

We are IntechOpen, the world's leading publisher of Open Access books Built by scientists, for scientists

5,700

Open access books available

141,000

International authors and editors

180M

Downloads

Our authors are among the

154

Countries delivered to

TOP 1%

most cited scientists

12.2%

Contributors from top 500 universities



WEB OF SCIENCE™

Selection of our books indexed in the Book Citation Index
in Web of Science™ Core Collection (BKCI)

Interested in publishing with us?
Contact book.department@intechopen.com

Numbers displayed above are based on latest data collected.
For more information visit www.intechopen.com



Project Management and Learning: The Learning Project

Alfonso J. Gil and Mara Mataveli

Additional information is available at the end of the chapter

<http://dx.doi.org/10.5772/intechopen.72051>

Abstract

Learning is the key to project management, for the reason that much of the success of a project lies in adapting to the changing environment of any project. The key to change lies not in individual learning, but in the learning of the group that integrates the project, what would be called project learning. The objective of this work is to propose a learning project, a project that can adapt to the changing environments that are generated in the project management. Following the proposals of the so-called learning organizations, a “learning project” model is proposed, which is based on four key components: project leadership, project culture, project structure, and related to the learning opportunities with the project (training for the project). The work ends with a few recommendations toward the management of human resources in project management.

Keywords: organizational learning, management learning, project learning, culture, leadership, training

1. Introduction

Internationalization, the changing needs of customers, intense competition and technological changes, and, consequently, uncertainty and complexity are outstanding environmental characteristics that are currently faced by project managers. To remain competitive and viable, projects need to adjust to implement changes continually. For [1], there is an organizational need to manage projects correctly, as well as learning from successes and failures, capturing, disseminating, and applying lessons learned in project development, in other words, improving organizational learning in project management. References to organizational learning derive from the strategy theory and refer to the ability an organization has to renew its competencies as a dynamic capability [2]. Organizational learning has also been identified as one

of many factors of success in project management [3, 4]. Besides, organizational learning is a necessary tool for managing uncertainty in projects [5] and may allow for the accumulation and preservation of experience in project implementation [6].

However, organizational learning in projects does not occur regularly, and when it does, the expected results are not always achieved [7, 8]. The focus of learning is on individual learning but does not lead to project learning.

This work aims at proposing a project model that improves learning. It is intended to indicate some key points that serve as a reference for the development of projects and to lay a foundation from which to generate optimal projects, where people can develop their potential for the success of the project. It is an ideal project and a reference model for managers who intend to make learning an essential element in project management. In other words, it is about moving towards a “learning project”. A project learns when the performance of the tasks that its members execute individually or collectively improves continuously, either because they improve the procedures or for a greater use of the resources concerning the objectives of the project, but, also, when this improvement accumulates in the “project memory” to be transferred to other projects or works. For this situation to consolidate, there must be a series of premises or foundations that ensure a sustainable learning such as there is a culture toward learning, there is an atmosphere of cooperation between people, the leadership of change and learning is valued and developed, and there is a comprehensive information system.

This paper addresses first a general reflection on orientation about learning in projects; second, group learning, which can help to recognize how learning occurs in the projects; third, a learning project model that is proposed; and four, the approached work contributions to project management.

2. Learning orientation in project management

Learning orientation has been seen as a value of the organization, which affects not only the organizational development but also the creation and knowledge transfer and the innovation [9, 10]. Strategic management academics consider the orientation of learning as a distinctive type of strategic direction and management philosophy that is viewed as a process in which knowledge and information are communicated and disseminated throughout the organization, which helps employees to improve their skills and abilities [11]. More specifically, the learning orientation toward the learning of members of a team refers to the group members’ propensity to focus on learning, acquire new skills, master new situations, and develop competencies [12, 13]. Individuals with a dispositional learning orientation view their competence as malleable and focus on mastery of tasks [14], the disposition learning orientation focuses on distal and general purposes, and goal setting emphasizes the objectives of a task at a particular level [15]. The general learning orientation focuses on distal and general purposes, and goal setting highlights the objectives of a task at a given level.

In the area of project management, it has been pointed out that, although the content of a project may have a temporary characteristic, the organization of the project is the source and the result of learning [16]. In fact, it has been emphasized that learning helps organizations to adapt their governance structures to maximize the performance of their projects [17], especially if it is taken into account that the transfer of learning is of great importance for any organization that aims at improving its capacity to implement interdisciplinary projects [18].

Also, two aspects related to learning orientation and management of project teams have been identified. First, time pressure has been positively associated with the orientation of learning through intrinsic motivation [19]. Ref. [20] indicated that team members could often see the need to do something quickly or make many things happen simultaneously. Under these circumstances, moderate levels of time pressure could be endogenous to the team members' project, which would lead them to feel positively challenged and to be more involved in learning within the project. Second, learning orientation has been associated with creativity through intrinsic motivation as one of the factors that precisely trigger creativity [21, 22]. In fact, learning orientation plays the role of a motivational process through which intrinsically motivated team members can engage in learning activities, resulting in creative outcomes [23]. Therefore, the effect that time pressure has on creativity is assumed to be positively mediated by learning orientation.

3. Team learning and project management: the project learning

Project management involves people who constitute teams or work groups, so before working on learning in project management, reference is made to teamwork and team or group learning because it is a reference for learning development in project management [24].

Working groups or teams have been defined in a number of ways, following [25] as being: "A team is a collection of individuals who are interdependent in their tasks, who share responsibility for outcomes, who see themselves and who are seen by others as an intact social entity embedded in one or more larger social systems (p. 241)." Team learning is often conceptualized as a continuous process of action and reflection [26] through which teams acquire, combine, and apply knowledge [27]. This process is closely related to activities such as asking questions, seeking feedback, improvising, discussing errors, challenging underlying assumptions, and reflecting on specific outcomes or unexpected results [28]. Team learning, however, also refers to the knowledge that is encoded and embedded in the computer [29], for example, underlining the importance of documenting and reflecting on what has been learned through a process of knowledge codification. Codification involves recording the procedures of teamwork and hence converting tacit knowledge into explicit knowledge so that results can be developed. Repository and retrieval allow learning to persist over time, preserving knowledge and artifacts gained in memory repositories and facilitating team members to find and access them for future use [30].

In the work teams, the importance of team learning has been emphasized, since this learning constitutes a fundamental variable in the effectiveness of the work teams [31, 32].

Also, team or group learning has been identified in different ways by researchers. Authors such as [26, 28, 29] have focused on learning as a process, while others [33] have highlighted learning outcomes. However, group learning could be identified as “an emergent property of the group exerting influence beyond the individual members involved in the original learning process, p. 1043” [34].

The problem that arises is to know how the process of learning in a team is facilitated. In other words, what strategies can be developed to achieve effective group learning and that this is quick and efficient [35]. Building the agile team learning model (ATLM) based on fast task mining, to develop the learning method, shortens the learning period and improves the precision of knowledge acquisition. ATLM divides the whole process of learning into three phases: (1) information acquisition, (2) fast task mining, and (3) team learning.

1. Information acquisitions (IA). The objective of this phase is to acquire more relevant information for the work team. In this sense, all members of the team can collect information from different sources of the company, through experts, through network services, or through training courses.
2. Fast task mining (FTM). Building a shared vision is the third discipline of learning organizations [36]. It is about making the shared learning tasks attractive. It is about activating the team members to get a constant process, instead of a passive dedication and little follow-up.
3. Team learning (TL). As soon as the shared learning task has been built, the TL phase should be started immediately to achieve the learning task quickly and accurately. And so, four crucial steps are proposed.
 - a. Use case. Create according to real projects or members’ interests. Each use case focuses on describing how to achieve the knowledge points in learning the task.
 - b. Practice. Team members should play different roles in each case and try to practice use case through teamwork.
 - c. Sharing. Knowledge exchange is a major factor in the development of group learning.
 - d. Test. Team members should share achievements and complement skills for each other.

For all these processes to take place, the work of leadership is critical in the development of team learning. Literature has pointed out that leaders can facilitate both individual learning [37, 38] and team learning [39]. In this sense, [28] showed that leaders who train team members and help solve problems influence group norms, encourage team communication, and improve team learning. Also, [40] found that experience in leaders’ experience working with teams, solving problems, and challenging group members improves group learning.

Therefore, the key to learning the project lies in the group learning, it is the group contributes to the development of the project, which means that the group learning in the project corresponds to the “project learning”.

4. Generating a “learning project”

Researchers from large institutions (such as universities or national research institutes) will often move from one project to another, creating opportunities for transfer of learning between projects [41]. The problem that arises is not to make learning dependent only on the intervention of individual people but on the actual exercise of the project. The challenge here is to avoid making learning dependent only on the response of certain people, and rather to focus on the real performance of the project. It is about generating “learning projects.” A learning project can be defined as a project that is continuously transformed to adapt to changing contexts and move toward opportunities for improvement.

Love et al. [42] argue that to facilitate learning in project-based environments effectively, three conditions must be established. The first one is to have a clear understanding of the unique characteristics of the project and the operational environment in which it is developed. Second, continuous learning must be integrated into the organizational culture and, third, synergies are created through the collective actions of the agents involved in the project in support of learning. All this supports the idea of moving toward learning projects.

In addition to the focus on learning organizations [43–46], but with the uniqueness of project management [42], four key aspects can be proposed for the creation and development of learning projects: leadership project, culture project, structure project, and learning opportunities project (see **Figure 1**).

4.1. Leadership in the learning project

As [47] point out, projects are a form of temporary organization in which the project members (usually staff members) are supported by their affiliated organizations (usual enterprises), which convey specific project-oriented tasks.

The relationship follower-leader can last for a limited period. Besides, project managers feel that there is an “authority gap” while managing and directing project teams, considering that their subordinates perform multiple roles outside the project in question [48]. However, the task of a leader is more meaningful in projects being carried out in a company that is not temporary, that has the purpose of permanence, since he or she becomes a key figure in

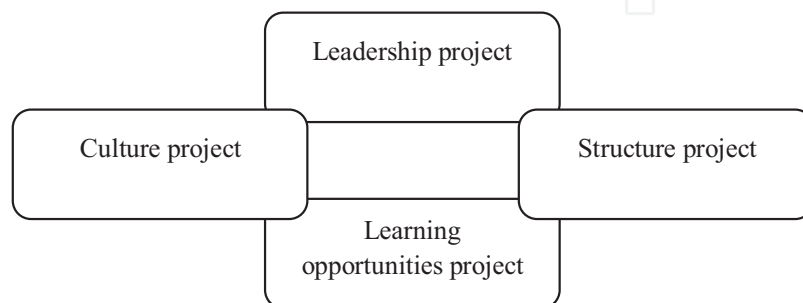


Figure 1. Project as a learning project. Source: Own elaboration.

aligning the members of the project team as to their tasks, which are temporary according to their nature. The problem that arises is to recognize the style of leadership that is more in line with the interests of the project. In general terms, it has been pointed out that person-oriented leadership styles are positively related to team learning behaviors [49].

Thus, it could be said that the leadership style, as a transformational one, could be a better fit in the administration of projects. Other leadership styles such as ethical leadership and values leadership have been identified as appropriate for the management of learning in groups and learning organizations, respectively. For this reason, they are considered suitable for project management, since they represent models through which the agents involved in the project become empowered and become an accurate action guide for the people led.

Research on transformational leadership has attracted considerable academic attention over the past two decades [50–54]. Transformational leadership has been defined as “charismatic, visionary, and inspirational actions that influence followers to broaden their goals and perform beyond the expectations specified in their formal work roles, and job descriptions, p. 286” [52]. Transformational leadership contributes to support behaviors to the team within organizations and acts to improve employee performance, including attitude, behavior, and performance [55–58].

However, leadership in temporary projects may have a different meaning in permanent and temporary organizations. In this sense, transformational leadership, which has been shown to be an effective approach to stimulate high-level commitments in organizations [59], has also been proven to be useful in the context of the project [47].

Ethical leadership has gained attention in recent years, especially the importance of reducing behaviors associated with the lack of ethical conduct from companies and professionals [60]. Interest in ethical leadership comes from the proposition that ethical leadership increases employees’ ability to cope with conflict and reduces employee misconduct [61]. Ethical leadership has been positively linked to other behavioral attitudes such as job satisfaction, employee engagement, identification with the organization, and performance of tasks among other behaviors [62]. Ethical leadership is defined as “the demonstration of normatively appropriate conduct through personal actions and interpersonal relationships, and the promotion of such behavior to followers through two-way communication, reinforcement, and decision-making” (p. 120) [63].

Ethical leadership has been singled out as a leadership style that motivates followers to adopt positive psychological states [64] and engage in beneficial behaviors to the organization [65]. Ethical leadership has been associated with group learning, which as pointed out is closely related to learning in projects.

Works such as those by [66] show that ethical leadership fosters the psychological safety of members of work groups. This behavior encourages the proactive participation of followers in decision-making and their propensity to take risks, practices that are fundamental to behavior group learning.

Group learning behavior is defined as “the extent to which [group] members seek opportunities to develop new skills and knowledge, welcome challenging assignments, are willing to take risks on new ideas, and work on tasks that require considerable skill and knowledge (p. 114)” [67]. This behavior allows a rapid adaptation to the current contexts of organizational changes. Therefore, organizations with a proactive behavior of their work teams are more likely to achieve long-term competitive success [68].

Ethical leaders act as models for their followers by setting clear standards and holding employees accountable to those criteria [63]. Ethical leaders serve as models for their followers by setting clear standards by means of making the employees take the responsibility to go after those criteria. Ethical leadership promotes the behavior of group learning by providing a basis for the development of norms and productive practices of group learning [69]. In this sense, ethical leaders encourage the behavior of group learning by assigning a substantial value to group rules and procedures and by providing members with formal systems and training programs that disseminate actual learning to guide group actions and decisions [60].

Another leadership style that shares perspective with ethical leadership, which has also been identified as suitable for the development of learning organizations, is leadership in values. A development of this type of leadership focused on learning organizations can be followed in the work of [70]. For these authors, the figure of a leader in a learning organization combines two different features: (1) knowledge of oneself and others, which are qualities of emotional intelligence and (2) behavior guided by values, the so-called leadership in values (see **Figure 2**).

At present, it is widely known that there is no consensus on the exact nature of emotional intelligence. Several authors point out different factors that can be included in the concept of emotional intelligence [71–74]. Following [72, 73], emotional intelligence comprises five essential characteristics: (1) emotional awareness, to know one’s moods and those of others; (2) self-regulation, for the management of one’s attitudes; (3) motivation, to facilitate the achievement of goals; (4) empathy, to be aware of the feelings and needs of others; and (5) social skills, to enable mutual and solidarity in relationships.

Therefore, self-knowledge constitutes an important dimension of emotional intelligence. In short, an emotionally intelligent person, in addition to relating well to others and understanding them (interpersonal skills), knows himself or herself and “relates” well to himself or herself (intrapersonal attributes).

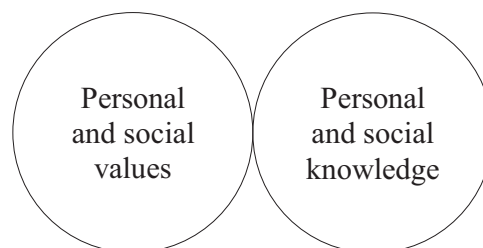


Figure 2. Leadership bases in learning organizations. Source: [66].

The field of emotions, and more specifically to self-knowledge and knowledge of others, has been addressed by leading business leadership experts such as [75–79]. Specifically, [75] who addresses the emotional leadership theme. According to him, the importance of the emotional leader lies in the safety of his or her behaviors (emotional stability). Additionally, the new leader must also be able to create group culture and organizational culture, without overshadowing the ability of each in the collective effort. The foundations of emotional leadership are based on values such as commitment (fostering talent and directing it to the common interest), communication (first of all knowing to listen), integrity (sharing of tensions), etc.

The style of leadership proposed by [80] is based on the leader values: when his or her values are correct, he or she will follow proper actions. The values are references concerning the course of the appropriate action; they are guides for decision-making. The path to leadership has two objectives: (1) an internal one, of personal perfection through practice, and (2) an external one, of social harmony, a result of the leader's behavior.

The first objective, personal perfection, seeks to discover and cultivate its good internal qualities in two different ways: (1) prudent thinking, thinking before acting: the person must be open (see situations from all points of view and without bias), altruistic (doing the right thing without seeking the only personal benefit), and disciplined (assuming one's mistakes); (2) the word prudent: value sincerity first, and (3) conservative actions: be careful with actions. It is about combining simplicity with refinement.

The second objective, social harmony, is reflected in true self-confidence. These are the leader's characteristics: (1) he or she is virtuous: he or she tries to do the right things; (2) he or she grants responsibility to the right people; and (3) he or she identifies himself or herself with the interests and well-being of all.

Specifically, the role of a leader in building learning organizations, and also in the construction of learning projects, is to foster learning environments [81]. The fundamental role of leaders of learning organizations is to promote and coordinate actions, resources, and services that improve the learning conditions of the group members [82].

4.2. The culture of a learning project

The concept of organizational culture has originated in the cultural anthropology and has become popular in the study of organizational behavior and the business management [83]. In general, organizational culture refers to the set of values and beliefs that provide norms of behavior for the members of an organization [84]. Organizational culture can be defined as: “the collection of traditions, values, policies, beliefs, and attitudes that constitute a pervasive context for everything we do and think in an organization (p. 1)” [85].

Empirical evidence suggests that organizational culture plays a significant role in organizational effectiveness [83] and knowledge development [86]. And, culture strongly influences the employees' behavior beyond control systems, procedures, and official authorities [87]. Therefore, the organizational culture becomes a powerful tool to obtain the results that are

expected by the administration [88]. The culture of an organization is a junction of different cultural orientations [89], which allows the analysis of the various types of cultures in organizations. In line with these approaches, project management generates a project culture that develops values that drive the project.

In the words of [90], “great projects create a revolutionary project culture. The execution of great projects often requires a different project culture, which can spread to an entire organization (p. 20).” Project culture facilitates learning and drives innovation and change, which would mean that the project culture has traits of a culture of learning and innovation, but also develops other values such as trust and commitment.

The learning culture has been defined as the culture that is oriented to the promotion and facilitation of workers’ learning, to their participation and diffusion, and to their contribution to organizational development and performance [91]. The learning culture has a significant role in the organizational learning development and in mechanisms that reinforce learning [92, 93]. In this sense, literature revision about learning strengthens the idea that a learning culture is critical in spreading the lessons learned [94, 95].

An important aspect that characterizes a learning culture in a project is the acceptance of errors as a learning process. Repeated mistakes are a characteristic of organizational life [96] and generally make part of this. Learning from experience within an organization should be public, a recorded activity. The author is strongly in favor of postproject reviews. In general, the learned lessons about tasks that had major problems are recorded at the end of the projects. The “learned lessons” documented from past projects become an unpriced source of knowledge in project management. It is quite remarkable that these failures, the lessons that were learned, are fed into an appropriate system and available for consultation by the team.

In spite of being considered important, sometimes the registration of mistakes and failures are not recorded. According to studies of [97] also confirmed in Ref. [96], the main reason for this kind of inaction is pointed out as a lack of employee time. But, the author adds more reasons such as lack of management support and lack of incentive, resources, and clear guidelines. Nevertheless, it is recognized that the wise record can provide time and save energy, besides optimizing. Also, it is an outstanding and unparalleled opportunity for project managers to learn from mistakes not only from others but also from their mistakes and, from there on, to act upon the lessons learned.

Innovation is of great importance to project management. In fact, [98] point out that a project is a primary source for implementing changes. According to [99], there is a tendency in the project management literature to equate the project with an innovative organization, which makes innovation management a success factor for the project [100]. For all this, an innovative project develops a culture that stimulates commitment and behavior toward innovation. Innovation is a process of transforming opportunities into practical use [101]. In general, companies with a greater capacity for change will be able to respond more efficiently to changes in the environment and achieve a sustainable competitive advantage [102]. For this reason, [103] point out that companies need to improve their innovative culture so that all members seek new products, services, or processes.

Values that characterize a project culture are related to those benefits of learning and innovation but are also distinguished by the trust [5] and commitment [104], especially if one considers the uncertainty that sometimes surrounds the management of projects. Risk arises from the factors associated with the project [105], for example, uncertainty in the level of performance of project members, the quality and reliability of the work undertaken, and the alignment of the objectives of each part.

4.3. Structure of a learning project

The organizational structure represents a set of expectations about whom, what rules and procedures should be followed, how decisions are made, and what control should be used [106]. A mechanistic structure provides formalized prescriptions about how members relate to each other and complete their work. Overall, differences in organizational structure can range from flexible, informal, loose, and decentralized operations to rigid, formal, restricted, and centralized services [107].

The organizational management of the project comprises the set of essential components for the administration of the project [108, 109]. The management of organizational projects differs from the level of organization, as it covers the entire organization, including all groups, operations, and projects. Corporate design is then present in three tiers [110]: organization, management of organizational projects, and projects. In this research, we focus on project management. In this sense, the organization chart of a project refers to how the project organization is designed, what competencies are involved, how the work is shared, and how responsibility is assigned [111].

In general, contingency theory represents an important pillar in the study of organizational design [112]. The fundamental idea of this theory is that activities should be organized differently depending on certain exogenous contingency factors. The scientific concern is limited to adequate parameters of contingency, as pointed out by [113], and some studies emphasize the environmental dimensions as the market and others focus on the technology used. This theory has also been valid for the design of projects as [114] pointed out, for which the dimension design of the project is divided into three subdimensions:

- Strategy and structure, representing the permanent environment that is temporarily linked to an organization,
- Management project and team project, including methodologies, tools, and standards applied to the project, and.
- Culture and social processes, which encompass relationships and interactions between people working in and with projects, as well as relationships between projects.

At the design stage, especially to significant and complex projects, the primary challenge is to coordinate the many specialist technicians involved [115]. The coordination of a project requires the exchange of information between members [116], which sometimes becomes complex, especially if it involves coordinating multidisciplinary teams [117].

Communication is a significant factor that contributes to the success of the project [118], for example, communication is crucial for controlling time and cost [24]. Poor communication among project members is one of the leading causes of complications arising during the process of a project [119–121]. For this reason, communication management is essential in projects. Management of communication in projects involves activities that facilitate the creation, distribution, and understanding of information [122].

4.4. Learning opportunities in a learning project

The term “learning opportunities” has a broad meaning; in fact, it could encompass culture and leadership as well as the learning structure [123]. However, this concept can be limited to learning opportunities related to training and development. We are referring to on-the-job training.

The importance of training is that employees acquire new knowledge and skills, as well as new ways of working and new tools. Training provides opportunities for employees to learn throughout their lives and also to develop a career path. On the other hand, the importance of training is also due to the increase in competitiveness, productivity, quality around the company, and the management of projects. Also, investment in training is one of the most important aspects when a project is intended to grow since training translates into productive human capital and an instrument that generates greater growth and performance for projects, which impact satisfaction of customers.

Training is one of the most valuable human resource tools for improving the productivity of workers, groups, and organizations as a whole, and it has been emphasized as an important means of learning in organizations [124]. Also, during the change processes, companies demand training to adapt their skills to the new needs arising from the processes of change [125]. In general, it has been noticed that training is a tool that facilitates innovation and change initiatives [126].

Investment in training has been considered as being very beneficial for the development of projects [127]; especially the importance of training for project managers has been emphasized [128]. Notably, two reasons why training project managers of projects are important have been highlighted [129]. The first reason is that basic knowledge of a project is quite broad; it covers an extensive set of areas of particular knowledge of project management; the project manager must have an in-depth understanding of industry, technology, and management issues, which are likely to be found in the projects. The second reason is that project discipline is both theoretical and practical, and it is not enough that the project manager has an abstract and conceptual knowledge of methods, tools, and management practices, and the director should also be able to apply this knowledge in complex operating environments. Therefore, education and training of project managers should be considered as a multidimensional and complex process. The study by [130] identified three main areas of intervention through training; the first is the development of critical thinking to manage complexity; the second is the creation of simple parameters to manage projects; and the third is the management of interpersonal skills rather than technical skills.

Given the unique characteristics of a project such as its duration determined in time and a particular context, sometimes it will be necessary to intervene directly and promptly in a learning problem or a new situation of change. In these cases, training must be immediate and adjusted to the problem and context, and this is what [131] call “just-in-time training” (JIT-T):

JIT-T means “as needed” training rather than accumulating an inventory of know-how that is lost over time. JIT-T indicates not only at the right moment but also just enough training, and in just the right context. JIT-T may also be considered as a rediscovery of on-the-job training in a self-paced manner [131].

Therefore, training and education have traditionally been considered as fundamental elements of project management [132]. Thus, research shows that training is a key factor in the implementation of projects [133].

5. Conclusion

5.1. Some references of human resource management in project management

Whether developing a system-wide strategic plan, promulgating an organizational development (OD) intervention, producing a new training curriculum, or supporting individual learning at work, human resource development (HRD) activities are more often organized in projects [134]. Project work has become increasingly prevalent in organizations around the world and is an important consideration for the success of the organization [135]. Project management has become an essential organizational competence [136]. As a project management research, the methodology and development of the theory have increased, so that corporate and investment in knowledge and project management personnel have improved [137].

“Human capital is of unique importance in today’s economy because a growing number of organizations rely on their employee’s knowledge-related capabilities versus their physical labor to achieve business goals (p. 4)” [138]. And undoubtedly, one must agree with the author that this is especially applicable and valid for project teams. As [139] point out, the success or failure of projects depends on the people who are involved in it, so human capital in project management is an important issue to analyze in the management of the projects [140].

The purpose of human resources in the project management area is to build a cohesive team to ensure that the project has the sufficient and suitable personnel, with appropriate skills and experience to fully contribute to the achievement and success of the project.

Some questions must be answered in the election of human resources in a project such as which sorts of resources are required, which number of resources is adequate for the tasks and deliverables, or even, the staff required and the time necessary for phase, what kind of skills are needed, how they will be acquired, and when and for how long they will be required.

Another answer that must be replied to is for instance what core skills, competencies, and experience the professionals need to present to occupy a variety of roles during a project.

Developing a human resource plan, acquiring, developing, and managing a project team are steeped and embedded actions in a project. Developing a project team is the process in which the project manager improves the competencies and team performance as a whole. On the other hand, in specific situations, as faced in developing countries, the shortage of human capital at managerial and executive levels may have unfortunate consequences for successful project completion and [141] have summarized the same in their findings. Management in the context of project management comprises actions such as leadership and team building.

5.2. Contributions of the work to the management of the projects

Following the perspective of the learning organization [36], this work has as main objective to propose a model of the learning project. The idea is that workplaces should encourage and motivate learning so that personal and organizational growth is achieved. But for learning to take place, a series of conditions or factors that influence learning should be facilitated. Among these factors, the following were highlighted: progressive leadership, cooperative teams, openness at work, a realistic workload, mechanisms to recognize staff, and participation in decision-making [142]. This work has developed based on these proposals.

The learning project we propose is based on four pillars related to nontangible aspects of strategy, leadership, culture, structure, and learning facilities. Leadership is the project guide that brings together the shared interests of the project and the leader of a project becomes a leader of learning [143]. Also, through leadership, a culture and a project structure are generated and consolidated. At the same time, structure and culture are interrelated, so an effective communication management plan (as part of the structure of a project) fosters a collaborative culture that in turn develops a cohesive project team [144], which in turn promotes participation in decision-making and lays the groundwork for learning in the project [24]. The last pillar of the model is continuous training. Training forms the basis of the model; thanks to the training, a full range of skills are developed that are necessary for the development of the project, which by its very nature is multidimensional.

In short, the model proposed is based on leadership [145]. Leadership drives a culture and a learning structure, and all this is consolidated through continuous training as a powerful means of learning throughout life.

Also, it would be required to consider that, although project management traditionally fits with a positivist epistemological framework, projects are often characterized as separate (to the “regular” organization) and temporary and the tasks that are performed focus on the unique objectives of the project [146]. However, teams are often socially and contextually intertwined beyond their host organizations and often pursue goals (stated or implicit) that

go beyond traditional measures of real projects such as personal learning, knowledge development, career advancement, or organizational cultural changes [147].

All these aspects should be considered in the development of the project, especially if you take into account that the basis for success or failure of projects depends on the people who are involved in it [139, 140]. The search for a balance between the objectives of the project and the interests of their participants can ensure a better outcome of the project.

Author details

Alfonso J. Gil^{1,2*} and Mara Mataveli¹

*Address all correspondence to: alfonso.gil@unirioja.es

1 Departamento de Economía y Empresa, Universidad de La Rioja, Logroño, Spain

2 Universidad Nacional de Educación a Distancia UNED, Madrid, Spain

References

- [1] Duffield SM, Whitty SJ. Application of the systemic lessons learned knowledge model for organisational learning through projects. *International Journal of Project Management*. 2016;**34**(7):1280-1293. DOI: 10.1016/j.ijproman.2016.07.001
- [2] Teece D, Pisano G, Shuen A. Dynamic capabilities and strategic management. *Strategic Management Journal*. 1997;**18**(7):509-533. DOI: 10.1002/(SICI)1097-0266(199708)
- [3] Heaton KM, Skok W, Kovala S. Learning lessons from software implementation projects: An exploratory study. *Knowledge and Process Management*. 2016;**23**(4):293-306
- [4] Cooke-Davies T. The “real” success factors on projects. *International Journal of Project Management*. 2002;**20**(3):185-190. DOI: 10.1002/kpm.1525
- [5] Atkinson R, Crawford L, Ward S. Fundamental uncertainties in projects and the scope of project management. *International Journal of Project Management*. 2006;**24**(8):687-698. DOI: 10.1016/j.ijproman.2006.09.011
- [6] Kerzner H. *Applied Project Management. Best Practices on Implementation*. New York: John Wiley; 2000
- [7] Milton N. *The Lessons Learned Handbook: Practical Approaches to Learning from Experience*. Oxford, UK: Chandos Publishing; 2010
- [8] Williams T. How do organisations learn lessons from projects—and do they? *IEEE Transactions on Engineering Management*. 2008;**55**:248-266. DOI: 10.1109/TEM.2007.912920

- [9] Tajeddini K, Altinay L, Ratten V. Service innovativeness and the structuring of organizations: The moderating roles of learning orientation and inter-functional coordination. *International Journal of Hospitality Management*. 2017;**65**:100-114. DOI: 10.1016/j.ijhm.2017.06.010
- [10] Sinkula J, Baker W, Noordewier T. A framework for market-based organizational learning: Linking values, knowledge, and behavior. *Journal of the Academy of Marketing Science*. 1997;**25**(4):305-318. DOI: 10.1177/0092070397254003
- [11] Duncan RB, Weiss A. Organisational learning: Implications for organizational design. In: Staw B, editor. *Research in Organisational Behavior*. Greenwich, CT: JAI Press; 1978. pp. 75-123
- [12] Bunderson JS, Sutcliffe KM. Management team learning orientation and business unit performance. *Journal of Applied Psychology*. 2003;**88**(3):552-560. DOI: 10.1037/0021-9010.88.3.552
- [13] Van de Walle D. Development and validation of a work domain goal orientation instrument. *Educational and Psychological Measurement*. 1997;**57**(6):995-1015. DOI: 10.1177/0013164497057006009
- [14] Dweck CS, Legget RL. A social-cognitive approach to motivation and personality. *Psychological Review*. 1988;**95**:256-273
- [15] Gong Y, Chang S. The relationships of cross-cultural adjustment with dispositional learning orientation and goal setting. A longitudinal analysis. *Journal of Cross-Cultural Psychology*. 2007;**38**(1):19-25. DOI: 10.1177/0022022106295438
- [16] Ahern T, Leavy B, Byrne PJ. Knowledge formation and learning in the management of projects: A problem solving perspective. *International Journal of Project Management*. 2014;**32**(8):1423-1431. DOI: 10.1016/j.ijproman.2014.02.004
- [17] Manely K, Chen L. Collaborative learning to improve the governance and performance of infrastructure projects in the construction sector. *Journal of Management in Engineering*. September, 2017;**33**(5). DOI: 10.1061/(ASCE)ME.1943-5479.0000545
- [18] Argote L. Organizational learning research: Past, present and future. *Management Learning*. 2011;**42**(4):439-446. DOI: 10.1177/1350507611408217
- [19] Baer M, Oldham GR. The curvilinear relation between experienced creative time pressure and creativity: Moderating effects of openness to experience and support for creativity. *Journal of Applied Psychology*. 2006;**91**(4):963-970. DOI: 10.1037/0021-9010.91.4.963
- [20] Amabile TM, Mueller JS, Simpson WB, Hadley CN, Kramer SJ, Fleming L, Time pressure and creativity in organizations: a longitudinal field study. 2002; HBS Working Paper # 02-073 (http://www.hbs.edu/faculty/Publication%20Files/02-073_03f1ecea-789d-4ce1-b594-e74aa4057e22.pdf)
- [21] Amabile TM. Motivating creativity in organizations: On doing what you love and loving what you do. *California Management Review*. 1997;**40**(1):39-58. DOI: 10.2307/41165921

- [22] Gong Y, Huang JC, Farah JL. Employee learning orientation, transformational leadership, and employee creativity: The mediating role of employee creative self-efficacy. *Academy of Management Journal*. 2009;**52**(4):765-778
- [23] Dweck KS. Motivational processes affecting learning. *American Psychologist*. 1986; **41**(10):1040-1048. DOI: 10.1037/0003-066X.41.10.1040
- [24] Yap JBH, Abdul-Rahman H, Chen W. Collaborative model: Managing design changes with reusable project experiences through project learning and effective communication. *International Journal of Project Management*. 2017;**35**(7):1253-1271. DOI: 10.1016/j.ijproman.2017.04.010
- [25] Cohen SG, Bailey DE. What makes teams work: Group effectiveness research from the shop floor to the executive suite. *Journal of Management*. 1997;**23**(3):239-290. DOI: 10.1016/S0149-2063(97)90034-9
- [26] Edmondson AC. The local and variegated nature of learning in organizations: A group-level perspective. *Organization Science*. 2002;**13**:128-146
- [27] Argote L, Gruenfeld D, Naquin C. Group learning in organizations. In: Turner ME, editor. *Groups at Work: Theory and Research*. Mahwah, NJ: Lawrence Erlbaum; 2001. pp. 369-409
- [28] Edmondson AC. Psychological safety and learning behavior in work teams. *Administrative Science Quarterly*. 1999;**44**:350-383
- [29] Gibson CB, Vermeulen F. A healthy divide: Subgroups as a stimulus for team learning behavior. *Administrative Science Quarterly*. 2003;**48**:202-239
- [30] Kostopoulos KC, Spanos YE, Prastacos GP. Structure and function of team learning emergence: A multilevel empirical validation. *Journal of Management*; 2013. 2013;**39**(6):1430-1461. DOI: 10.1177/0149206311419366
- [31] Decuyper S, Dochy F, Van den Bossche P. Grasping the dynamic complexity of team learning: An integrative model for effective team learning in organisations. *Educational Research Review*. 2010;**5**(2):111-133. DOI: 10.1016/j.edurev.2010.02.002
- [32] Sessa VI, London M. *Work Group Learning*. New York, London: Lawrence Erlbaum Associates; 2008
- [33] Ellis AP, Bell BS, Ployhart RE, Hollenbeck JR, Ilgen DR. An evaluation of generic teamwork skills training with action teams: Effects on cognitive and skill-based outcomes. *Personnel Psychology*. 2005;**58**(3):641-672. DOI: 10.1111/j.1744-6570.2005.00617.x
- [34] Wilson JM, Goodman PS, Cronin MA. Group learning. *Academy of Management Review*. 2007;**32**(4):1041-1059
- [35] Yin X, Zhu G, Feng L, Agile Team Learning Model Based on Fast Task Mining. In X. Luo et al., editors. *ICWL 2010 Workshops, LNCS 6537*. Springer-Verlag, Berlin Heidelberg; 2011, pp. 328-335

- [36] Senge PM. *The Fifth Discipline: The Art and Practice of the Learning Organization*. New York: Currency/Doubleday Publishers; 1990
- [37] Baer M, Oldham GR, Cummings A. Group learning. *Academy of Management Review*. *The Leadership Quarterly*. 2003;**14**(4/5):569-586
- [38] Krause DE. Influence-based leadership as a determinant of the inclination to innovate and of innovation-related behaviours: An empirical investigation. *The Leadership Quarterly*. 2004;**15**(1):79-102. DOI: 10.1016/j.leaqua.2003.12.006
- [39] Raes E, Kyndt E, Decuyper E, Demeyere S, Lismont B, Van den Bossche P, Dochy F. Facilitating team learning through transformational leadership. *Instructional Science*. 2013;**41**(2):287-305
- [40] Hirst G, Mann L, Bain P, Pirola-Merlo A, Richver A. Learning to lead: The development and testing of a model of leadership learning. *The Leadership Quarterly*. 2004;**15**(3):311-327. DOI: 10.1016/j.leaqua.2004.02.011
- [41] Bark RH, Kragt ME, Robson BJ. Evaluating an interdisciplinary research project: Lessons learned for organisations, researchers, and funders. *International Journal of Project Management*. 2016;**34**(8):1449-1459. DOI: 10.1016/j.ijproman.2016.08.004
- [42] Love P, Fong P, Irani Z, editors. *Management of Knowledge in Project Environments*. Oxford: Elsevier Butterworth-Heinemann; 2005
- [43] Awasthy R, Gupta RK. Is learning orientation in manufacturing and service firms different in India? *The Learning Organization*. 2011;**18**(5):392-408. DOI: 10.1108/096964711111151738
- [44] Goh S. Improving organizational learning capability: Lessons from two case studies. *The Learning Organization*. 2003;**10**(4):216-227. DOI: 10.1108/09696470310476981
- [45] Holton J. Building trust and collaboration in a virtual team. *Team Performance Management: An International Journal*. 2001;**7**(3/4):36-47. DOI: 10.1108/13527590110395621
- [46] Randeree E. Structural barriers: Redesigning schools to create learning organizations. *International Journal of Educational Management*. 2006;**20**(5):397-404. DOI: 10.1108/09513540610676458
- [47] Ding X, Li Q, Zhang H, Sheng Z, Wang Z. Linking transformational leadership and work outcomes in temporary organizations: A social identity approach. *International Journal of Project Management*. 2017;**35**:543-556. DOI: 10.1016/j.ijproman.2017.02.005
- [48] Tyssen AK, Wald A, Heidenreich S. Leadership in the context of temporary organizations: A study on the effects of transactional and transformational leadership on followers' commitment in projects. *Journal of Leadership & Organizational Studies*. 2014;**21**(4):376-393. DOI: 10.1177/1548051813502086

- [49] Burke CS, Stagl KC, Klein C, Goodwin GF, Salas E, Halpin SM. What type of leadership behaviors are functional in teams? A meta-analysis. *Leadership Quarterly*. 2006;**17**(3):288-307. DOI: 10.1016/j.leaqua.2006.02.007
- [50] Dvir T, Eden D, Avolio BJ, Shamir B. Impact of transformational leadership on follower development and performance: A field experiment. *Academy of Management Journal*. 2002;**45**(4):735-744
- [51] Lowe KB, Kroeck KG, Sivasubramaniam N. Effectiveness correlates of transformational and transactional leadership: A meta-analytic review of the MLQ literature. *Leadership Quarterly*. 1996;**7**(3):385-425. DOI: 10.1016/S1048-9843(96)90027-2
- [52] Qu R, Janssen O, Shi K. Transformational leadership and follower creativity: The mediating role of follower relational identification and the moderating role of leader creativity expectations. *Leadership Quarterly*. 2015;**26**(2):286-299. DOI: 10.1016/j.leaqua.2014.12.004
- [53] Rezvani A, Khosravi P, Dong L. Motivating users toward continued usage of information systems: Self-determination theory perspective. *Computer in Human Behavior*. 2017;**76**:263-275. DOI: 10.1016/j.chb.2017.07.032
- [54] Strom DL, Sears KL, Kelly KM. Work engagement: The roles of organizational justice and leadership style in predicting engagement among employees. *Journal of Leadership and Organizational Studies*. 2013;**21**:71-82. DOI: 10.1177/1548051813485437
- [55] Avolio BJ, Zhu W, Koh W, Bhatia P. Transformational leadership and organizational commitment: Mediating role of psychological empowerment and moderating role of structural distance. *Journal of Organizational Behavior*. 2004;**25**(8):951-968. DOI: 10.1002/job.283
- [56] Bono JE, Judge TA. Self-concordance at work: Toward understanding the motivational effects of transformational leaders. *Academy of Management Journal*. 2003;**46**(5):554-571
- [57] Yammarino FJ, Spangler WD, Bass BM. Transformational leadership and performance: A longitudinal investigation. *Leadership Quarterly*. 1993;**4**(1):81-102. DOI: 10.1016/1048-9843(93)90005-E
- [58] Zhu Y, Akhtar S. How transformational leadership influences follower helping behavior: The role of trust and prosocial motivation. *Journal of Organizational Behavior*. 2014;**35**(3):373-392. DOI: 10.1002/job.1884
- [59] Gundersen G, Hellesoy BT, Raeder S. Leading international project teams: The effectiveness of transformational leadership in dynamic work. *Journal of Leadership & Organizational Studies*. 2012;**19**(46):46-57. DOI: 10.1177/1548051811429573
- [60] Walumbwa FO, Hartnell CA, Misati E. Does ethical leadership enhance group learning behavior? Examining the mediating influence of group ethical conduct, justice climate, and peer justice. *Journal of Business Research*. 2017;**72**:14-23. DOI: 10.1016/j.jbusres.2016.11.013

- [61] Mayer DM, Kuenzi M, Greenbaum R. Examining the link between ethical leadership and employee misconduct: The mediating role of ethical climate. *Journal of Business Ethics*. 2010;**95**(Supplement 1):7-16
- [62] Ng W, Feldman DC. Ethical leadership: Meta-analytic evidence of criterion related and incremental validity. *Journal of Applied Psychology*. 2015;**100**(3):948-965. DOI: 10.1037/a0038246
- [63] Brown ME, Treviño LK, Harrison DA. Ethical leadership: A social learning perspective for construct development and testing. *Organizational Behavior and Human Decision Processes*. 2005;**97**(2):117-134. DOI: 10.1016/j.obhdp.2005.03.002
- [64] Avolio BJ, Walumbwa FO, Weber T. Leadership: Current theories, research, and future directions. *Annual Review of Psychology*. 2009;**60**:421-449. DOI: 10.1146/annurev.psych.60.110707.163621
- [65] Bedi A, Alpaslan CM, Green S. A meta-analytic review of ethical leadership outcomes and moderators. *Journal of Business Ethics*. 2016;**139**(3):517-536. DOI: 10.1007/s10551-015-2625-1
- [66] Walumbwa FO, Schaubroeck J. Leader personality traits and employee voice behavior: Mediating roles of ethical leadership and work group psychological safety. *Journal of Applied Psychology*. 2009;**94**(5):1275-1286. DOI: 10.1037/a0015848
- [67] London M, Polzer JT, Omoregie H. Interpersonal congruence, transactive memory, and feedback processes: An integrative model of group learning. *Human Resource Development Review*. 2005;**4**(2):114-135
- [68] Argote L. *Organizational Learning: Creating, Retaining, and Transferring Knowledge*. Norwall, MA: Kluwer Academic Publishers; 1999
- [69] Cropanzano R, Walumbwa FO. Moral leadership: A short primer of competing perspectives. In: Schminke M, editor. *Managerial Ethics: Managing the Psychology of Morality*. New York: Psychology Press/Routledge/Taylor & Francis; 2010. pp. 21-52
- [70] Gallego DJ, Gil AJ. La construcción de organizaciones de aprendizaje a través del liderazgo. *Universidad & Empresa*. 2012;**22**:43-77
- [71] Bar-on R. *Bar-on Emotional Quotient Inventory: Technical Manual*. Multi-Health Systems: Nueva York; 1997
- [72] Goleman D. *Emotional Intelligence*. New York: Bantam; 1995
- [73] Salovey P, Mayer JD. Emotional intelligence. *Imagination, Cognition, and Personality*. 1990;**9**(3):185-211. DOI: 10.2190/DUGG-P24E-52WK-6CDG
- [74] Weisinger H. *Emotional Intelligence at Work*. San Francisco: Jossey-Bass; 1998
- [75] Ruiz M. Liderazgo dinamizador y emocional. *Harvard Deusto Business Review*. 2004;**130**: 110-135

- [76] Bennis WG. El fin del liderazgo. *Harvard Deusto Business Review*. 2001;**1**:74-81
- [77] Bennis WG. Liderar en momentos de desconcierto. *Harvard Business Review*. 2002;**11**:4-11
- [78] Kotter JP. El directivo como líder y como ejecutivo: la simbiosis del éxito. *Harvard Deusto Business Review*. 2001;**1**:62-72
- [79] Posner BZ. El líder y la visión de futuro. *Havard Deusto Business Review*. 2000;**99**:16-23
- [80] Fernández JA. El código de caballeros: liderazgo basado en valores. *Harvard Deusto Business Review*. 2005;**138**:46-55
- [81] Buckler B. A learning process model to achieve continuous improvement and innovation. *The Learning Organization*. 1996;**3**(3):31-39. DOI: 10.1108/09696479610119660
- [82] Mumford A. Creating a learning environment. *Journal of Professional Human Resource Management*. 1996;**4**:26-30
- [83] Gregory BT, Harris SG, Armenakis AA, Shook CL. Organizational culture and effectiveness: A study of values, attitudes, and organizational outcomes. *Journal of Business Research*. 2009;**62**(7):673-679
- [84] Schein EH. *Organisational Culture and Leadership*. 3rd ed. San Francisco: Jossey-Bass; 2004
- [85] McLean A, Marshall J. Interviewing in organisational cultures. In: Working Paper. University of Bath, Bath, UK; 1993
- [86] Gil AJ, Carrillo FJ. Knowledge transfer and the learning process in Spanish wineries. *Knowledge Management Research & Practice*. 2016;**14**(1):60-68
- [87] O'Reilly CA III, Chatman J, Caldwell DF. People and organizational culture: A profile comparison approach to assessing person-organization fit. *Academy of Management Journal*. 1991;**34**(3):487-516
- [88] Hogan SJ, Coote LV. Organizational culture, innovation, and performance: A test of Schein's model. *Journal of Business Research*. 2014;**67**(8):1609-1621. DOI: 10.1016/j.jbusres.2013.09.007
- [89] McDermott CM, Stock GN. Organizational culture and advanced manufacturing technology implementation. *Journal of Operations Management*. 1999;**17**(5):521-533. DOI: 10.1016/S0272-6963(99)00008-X
- [90] Dvir D, Shenhar A. What great projects have in common? *MIT Sloan Management Review*. 2011;March:18-21
- [91] Rebelo T, Gomes A. Different types of organization, different cultural orientations towards learning: What factors explain this? In: Fanti KA, editor. *Applying Psychological Research to Understand and Promote the Well-Being of Clinical and Non-clinical Populations*. Athens: ATINER; 2009. pp. 175-186

- [92] Bell E. Organisational culture and learning: A case study. *Nurse Education Today*. 2016;**33**(11):1337-1341. DOI: 10.1016/j.nedt.2013.02.009
- [93] Eskerod P, Skriver HJ. Organizational culture restraining in-house knowledge transfer between project managers— A case study. *Project Management Journal*. 2007;**38**(1): 110-122
- [94] Sense AJ. Learning within project practice: Cognitive styles exposed. *International Journal of Project Management*. 2007;**25**(1):33-40. DOI: 10.1016/j.ijproman.2006.06.004
- [95] Von Zedtwitz M. Organizational learning through post-project reviews in R&D. *R&D Management*. 2002;**32**(3):255-268
- [96] Busby JS. An assessment of post-project reviews. *Project Management Journal*. 1999;**30**(3):23-29
- [97] Rose KH. Cover to cover. [Review of the book post-project reviews to gain effective lessons learned]. *Project Management Journal*. 2007;**38**(2):100
- [98] Adler P, Obstfeld M. The role of affect in creative projects and exploratory search. *Industrial and Corporate Change*. 2007;**16**(1):19-50. DOI: 10.1093/icc/dtl032
- [99] Lenfle S. Exploration and project management. *International Journal of Project Management*. 2008;**26**(5):469-478. DOI: 10.1016/j.ijproman.2008.05.017
- [100] Beaume R, Maniak R, Midler C. Crossing innovation and product projects management: A comparative analysis in the automotive industry. *International Journal of Project Management*. 2009;**27**(2):166-174. DOI: 10.1016/j.ijproman.2008.09.004
- [101] Tidd J, Bessant J, Pavitt K. *Managing Innovation*. Chichester: Wiley; 1997
- [102] Calantone RJ, Cavusgil ST, Zhao Y. Learning orientation, firm innovation capability, and firm performance. *Industrial Marketing Management*. 2002;**31**(6):515-524. DOI: 10.1016/S0019-8501(01)00203-6
- [103] Škerlavaj M, Song JH, Lee Y. Organizational learning culture, innovative culture, and innovations in South Korean firms. *Expert Systems with Applications*. 2010;**37**(9):6390-6403. DOI: 10.1016/j.eswa.2010.02.080
- [104] Meyer JP, Herscovitch L. Commitment at workplace: Toward a general model. *Human Resource Management Review*. 2001;**11**(3):299-326. DOI: 10.1016/S1053-4822(00)00053-X
- [105] Ward SC. Requirements for an effective risk management process. *Project Management Journal*. 1999;September:37-42
- [106] Donaldson L. The normal science of structural contingency theory. In: Clegg SR, Hardy C, Nor WR, editors. *Handbook of Organization Studies*. Thousand Oaks: Sage; 1996. pp. 57-76

- [107] Burns T, Stalker GM. *The Management of Innovation*. University of Illinois at Urbana-Champaign's Academy of Entrepreneurial Leadership Historical Reference in Entrepreneurship; 1994
- [108] Aubry M, Hobbs B, Thuillier D. A new framework for understanding organisational project management through the PMO. *International Journal of Project Management*. 2007;**25**(49):328-336. DOI: 10.1016/j.ijproman.2007.01.004
- [109] Sankaran S, Drouin N, Müller R. *Cambridge Handbook of Organizational Project Management*. Cambridge: Cambridge University Press; 2017
- [110] Aubry M, Lavoie-Tremblay. Rethinking organizational design for managing multiple projects. *International Journal of Project Management*. 2017. pp. 1-15. DOI: 10.1016/j.ijproman.2017.05.012
- [111] Feldman M, Pentland B. Reconceptualizing organizational routines as a source of flexibility and change. *Administrative Science Quarterly*. 2003;**48**(1):94-118. DOI: 10.2307/3556620
- [112] Donaldson L. *The Contingency Theory of Organizations*. Thousand Oaks, CA: Sage; 2001
- [113] Miterev M, Mancini M, Turner R. Towards a design for the project-based organization. *International Journal of Project Management*. 2017;**35**(3):479-491. DOI: 10.1016/j.ijproman.2016.12.007
- [114] Hanisch B, Wald A. A project management research framework integrating multiple theoretical perspectives and influencing factors. *Project Management Journal*. 2011;**42**(3):2-22. DOI: 10.1002/pmj.20241
- [115] Eriksson T, Kadefors A. Organisational design and development in a large rail tunnel project—Influence of heuristics and mantras. *International Journal of Project Management*. 2017;**35**(3):492-503. DOI: 10.1016/j.ijproman.2016.12.006
- [116] Cheung SO, Yiu TW, Lam MC. Interweaving trust and communication with project performance. *Journal of Construction Engineering and Management*. 2013;**139**(8):941-950. DOI: 10.1061/(ASCE)CO.1943-7862.0000681
- [117] Senescu RR, Arandal-Mena G, Haymaker JR. Relationships between project complexity and communication. *Journal of Management Engineering*. 2013;**29**:183-197. DOI: 10.1061/(ASCE)ME.1943-5479.0000121
- [118] Anantatmula VS. Strategies for enhancing project performance. *Journal of Management in Engineering*. 2015;**31**(6):4015013
- [119] Ceric A. Minimizing communication risk in construction: A Delphi study of the key role of project managers. *Journal of Civil Engineering and Management*. 2014;**20**(6):829-838. DOI: 10.3846/13923730.2013.802739

- [120] Mahamid I. Micro and macro level of dispute causes in residential building projects: Studies of Saudi Arabia. *Journal of King Saud University – Engineering Sciences*. 2016;**28**(1):12-20. DOI: 10.1016/j.jksues.2014.03.002
- [121] Sun M, Meng X. Taxonomy for change causes and effects in construction projects. *International Journal of Project Management*. 2009;**27**(6):560-572. DOI: 10.1016/j.ijproman.2008.10.005
- [122] Senaratne S, Ruwanpura M. Communication in construction: A management perspective through case studies in Sri Lanka. *Architectural Engineering and Design Management*. 2016;**12**:3-18. DOI: 10.80/17452007.2015.1056721
- [123] Gil AJ, Gallego DJ. La realización de formación continua desde la perspectiva de la organización de aprendizaje. *Educare*. 2016;**52**(1):107-126. DOI: 10.5565/rev/educar.701
- [124] Laine E, Gegenfurtner A. Stability or change? Effects of training length and time lag on achievement goal orientations and transfer of training. *International Journal of Educational Research*. 2013;**61**(1):71-79. DOI: 10.1016/j.ijer.2013.03.014
- [125] Gil AJ, Garcia-Alcaraz JL, Mataveli M. The training demand in organizational changes processes in the Spanish wine sector. *European Journal of Training and Development*. 2015;**39**(4):315-331. DOI: 10.1108/EJTD-09-2014-0067
- [126] Carbery R, Garavan TN. Organisational restructuring and downsizing: Issues related to learning, training and employability of survivors. *Journal of European Industrial Training*. 2005;**29**(6):488-508. DOI: 10.1108/03090590510610272
- [127] Egginton B. Realising the benefits of investment in project management training: Evidence supporting the need for a more strategic approach. *International Journal of Managing Projects in Business*. 2012;**5**(3):508-527. DOI: 10.1108/17538371211235344
- [128] Winter M, Smith C, Morris P, Cicmil S. Directions for future research in project management: The main findings of a UK government funded research network. *International Journal of Project Management*. 2006;**24**(8):638-649. DOI: 10.1016/j.ijproman.2006.08.009
- [129] McCreery JK. Assessing the value of a project management simulation training exercise. *International Journal of Project Management*. 2003;**21**(4):233-242. DOI: 10.1016/S0263-7863(02)00026-1
- [130] Ramazani J, Jergeas G. Project managers and the journey from good to great: The benefits of investment in project management training and education. *International Journal of Project Management*. 2015;**33**(1):41-52. DOI: <https://doi.org/10.1016/j.ijproman.2014.03.012>
- [131] Globerson S, Korman A. The use of just-in-time training in a project environment. *International Journal of Project Management*. 2001;**19**(5):279-285. DOI: 10.1016/S0263-7863(00)00012-0

- [132] Finney S, Corbett M. ERP implementation: A compilation and analysis of critical success factors. *Business Process Management Journal*. 2007;**13**(3):329-347. DOI: 10.1108/14637150710752272
- [133] Ram J, Corkindale D, ML W. Implementatjion critical success factor (CSFs) for ERP: Do they contribute to implementation success and post-implementation performance? *International Journal of Production Economics*. 2013;**144**(1):157-174. DOI: 10.1016/j.ijpe.2013.01.032
- [134] Candem LL, Egan TM. Human resource development and project management: Key connections. *Human Resource Development Review*. 2008;**7**(3):309-338. DOI: 10.1177/1534484308320577
- [135] Packendorff J. Inquiring into the temporary organization: New direction for project management research. *Scandinavian Journal of Management*. 1995;**11**:3-16. DOI: 10.1016/0956-5221(95)00018-Q
- [136] Fuller JL. *Managing Performance Improvement Projects*. San Francisco: Jossey-Bass; 1997
- [137] Kerzner H. *Project Management: A Systems Approach to Planning, Scheduling, and Controlling*. 7th ed. New York: John Wiley; 2013
- [138] Dickson D, *Planning the Human Capital Managing Performance*. 2017; Accessed from <http://scholarworks.rit.edu/other/714>
- [139] Henrie M, Sousa-Poza A. Project management: A cultural literary review. *Project Management Journal*. 2005;**36**(2):5-14
- [140] Suhonen M, Paasivaara L. Shared human capital in project management: A systematic review of the literature. *Project Management Journal*. 2011;**42**(2):4-16. DOI: 10.1002/pmj.20211
- [141] Banik A, Bhaumik PK. Project management and development of human capital in the Caribbean: Three case studies. *Management Decision*. 2006;**44**(8):1076-1089. DOI: 10.1108/00251740610690621
- [142] Schalk D, Bijl M, Halfens R, Hollands L, Cummings G. Interventions aimed at improving the nursing work environment. *Implementation Science*. 2010;**5**(34):1-11. DOI: 10.1186/1748-5908-5-34
- [143] Crick RD, Barr S, Green H, Pedder D. Evaluating the wider outcomes of schools: Complex systems modelling for leadership decisioning. *Educational Management Administration & Leadership*. 2017;**45**(4):719-743. DOI: 10.1177/1741143215597233
- [144] Livesey PV. Insights of project managers into the problems in project management. *Construction Economics and Building*. 2016;**16**(1):90-103. DOI: 10.5130/AJCEB.v16i1.4600
- [145] Neubert MJ, Hunder EM, Tolentino RC. A servant leader and their stakeholders: When does organizational structure enhance a leader's influence? *The Leadership Quarterly*. 2016;**27**:896-910. DOI: 10.1016/j.lequa.2016.05.005

- [146] Sense AJ. The project workplace for organizational learning development. *International Journal of Project Management*. 2011;**29**(8):986-993. DOI: 10.1016/j.ijproman.2011.01.012
- [147] Sense AJ. The social learning character of projects and project teams. *International Journal of Knowledge Management Studies*. 2009;**3**(3/4):195-208. DOI: 10.1504/IJKMS.2009.028836

IntechOpen

IntechOpen

