Contractor project manager leadership style based on path goal theory to support construction sustainability

Caroline Maretha Sujana
Civil Engineering Department, Faculty of Engineering, Bina Nusantara University
Jakarta, Indonesia 11480
Corresponding author: caroline.sujana@binus.edu

Abstract. Sustainability in construction projects has become an essential issue. To implement sustainability in the construction project, trained personnel are needed. However, the temporary projects and the turnover of the project team members remained obstructions in performing these principles. Leadership is a competency that must be possessed by the contractor project manager in leading the project and making sure the construction project sustainability constructing subordinate engagement and organizational learning. Various studies on leadership styles that are suitable to be applied in the construction industry have been carried out in various countries, but in Indonesia, it has not been a concern. This study describes the leadership styles of the project manager uses Path-Goal leadership theory. From the research carried out on projects in Jakarta and Bandung, it was found that project managers in construction projects tend to lead by using achievement oriented style. Short construction project completion times and penalties if the project finish late, both are making PM oriented towards achievement, giving targets to the project team and expecting the best performance from the project team. However, project managers lack trust in subordinates to take decisions (participative). It affected the subordinate engagement at work that needed in supporting construction sustainability.

Keywords: leadership, path goal theory, project manager, construction sustainability.

1. Introduction
The principle of sustainability is considerably necessary today. The sustainability development has consciously integrated into various sectors, one of which is industrial construction [7]. According to [27], there are numerous understandings about sustainability in projects. The most commonly used definition of sustainability is the understanding expressed by [2], sustainability is defined as development that meets current needs without reducing the ability of future generations to meet their own needs. Sustainability coverage of environmental, social and economic aspects. In terms of economic benefits, the CIEF Forum [4] asserted that construction sustainability is a solution to significant cost savings to provide innovation and increase the long term competitiveness of an organization.

Awareness of all stakeholders involved in the project is needed to be able to implement sustainability in the construction project. From the research conducted by [27], it was said that there was a lack of awareness and willingness from various stakeholders in applying sustainability. Trained personnel is needed to support the implementation of sustainability. [19] stated the challenge experienced by construction projects was the lack of human resources who have the capabilities
needed to implement sustainable construction on the project. Training and awareness development for stakeholders are needed regarding sustainability.

The nature of construction projects is temporary. It has a time limit, and each construction project has unique characteristics and constant replacement of the project team personnel involved. Those bring a distinct challenge in implementing sustainability in construction projects. Project managers could ensure organization sustainability by ensuring employee engagement, organizational learning, and training [21],[13],[17]. Employee engagement is the key to keeping skilled personnel. Employee engagement is a powerful tool for driving sustainability initiatives [1].

PM can improve employee engagement and organizational learning by applying certain leadership style in the project team. According to PMBOK, the project manager is defined as: "The person assigned by the performing organization to achieve the project objectives" [18]. In achieving project success a project manager must be able and master not only technical skills but also the ability to relate to human resources because many parties involved in construction projects such as project teams, suppliers, sub-contractors. Project manager also must be able to lead and coordinate, motivate human resources and set project goals. [5], [23], [10] asserted that PM automatically occupies a leadership position and must have managerial and leadership skills.

Various studies on leadership styles that are suitable to be applied to the construction industry have been carried out in various countries, but in Indonesia, it has not been a concern. This paper is based on pilot studies in Jakarta and Bandung and part of the study about the effective leadership style of construction project managers on contractor projects in Indonesia. As stated by [15] leadership or sustainability requires leaders of extraordinary abilities. This paper is expected to describe the tendency of leadership style that contractor project managers usually apply when leading the project team based on the Path-Goal leadership theory approach. Hereinafter, evaluate does leadership style that project managers usually practice can promote employee engagement and sustainability.

2. Leadership theory and previous research

According to [22] leadership and managerial are two things that cannot be separated, the leader should master both of them. The words "manager" and "leader" themselves have different meanings. Managers are the ones who regulate: implementing planning, action, controlling, monitoring, managing resources needed, while leaders are people who influence subordinates to achieve goals, including providing direction, aligning subordinates and motivating subordinates [16]. Every team or organization requires the role of a manager as well as a leader so that the goals of the team/organization are achieved [26].

Path-Goal Theory [16] Path-goal theory is a leadership theory that emphasizes how a leader motivates his subordinates to achieve predetermined goals and subordinates’ work satisfaction. This theory emerged in 1971. Leaders must help their members achieve their goals, to give direction and support that are needed, to guarantee their goals are in accordance with group or organization’s goals as a whole.

The term path-goal comes from the tenet that effective leaders clarify the pathway to help their subordinates achieve their goals and create more obvious pathways by reducing barriers and traps. According to the path-goal theory, a leader behavior can be accepted by subordinates if assessed by subordinates as a source of satisfaction at that time or in the future. The behavior of leaders will provide motivation throughout:

- Make subordinates feel satisfied in achieving effective performance
- Provide the teachings, direction, support and appreciation needed to achieve effective performance.

The path-goal theory is divided into four approaches that leaders can choose in facing their subordinates, depending on the characteristics of subordinates and the situation at hand. The four behavioral approaches include directive, supportive, participative, and achievement oriented.
Directive is a style in which the leader’s focus gives specific rules, sets work schedules and regulations. This leadership style is effectively applied when subordinates are unsure about their work and much uncertainty in their environment.

Supportive is a style in which leaders focus on building good relationships with subordinates and paying attention to the subordinate’s needs. Leaders show friendly behavior. This leadership style is suitable for challenging / difficult jobs.

Participative is a style in which leaders consult with their subordinates, allowing their subordinates to participate in decision making. Appropriate for use in conditions subordinates have excellent work skills and are actively involved in their work.

Achievement oriented is an approach where leaders set challenging goals and expect performance to continue to increase. This leadership style is effective in professional work environments, such as technical, scientific, or achievement-oriented sales jobs.

Path-Goal theory is a leadership theory that emphasizes the behavior of leaders by their needs and circumstances to motivate them achieving their goals. This leadership theory is suitable to be applied to construction projects, especially to contractors whose success depends on the achievement of the project’s target. Research conducted in the field of construction such as carried out by [6] suggests that the leadership of project managers who are supportive and achievement oriented can increase the commitment of workers and create an environment that supports work.

[20] revealed that the contractor project team expects a participative project manager, where the project manager allows his subordinates to make their own decisions. The participative leadership style carried out by the team leader design will also tend to give satisfaction to his team members [3], besides that participative leaders will create an environment that supports subordinate innovation [24].

All of these studies have examined the impact of several leadership styles using the Path-Goal theory in the construction industry. What is the leadership style that the contractor project manager is currently implementing, is it in accordance with the leadership style that is expected by the contractor project team? This is what will be investigated further.

3. Research Method
This study uses a quantitative approach carried out by distributing questionnaires because of the many variables involved in it. The questionnaire adopted from [16], distributed to project team members, at least three members of the project team involved in every projects. The research was conducted in Bandung and Jakarta, involved large, medium and small contractors. To measure Path-Goal leadership style, 20 items of questions were developed from variables that reflected the existing leadership style. Each leadership style is represented by five questions. The questionnaire uses the Likert scale number one to five [28]. Number one means that the manager has never carried out the activity and number five for those who assess these activities is very often done by the project manager.

4. Data and Analysis
Base on questionnaires that had distributed to projects, 57 respondents from 17 projects spread across Jakarta and Bandung were obtained. Respondents are project teams with various positions, ranging from field supervisors, drafter, cost control, site engineers, site managers.

Data processing was done by summing the values that obtained from 5 questions for each leadership style and then weighing. The results of each project manager's leadership style, results are obtained as shown in Figure 1.

Project managers lead with a tendency toward achievement-oriented (62%), directive (23%), support below (15%), while project managers make their own decisions, without involving subordinates to interfere in decision making (participative 0%).
5. Discussion

5.1. A subsection
Some text. From the results of data analysis obtained contractor project managers in Jakarta and Bandung more often use leadership styles achievement oriented compared to the other three styles. Achievement oriented leadership style focuses on activities: setting targets for challenging jobs, helping train subordinates, emphasizing improvement and development efforts, and expecting maximum performance from subordinates.

It is understandable that contractor project managers are very achievement oriented who emphasize on progress project. This is because the project has limited time and cost constraints, and has quality standards/specification that must be met. The project manager expects subordinates to do their best to achieve project goals, to avoid penalties due to project delays, and losses from cost overruns due to a large number of repeat work or project delays. This achievement oriented is very suitable for the environment in technical work that requires precision, the work is complex, ambiguous and challenging [9]. Also, using the achievement-oriented leadership style has the advantage that the project target is well communicated to subordinates, there is no ambiguous task because the project manager has set specific deadlines, each work has been designed in detail. Because the leader is highly focused on the task, the progress of project is easily achieved. Achievement-oriented leaders also usually provide incentives for jobs that have been done [14].

On the other hand, project managers who are very focused on this achievement will have a negative effect like lack of understanding on subordinate’s condition if they cannot reach the target, overworked subordinates and increase the employee’s turnover because they cannot follow the leader’s demands.

The tendency of project managers to lead in a directive and supportive manner is low. Project managers seldom tell their subordinates to carry out tasks and rarely support or nurture their subordinates so they can do their job adequately. This is because the project team is a professional team that have higher education background and an awareness of their work and responsibilities.

From the analysis of results also obtained that participative leadership styles were not carried out in construction projects. Participative leadership is implemented by giving the decisions making to the subordinates. [11] said that to get success in construction projects, PM and supervisors need autocratic leadership (who make their own decisions without asking their subordinates), meanwhile, executives in companies are more suitable to use participative leadership. Therefore, currently contractor project managers have not trusted and involved their subordinates yet in making their own decisions. Involving subordinates will indeed be more time-consuming in the process of making decisions on construction projects that have a relatively short time.
On the other hand, if comparing the results of this study with previous research, [20] revealed that team members expect the project manager to lead with participative leadership, meanwhile study on projects brought the results that project manager less implemented participative leadership styles. This proves the difference between what managers do with those who are expected to be subordinated. Although the limited time of subordinate projects needs to be free to take part in making decisions.

Participative leadership will give a positive impression on subordinates, that is, subordinates will be felt like part of a team, more motivated and creative. This leadership style is effective when applied to trained and highly skilled subordinates [12]. According to [25] participative leadership style significantly associated with employee engagement. In the end, employee engagement is necessitated to support the organization's ability to implement construction sustainability at the project level [13].

While, achievement-oriented leadership it is very necessary to ensure the achievement of project targets. However, project managers are not only challenged to provide the best work results (achievement oriented) because a leader is expected not to be rigid and can carry out various leadership styles depending on the situation [8]. To motivate subordinates, it is necessary to also understand subordinate expectations and conduct participative leadership styles by involving subordinates in many decision making. Not all are activities in projects that were on the critical path and need a fast decision, so it is important to be included in decision making.

6. Conclusion
There are differences in the tendency of leadership styles that contractor project managers currently do and the leadership style that expected by the project team. Project managers tend to lead with achievement-oriented leadership styles while subordinates expect participative leaders. This means that the PM leadership style is currently not suitable to carry the development of employee engagement that is required in implementing construction sustainability. A Project manager is also expected to occasionally involve subordinates in making decisions besides finishing the project successfully.

Further research needs to be done to see the impact of applying the Path-Goal theory at the company level. What training needs to be done by a contractor company to support construction sustainability. Further research also needs to examine the readiness of the contractor project team, the obstacles faced by contractors in Indonesia in supporting sustainability. How a contractor's work culture and stakeholder management to encourage sustainability.

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