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Learning Framework of Project as a Temporary Organization: Based On the Scandinavian School Arguments

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ABSTRACT: The main purpose of this study is identifying the nature of the project based on the Scandinavian school's arguments, examining the discourse of the critical success movement in PM, and then identifying project learning challenges as a critical success factor in project, and finally developing a comprehensive project learning framework which complies with project features. To this end, a systematic review method was used which, following its steps, out of 554 articles searched, 111 articles that were relevant to the research topic were selected and used. As the research conclusion, first, the project is a temporary organization, but not every temporary organization is a project. Second, although PM was praised by experts until a few decades ago, it was criticized by academics for a variety of reasons, including the failure of some important projects. Thus, the critical success movement was formed that emphasized the critical success factors in projects. Since project learning is considered one of the critical success factors, and it is also one of the major challenges in projects, in this study, a comprehensive project learning framework is developed. This framework is expected to be in line with the temporary nature of projects however, it has methodological limitations despite the development of related literature.

KEYWORDS: PM, Temporary organization, The Scandinavian school, the critical success movement, project learning

1. INTRODUCTION

The nature of current organizations is such that it may not be possible to categorize them into specific formats and express the same characteristics about them, but despite this diversity, management scholars have tried to classify organizational plans and compositions from different perspectives. The division of organizations into two general types, fixed (permanent) basis, and temporary basis, is an example of these categories.

A review of the literature shows the growing importance of temporary organizations over the past few decades. The term, coined by Alvin Toffler in the 1970s and later developed by Henry Mintzberg, has received more attention due to the popularity of project activities in the last two decades, and it has been introduced as the dominant organizations in the future (Mintzberg, 1993; Toffler, 1975). This kind of organization which highlighted the temporary or time-limited process and structures inside and outside the organization, is called as "project-based organization" (Faulkner and Anderson 1987), "project-based organizing" (Pettigrew et at. 1999), "project-based enterprise" (DeFillippi and Arthur 1998), and "project-oriented companies" (Gareis 1991).

Despite the importance of temporary organizations in today's world, many of their organizational characteristics have been challenged. Background review of management theories show that there is a more or less implicit recognition that temporary systems differ from their permanent counterparts (Palisi 1970). However, one observes few attempts to explicate the areas of divergence and similarity (Packendorff 1995). In this regard, some experts argue that mainstream organizational theorists proffer theories that assume that organizations are or should be eternal or permanent. Furthermore, "organization theories are generally seen as incremental as they only refer to changes that are gradual and their focus is mostly on repetitive tasks and decisions within a "going concern" assumption (IKA, 2011) & (Söderlund, 2000). Obviously, this is not the case of temporary organizations because these organizations are established to deal with or eliminate problems that have arisen in certain circumstances, and usually by solving that problem in the long run, they lose their legitimacy in one area and move to unknown areas in the field of development activities. Accordingly, the application of theories of permanent organizations in the management of temporary organizations, although common in previous decades and accountable for the reasons mentioned, has been criticized in recent decades for the failure of some projects. These criticisms have provided the rationale for the formation of the Critical Success Movement in PM.

Since, projects are temporary complex organizations, as supported by the Scandinavian school (Jacobsson, Burström, & Wilson, 2013; Lundin & Söderholm, 1995; Packendorff, 1995; Turner & Müller, 2003), they fall into the second category, and will have the characteristics of temporary organizations. These features are implicit in its definitions. Generally, a project is seen in the

definitions as a task (a temporary, complex, and unique task individually or in groups), but in literature it is seen as a special type of temporary organization (Turner & Keegan, 2001; Turner & Müller, 2003; Vestola, Eriksson, Larsson, & Gustavsson, 2021). Today, many organizations have the characteristics of temporary organizations and are considered as project-based organizations; the organizations in which most products or services are produced through projects for either internal or external customers (Turner & Keegan, 2000). In these organizations, learning from and through projects has become very important. To benefit the entire organization from learning, experts emphasize learning within and between projects. So, it is emphasized that effective learning from project experiences is one of the success factors with respect to project management (Chronéer & Backlund, 2015) and it is of importance that PM finds the means to manage and support project learning.

Although projects are a good place to learn, "theories on learning in projects- theories on how project work causes learning at the organizational as well as the individual level, and how this learning can be made useful to the organization in subsequent projects - have received less attention in the project" (Packendorff, 1995). In other words, it is not yet clear to project managers what level of learning should be done in projects; at the individual, group, or organizational (project) level. The studies also show that complexity and temporary nature of projects makes it often difficult to capture, translate and transfer knowledge from one project to another (Swan, Scarbrough, & Newell, 2010). Furthermore, its institutionalization in the project is difficult (Bartsch, Ebers, & Maurer, 2013). This is mainly due to a lack of prerequisites for systematic project learning, in other words, such things as discipline, motivation, and debriefing skills and know-how so that lessons can be learned (Chronéer & Backlund, 2015). Some call this as the learning paradox, which means that although a lot of knowledge is generated in the project environment, due to its temporary characteristics, it does not precipitate in the project (Bakker, Cambré, Korlaar, & Raab, 2011). To overcome these challenges, various learning systems and models, such as project-based learning, learning organizations, organizational learning, team learning, system thinking etc. have been proposed, but according to experts, none of them alone has been able to meet the specific challenges of the project environment because learning in the project environment requires a holistic and systematic view (Chronéer & Backlund, 2015) so that the development of the project learning process occurs at the organizational level. Such a system, in addition to the systematic approach, should include inputs, outputs, main project learning activists, processes and sub-processes, mechanisms, support systems, project environment, goals, motivations, and factors at the individual and organizational levels.

Accordingly, the main purpose of this research is, first, identify the nature of the project based on the arguments of the Scandinavian school, and review the background of the critical movement discourse in project management using a systematic review method. Project learning is then provided as a Critical Success Factor, and its challenges are expressed in projects. Finally, a comprehensive project learning framework is developed that will be appropriate to the characteristics of the projects.

2. THE METHODOLOGY

To review the published scientific materials in the field of project as a temporary organization, and project learning, the systematic literature review method has been used, which is suitable for reviewing a large amount of information (Petticrew & Roberts, 2008), carefully collects resources and offers suggestions for future research plans (Rousseau, Manning, & Denyer, 2008). This method in a transparent and systematic way and by presenting coherent and comprehensive results, increases the knowledge about a phenomenon in scientific texts and directs the executive actions in the real world. To construct a systematic search that attempts to identify all studies, the research subject was broken down into three keywords including "project", "temporary organization", and "project learning". In the resource search phase, different combinations of key completeness were used such as "project AND temporary organization", "project AND learning" and "project OR temporary organization AND learning system". In addition, most reputed keywords in the past studies have been considered, and to have more valid results, both automated and manual searching options were used for each single bibliographic database. After finding research terms, for identifying relevant studies, four electronic databases are searched which contains millions of international articles from hundreds of different international publishers: Google scholar, ScienceDirect, PMI, and Scopus. All databases were selected with attention to coverage of the scientific literature and level of overlaps. In the process of searching for resources, various areas, such as business and management, engineering, technology, PM, and others were considered. In addition, Endnote (version X9) used for storing and managing different publications, and VOSviewer (version 1.6.15) was utilised for cataloguing, organising, analysing, and synthesising the set of data. This software was especially useful since it made it possible to conduct content analysis of a vast number of resources and was subsequently instrumental in identifying the connections among publications. Figure 1 shows the output of the software including the main concepts, sub-concepts, and their connections.

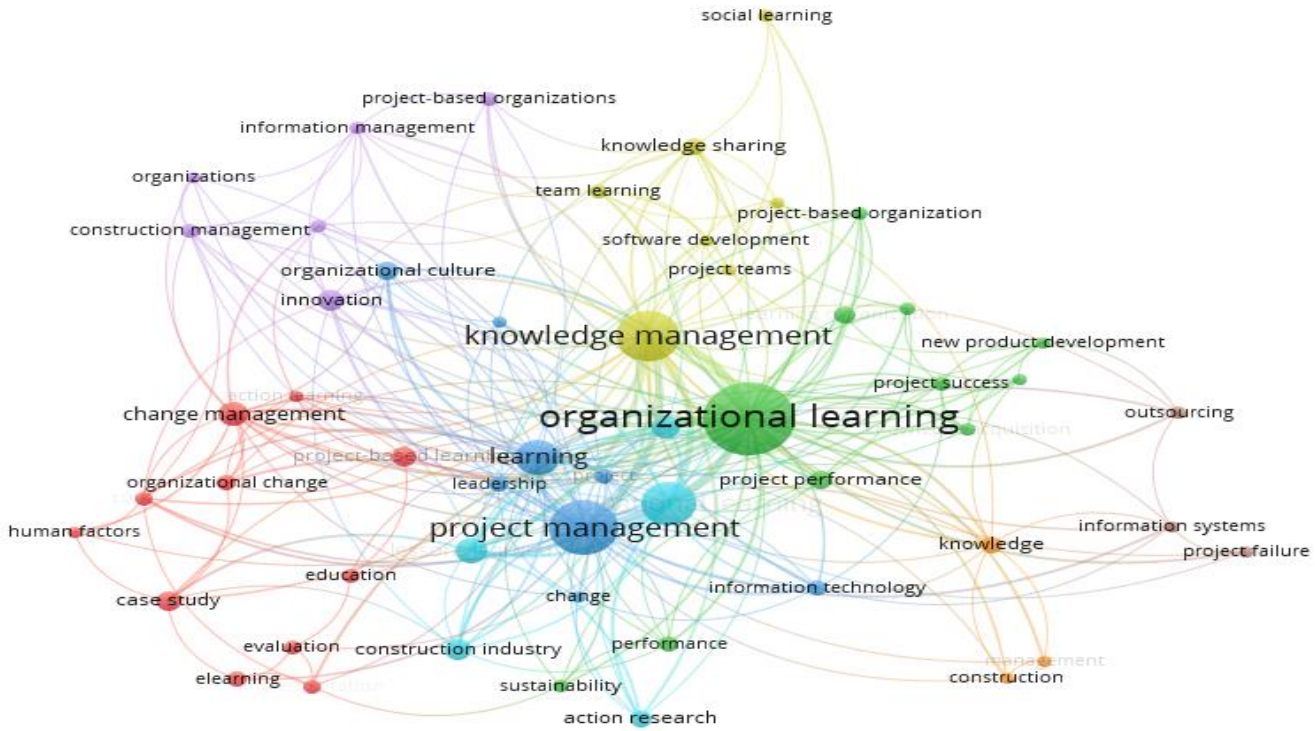

Figure 1. General map of literature keywords relationships
source: the author

To select the sources related to the research topic, six steps were considered. 1) The resources should be published 1991 to 2022 and cover one of the identified areas. 2) The publications should be available full text in the databases in English or French. 3) The publications should be included all the articles from peer reviewed journals relevant to PM, temporary organization, and project (organizational) learning. 4) The resources are written by knowledgeable authors and researchers and are affiliated with reputable universities and scientific and research centers. 5) The abstracts, keywords and citation information were downloaded, and duplicate publications were deleted. 6) Final filtering was undertaken and articles having most congruence with the research title were selected. According to these indicators, initially 554 papers were found related to the main concepts. The papers' abstracts were carefully read and at last, 111 papers were selected that addressed the research title.

3. NATURE OF PROJECTS: DIFFERENT THEORETICAL LENSES

Although the phenomenon of temporary organization is not new, not much research has been done on temporary organizations until the late 1980s. Review the literature indicates, many efforts have been carried out by researchers in the last two decades about nature of temporary organizations, but there are still many unanswered questions about them. Furthermore, there is still no consensus on many issues related to temporary organizations (Janowicz et al., 2008). So, the authors have looked at this phenomenon with different theoretical lenses, like project as a complex task, a social system, a production function, an agency for change, an agency for resource utilization, an agency for uncertainty management, a tool not an organization, and as a temporary organization (Borum & Christiansen, 1993; Huemann, 2016; Jacobsson et al., 2013; Lundin & Söderholm, 1995; Packendorff, 1995; Turner & Müller, 2003).

3.1. Project as a complex task- Some people may be confused about the meaning of tasks and projects. A task is a single unit of work that needs to be accomplished within a project. Michael Long (1985) believes, a task is "a piece of work undertaken for oneself or for others, freely or for some reward" (Long, 1985), while a project is the entire series of tasks that need to be completed together to accomplish a single outcome or goal. For example, the whole process of creating a new product is a project, while prototyping is a single task in that project. So, tasks and projects are the main blocks in project management that allow us to track and organize our work (Wrike, 2021). This approach to the project has a relatively long history so that examples of it can be found in the classical school. A project as a task which is characterized by rationality (Borum & Christiansen, 1993) represents a Taylorian way of thinking (Turner & Müller, 2003) and is based on the prevailing perspective before 1950, the so-called economic man (homo economicus), who is completely self-seeking, completely rational and completely informed (Anderson, 2000). Following this approach, various definitions and analyzes are provided. for example, the definition by Cleland and King (1983) is a classical one. They developed a first theory of project management which is based on the premises like: 1) The project delivers against objectives of time, cost, and scope (functionally), set outside the project, 2) Project management methods such as critical path analysis and work break down structure are essential for projects, 3) Projects move through a life cycle, 4) The project

organization is a temporary matrix and resources are drawn from the company (Huemann, 2016). Thus, the relevant objects of consideration to manage in projects are schedule, cost, and scope.

3.2. Project as a social system- In addition, a project can be perceived as a social system (Gareis, 2005). A social system is a complex set of human relationships interacting in many ways. Within a single organization, the social system includes all the people in it and their relationships to one another and to the outside world (Umpa, 2017). A project as a social system clearly differentiation itself from its environments and has relations to these environments. So, a project requires boundaries (Sahlin-Andersson & Söderholm, 2002). Engwell (2003) states, "no project is an island" (Engwall, 2003), but he suggests that any project is dependent on events and expectations outside the project. In the projects, boundaries are created based on the social characteristics. For some, boundaries are the demarcation of the social structure that constitutes an organization (Santos & Eisenhardt, 2005). Others equate the boundaries of an organization or project with the barriers that separate work teams and departments, causing people who are supposed to be part of a team to face each other (Lencioni, 2002). Sahlin-Andersson, K., & Söderholm, A. (2002) believe, project boundaries do not appear automatically when a project is founded, they need to be created. As projects are dynamic, these project boundaries are not set in stone once and for all, but can change during the course of the project (Huemann, 2016). Other writers have looked at a project through this lens, including Heitger and Sutter (1990) described a project as a social system by the following characteristics: 1) The project must relate itself to many different project stakeholders, 2) normally, there is a high diversity and lack of clarity of expectations of the projects stakeholders towards the project, 3) predictability of what happens, if is rather words, uncertainty and risk are rather high, 4) concrete definition of project success is difficult and determined from the specific point of view from the particular project stakeholder.

3.3. Project as a temporary organization- Although interim organizations have been the most studied in the last two decades, their definitions can be found from the last half century. In one of the first definitions, Goodman (1976) considers a temporary organization in the form of a system as "a set of diversely skilled people working on a complex task over a limited period of time" (Goodman & Goodman, 1976). In some industries, a temporary organization is the regular method of doing business. Accordingly, Cambré, Bakker & Keith (2009) define temporary organizations as "groups of permanent organizations collaborating towards the accomplishment of a joint task with the duration of the collaboration explicitly and ex ante fixed, either by a specific date or by the attainment of a pre-defined state of condition" (Marchi & Sarcina, 2011). They can be intraorganizational, occurring within the context of a non-temporary organization, or interorganizational, comprising several organizations (Kenis, Janowicz, & Cambré, 2009). Therefore, the existence of a temporary organization may not be necessary after its goals have been achieved, and as a result it may be dissolved or relocated.

Many temporary organizations come in the form of projects or project-based organizations, but the concept goes beyond the project which including joint ventures, consortia, presidential commissions, court juries, election campaigns, rescue operations and disaster relief organization. Thus a project may be defined as a temporary organization, but not every temporary organization is a project (Huemann, 2016). Accordingly, Cleland and Kerzner define a project as "a combination of human and non-human resources pulled together into a temporary organization to achieve a specified purpose" (Turner & Müller, 2003). The temporary nature of projects means that a project has a specific start and end time. The end of the project is achieved when the project goals are met or when the project is terminated because its goals can not be met, or when there is no need to continue the project. Temporary project does not necessarily mean that the project lasts for a short time, and this feature does not apply to the product or service, or the result created by the project, as many projects are done to produce a sustainable output (such as a bridge project, a dam, or a mall) (Asheim, 2002). Also, projects can have social, economic, political, and environmental impacts that will last far longer than the project.

Given the importance of these organization, in 1995, Rolf Lundin edited a seminal special issue of the Scandinavian Journal of Management with the theme "temporary organization and project management" and positioned the project as a temporary organization. This special issue set the ground for defining projects differently, not as tasks but as temporary organizations. Inspired by Godman and Godman (1976), Lundin and Söderholm (1995) offer a theory of the project as a temporary organization. They base it on action theory and institution theory. They differentiate temporary organization from other kinds of organizational settings such as permanent organizations. Lundin and Söderholm (1995) use the concepts of time, task, team, and transition for the differentiation of temporary and permanent organizations. According to them, permanent organizations are more naturally defined by goals (rather than task), survival (rather than time), working organization (rather than team) and production processes and continual development (rather than transition) (Lundin & Söderholm, 1995). Table 1 summarizes the differences between temporary and permanent organizations.

Table 1. Unique and repetitive tasks (Dwivedula, Bredillet, & Müller, 2012; Huemann, 2016; Lundin & Söderholm, 1995)

Characteristic	Temporary organization	Permanent organization
Time	• Time is limited and pre-defined which create deadlines • Time is perceived as linear, with distinct phases between "birth" and "death" • Time does not have to be limited but is dependent on the finishing of the task	• Time is infinite • Time is formed around the calendar year • Focus on long-term survival, not limited time
Task	• One, or a limited number of, defined tasks, which can be unique or repetitive • Repetitive tasks are unique to some extent • The task comprises time-limited goals that focus on action • The task should be completed during project duration	• Tasks are repetitive and continuous for an infinite period of time. Long-term goals drive decision-making • Overall goals concern stability, core values and long-term development
Team	• Cross-functional team formed around the task • Time-limited participation where participants have other permanent "homes" • Are unfamiliar with one another's skills	• Any group of people, must not be formed around the task • Based on competences and continuous participation, enhancing participants' familiarity • Defined as working organization rather than team
Transition	• The project work in itself or the outcome concern progression, achievement or accomplishment • The temporary organization is a transitory unit • Possible to measure progress and accomplishment based on transition • Little or no challenge to the legitimization of the team members	• Any group of people, must not be formed around the task • Based on competences and continuous participation, enhancing participants' familiarity • Stable production processes and continual development • Relation between the individuals and the team environment: legitimization of team members can sometimes be challenging

3.4. Other perspectives to project- Turner and Müller (2003) also state, "many of the classical definitions of projects emphasize the role of a project as a production function, just as the earliest definitions of the firm in classical economics. According to these definitions, the project is a collection of plans, presided over by a manager, who buys and sells the project's inputs and outputs on the open market, and tries to maximize the benefit to the owner. The benefit is the net present value of the project, discounted for risk" (Turner & Müller, 2003). These two based on the definition of projects by Andersen et al. (1987) emphasize that "projects deliver change. Traditional organizations adopt projects as a vehicle (or agency) for change. They create the temporary organization to deliver a coherent set of change objectives, because projects are better suited for managing change than the functional organization" (Turner & Müller, 2003). Also, several definitions (Cleland & King, 1975; Turner & Müller, 2003; Woodward) emphasize the role of the project as a vehicle (or agency) for assigning (or organizing) resources for completion of the endeavour or task. They state, "projects have been used as an organizational form to provide a vehicle for assigning resources to the delivery of change in organizations since the 1950s, and this can be taken as a measure of its success" (Turner & Müller, 2003). Finally, Turner et al. say that "uncertainty of the product and process is one of the key consequences of the features. They developed a taxonomy for projects based on uncertainty of product and process" (Turner & Müller, 2003). Furthermore, Turner and Keegan suggest that "the need to manage configuration and the reduction of uncertainty is the main transaction cost associated with projects. Thus, the project as an agency for uncertainty management implies something about both the scope and structure of the project" (Turner & Keegan, 2001).

As a conclusion of this part, a project is seen in the definitions as a task (a temporary, complex, and unique task individually or in groups), but in today's literature it is seen as a special type of temporary organization. It can be said that the organizational project consists of smaller temporary organizations with the following characteristics: 1) It has a non-routine and repetitive process that results in non-routine products and generally involves indeterminate technical tasks (Shenhar & Dvir, 2007). 2) It has a predetermined time frame; that is, the work involves a time limit and consequently a time pressure (Lindkvist, Soderlund, & Tell, 1998). 3) It has performance evaluation criteria such as time, cost, quality, value creation and profit. 4) In terms of activities, roles and internal affiliations are complex and uncertain that require conscious organization (Shenhar & Dvir, 2007). 5) It has a dynamic and organic structure with informal behavior, and they have a flat and horizontal structure in terms of expertise, and they work in the form of decentralized work teams (Mintzberg, 1993). Thus, project design, including project learning that this paper focuses on, should be done based on these features.

4. The Critical Project Studies Movement: background of the critical success factors

In general, the roots of the discussions related to the critical project studies movement go back to the accidental meeting of several project management specialists such as Svetlana Cicmil and Damian Hodgson, who during the scientific discussions showed their common interest in critical issues in project management. An important point that attracted the most attention was the output of articles and writings of project management in various conferences that were less focused on critical topics. The writers of the Critical Movement believed that these works which often presented by the writers of the Scandinavian School of Project Studies, done without necessarily having a critical edge, although this school had elevated interest in project management since the publication of Lundin and Söderholm (1995) on projects as temporary organisations, Kristian Kreiner (1995) and Packendorff (1995) on contingent and complex nature of project organising, Midler (1995) on projectification, and it had undoubtedly pushed the boundaries of project research. Their interpretation of project management articles was shared with other experts, and since there were many similar comments, the idea of forming critical project management workshops was raised.

"From the outset, the intention of the workshop was twofold. Firstly, to bridge the gap between project management research, grounded at the time in a very functionalist tradition and worldview inherited from engineering and the more positivist variants of management research, and wider social science, with a less pragmatic orientation and an interest in the implications of projects and project-based work beyond the project itself. Secondly, the intention was always to prioritise critical perspectives on projects -those which did not focus exclusively on 'how can they manage projects so that they are more successful' but, instead, considered all of the implications, positive and negative, of project organising and project management" (Hodgson & Cicmil, 2016). The particular interest of them were:

- Give voice to issues of morality, equality, and ethics in project-based work, organising and management and create a dialogue with those more traditional functionalist concerns of project's effectiveness and efficiency,
- Challenge the apparent inevitability of projects by drawing attention instead to political and power relations underpinning any 'status quo'.
- Open up possibilities for a fairer, more affirmative and caring forms of organising and management (Hodgson & Cicmil, 2016).

There was, therefore, an intention from the start to create a space where heterodox understandings of projects and project management could be put forward, discussed, and developed. These workshops evolved over time, and "a more substantial agenda emerged; to draw upon wider and more critical intellectual resources than the instrumental rationality, quantitative and positivist methodologies and technicist solutions which have been traditionally brought to bear in attempts to understand and control the project form of organising (Cicmil, Hodgson, Lindgren, & Packendorff, 2009). Through some of the outstanding and innovative work presented by the participants, some of the established beliefs in project management were challenged. Much of these works went on to be published in important project management and social science journals. To improve the quality of the workshops, articles by non-critical authors were discarded. These strictures led project management writers to submit more critical works. In this way, with the support of the authors and some institutions of the movement's approach, its initial foundation was formed, and the project management approaches have changed over time. In other words, purely from the perspective of project management as a tool that is often considered a quantitative measure, recently due to the pressure of various factors, the political consequences of project work have been seriously considered. These factors that have been highlighted by the experts as the critical success factors (Hadgson, Lindgren, Packendorff, & Cicmil, 2014) are:

- The pressure of precarious and discontinuous employment (Koch, 2004; and Green, 2006),
- The intensive (often technologically enabled) surveillance and control of project work (Metcalfe, 1997; Araujo, 2009; Gleadle et al., 2012),
- The multiple demands of multi-project work and leadership (Garrick and Clegg, 2001; Zika-Viktorsson et al., 2006),
- The transfer of organisational and managerial responsibilities onto individual workers (Hodgson, 2002),
- The implications of such conditions for work–life balance and gender discrimination (Lindgren and Packendorff, 2006; Styhre, 2011; Lindgren et al., 2014)
- The disciplining effects of project management as a career and profession (Barrett, 2001; Marks and Scholarios, 2007; Fincham, 2012; Paton et al., 2013).

These factors and similar topics have been among the main themes of researchers for the past two decades, inspired by the Critical Project Studies movement. Project learning, as one of the critical success factors (Chronéer & Backlund, 2015; Von Zedtwitz, 2002), has faced many challenges in projects as a temporary organization. Therefore, the focus of this research is on project learning.

5. Learning in projects: the challenges

Learning in projects is an undeniable fact because projects are done in environments that are changing rapidly and as a result, projects face a lot of uncertainty and complexity. Since the success of a project lies in adapting to a changing environment, learning is considered the key to project management. To remain competitive and viable, projects need to adjust to implement changes continually. Thus, 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 (Gil & Mataveli, 2018). Accordingly, projects are frequently described as unique events, as organizational experiments, and as learning processes (Söderlund, 2000) which unique skills and competencies would come from it.

According to Kotnour (2000), project learning can be divided into: (1) intra-project learning that occurs throughout a project—supporting delivery of a successful project, and (2) inter-project learning—the combining and sharing of lessons learned across projects (Chronéer & Backlund, 2015). Also, researchers have identified that, in project management a broader approach capable of identifying the links between intra-project learning and the transfer of learning to the wider organization is required. Koskinen (2012) concludes that processes of interaction are necessary ways to enhance and facilitate organizational learning in project-based companies (Koskinen, 2012). However, organizational learning in projects does not occur regularly, and when it does, the expected results are not always achieved (Milton, 2010; Terry Williams, 2008) because it faces with some important challenges.

First, learning in projects is probably affected by the nature of the project which is viewed through different lenses (Ekstedt, Lundin, & Wirdenius, 1992), as well as many other factors. Having an instrumental or human perspective on projects, for instance, has a great different impact on learning. In a human perspective, the project can be conceived as a way of enhancing learning in organizations. Naturally, employee interactions in projects allow them to learn from each other. By removing people from their usual routines and setting them an unusual task to be solved in interaction with unknown individuals, the permanent organization structure can be opened up to renewal and change (Södergren, 1994). On the other hand, in the instrumental view, as opposed to the organizational perspective, traditional concepts of project management such as "planning" or "structure" as objective entities become more important, while from an organizational view, deliberate social interactions are expected to occur between people working together on a project to perform a specific, intersubjective task (Packendorff, 1995). Thus, based on this view, the project can be considered as a cyclical design process in which learning occurs at the individual level as well as at the organizational level.

Temporary nature of projects is another major learning challenge. As mentioned, project is a temporary organization, which the individual in this type of organizing is similar that of an "adventurer" who moves from one temporary structure to yet another one, always looking for new challenges, and new learning opportunities (Söderlund, 2000). So, because of rapid changes and frequent shifts in temporary work systems, employees are not motivated to learn, and project managers are reluctant to invest in people who are temporary. Studies show that employees' intrinsic motivation towards learning orientation can make time pressure tolerable in the project. Accordingly, the project staff 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 project staff, which would lead them to feel positively challenged and to be more involved in learning within the project (Baer & Oldham, 2006). In addition, motivation also enhances the creativity of employees in the project. In fact, learning plays the role of a motivational process through which project staff with inherent motivation can participate in learning activities that lead to creative outcomes (Gong, Huang, & Farh, 2009).

Furthermore, projects are special entities. That is, although they may be similar, each project is a separate temporary organization (Huemann, 2016; Lundin & Söderholm, 1995). Thus, many actions and situations must be re-experienced because the project agents often return to their headquarters at the end of the project and new staff are likely participated in the next project. Under these circumstances, organizational learning in projects does not occur regularly, and when it does, the expected results are not always achieved (Terry Williams, 2008). In addition, studies indicate the temporary nature of projects makes it difficult to transfer knowledge from one project to another. It also makes it difficult to institutionalize learning in the project (Bartsch et al., 2013) because the focus of learning is on individual learning but does not lead to project learning. A project is also per se cut off from the rest of the organization and its environment to stimulate action and learning within the limited cognitive capacity given to man. The danger of learning myopia" might thus be a problem in a project context. This has also been the argument of Lundin and Söderholm (1998) who argue that projects "are allowed to die without leaving any serious traces (Söderlund, 2000).

Of course, various studies have been done in the field of organizational learning. The results of these studies also provide some organizational learning challenges, some of which are also applicable to project learning. Smith and Saxton (2011) addressed three important barriers to organizational learning: a lack of clear and measurable goals about using knowledge to improve performance; insufficient incentives for individuals or teams to participate in learning activities; and uncertainty about the most effective processes for capturing and sharing learning (Milway & Saxton, 2011). In addition, another great challenge in organizational learning, especially in the project-oriented organization, is that continuous relearning does not take place because of poor job knowledge retention (Johnson, 2018) while projects are the place to do similar work and use the experiences of previous projects. All these challenges and others that are not mentioned indicate the ineffectiveness of conventional learning systems, which are often used in permanent organizations, and the need for a comprehensive learning system in projects and temporary organizations which this research focuses on.

6. Elements of the comprehensive project learning system

6.1. Vital elements in project learning

To realize project learning, it is necessary to have a series of premises or foundations that ensure a sustainable learning in the project such as project learning main activists, project environment and culture, the atmosphere of cooperation among staff, a comprehensive information system, organizational structure, resources, inputs, outputs, and some effective factors. These are components of the comprehensive project learning system which they are discussed in the following.

6.1.1. The main learning actors in project

There are various activists involved in project learning, the most important of which are top management of project-based organization, project management, and colleagues (Sense, 2004; Lancaster and Di Milia, 2014). The supports play an important role in the effectiveness of project learning (figure 2).

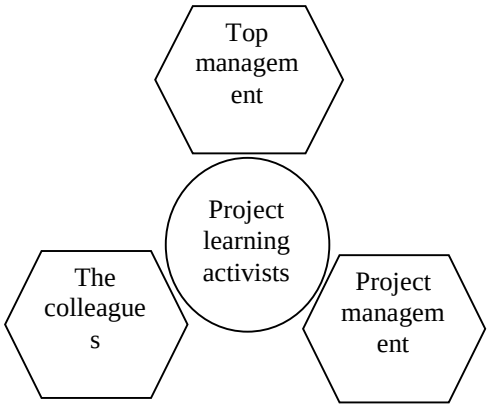

Figure 2. The main project learning actors
Source: the author's design

1. Top management support - Project learning is an activity that can not be done without the organization top management supports. Top management, project managers, and colleagues are the main activists in this system. Top management determines the main needs, goals, and the ways to achieve them in the organization. It is who holds authority, resources, and decision-making power regarding changes at the organization (Yamada, 2013). The authors argue that top management support for learning is a fundamental factor which is the starting point for learning in projects (Hanisch, Lindner, Mueller, & Wald, 2009). Others, like Bakker et al. (2011), (Palmer, 2019), Lee et al., (2018) have also emphasized the role of top management in project learning. Thus, it is necessary for top managers to be aware of the importance of learning in the project and to recognize it.

2. Project management support - learning in project can't be entirely left to human resources, the chief learning officer, or any other learning and development professional. They don't have the bandwidth to be continuous facilitators of everyone's learning and performance improvement (Kirsch, 2018). They aren't close enough to the action on a daily basis to provide instructional experiences, identifying when and where they will have the most impact (Gill, 2010). This is when project managers can influence the experiences, promoting true learning and retention. It can be said that getting help from projects to advance the vision of the organization, performing coaching and leadership tasks and ensuring that actions are aligned with the values of the organization are some of the actions that should be followed by the main learning activities in the project.

3. The colleagues support- Work in many projects shifted from an individual orientation, where tasks are completed alone, to a more team-based orientation (Hoegl & Gemuenden, 2001), where individuals work with one another to complete projects. This shift in orientation leads to more interaction among coworkers, which can impact project's outcomes. The interaction of staff in project teams as colleagues provides a good opportunity for project learning because employees have a profound impact on their co-workers' job performance and job satisfaction (Hussin, 2011; Vrinda & Jacob, 2015). In fact, this influence may be even greater than the influence of supervisors. Thus, colleagues can impact or influence others in both positive and negative ways, as they may provide support for or be antagonistic towards each other. In addition to the technical aspects of the work, the support of colleagues in projects can include role perceptions, work attitudes (Chiaburu & Harrison, 2008), and individual effectiveness that are formed during a learning process in the project.

6.1.2. Project atmosphere, structure, and systems

In addition to the supports of project human factors of learning, the supports of non-human and non-managerial factors are also essential, as figure 3 indicates, the most important are project atmosphere and culture, structure, and systems.

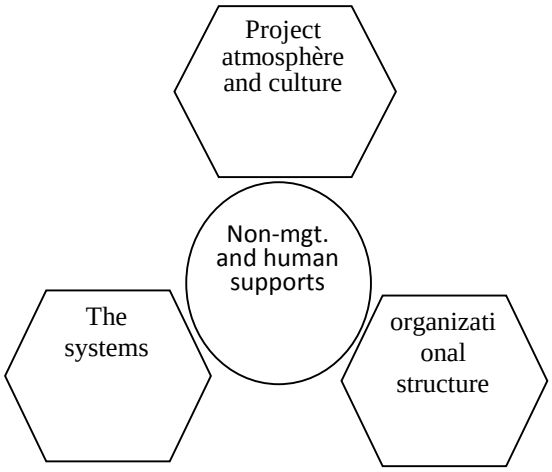

Figure 3. The project non-human and non-managerial factors supports
Source: The author's design.

1. The project atmosphere and culture- Two key elements in project learning which refer to internal environment that supports learning. Project atmosphere is "a set of measurable properties of the perceived work environment, directly or indirectly, created by individuals who live and work in this environment and that influences the motivation and behavior of these people" (Veyrat, 2016). Importantly, it is dependent on the project culture, and the value judgment which can vary greatly from person to person. It is natural that if a constructive organizational atmosphere prevails in the project, the learning will be done effectively at different levels. Love et al. (2015) argues 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" (Love, Fong, & Irani, 2005). The formation of such an environment, creates a favorable project atmosphere in which, first, reducing work stress and creating a specific time to review the work done, strengthens the learning environment (M. M. Ajmal, Kekäle, & Takala, 2009; Keegan & Turner, 2001). Second, in this atmosphere, there is no resistance to new methods and spending energy to find new ideas is considered a positive thing (Garvin, Edmondson, & Gino, 2008). Also in this environment, respect for opposing views, resolving conflicting views collectively, and respect for new ideas are considered the project value, and it creates mental security for individuals (Garvin et al., 2008) that supports project learning.

2. Organizational structure- Different approaches about temporary organization have led to the development of different organizational structures to achieve the goals of the project. Very early organizational structure were often based either on product or function (Lunenburg, 2012). Although matrix organization structure crossed these two ways of organizing, due to the changing environment of the projects and their temporary nature, experts introduced a new structure that is not really a structure; Its title is adhocracy. It defines as "an organizational design whose structure is highly flexible, loosely coupled, and amenable to frequent change" (Britannica dictionary (2022).

Adhocracy tends to be far less hierarchical than other formal structures are. This is for two reasons. First, because adhocracy's purpose is to address specific, often urgent problems that other organizational types have failed to solve, more decisional authority rests with highly trained technical experts whose reputations identify them as both skilled problem solvers and as unconventional. Second, the units and work groups of the adhocracy in which experts operate are fairly fluid. Adhocracy tolerates and sometimes even promotes ongoing changes in its subunits. Consequently, incumbent authority is accorded relatively less status in the adhocracy than in other formal organizations (Desveaux, 2019). Accordingly, it can be said, adhocracy is a temporary organization affiliated with non-fixed groups to perform predetermined tasks. Such workgroups are led by a project manager and move from one project to another, never staying in one place for routine long-term tasks. Thus, close, and informal relationships within groups and their relative independence allow them to adapt quickly to environmental changes. All of these indicate that adhocracy is different from any formal structure, such as that found in non-project or permanent organizations. As Henry Mintzberg (1993) shows in his book, "*Structure in fives: Designing effective organizations*", because the adhocracy has very low standards and few formal aspects, the technical staff is almost non-existent (figure 4).

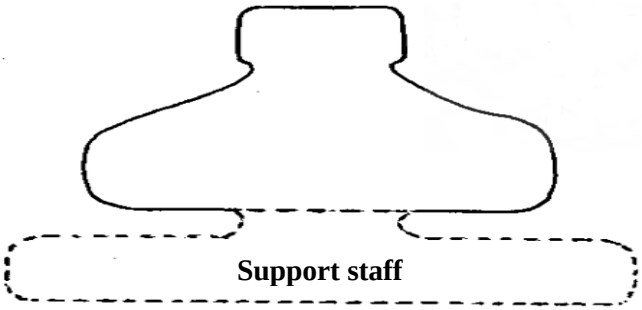

Figure 4. General plan of adhocracy
Source: Mintzberg, 1993

Also, because middle managers, support staffs, and operating bodies are made up of professionals and experts, the traditional distances and differences between supervisors and employees, line and staff, and hierarchies disappear. As a result, in an adhocracy, treasuries of specialized abilities are created that can be used to take innovative and creative actions, solve specific problems, perform different and unstable activities, and project learning.

3. Organizational systems- A project as a temporary organization uses different systems, each of which influences the project learning. The first is motivation system. As discussed in Section 2, due to the temporary nature of projects, the issue of employee motivation is a major challenge. Short-term contracts and temporary presence in projects do not motivate employees to learn (Wandera, 2011; Wheeler & Buckley, 2001). According to experts, motivation and incentives can increase the success of learning in projects (M. Ajmal, Helo, & Kekäle, 2010). Hence, the existence of an effective motivational system is necessary for project learning. Hanisch et al. (2009) believe this motivational system should include rewards and reprimands for learning (Hanisch et al., 2009). That is, while supporting individuals and teams who improve project performance through effective learning, those who refuse to learn should be sanctioned.

Another system that can be used to facilitate project learning is the project management office. Usually, organizations which have different projects and need to effectively manage their projects, establish a project management office. PMO is introduced as a permanent organizational unit; The unit that is responsible for coordinating and centralizing all the organization's projects (Aubry & Hobbs, 2010). Some of the tasks of the office include planning for project portfolios, developing project standards and strategies, training new staff, supervising, supporting, and directing independent projects (Dai & Wells, 2004; Hill, 2004). According to experts, the project management office can play the role of an intermediary entity for the transfer of knowledge and learning in projects because it understands the temporary nature of the project, and as a permanent unit in the organization, it also can help to develop an organizational perspective (Hill, 2007; Pemsel & Wiewiora, 2013).

Information technology is another system that can not be ignored its role in project learning. Studies indicate that IT has an impact over organizational learning as IT facilitates OL at both the individual level and the organizational level in creating knowledge which ultimately enables organizations to improve capabilities and enhance performances to cope with change (Quresh & Uppatumwichian, 2008). Project IT plays a vital role in four areas: 1) Repository of lessons that helps to record lessons in a standard way, assign them the necessary actions, and track the learning effects, 2) knowledge library which is a repository of project process documents, 3) a platform for searching and publishing the updated processes, and 4) create a database of skills (Marsick & Watkins, 1998; Milton, 2010). Accordingly, it can be said without IT support, project knowledge management is difficult to use in project.

6.1.3. Project learning processes and mechanisms

Projects are generally temporary in nature, but as an organizational entity, in addition to being independent, they are often part of a larger organization that is permanent. Accordingly, learning in the project should be considered at both temporary and permanent levels. The project learning system should be defined by considering time, task, team, and transfer, which are the criteria for separating the temporary and permanent part of the project.

Time is one of the most important criteria for distinguishing between a temporary organization and a permanent one. One obvious reason for this is that "temporary" implies something that exists for a limited time and, normally, this time aspect is well known from the beginning (Turner & Müller, 2003). Because time is considered a scarce resource, a temporary organization faces more time constraints than a permanent one. In a permanent organizational setting, the focus is on survival rather than time (Huemann, 2016). Therefore, time management is more complex in temporary organizations. For a temporary organization, time is always running out, because it is limited from the beginning, but in a permanent organization, the future is considered as eternity (Lundin & Söderholm, 1995) and therefore the limitations time is not felt. Studies show that time pressure in temporary organizations affects group interaction and performance. when a group experiences time pressure, they will focus on different elements of the environment than they would have if such time pressure was not present. This result in a different perspective of the goals, which

in turn changes the way people interact with each other and process information. The main effect of time limits is an increase in the focus to task completion. In absence of such time pressure, significantly more focus is placed on interpersonal interaction. Thus, it can be said that temporary organizations have less interpersonal interaction and are more concerned with efficiency (Kelly & Loving, 2004). This leads to certain communication issues regarding knowledge sharing and transfer in projects.

Although there is a time pressure in temporary organizations to perform tasks, they are primarily concerned with accomplishing the purpose of the current task. In fact, it is the task that legitimizes the existence of a temporary organization (Jacobsson et al., 2013) because in most of the times, the main motivation for creating a temporary organization is doing the tasks. So, task-related activities are of major importance in the development of temporary organizations (Lundin & Söderholm, 1995). The studies indicate that task itself is more important to participants in temporary organizations than it is to members of permanent organizations (Katz, 1982). According to McCarthy et al. (1993), this is not to say that the task is always completed (McCarthy, Schoorman, & Cooper, 1993), but that it represents the main motivation for the creation and development of a temporary organization. Generally, there are two types of tasks in the organizations. Repetitive task is something that is constantly repeated and includes actions or elements that are repeated many times; thus, it is boring. This task is made up of operations that are similar in length, the amount of strength required, or the physical action involved (Tyosujelu, 2021) while unique task is something that is not repetitive, and it is always new. "When the task is unique, nobody has immediate knowledge about how to act. Visionary, flexible, and creative actions are consequently needed in addition to a more deliberate search for experiences from other areas" (Lundin & Söderholm, 1995). These tasks, which are often challenging, are a feature of projects.

Teams are made up of human members, each with different beliefs, attitudes, and expectations. These different characteristics affect their teamwork. According to Saunders and Ahuja (2006), team members in temporary organizations know that their teamwork will not be repetitive, but that team members will split as the project progresses (Saunders & Ahuja, 2006). So, the interaction of individuals with team members in temporary organizations will not be sustainable. While, because permanent teams do provide an opportunity to develop social relationships through the repeated exchanges over time, they are likely to be more fulfilling than temporary teams (Saunders & Ahuja, 2000). Accordingly, it can be said, permanent teams have the time needed to develop roles and norms, establish deeper trust, develop communication patterns, and resolve sources of deep-lying conflict, but temporary teams focus their attention on the task-related interaction rather than social interaction (Kelly & Loving, 2004). This is one of the reasons for the low level of satisfaction in temporary teams. In addition, "temporary assignments normally mean that individuals have other "homes" before, during and after being involved in a temporary organization, which means that the team is dependent on other organized contexts besides the current temporary organization" (Lundin & Söderholm, 1995). Thus, in the long run, development of trust based on interaction and experience is necessary.

Understanding transition helps to understand the temporary organization as a transient unit in the permanent organization. According to Lundin and Söderholm (1995), transition is the aim of the temporary organization, and the success of the temporary organization relies on this transition. They believe, within permanent organizations, temporary organizations are created when there is a need for change because the focus of the permanent organization itself is on stable production and continual development (Lundin & Söderholm, 1995). According to action orientation, because of the existence of a temporary organization, something must transform or changed, and this change must occur before the organization ends. Therefore, experts in temporary organizations consider the actions that lead to transformation as something necessary and desirable. A review of the literature shows that there is no consensus on the transfer criteria. While Lundin and Söderholm (1995) had time as the central theme for the temporary organization, Jacobsson et al. (2013) place transition in the center and suggest that transition is the foundation for demarcations between the temporary and the permanent. They view the temporary organization as a transitory unit in which transition affects the three other themes. Lundin and Söderholm (2013) responded to this by acknowledging the importance of transition and by introducing the concept of end states, which they argue better, captures the uncertainties and changes in the environment of temporary organizing.

Considering the above four criteria, the learning process in the temporary and permanent parts of the project will be as follows.

1. Learning process in the temporary part of project- Based on the above, it can be said that each project, as a temporary organization, is a unique entity which often managed independently of other projects although, it is part of a whole that forms the body of a project-oriented organization. Accordingly, part of the learning takes place within an independent project so-called intra-project learning. It is the creation and sharing of knowledge within a project. Intra-project learning focuses on tasks within a single project and supports the delivery of a successful project by identifying problems and solving them during the project (Kotnour, 2000). Learning takes place when project team members discuss approaches for completing a task or overcoming problems. The intra-learning cycle occurs throughout a project and can be delineated by phase of the project, routine reporting cycle such as weekly or monthly status and review meetings, project deliverables, or major occurrences in the project (Kotnour, 2000). On the other hand, the other part of project learning happens among the projects. Inter-project learning is the combining and sharing of lessons learned across projects to apply and develop new knowledge (figure 5) (Kotnour, 2000). Tools to support inter-project learning include information technology tools and employee groups aimed at sharing knowledge across the organization (Shane & Schumacher, 1996; K. E. Williams & Kotnour, 1993). Increasing experience intra-project as well as inter-projects, if done systematically, can

improve both project, and project-based organization performance. If the two projects are carried out at short intervals from each other, the possibility of exchanging knowledge and experience in these projects will be greater (Prencipe, Brady, Marshall, & Tell, 2005). In addition, when two projects run simultaneously, or when they overlap, it is expected that good knowledge will be exchanged, and experiences will be shared between them (Lindner & Wald, 2011).

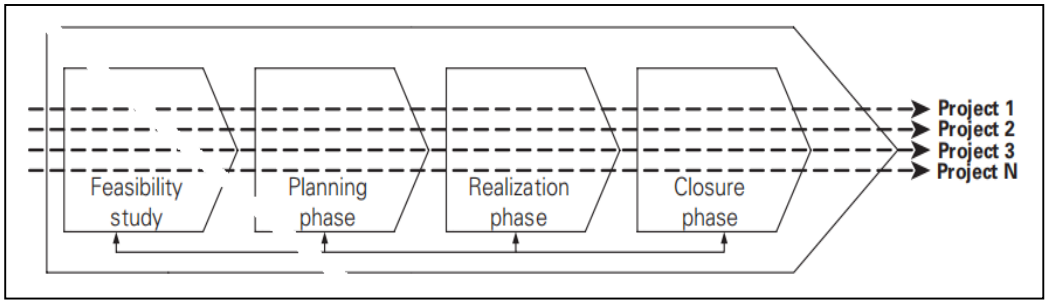

Figure 5. Intra and inter project learning process (Chronéer & Backlund, 2015)

According to Chronéer & Backlund (2015), considering these mechanisms, it is needed to introduce the role of process owner, responsible for process improvements and development. A process owner should be appointed for each of the different phases in a project's life cycle including feasibility study, planning, realization, and closure. The structure and naming of the different processes should be based on the specific project model structure used by each project-based organization. The project teams should also be appointed to the role as process improvement teams, in other words, individuals in the project-based organization should have two roles: project team member (with a focus on managing/conducting the single project) and process team member (with a focus on improving the organizational wide project learning process) (Chronéer & Backlund, 2015). To operationalize such a process view, mechanism should be developed so that intra- and inter-learning can occur. This mechanism can be borrowed from the quality management system, which includes plan-do-study-act (PDSA) cycle (Juran, 1988), and is used to represent the learning process in a project environment.

In the "plan" step, the project team determines the nature of the problem and constructs a plan. The plan is a set of expectations about the set of steps to take and the expected results. The project team implements the plan in the "do" step. Implementation produces a set of results about the expected and unexpected actions taken and associated performance such as cost, schedule, or technical performance. These results are used to understand project status and to move the project forward. In the "study" step, the project team reflects on the associated plans, and results to determine the good and bad instances. The output of the "study" step is a lesson learned. The "act" step is the closing of the loop to show the decision to continue with or abandon the process of improvement (Kotnour, 2000). The PDSA steps parallel the project management process steps, "planning" is the same, "do" is "executing", and "studying" is "control". The "act" step is the use of the lessons learned on the next project during the planning phases. The use of "study" over "control" emphasizes the need for learning and improvement.

2. Learning process in the permanent part of project- In addition to the temporary part of the project, whose staff is constantly changing, there is also a permanent part, whose staff is permanently employed by the project-oriented organization. Accordingly, in a comprehensive project learning system, a permanent learning process is also required which leads organizational learning. The permanent part of the project plays an important role in absorbing (acquisition) knowledge, depositing it, and reusing acquired knowledge in the projects. In other words, learning in the project must be transferred to the permanent section at the same time as implementation with appropriate interactions (Lampel, Scarbrough, & Macmillan, 2008; Sense, 2011). This is where organizational learning happens in the project. Hence, it can be said that the permanent part of the project facilitates learning within the project, helps learning to take place among projects, and makes it easy to transfer experiences from one project to another. Achieving these requires a process that facilitates planning, implementation, auditing, reviewing, and feedback mechanisms.

As depicted in Figure 6, organizational learning can take place at three levels: individual, group, and organization. In addition, it includes four attributes, which have been called the 4 I's (Mello & Esper, 2007): 1) Intuition; is the recognition of patterns and the realization of new possibilities, 2) Interpretation; is the refinement of ideas and insights to make them understandable, 3) Integration; is the transformation of consensus on the implications of the information into collective action, and 4) Institutionalization; is the establishment of routine actions – standard operating procedures – that allow new information to be embedded in an organization (Mello & Esper, 2007).

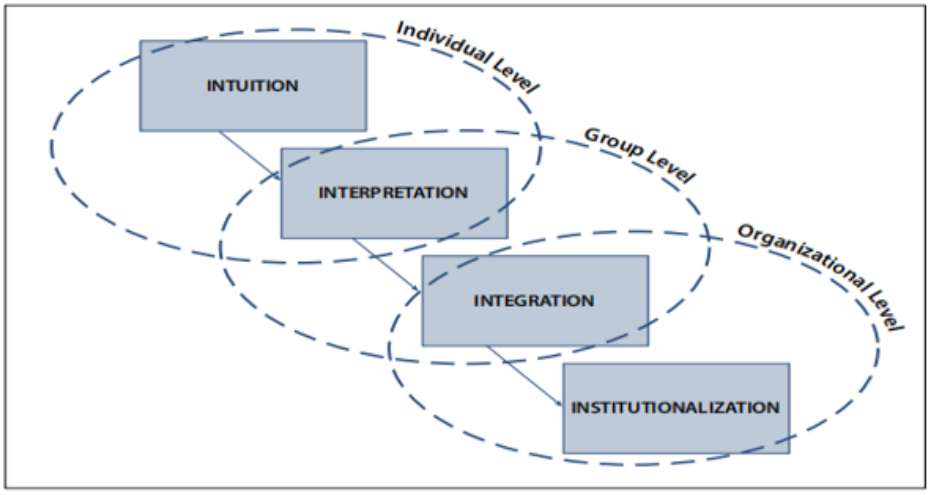

Figure 6. The organizational learning process (Mello & Esper, 2007)

Organizational learning specialists have introduced various processes to promote learning in project-based organizations. In these processes, various elements are emphasized, such as learners, learning institutions, project review, auditing, modeling, and training (Von Zedtwitz, 2002). Furthermore, most researchers who have worked on organizational learning point to three key steps in the learning process: recognition (collecting data and information), distribution (transferring knowledge), and application (implementing the created knowledge) (Duffield & Whitty, 2015). Milton (2010) also identifies key components of the learning process of project-based organizations, including identification, action, and institutionalization (Milton, 2010). Accordingly, the project learning process in the permanent section (organizational learning) can be presented as Figure 6.

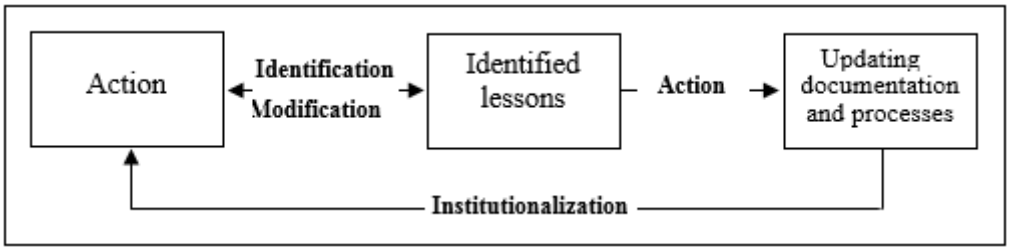

Figure 6. project learning process in the permanent section (Sobhiyah et al. 2018)

6.1.4. Project learning inputs and outputs

If we consider project learning as a system, inputs and outputs mean connecting the project learning system with the outside world. In other words, the project learning system is an open system that receives the required inputs and resources from the environment, and after processing, which is the learning process, presents it in the form of outputs. Perhaps the most important inputs of the project learning system are the knowledge, expertise, and skills that enter the system through in-project / out-of-project agents. Naturally, there must be enough knowledge and experience in the project to be transferred to others as a new resource. The learners (including project staff, supervisors, contractors, and other stakeholders) are also another important input of the system. The best learning system would not be effective without motivated learners (Bank, 2017). In addition, scientific data, legislation, environmental changes, project stakeholders' wants (Nickols, 2012), administrators, supplies, and facilities, etc. are other inputs. It should be noted that project guidelines, procedures, and documentation are also referred to by some authors (Sobhiyah et al., 2018; Loufrani-Fedida & Saglietto, 2016; Lierni & Ribiere, 2008) as inputs of the learning system, but they may be overlooked in a learning system that is done informally.

The outputs or results of the learning system are reflected in the performance of the project. The most important criteria for evaluating project performance are its efficiency and effectiveness (Davis & Pett, 2002; Ostroff & Schmitt, 1993; Takim & Akintoye, 2002). When a project is considered efficient, its activities are performed with the least time and cost, but with the highest quality (Atkinson, 1999). On the other hand, when the project achieves all its goals, it can be said that it has been effective (Price, 1972). In addition, researchers have emphasized, creativity improvement, processes effectiveness, stakeholder relationships, readiness for changes, job satisfaction, organizational commitment, improving financial performance as project learning outputs (Sobhiyah et al., 2018; Farooq, 2012; Davis & Daley, 2011; Fei & Jun, 2007). Other researchers have mentioned to risk reduction, reduce duplication, creativity promotion, and continuous improvement as learning system outcomes (Sobhiyah et al., 2018; Hanisch et al., 2011). Finally, the success of the project can be mentioned as the most important output of the project learning system based on the criteria success factors that emphasized by the Critical Studies movement.

6.1.5. Other influential factors in project learning

1. Environmental factors- In addition to internal environment of the project previously discussed, its external environment also affects various aspects of the project. Project environment is often referred to as a temporary organisation where social interactions occur to deliver projects (Algeo, 2014). In the big picture, a project's external environment refers to the task and general environments. The task environment of a project affects its ability to reach project goals (Marketing dictionary, 2022). More specifically project risks and chances, stakeholders, suppliers, contractors, customers, authorities, works council, competitors, and persons affected by the project indirectly are considered as project task environment. On the other hand, the general environment, or macro-environment, is the variety of factors beyond a project's control that affect their operation and performance (Basan, 2012; Sammut-Bonnici & Galea, 2014); the factors such as political, economic, sociocultural, technological, environmental and legal (Yüksel, 2012). A project-based environment will be created if PM makes accurate analyzes of these factors. Naturally, such an environment supports learning in the project.

2. Contextual factors- In general, there are different types of projects that are performed in the services and manufacturing fields. Projects can be categorized in different types based on the product they produce such as administrative, construction, computer software development, design of plans, equipment or system installation, equipment or system installation, maintenance of process industries, new product development, research, and others (Dias, Tereso, Braga, & Fernandes, 2014; Youker, 1999). The specific characteristics of the projects create specific learning conditions that are likely to be different from the others. In addition, not all projects are the same size. Some of them are small, like a term paper, and some are super-projects or mega-project, such as large construction (Hu, Chan, Le, & Jin, 2015). It is natural to expect that project size will have an impact on the learning system. Project duration is another factor that can be considered as project contextual factor. It is the total time that it takes to complete a project measured in workdays, hours, or weeks. The duration depends on the availability and capacity of resources (twproject, 2022). When project duration is short, learning time is shorter and trained personnel are more needed, while when it is longer, staff will have enough time to learn on the job. Also, when a project requires a lot of financial resources, PM invest more in learning system to reduce the risk of project failure. That means project volume, which is the monetary value (dollar) of all work planned or performed over a period of time, often a one-year period.

3. Individual factors- In general, human talents and abilities in learning and transmission what they know are not the same. Some people learn fast while others learn through repetition. Also, some people are well at transferring knowledge, and some are not good at it. This unique feature has made it possible for each person to learn new topics and transmit according to their different individual characteristics. They are characteristics of the learners that are effective in learning and the formation of its transmission (Hicks, 2006). Studies show in advanced learning individual variables such as knowledge and skills, self-efficacy, motivation, mental readiness, enthusiasm, talent, individual aspirations, concentration, maturity, etc. affect learning (Bansal & Thakur, 2013; Hicks, 2006; Suleiman, Dassanayake, & Othman, 2016). Other researchers emphasize features such as participation, job satisfaction, organizational commitment, organizational cynicism, attitudes, interests, values, and expectations for the transfer of knowledge and experience (Hamid, Saman, & Saud, 2012; Lim & Johnson, 2002). Other factors have been mentioned by the authors that are avoided due to the length of the discussion.

4. Organizational factors- Researchers consider organizational factors in studies on variety of topics. Since the organizational factors are one of the most important determinants of successful projects, by understanding their impact and identifying them it can help planning and implementation of the project learning system. The studies indicate that authors emphasize various organizational factors influencing learning system. Richard Daft (2007) considers thoughtful leadership, emergency strategy, delegation, information sharing, horizontal structure as the factors that affect organizational learning. In addition, Wick and Leon (1995) They emphasized on Leader with vision, plan/ metrics, information, inventiveness, and implementation (Wick & León, 1995). Furthermore, the relationship between strategic orientation and organizational learning has attracted considerable attention in some previous literature. The studies found out that strategic orientation constitutes a strong predictor of organization performance and can support OL in different ways (Lim & Johnson, 2002). They also argue that organization agility is reflected as an organizational aptitude that supports organizational learning and help it to react and deal with the changing in the environment (Lee & Lee, 2017; Nijssen & Paauwe, 2012). organizational agility seems necessary to encourage the application of learning experiences (Lim & Johnson, 2002).

6.2. The project learning framework

Based on what was mentioned in the previous sections, it can be said using a permanent organizational learning approach in which "organizational memories, preserved behavior patterns, and standard operating procedures" (Söderlund, 2000) are key factors, and the focus is solely on learning at the end of the course, may not be sufficient for projects. In the project as a temporary organization, in addition to the group that is permanently present in the project-oriented organization and plays similar roles, there are groups that are temporary. In a comprehensive project learning system, both processes, temporary and permanent, must be considered. Hence, in the project learning processes, various performance records can be a source from which lessons can be learned. Lessons need to be considered during the project, and when the project is complete inter-personal structures need to be in place to distribute that learning throughout the organization (T Williams, 2003). In other words, project learning starts from the beginning point of a project

and continues to its final point and even after that, and using the feedback mechanism, the necessary corrections are made to improve the system. Also, this process takes place not only within the project, but also among projects at three levels: individual, group, and organizational.

To achieve this, the supportive role of three groups in the project is crucial: organization top managers, project management, and colleagues. Each of them plays direct as well as intermediate roles in the project learning process. Furthermore, to obtain a learning culture in an organization, all organizational levels need to be involved in continuous learning in order to facilitate access and sharing of information (Chronéer & Backlund, 2015). Naturally, project learning as a system includes various inputs and outputs that must be effectively introduced. Finally, the project learning system is influenced by various factors in individual, group, organizational, contextual, and environmental contexts that are considered for its effectiveness. Accordingly, figure 7 provides the project learning framework.

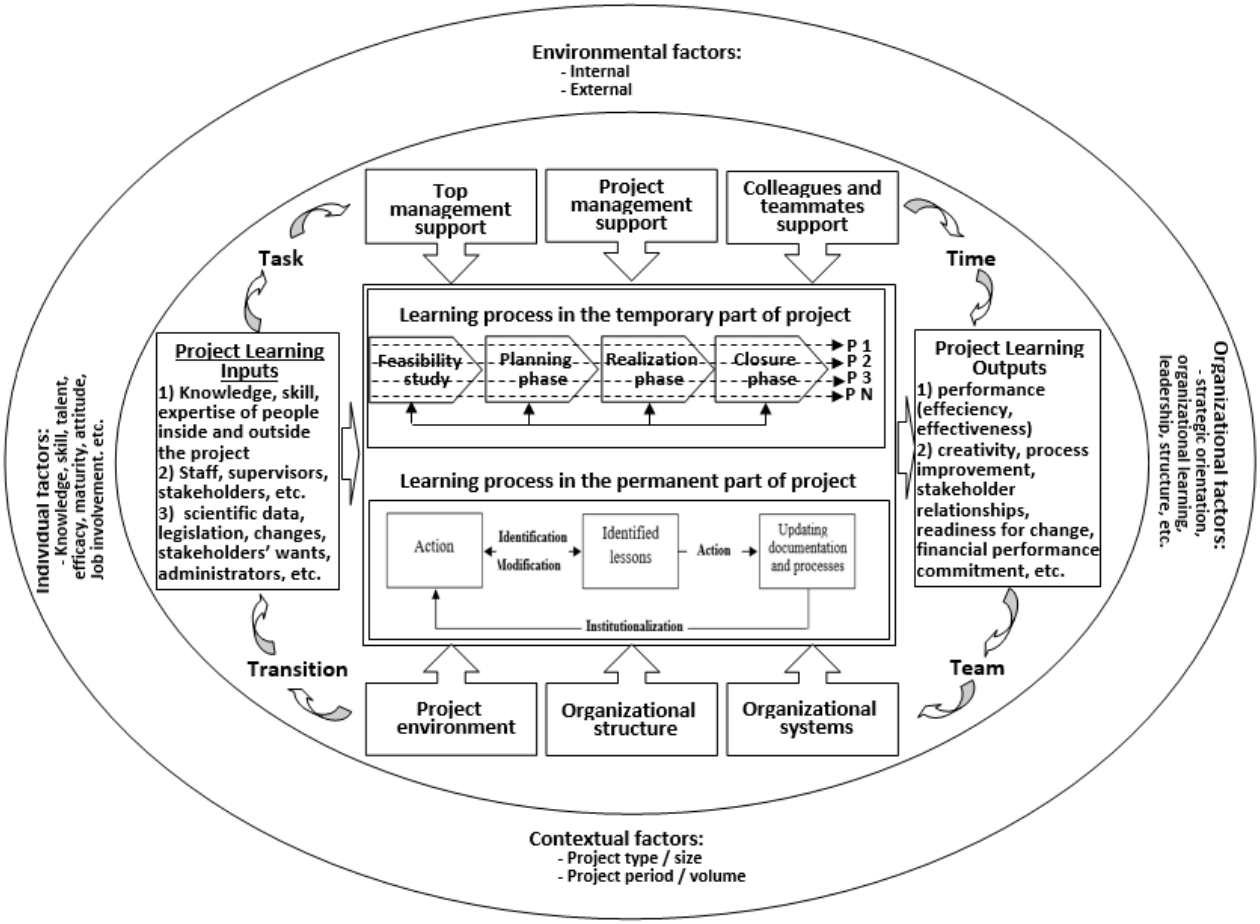

Figure 7. The project learning framework

Source: The author's design

7. CONCLUSION

As conclusion, first, based on the writers of the Scandinavian school approach, a project is a temporary organization, but not every temporary organization is a project. The scope of temporary organizations is wider, so, to better understand the nature of a project, experts have looked at it from different perspectives. Some have focused on the technical aspects, such as "project as a production system", and some on the social aspects, like "a project as a social system", but in any case, a project is temporary in nature, and it is felt by all project managers and staff. Secondly, given the circumstances prevailing over project-based organizations in previous decades, especially after World War II until the 1970s, only the positive outcomes of project management were considered while over time PM has attracted significant attention from both researchers and practitioners, coincident with the increased adoption of project-based work across industrial sectors. But various factors such as competition, shortening product life cycle, environmental changes, improving leadership styles, technology development, and many other factors have seriously challenged the principles and practical application or project management that were once glorified. Accordingly, the writers of the Critical Success Movement in PM have called for a re-examination of the dominant doctrines in project management to prevent their failure. Most of these efforts to improve traditional project management models and skills have shifted to models that better illustrate the "real" nature of projects based on "critical success factors."

Learning Framework of Project as a Temporary Organization: Based On the Scandinavian School Arguments

Given the characteristics of the project as a temporary organization that distinguishes them from permanent organizations, it can be concluded that their supporting theories are not the same. In other words, since theories of organization, assuming they are permanent, have been gradually developed, they will not be very effective in managing temporary organizations. Therefore, projects should be theorized according to their conditions, and develop the operating systems. Project learning is one of them that plays an important role in the success of projects, and it is known as one of the critical success factors. Although projects are a good place to learn, there are some big challenges. First, the level of learning in projects is not very clear to managers. Second, the complexity and temporary nature of projects often make it difficult to absorb, translate, transfer knowledge from one project to another, and institutionalize it in the project. In addition, due to being temporary, the workforce is not motivated enough to learn, and the employer is not motivated to invest. To overcome these challenges, a comprehensive project learning framework is needed, which is output of this paper.

In this framework, there are two categories of learning processes. The first is the learning process for temporary activities in the project. In this category, each project has its own learning process, while exchanging experience and learning between projects while experience is also exchanged among the projects. Also, the permanent part of the project has its own learning process that helps it institutionalization in the project. These processes, both, are developed according to the four criteria of distinguishing temporary and permanent organizations: task, time, team, and transition, and affected by supports of top management, PM, co-workers, project environment, and organizational structure and systems. The most important inputs on the system are knowledge, expertise, and skills that enter the system, the learners, scientific data, legislation, environmental changes, project stakeholders' wants administrators, supplies, and facilities, etc. while the efficiency, effectiveness, creativity improvement, processes effectiveness, stakeholder relationships, readiness for changes, job satisfaction, organizational commitment, improving financial performance and so on are its main outputs. Finally, project learning as a system is influenced by various factors, the most important of which are environmental, contextual, individual, and organizational factors that have been considered in the development of the model.

Although this research provides a basis for further research by developing the literature of project learning as one of the critical success factors, it faces limitations in methodology. In other words, in this study, only the systematic review method has been used, while using of other methods, such as survey, and case study can increase the validity of the results.

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