

# Moderating Effect of Construction Manager Perspective Toward Leadership Behavior in Decision Making Process and Performance

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**Abstract:** *This research was conducted to determine the effect of TMT cognitive conflict as a mediator variable on the effect between Directive leadership, Empowering leadership and Narcissistic leadership on Strategic decisions comprehensiveness as well as the mediating effect of Strategic decisions comprehensiveness on the effect between Directive leadership, Empowering leadership and Narcissistic leadership on Project performance. The data was collected through on-line questionnaires and analyzed using Structural Equation Modeling (SEM). A total of 109 construction projects in Indonesia participated as research samples. Results showed that Directive leadership and Empowering leadership are types of leadership that contribute positive results to project performance and will increase even more when mediated by Strategic decisions comprehensiveness. But it should also be noted that conflict factors at site manager level can have a negative effect on strategy in the decision-making process and overall company performance. Companies need to educate Project Managers on how to lead a construction project with a directive and empowering leadership behavior and provide education in strategizing decision making during the project.*

**Keywords:** Directive Leadership, Empowering Leadership, Narcissistic Leadership, TMT Cognitive Conflict, Strategic Decisions Comprehensiveness, Project Performance

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## 1. Introduction

According to Indonesia Statistics Bureau (BPS-Statistics Indonesia), the construction sector accounts for 10.44% of Indonesia's Gross Domestic Product (BPS-Statistics Indonesia, 2021). Construction services in Indonesia referring to the Ministry of Public Works and Public Housing of the Republic of Indonesia (PWPH) still have a few inadequacies, that is the competence of the worker with a lower education level of underneath 70% and certified specialists has not met the need (PWPH, 2020). Work accidents that occurred in Indonesia from 2017 to 2021 continued to increase. It was recorded that in 2017 there were more than one hundred cases which continued increase to more than two hundred cases in 2021. The largest increase occurred in 2017 to 2018 which was 50,375 cases or an increase of 41% from 2017 and in 2019 to 2020, which increased as many as 38,905 cases or an increase of 21% from 2019 (Mahdi, 2022).

According to the Chairman of the Indonesia Occupational Safety and Health Environment (OSHE) Committee, the largest contributor to occupational accidents in Indonesia is the

construction sector in the first position with a total of 32% and manufacturing industry sector with 31.6% (Hasanuddin, 2022).

Work accidents in the construction sector generally occur due to lack of supervision (Amindoni, 2018). According to Winge, Albrechtsen, and Arnesen (2019) a project with adequate project management succeeded in following up on OHSE, coordinating activities, and ensuring adequate communication between actors. This means that the Site Managers led by Project Manager as the party appointed as representatives by the company's Top Management have an important role in the success of a construction project, especially in the scope of OHSE. Project Manager in carrying out the Project needs to have decision-making skills that can bring the Project to be efficient and effective and achieve the targets that have been set. The negative impact on problems in decision making can also affect the performance of a construction project. Inappropriate leadership behavior makes the decision-making process incomprehensible and also makes the Top Management Team (TMT) less proactive to be involved in the process, so it will not result in higher performance (Yi, Chen, and He, 2021).

Previous research conducted research on the effect of leadership behavior in this case Directive leadership, Empowering leadership and Narcissistic Manager on the decision-making process and company performance (Yi et al., 2021; Uppal, 2020; She, Li, London, Yang Bin and Yang, 2020). In the results of his research Yi et al. (2021) revealed that the results of his research on the positive effect between Directive leadership and Empowering leadership on Strategic decisions comprehensiveness and Performance. Yi et al. (2021) further reveals that Cognitive Conflict in the TMT has a positive effect on Strategic decisions comprehensiveness if there is Cognitive Conflict in the TMT. Based on the research results of She et al. (2019) stated that there is an effect from another type of leader, namely the Narcissistic Manager, which has a negative effect on Strategic Decision Making and Performance. In contrast to previous research, Uppal (2020) revealed that there is a positive effect between CEO Narcissism and Firm Performance Variance at a certain threshold, which can weaken if the leader's level of narcissism increases.

Yi et al. (2021) in their research revealed that there was a significant difference in the T-test results between large companies (number of employees > 1000) and small companies. This research was conducted in the context of another, smaller research project, a construction project. In addition, researchers also conducted research on other types of leadership behavior as independent variables that have the potential to have an effect on the decision-making process and performance, the leader behavior that researchers use is Narcissistic leadership.

## **2. Literature Review**

### **2.1. Grand Theory**

According to Resource-Based Theory (RBT), companies with valuable, rare, inimitable, and non-substitutable resources can become companies that have sustainable competitive advantages and have superior performance (Zhang, Hou, Yang, Yang and Wang, 2021). Resources in the company according to RBT are things controlled by the company, including company assets including human resources, capabilities, organizational processes, attributes or company identity, all existing information and knowledge (Barney, 1991). According to Kreitner and Kinicki (2010), OB is a discipline related to the actions of a person in all types of organizations. According to Baron and Kenny (1986) OB is a field of study that explore the behavior of individuals, organizational, and organizational processes and settings.

## **2.2. Project Manager As Leader and TMT**

Gharehbaghi and McManus (2003) states that leadership is a process in which one person who acts as a leader influence or directs other people or his subordinates to complete a mission, task or specific goal. According to Turner (1999), There are several characteristics that make Project Managers effective, including having the ability to solve a problem, being results oriented, energetic and having initiative, being confident and having communication and negotiation skills. TMT is a group of management who have influence at the top of the organization in this case the CEO and have subordinates who report to them (Cannella, Finkelstein, and Hambrick, 2008). TMT in every organization generally consists of leaders or managers who have special skills including planning. TMT consists of highly skilled and professional managers who can make scheme, work and evaluate the processes or implementation of a procedures in the organization and are also responsible for achieving their target or organization target. In a construction project the TMT is the composition of project manager as a Team leader who has skills in planning, implementing and controlling a process or procedure and those who report directly to their superiors, namely project manager, in this case the Site Administration Manager or SAM; Site Operational Manager or SOM and Site Engineering Manager or SEM (PT. PP (Persero) Tbk, 2003).

## **2.3. Directive, Empowering and Narcissistic leadership Behavior**

There are two approaches in empowering leadership research conducted by A. Lee, Willis, and Tian (2018). The first is empowerment that comes from external or from the leader himself and the second is empowerment that comes from four dimensions based on employees' views of meaningfulness (meaningfulness), competence (competence), self-determination and impact. Directive leadership provides direction to subordinates based on the company's vision and conveys performance expectations to be achieved and explains what actions need to be taken in completing tasks through guidance on each task that must be done (Sagie, Zaidman, Amichai, Te'eni, and Schwartz, 2002). Narcissistic leader behavior has a negative impact, including being able to hurt employees' self-esteem (Rosenthal and Pittinsky, 2006), but apart from these negative impacts, there are also positive impacts, including can lead subordinates to achieve common goals; relieve subordinates' anxiety over the uncertainty of existing conditions; and not easily slumped under adverse conditions (Li and Tong, 2021).

## **2.4. Strategic Decision Comprehensiveness**

Strategic Decision is a form of strategic decision-making process. Strategic decision making can be interpreted as an process of information processing that can be done through two models, incremental and synoptic which can affect company performance (Atuahene-Gima and Li, 2004). Strategic decision comprehensiveness is one of the synoptic decision-making actions based on the collection and observation of relevant information which is then outlined in several decision options.

## **2.5. Cognitive Conflict**

According to several previous studies, it has been stated that cognitive conflict can occur through several processes, including when there is a debate or difference of opinion (Yi et al., 2021) and when there is a difference between cognitive structure and environment (Piaget, 1985). Based on the description above, it can be concluded that cognitive conflict is awareness of the differences in views that occur between two or more on a certain matter.

## 2.6. Project performance

In team performance what is measured is cooperation between team members in carrying out work, while in measuring project performance what is measured is the real results of the project (Jitpaiboon, Smith, Gu, 2019). This research will focus on Project performance which consists of three dimensions, namely the dimensions of Project performance, customer satisfaction and project success. In these three dimensions there are several indicators that will be measured, including cost, time, safety, scope of work, risk, customer expectation and satisfaction, project completion and project quality.

## 3. Methodology

### 3.1. Research Models and Hypotheses

The research model is based on research conducted by Yi et al. (2021), She et al. (2019) and Uppal (2020). There are 10 hypotheses as can be seen in Figure 1.

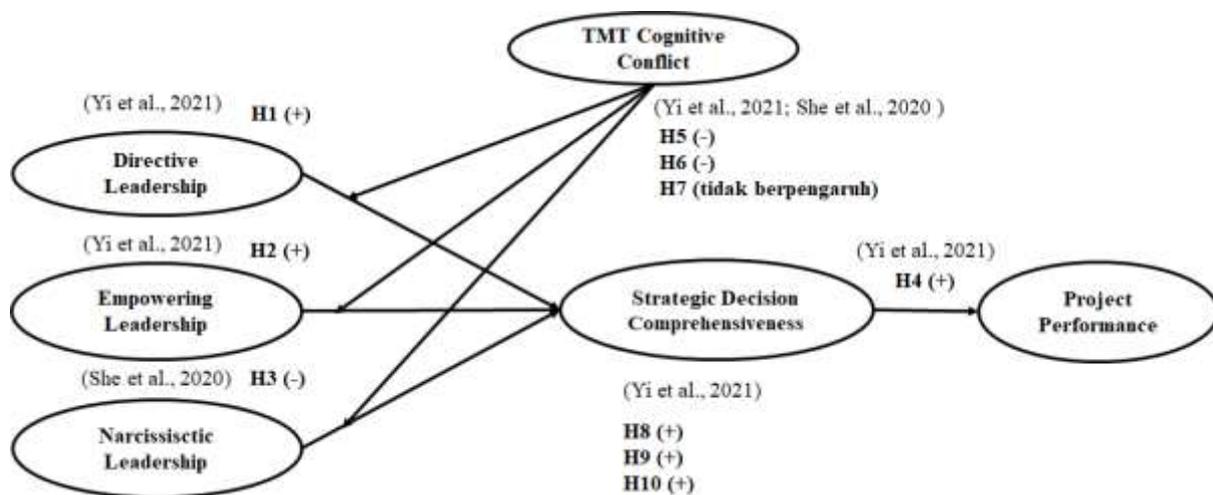


Figure 1: Research Models and Hypotheses

### 3.2. Population, Sample and Data Collection

The population in this study are construction projects in Indonesia which have been 100% completed in 2021 and are still running in 2022. Data collection Method is carried out by online survey via google form. The data collected was 127 projects, but 18 data were found that could not be used because did not pass the filtering questions, bringing the total sample to 109 samples that could be processed.

### 3.3. Measurement

This study uses 78 measurement indicators from several previous studies. In measuring the variables of directive leadership and empowering leadership, this study uses 13 and 22 indicators taken from Hmieleski and Ensley (2007). The narcissistic leadership variable uses 16 indicators from Ames, Rose, and Anderson (2006). To measure the Strategic decisions comprehensiveness variable, this study uses 5 indicators from Miller, Burke, and Glick (1998) and 3 indicators from Li and Li (2009) to measure the cognitive conflict variable and 19 indicators from Unegbu, Yawas, Dan-asabe (2020) to measure project performance variables.

### 3.4. Data Analysis Techniques

#### 3.4.1. Data Pre-Processing

Pre-processing was carried out on 78 initial indicators was carried out on 30 respondents by testing the validity and reliability of the research questionnaire. Validity and reliability tests are carried out to ensure that the research measuring instrument measures what it is supposed to measure (valid) and has good consistency (reliable). The validity of the indicator is shown through the value of Kaiser Meyer Olkin Measures of Sampling Adequacy (KMO-MSA) and factor loading or component matrix. Question indicators are said to be valid if the KMO value and factor loadings are  $> 0.5$  (Malhotra, Nunan, and Birks, 2017). Meanwhile, the reliability test was carried out to measure the level of consistency of the measurement indicators when repeated measurements were made (Malhotra et al., 2017). A result can be said to be reliable if it has a coefficient value of Cronbach's Alpha  $> 0.6$  (Malhotra et al., 2017). The results of the pre-processing found that Cronbach's Alpha of 78 indicators as a whole  $> 0.60$  so it can be said to be reliable overall but there are 3 indicators that are not valid because they have a factor loading  $< 0.5$ , namely DL 12; PP4; and PP8 However, the research is still continuing for main-processing without taking out invalid indicators to maintain the integrity of the measuring instrument.

#### 3.4.2. Data Parceling

In this study, researchers also carried out parceling on research indicators which originally amounted to 78 indicators to 19 indicators. This is done to meet the adequacy of the data for confirmatory analysis of the first-level model analysis and analysis of the overall structural model. The parcel method used in this study refers to the method offered by Kishton and Widaman (1994). This study has used two parceling methods, the first method is that the data is packaged or made in the form of parcels randomly in three to 4 parts. As long as each parcel is unidimensional (i.e., represents only one factor) and has a sufficiently high reliability, it can be included in the CFA. This process also ensures that each parcel has its own share to load items high into the common factor, so that each parcel is well represented in the SEM analysis (Otten, 2009). The second method, data packaging or parceling is done through variable dimension packaging, that is, packages belonging to a certain dimension are packaged according to their dimensions (Otten, 2009). For example, parcels can be assigned to 13 indicators on the directive leadership variable packaged into 4 indicators according to their dimensions, namely the dimensions "Assigned goals", "Instruction and command", "Contigent Reprimand" and "Management by exception (active)". The following is an overview of the parceling process of each variable in this study:

**Table 1: Parceling Data**

Variable	Dimension	Indicators	Parcel	Method
Directive Leadership	4	13	4	2
Empowering Leadership	6	22	3	2 and 1
Narcissistic Leadership	1	16	3	1
Cognitive Conflict	1	3	--	--
Strategic Decisions Comprehensiveness	1	5	3	1
Project Performance	3	19	3	2

#### 3.4.3. Anova Test and Descriptive Analysis

In the ANOVA test results using IBM SPSS Statistic 26. The results found that In the group of age there are differences in performance results on projects carried out by a group of site managers with a certain age. In the group of construction experience there are differences in responses to respondents with different experiences working in the construction sector when

working under leaders who have directive leadership behavior and there are also differences in responses during the decision-making process and their contribution to project performance achievement. In the group of project owner there are differences in the behavior of directive leaders when leading a project with different types of project owners. In the group of contract value site managers assume that project managers with directive and narcissistic behavior will have different behaviors when leading projects with certain contract values, and site managers will respond differently to the decision-making process on contracts with certain values. In the group of implementation progress there are different behaviors in project managers with directive and empowering types as well as differences in the decision-making process when the project has reached certain implementation progress. In the group of tenure respondents with a certain tenure will respond to the behavior of leaders with directive and narcissistic types in different ways according to their tenure. their involvement in the decision-making process is different from one another, then this will also affect project performance. In the group of position respondents with certain positions have different responses to narcissistic leadership behavior and have different responses to the number of differences of opinion during the decision-making process and their contribution to project performance. In the group of number of personnel the number of teams on the project determines the response of site managers to narcissistic leaders and to the achievement of project performance. In the group of contract period the decision-making process for each group of projects with a certain period of time differs from one another.

Furthermore, the researchers conducted a descriptive analysis using IBM SPSS Statistics 26 on 78 research indicators before parceling was carried out. Researchers in the next stage perform a descriptive analysis to provide a general description of the respondents' responses. The analysis carried out includes the indicator average (mean), minimum value (min), maximum (max), standard deviation and the average value of the variables (grand mean). The value of n used is in accordance with the number of samples, namely 109 with a minimum value of 1 and a maximum of 11 according to the Likert scale. The mean value (Mean) was used to determine the central tendency while the standard deviation was used to determine the difference from the mean value. In the directive leadership variable, it was found that site managers understood that their Project Manager had set targets to be achieved, but on the other hand, they thought that project manager was lacking in explaining job responsibilities to site managers. In the empowering leadership variable, it was found that the site managers thought that project manager encouraged them to always work together in a team so that they could become a solid team, but the site managers thought that project manager was lacking in providing opportunities for the team to make decisions without prior approval from him.

Furthermore, on the narcissistic leadership variable, it was found that site managers considered their Project Managers as confident people and always felt that other people thought they were good, but did not like to boast about themselves. In the cognitive conflict variable, it was found that site managers felt that there were quite a lot of differences of opinion in the decision-making process, there were quite a lot of contradictions in the content of important decisions and quite a lot of differences of opinion on the decisions that had been made. In the strategic decisions comprehensiveness variable, it was found that site managers assumed that the project team always checked both problems and opportunities that came up, but the actions to be taken were rarely tested first. The project performance are carried out in accordance with OSHE regulations, so there are no accidents and few change orders for scope changes or contract changes.

#### **3.4.4. Data Main-Processing**

Data processing and data analysis using the Covariance-Based Structural Equation Modeling (CB-SEM) method and based on (Hair, Ringle, Gudergan, Fischer, Nitzl, Menictas, 2018), the minimum number of respondents required is 5 times. The observed indicators were from 78 indicators after parceling to 19 indicator or by 95 samples. With the availability of data from 109 samples who are site managers or project workers with a level one level below Project Manager on construction projects in Indonesia. In the main processing of 19 indicators after parceling, the researchers carried out three stages of testing using Lisrel 8.88.

In the first stage of this research, analysis of First Order Confirmatory Factor Analysis. This study checked beforehand that there were no offending estimates such as negative error covariance, SLF value  $> 1$ , and standard error value  $> 1$  or too large for each indicator. After that, this study carried out a validity analysis with the provisions of the SLF value 0.5, and reliability analysis with the provisions of the CR value  $> 0.7$ , and VE  $> 0.5$  (Hair et al., 2018). The results show that all indicators are valid because they meet the standard value of SLF  $> 0.5$  and are reliable because they meet the provisions of CR  $> 0.7$ , and  $> VE 0.5$ . It can be concluded that all indicators have good validity and reliability. Because the variables in the study after parceling did not have dimensions, so the next stage was the structural model. Then, in the analysis of the results of the fit, it was found that 13 of the 15 match sizes resulted in an indication of good fit, so the model was said to be fit.

In this second stage, a structural model test without moderating variables was carried out on 19 indicators after parceling. In the analysis of the results of the fit, it was found that 13 of the 15 fit measures resulted in an indication of good fit, so the model was said to be fit. The results of the structural model analysis found that directive leadership and empowering leadership had a significant positive effect on strategic decisions comprehensiveness, t value 5,51 and 5,72 (H1 and H2 are supported by data). Narcissistic leadership on strategic decisions comprehensiveness the result is positive but not significant because t value  $< 1.645$  (H3 is not supported by data). Strategic decisions comprehensiveness had a significant positive effect on project performance t value 3,73 (H4 supported by data).

The results of the analysis of the effect of mediation found that there was an indirect effect between directive leadership and empowering leadership on project performance mediated by strategic decisions comprehensiveness with a t value 3,18 on directive leadership and 3.21 on empowering leadership so that the effect of strategic decision comprehensiveness could be interpreted as having a significant positive effect in mediating the effect between directive leadership and empowering leadership on project performance (H8 and H9 supported by data). The result of testing the effect of strategic decisions comprehensiveness in mediating the effect of narcissistic leadership on project performance is positive but not significant, t value is  $< 1.65$  (H10 not supported by data).

In the third stage of data processing, analysis of the effect of moderation, it was found that there were 12 out of 15 fit measures that resulted in an indication of good fit, so the model was said to be fit. Researchers in analyzing the effect of moderation using the Ping method Ping (1995). The Ping method is an easy-to-use method to measure moderating. Ping states that the measurements of the main effect construct are quite unidimensional in other words using a single indicator as an interaction variable (Wijanto, 2008). This study then made changes to the model by adding a correlation between each additional variable, namely the interaction variable between Directive leadership and TMT cognitive conflict, interaction between Empowering leadership and TMT cognitive conflict and interaction between Narcissistic

leadership and TMT cognitive conflict as an interaction of variables independent, namely Directive leadership, Empowering leadership and Narcissistic leadership on Strategic decisions comprehensiveness variable.

The interaction variable is used to calculate the value of moderation that will be measured in this study. The interaction variable is the result of multiplying the mean centered of the independent variables, namely Directive leadership, Empowering leadership and Narcissistic leadership with the moderating variable namely the TMT Cognitive Conflict. The result of moderation analysis found that the Cognitive Conflict significantly negative affect the effect between the Directive leadership and Empowering leadership on the Strategic Decision Comprehensiveness, t value -5,20 and -5,00 (H5 and H6 were supported by data), however, on the other hand Cognitive Conflict does not moderating the effect between Narcissistic leadership on Strategic decisions comprehensiveness, t value -0,34 (H7 not supported by data).

## 4. Discussion

### 4.1. Conclusion

In line with the research conducted by Yi et al. (2021), a Project Manager with an directive and empowering leadership behavior can increase the effectiveness of the process of solving an upcoming problem and the decision-making process as well as conducting a thorough examination and testing of future opportunities or problems so that the project gets alternatives to the steps that must be taken. In contrast to the research conducted by She et al. (2019), which states that CEO Narcissism has a negative effect on decision comprehensiveness. This study finds that Narcissistic leadership has a positive but not significant effect on Strategic decisions comprehensiveness. This can be interpreted that a project manager with a narcissistic leadership type can increase but not significantly the effectiveness of the process decision-making process. Furthermore, this result is different from the research conducted by She et al. (2019) which states that TMT Participation has an effect on the decision-making process in a company. This can be interpreted that the TMT cognitive conflict which in this study is defined as the involvement of site managers in the decision-making process does not affect the decision-making process or the results of the decisions set out in the project led by Narcissistic project manager.

In line with the research conducted by Yi et al. (2021), which states that Strategic decisions comprehensiveness has a positive effect on firm performance. This means that the process of solving a problem that comes up and the decision-making process as well as conducting a thorough examination and testing of future opportunities or problems can improve project performance in terms of operational, financial, environmental and time while still paying attention to customer and stakeholder satisfaction for the better.

In line with the research conducted by Yi et al. (2021), the high difference of opinion in the decision-making process and the contradictions of the content of important decisions at site managers reduce the effect of Directive leadership and Empowering leadership on Strategic decisions comprehensiveness so that the decision-making process as well as conducting a thorough examination and testing of opportunities or problems becomes less effective. But on the other hand, this result is different from the findings of Yi et al. (2021) that directive leadership is not affected by moderating effect of cognitive conflict that occurs at the site manager level. Then, in contrast to the effect found on the type of directive and empowering leadership, the results of the study found that the involvement of site managers in the decision-

making process did not affect the decision-making process or the results of decisions made in projects led by project managers with a narcissistic leadership type.

A thorough examination and testing process for future opportunities or problems when making decisions can increase the effectiveness and results of achieving project performance on projects led by project managers with Directive, Empowering and Narcissistic leadership types. However, the positive effect was not significant on the narcissistic leadership type

#### **4.2. Research Limitations**

This study only examines 3 types of leadership behavior, so research is still needed on other types of leadership behavior that have the potential to have different effects. However, this limitation increases the focus of research on the effect of directive leadership, empowering leadership in a different context, namely construction projects. Filling out the questionnaire using the self-rated questionnaire method where respondents fill out the questionnaire themselves so that there is the potential for bias that can more or less affect the results of the study. In addition, data collection in this study was carried out cross-sectionally, so it is still necessary to conduct research in a longer period of time in order to study more deeply the behavior of the sample being studied, which in this study refers to the site managers. However, wording test, pre-test, and control have been carried out on this research instrument so that it has high external reliability and validity. This study found that data were less evenly distributed on several demographic characteristics. This can cause bias as a result of the tendency of the data to be uneven in certain groups, so the researchers conducted different tests to prove differences between groups of demographic characteristics. However, researchers have used possible channels to reach respondents with more diverse characteristics.

#### **4.3. Recommendation**

Future research is expected to be able to measure Project performance on construction projects with various types of leadership as well as other mediating variables besides what has been done in this study, as well as re-examine the Narcissistic leadership variable so that more in-depth results can be known. Future research is expected to use other sampling methods to reduce bias. Another suggestion is that further research can use interviews to obtain more robust data to deepen understanding related to similar topics. Future research is expected to conduct research with a more focused sample and re-validate the findings with a larger sample size. Some characteristics of respondents can also be targeted to be more proportional in order to achieve a high level of generalization. Future research can use a more concise characteristic focus to understand the behavior of leadership types in groups with focused characteristics.

#### **4.4. Managerial Implications**

Based on the results of the study, it should be noted that the high difference of opinion in the decision-making process and contradictions of the content of important decisions at the site manager level can weaken the decision-making process; inspection process; the process of testing for opportunities or problems that will come, so that with this the project will have difficulty in choosing alternative actions that can be decided. This has the potential to weaken project performance in general and trigger errors that can result in work accidents. Efforts need to be made to prevent the occurrence of Cognitive Conflict at the TMT level when implementing a construction project so that the weakening of Project performance results in general and work accidents in particular can be avoided.

Based on the results of the study, it was found that the decision-making process; inspection process; the process of testing for opportunities or problems that will come, has a positive effect

on the performance of construction projects in general and reduces the potential for work accidents in particular. So it is necessary to increase the role of Strategic decisions comprehensiveness in the implementation of projects led by Project Managers with the type of Directive and Empowering leadership to be able to provide better Project performance results. The findings in this study are expected to be useful as a reference for leaders of construction companies, Project Managers and the PWPB as well as stakeholders in the implementation of construction projects. The selection or appointment of a Project Manager should include the requirements for conducting a leadership test in advance so that it can be known, including what type of leader project manager will be appointed and the need for education about the role and leadership attitude that is Directive and Empowering for Project Managers who will be assigned as project leaders. So that optimal performance is expected to be achieved not only for the project, but also for the company where he works and for the implementation of Indonesia's national strategic projects in construction sector.

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