions stimulate learning. Schön (1983) is recognized for his works on learning through reflective practice in a professional situation. He asserts that reflective practice begins when a person describes a professional situation they've experienced (reflection on the action). From an experiential learning perspective (Hattie, 2012; Kolb, 2014) during this description, the individual explains the situation they've experienced by making use of their emotions, values, lessons learned, solutions, etc. The descriptive process is concluded by a commitment and the planning of future actions for the individual (reflection for action). As a result, where the improvement of competencies is sought, the training plan would benefit from taking advantage of work-based learning through reflective practice.

4.3.4. Step 4: Evaluation of competency enhancing activities

Even though different evaluation models have been proposed over the years, only those of Holton (1996) and Kraiger (2002) have garnered enough support from the scientific literature, in practice, the operational simplicity of the chosen model is essential when evaluating activities aimed at improving competencies. It is from this observation that Kraiger's (2002) proposal turns out to be more interesting. Initially, Kraiger (2002) suggests being familiar with the reasons why managers (e.g., managers or Human Resources departments) wish to carry out such an assessment. Do the results obtained make it possible to make decisions about the training itself, the learner, or the organization? It is therefore necessary to determine the target (what to evaluate), the objects (what to measure) and the evaluation methods (how to measure)? For example, if the target of evaluation is the evolution of the learner in their work, the objects of evaluation may be the cognitive or behavioural

changes adopted by the employee. These changes could be measured by tests, surveys, or interviews. If the desired target is job performance, evaluation objects can also be a transfer of learning or employees' work results. Cost-benefit analysis methods could then be used to measure progress towards the target. Finally, the objects of evaluation may address the validity or the design of the training content, while the use of various methods of expertise and advice could make it possible to achieve the expected results. Thus, depending on the target identified and the object chosen, different evaluation methods are proposed.

In summary, this adapted process of project skills development for public organization integrates different theories and is presented in the following table (Table 1).

Thus, this HR process mobilizes theories relating to the public context, project management and HR practices. These different theories mobilized reflect the particularities of a weak matrix structure and they contribute to the transition of project society as suggested by Pakarinen and Virtanen (2017) and Wagner et al. (2021).

5. Critical discussion of the findings and formulating proposals

To follow up on the presentation of these findings, the proposal is a discussion on the operationalization of a procedure based on the four-step procedure for improving competencies within the project management situation. To promote the integration of all the components of this HR activity, the project management phases suggested by the PMI (2021) should be used due to the existing consensus surrounding them within the community of project management practitioners.

5.1. The pre-project phase

As a first step, during the pre-project phase, the sponsor or owner should assess the needs of their organization and make the business case as well as the profit management plan. More specifically, the client or owner should primarily identify the relevant stakeholders and analyze the capacities necessary to achieve the project, along with those already existing within the organization. In support of this approach, the design of a unique competency profile in line with the specificities of the project is complementary. The specific component of the unique competency profile can be inspired by one of the major challenges of the projects, i.e., by focusing on technical aspects (e.g., new technologies or techniques), administrative aspects (e.g., presence of several levels of government), relational aspects (e.g., presence of public consultations) and political aspects (proximity to elected individuals). This proposal is also supported by Bredillet et al. (2015), who adds that the competencies to be developed by team members should be directly linked to the project they are carrying out in order. It is also important to define the category of members who participate in the competency development process. For the authors of this article, members should be regular contributors to each of the projects since the competency assessment is the first step in the process and training activities are based on dialogue between team members. As such, it would be more pertinent to mobilize those who

Table 1
Synthesis of the theories or theoretical models used.

Case data	Theories or theoretical models used
Public context	Project-Based Organization (Turner et al., 2010) and Organizational Design in Public Context (Aubry and Brunet, 2016)
Organizational methods	Rethinking Project Management (Svevig and Andersen, 2015) Project Society (Lundin et al., 2015) Project-Based Organization and Organizational Design (Turner and Miterev, 2019)
Competency development process	Training, Development and Performance Improvement and Work Analysis (Surface, 2012; Kraiger and Cavanagh, 2015)

participate in most face-to-face meetings from the beginning to the end of the project. In addition, it's important to focus only on projects with a duration of more than one year. In fact, according to Zwikael and Unger-Aviram (2010), in projects lasting less than one year, team members do not have enough time to organize and evaluate training activities.

Proposal 1: In the earlier phase of a project longer than a year, the sponsor or owner should design a unique skill profile for the team members who'll be involved in the majority of in-person meetings.

5.2. Initialization, preparation and organization phases of the project

During the initialization, preparation and organization stages of the project, the sponsor can send the competency profiles being sought to the executives of the concerned directorates. These managers can then hand over the profiles to middle and 1st level managers. These first-level executives can arrange individual meetings with the employees short-listed for the project, for the purpose of discussing the competencies required. During this preliminary meeting, the employee can make an informal self-assessment of the identified project competencies in collaboration with their immediate supervisor. This discussion is relevant to stimulate the involvement of executives in the professional concerns of employees who hold a dual function. According to Kraiger and Cavanagh (2015), self-assessment is the first step towards reflective practice since the employee examines their own competencies and the project's requirements. The 1st level manager can accompany the employee in their reflection and see the challenges that await them. They can also determine their employee's degree of motivation to participate in the project and in the process of competency improvement. The exchange can also lead the employee to verbalize their interests, motivations, engagement and availability in the event that these elements preclude their involvement in the project. This discussion can also demonstrate that the evaluation is useful and that it is considered important to the employee, a condition which is deemed essential by several authors such as Evans and Kersh (2015).

The formal assessment of competencies (i.e., Step 1: Analysis of training needs) begins during the first meeting of the project team. This assessment is indeed formal, since each team member analyzes their respective competencies based on their role, responsibilities and anticipated challenges. During or after the meeting, the project manager may encourage team members to complete their evaluation forms individually. To enrich the assessment of targeted project competencies, it is suggested to reserve a space for writing comments. As suggested by Piaget (2013), before starting a learning activity, individuals should identify the knowledge they already possess so that they may enhance it further. In addition, through discussions between team members, the convergence of different experiences and knowledge facilitates everyone's understanding of the project and of the targeted competencies.

When disclosing the results of the competency assessment, it may be necessary to maintain an individual approach at first. At this stage, one should not overlook that the results of each of the evaluations may eventually be subject to salary negotiations and promotions (Storey et al., 2019). In addition, when a hypothetical organizational portfolio of project competencies is considered, it is coherent to carry out an individual approach. However, for team members to develop their competencies as part of project management, it is also relevant to focus on the overall portrait of the team. To this intent, it is proposed as a second step, to synthesize the evaluation results of all the members of the same team, for each of the project competencies. It is important to remember that competency profiles are designed according to the specific challenges of the project; therefore, members of the same team have the same desired competency profile.

In this case, the evaluation is carried out at the beginning and during the project, if necessary. Moreover, the evaluation performed provides an overview as well as an individual evaluation of the project team's

members. With respect to evaluation responsibility, self-assessment respects the roles and responsibilities that arise from the hierarchical levels of the weak matrix structure and does not place the project leader in a delicate position vis-à-vis the functional lead.

To follow up on the global image concluded by the individual self-assessments, it is necessary to identify the first competency to improve. This competency thus becomes the training objective in project management situations (i.e., Step 2: Training plan) for all team members. Following the formulation of the training objective, members should discuss what support they can provide to the team. This support can be the identification of each team member's strengths, or the expression of experiences related to the training objective. This proposal supports one of Piaget's (2013), in which we learn more from past personal successes and among colleagues. Next, team members should discuss the flexibility they have to conduct training activities when managing their project. Taking into consideration the level of project management knowledge and competencies of team members, they can, for example, decide on the frequency of their meetings, the mandatory topics of discussion and how they want to report or manage the project.

To follow up on the identification of the training objective, reflective practice (i.e., Step 3: Carrying out the training activities) is the preferred pedagogical tool in the context of the project. In a project management situation, reflective practice can be carried out as a team since the actions taken by team members focus on common objectives and results. Donia et al. (2018), add that peer feedback within a team in the context of competency improvement activities shows a positive gain in terms of an organization's performance results. In fact, for an experience to contribute to the improvement of employees' competencies, it is preferable that it be analyzed and criticized in groups (Mollo and Nascimento, 2014). Considering the data analyzed, reflective practice in a project management situation should be carried out as a team to motivate as many members as possible to participate. Although VandeWalle et al. (2001), defend the idea that it is possible to learn from mistakes, the authors of this article believe that it is preferable for these experiences to be successful, since, according to Piaget (2013), they generate motivation and contribute more to learning. In addition, as these findings show that the motivation of team members is an important element to take into consideration, these potentially formative situations should ideally occur during the project. For example, they could occur following a significant event, a completed deliverable, or an achieved milestone; during a decision-making moment that generates pride or any similar state of well-being among the members of the team.

To support reflective practice in project management situations, the recommendation is the use of a reflection guide. This guide could contain two sets of questions that orient the collective reflections of team members. It is important to note that the questions in the guide refer to successes experienced by team members during the project. The first set of questions should refer to tangible situations related to the project, as to allow everyone to recall actual work situations. For each of the positive situations identified, according to Kolb's (2014) action learning pattern, employees should explain their experiences and talk about the challenges they've encountered. At this point, the suggestion is the presence of a coach who can accompany the team members and highlight the actions taken based on theoretical concepts related to learning. The presence of a coach frees the manager from this responsibility and allows them to be more involved in discussions and in the reflection dynamic. Based on the observations made, team members could make suggestions for improvement and encourage themselves to make decisions concerning their future actions. It is important to note that, although the situation selected is described as successful, some actions can be improved. In addition, the exchanges between team members can affect their behaviours, since they are constructive and qualitative (Jawahar, 2010; Duijnhouwer et al., 2012). According to Tay (2012), for feedback to have an impact on an employee's behaviours, the feedback must be frequent, objective and formulated over a short period of time (Kuchinke, 2000; Cannon and Witherspoon, 2005). These work

situations generally allow us to draw lessons and to see that the same situation can be perceived and even experienced in different ways depending on the person. With respect to the second set of questions and based on the advice of the competency development experts consulted during the study, the authors of this article submit the idea of including explicit questions regarding the competency to be improved in the team with the situations experienced in project situations. By proceeding in this way throughout the project, employees can reassess the expression of the appropriate behaviours underlying this competency and see if they are progressing or not.

Proposal 3: During the first meetings for the initialization, organization and preparation phases of project management, team members should self-assess as to identify an initial common skill for improvement.

Proposal 4: With the support of an external coach, the team members can transform this common skill to be improved as a training objective to plan reflective practices during project feedback sessions.

5.3. Project termination

For public sector organizations, projects conclude in the preceding phases since the realization and termination are usually carried out by external contractors. As part of the last step, evaluating the effectiveness of the competency improvement process is necessary (i.e., Step 4: Evaluation of competency enhancing activities). In the public sector setting, the results of projects should consider the involvement of other public sector actors, because when it comes to modifying elements of a territory, these territories may be managed by the federal and provincial governments, or by other public sector organizations. As a result, team members have little control over meeting deadlines in projects. In addition, the objective pursued by this improvement procedure is the result of the project and the team's performance. As proposed by Kraiger (2002), it necessarily emphasizes the relevance of questioning client satisfaction regarding the delivered project and the satisfaction of team members about the improvement of their competency as a target. These two elements, client satisfaction and employee satisfaction, are in line with the need of collaboration in the social system of project management and the principles conveyed by public value management.

Consequently, the integration of these 2 questions into the competency development process is strongly recommended. This is a qualitative measure that is consistent with the other elements of the proposed procedure.

Proposal 5: At the time of the project management's phase of termination, the team members document their satisfaction relative to the training activities deployed and the project's results according to the client.

Proposal 6: With good practices in place, employees can then share them with their colleagues.

6. Conclusion

In conclusion, the overall proposal is illustrated in Fig. 1 with the integration of this competency improvement process into the matrix structure of a municipal organization, in the form of a typical competency improvement procedure. By the same token, managerial implications are included. The article concludes with future avenues of research.

The evolutive aspect of this procedure depends on the number of projects completed. According to Garofano and Salas (2005) and Pata-nakul et al. (2016), this type of process can be a source of motivation for employees, as they continuously participate in training activities and experience personal growth. Hence, within organizations that manage a

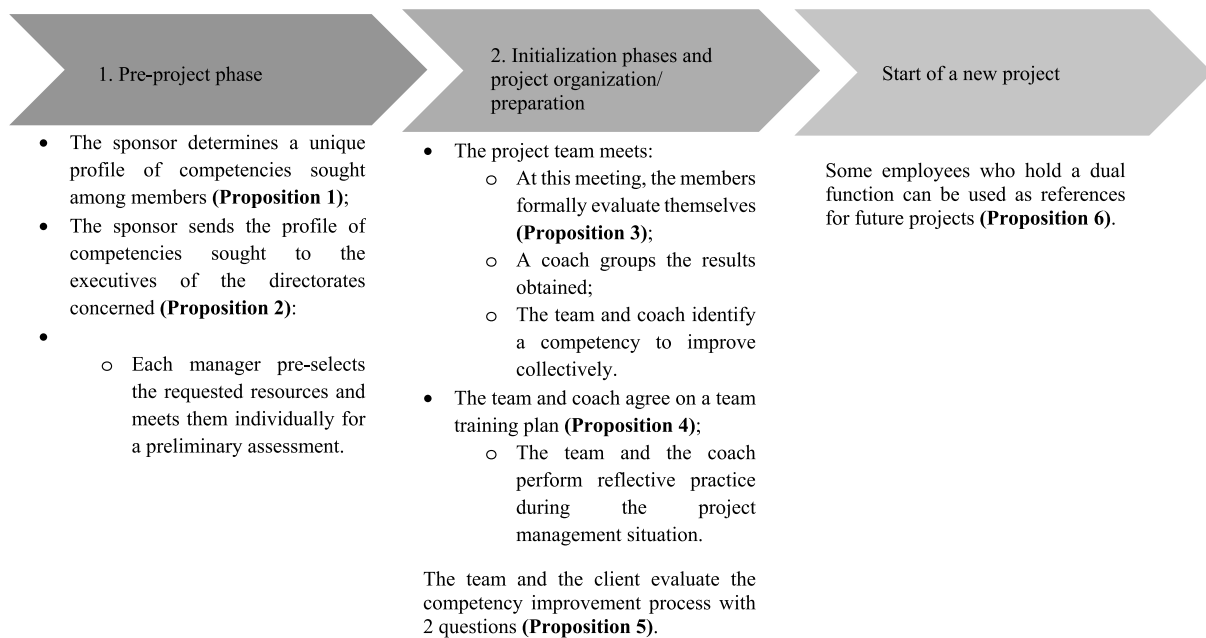


Fig. 1. Typical procedure for improving the competencies of project team members in a public organization.

multitude of projects through program and/or project portfolio management, as is the case for large municipal organizations, the proposed competency enhancement procedure can contribute to the improvement of the organization's performance over time. To this end, as mentioned by Martinsuo and Gerdali (2020), a portfolio of projects is integrated into the organization's strategy and influences, among others, the internal resources of the organization and vice versa. Consequently, this article states that elements such as improved project competencies of employees, better knowledge of the project competencies required, as well as increased motivation of team members to engage in other projects, to offer support to their colleagues and to improve the perception of their own competencies, could all be considered to have a positive impact on the results of the project. Patanakul et al. (2016), further remark that each of these elements is an additional source of motivation that can contribute to team members' willingness to perform better in projects.

6.1. Contribution of the research

Finally, this article contributes to project management and human resource management theories concerning the development of skills as raised by Svejvig and Andersen (2015). Thus, project management can integrate various HR practices, such as evaluating the skills and training in an occupational context. The first contribution is an integration of a formal process relating to project management skills within public organizations. This process can promote the appropriation of public institutions in the development of skills specific to project management and thus contribute to the project society as suggested by Wagner et al. (2021), and Whyte et al. (2022). The second contribution of this article involves the proposed procedure, which highlights the way in which organizations with a weak matrix structure can exploit project management contexts that foster the improvement of competencies using reflective practice through empirical findings. This contribution fortifies the proposals by Sense (2011), Lundin et al. (2015) and Savelsbergh et al. (2016). Finally, in the continuity of the study by Turner and Miterev (2019), this article can help both researchers in project

management who are interested in organizational design and reflective practitioners in the public sector in the adaptation of their structures.

6.2. Research limitations

The methodological limits present in this article should be highlighted. Initially, the methodological selection of a single case study that does not allow the findings to be generalized, but rather enables the researcher to proceed with an in-depth approach to the subject. This limit is frequently associated with qualitative studies, whereas external validation is challenging considering the extent of the approach (Yin, 2018; Martinsuo & Huemann, 2021b). A second limitation may refer to the linear nature of the proposed procedure, even though it facilitates understanding and fosters operationalization by the project teams, it does not consider the more dynamic reality of skills development and project context.

6.3. Future research

Future research could document the deployment of such a procedure for the purpose of enhancing and validating the components. This article proposes to perform evaluative research of the effects relative to the project teams' performance during this deployment. Following the example of March and Sutton (1997), future research could indicate the positive effects of the subsystems within the project teams' performance.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

The authors do not have permission to share data.

Appendix

Meta-categories	Codes for sub-categories	Definitions
Analysis of training need	CONTEXT	Lightweight project matrix structure
	SUPPORT	Physical appearance of the form
	SKILLSASSESS	Skills assessment with a rating scale
	COMMENTS	Comment from employee and project team members
	NOTE	Progress ratings of employee evaluation
Training plan	ROLERESP	Role and responsibilities of the evaluated employee, team members, project manager and immediate manager
	PROCEDURE	Skills assessment procedure
	PLAN	Development plan design process
Training activities	EMPPFILE	Integration of the development plan in the employee file
	TRAININGACT	Discussion during project's lessons learned sessions
The evaluation of competency enhancing activities	EVALPROCESS	Evaluation of competency enhancing activities

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