

Framework of Leadership System in Improving Quality Culture in Indonesian Construction Company to Reduce Construction Failure

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Abstract

Construction failures in infrastructure development in Indonesia have often occurred in recent years, to be precise in 2016-2019. The causes of construction failure include design deficiencies, unskilled manpower, administrative deficiencies, random specifications, faulty equipment, and deficient material (Mohammad and Darade, 2017). A quality culture must be developed in order to achieve project success. Leadership has an important role to play in developing a quality culture. Leadership is one of the principles of ISO 9001:2015 Quality Management System. Therefore, this study aims to identify the leadership system variables that have an effect on construction failure rate. Based on literature study found 11 leadership system variables in improving quality culture. The variables were then validated by 10 experts using Delphi Method.

Keywords

Construction failure, quality culture, leadership system

1. Introduction

Construction failure is a condition of the result of construction work that is not in accordance with the work specifications as agreed in the construction work contract, either in part or in whole. The construction industry is a dynamic industry (Government Regulation of The Republic of Indonesia Number 29 of 2000 Article 31 regarding the Implementation of Construction Services). As is known, the construction industry has many characters that involve many parties to achieve certain goals. From the diversity of the construction industry, every stage from initiation to close-out, there are many risks that can occur. In addition to construction failures, building failures can also occur, namely the condition of the building that is not functioning, either in whole or in part, from a technical point of view, benefits, work safety and public safety as the fault of the service provider or service user after the final submission of the construction work (Government Regulation of The Republic of Indonesia Number 29 of 2000 Article 34 regarding the Implementation of Construction Services). According to Law no. 2 of 2017 concerning Construction Services, article 60 states that the responsibility for building failures explicitly involves two elements, namely the construction service provider and the plan service provider. Based on data collected from national news portals, there are several construction failures or construction accidents that occurred during 2016 to 2019 like collapsed ceiling in Terminal 3 Soekarno-Hatta International Airport, fall crane in Light Rail Transit (LRT) Palembang Project, collapsed box girder in LRT Jakarta Project, and many more.

Based on these data, construction failure has become a serious phenomenon in Indonesia. In 2018, construction failure became an issue in Indonesia, the government has temporarily suspended all infrastructure development work on elevated structures that use heavy loads, to carry out a thorough evaluation including tightening supervision. Temporary suspension will be ends after the evaluation is complete. The results of the evaluation were then contained in a recommendation letter from the Construction Safety Committee (K2 Committee) dated March 9, 2018 which was signed by the Minister of Public Works and Housing as the person in charge of the K2 Committee, containing four recommendations for sanctions that need to be imposed on the relevant BUMN companies. These sanctions range from written warning, replacement of project head, replacement of division head to recommendations for replacement of the board of director (Public Communication Bureau of the Ministry of Public Works and Housing 2019).

According to Aljassmi and Han (2014) construction failure could be caused by poor workmanship, impaired use of material, omission of task sequence, deviation from the intended dimension, violation of instructions, professional principles/conventions noncompliance, official rule noncompliance, items interdependence neglect, adoption of misleading instructions. There are two main patterns of defects, skill-based errors and violations. Hasan et al. (2016) said defects occur either because of poor design, low quality workmanship or because the building was not built according to the design or because it has been subject to factors that are not allowed in the design. It can be said that construction failures are generally caused by human error.

Performance of human resource construction is affected by the leadership style of a project manager or supervisor. Leadership style affects the realization of work in the project (Ainanur 2013). Leadership is one of the principles of ISO 9001:2015 Quality Management System. Top management must show leadership and commitment with respect to the quality management system (ISO 2015). But not only top management plays a role but leaders in middle and first-line positions such as project managers and supervisors also play a role in quality implementation. Muller and Turner (2005) cited in Witton et al. (2019) said the project manager's leadership style has a direct relationship to the success of a project. The leadership of project manager has been considered as the important capability to boost and motivate team to commit and achieve the goal (Tyssen et al. 2013 cited in Zheng et al. 2019). Choosing the leadership style to employ for a particular project can be an issue considering the crucial part it plays in the success of any project (Witton et al. 2019). Research conducted by Zheng et al. (2019) confirm that transactional leadership plays a role in the temporary organizational setting of the project, it is not only transformational leadership that influences the behavior of project team members. The findings provide important criteria in selecting and training appropriate project leaders according to the characteristics of transformational leadership and transactional leadership, to enable members to develop more than one effective leadership behavior. Thus, this study aims to determine or identify the variables of various leadership styles that can later form a leadership system in improving quality culture. The leadership system can affect the success of construction service companies to reduce the rate of construction failure.

2. Literature Review

2.1 Construction Failure

According to Thornton in 1985 (cited in Yates and Lockley 2002) construction failures could be three categories—safety, functional, and ancillary. The causes of failures are divided into five general areas—design deficiencies, construction deficiencies, material deficiencies, administrative deficiencies, and maintenance deficiencies. Some previous studies indicated that construction failure was caused by human error. Based on Levy and Salvadori (1992) cited in Yates and Lockley (2002) human errors can be:

- Insufficient knowledge
- Delayed communication
- Lack of knowledge
- Misunderstanding of receiving knowledge
- Outright ignorance
- Wrong procedures.

Mohammad and Darade (2017) classify the cause of construction failure into two types, namely cause that can be controlled and cause that cannot be controlled. Controllable causes are causes that can be controlled by taking proper precaution for example undergoing inspections during construction. Meanwhile, causes that cannot be controlled are causes that are beyond human control, such as earthquakes, tsunamis, and others that cannot be predicted. In El-Sokhn and Othman's research conducted in 2014 that the factors causing construction failure developed into 20 factors that can affect each indicator of the project stages (design, bidding, pre construction, procurement, construction, and post-construction), project players (primary players and secondary players), and source failure factors (managerial factors, financial factors, design and technical factors, human factors, social factors. The impact of the factor is the failure of project management and financial. Project management has an important role in project success, because these factors are interrelated, if one factor change at least one other factor will also be affected. For example, if the schedule is shortened or accelerated, it is often necessary to increase the budget to add additional resources to complete the same amount of work in less time. The project team must be able to evaluate the situation, balance requests, and maintain proactive communication with stakeholders to realize a successful project.

2.2 Quality Culture

Saha and Hardie (2005) describe a quality culture as a culture that emphasizes leadership rather than supervision; inspires staff commitment to selected quality; uses teams as the main style of management; allows staff at all levels to participate in work related decisions; increases pride in work result; eliminates fear; and inspires people to make continuous improvements. This type of culture cannot be regulated by management, it must be an integral part of how the organization carries out its business. Hardjosoedarmo (1999) in Andi and Chandra (2005) defines quality culture as a pattern of values, beliefs and expectations that are embedded and developed among members of the organization regarding their work to produce quality products and services. Quality culture is a shared system of values, beliefs, and norms that focuses on customer satisfaction and continuously improving the quality of products and services. Quality culture in an organization, is embedded in almost every aspect of organizational life, including recruitment and promotion, employee orientation and ongoing training, compensation, management style, decision making, organizational structure, process or workflow, and office layout. Simply put, in a quality culture, quality is a way of life; quality principles are reflected in organizational practices and behavior (Malhi 2013).

The construction industry has characteristic that distinguish it from other industry. Its characteristics can be seen in the physical properties of the product; the product is usually manufactured at the client's premises; many projects are one-off designs; arrangement; organization of the construction process; and the method used for pricing (Harvey and Ashworth 1993 in Mahmood and Mohammed 2008). In ensuring the company's position in the growing international market, construction companies are actively involved in efforts to achieve internationally acceptable levels of quality international standards based on two main frameworks, namely TQM (Total Quality Management)—part of the ISO 9001 Quality Management System and quality achievement criteria. According to Levitt and Samelson (1993) TQM in construction is about building quality products that are error-free for user by preventing error in the construction process by integrating quality, productivity, and safety. The main emphasis is on getting the job done right the first time it is done thereby reducing the amount of rework in creating a construction that meets the customer's wishes.

2.3 Leadership System

Leadership system terminology which refers to how leadership is carried out, formally and informally, throughout the organization; it is the basis and way in which key decisions are made, communicated, and carried out. This includes structures and mechanisms for decision making; two-way communication; selection and development of leaders and managers; and reinforcing values, ethnic behavior, direction, and performance expectations (NIST 2009 in Latham 2009). A leadership system is a collection of various components of a leadership or performance system that are interrelated, depend on, and interact. This system is coordinated in harmony with the aim of influencing and motivating individual in a group. This integrated leadership system refers to the rules that are run formally. The leadership system becomes a guide or role model that the organization believes to achieve quality goals. With a leadership system, all members of the organization or all employees in the company must understand the system. After the system is understood, the next process is the system is implemented and implemented. In this process, it is necessary to apply rewards and punishments for members/employees who do it well or for members/employees who do not carry out the procedures that have been made. Then the next process is to evaluate the system that has been implemented to determine its effectiveness. The effectiveness of the system can be assessed based on a survey conducted to member/employee. Based on literature study from various research sources, there are several variables from leadership which can then be developed into a leadership system that can be applied to construction service company in order to reduce construction failure rates. The variables are in Table 1 as follows.

Table 1. The variable of leadership

No.	Variable	Variable Explanation	Reference
1	Intellectual Stimulation	The leader's behavior in stimulating the thinking and understanding of his subordinates to increase creativity, innovation and the performance of his subordinates.	Yerikho et al. (2018); Robbins and Judge (2008); Liu and Chan (2017); Wirawan (2015)
2	Inspiration and Motivation	The leader's ability to motivate and inspire subordinates or members through effective communication to achieve organizational goal.	Yerikho et al. (2018); Sardiman (2006); Robbins and Judge (2008)
3	Management Skill	Leader is able to implement and manage the process of coordinating, planning and managing	Follet (2003); Griffin (2012); Katz, (n.d.)

No.	Variable	Variable Explanation	Reference
		resources (human resources), finance (cost), material, intellectual, and other resources in achieving goals efficiently and effectively. In practice, a system is also needed to manage and manage all the resources contained in the project so that their use can be right on target.	
4	Personal Integrity, Professional, and Emotional Competency	Leader who is responsible, have respect, fair and honest in his behavior, is also committed and show consistency and are recognized by their members as well as good quality management and leadership skills that are more than just technical skills.	Nashwan (2018); Harefa (2005); PMI (2007); Tubbs and Moss (2008); Hanim et al. (2019)
5	Communication and Interpersonal Skill	Leader is able to communicate formally and informally in exchanging information accurately, precisely, relevantly, and effectively.	Hanim et al. (2018); PMI (2007); Tubbs and Moss (2008); Hanim et al. (2019)
6	Development and Empowerment	Leader must be able to develop, and empower their members to improve better performance.	Rowley and Jackson (2012); Ahmed (2018)
7	Visionary, Focus, and Strategic Planning	Leader must have a focus on how to complete his task, and be able to make decisions about the future/goal and organizational development to achieve goal effectively and be able to recognize problem that will occur widely in the short and long term and identify opportunities and threats that will occur.	Dulewicz and Higgs in Muller and Rurner; Marzena and Magdalena (2018); Hambrick (1989); Lacoma (2014); Latham (2004); Al-Zboon and Hasan (2011)
8	Individual Consideration	The ability of leader to consider input from his members to provide support and develop individual competencies and encourage the empowerment and development of members in achieving goals.	Potter et al. (2017); Blomme et al. (2015) in Caolo (2017)
9	Inovation, Improvement, and Problem Solving	The leader's ability to develop new idea or make members develop new idea to solve a problem and to improve performance. To support an innovative organizational environment, it is necessary to create a system so that members or employees can innovate on an ongoing basis.	Madanchian et al. (2017); Wipulanusat et al. (2017); Rahman and Al-Emad (2018)
10	Reward and Recognition	The leader clearly promises a reward that his members will receive when they can achieve the agreed goals and supports the needs of subordinates that can affect the innovation and performance of members in achieving organizational goals.	Avolio and Bass (2004) in Liu and Chan (2017); Yuki (2002) in Liu and Chan (2017); Hartog (1997) in Potter (2017); House and Mitchell in Chih et al. (2018); Chih et al. (2018)
11	Stakeholder Involvement	Involvement between leader in managing relationship with stakeholder in achieving goals, where the involvement of stakeholders and leaders is a key player in project success.	Ogohi (2020); Mazur and Pisarski (2015); Robogals (2012) in Ogohi (2020)

3. Methods

This research uses literature study method to identify leadership system variables in quality culture that can influence construction failure. Then these variables are validated by several experts who have experience in the construction field. The stages of this research are shown in Figure 1 as follows.

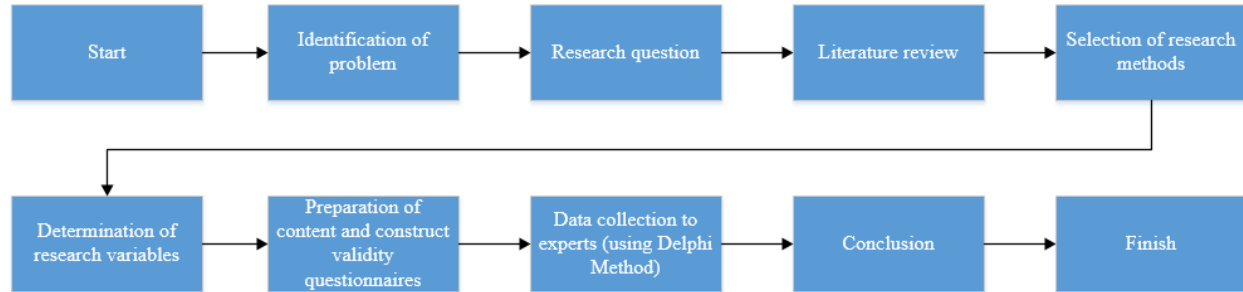


Figure 1. Research stages

4. Data Collection

Data collection is done by validating the variables that have been obtained from the literature study. Variable validation is carried out by several experts who have a minimum of 10 years experience in the construction field with a minimum education of a bachelor's degree. The experts from several construction companies in Indonesia. Validation carried out by experts is content and construct validation. Experts profile are shown in Table 2 as follows.

Table 2. Experts profile

No.	Code of Expert	Position	Experience (year)	Education
1	Expert 1	Infrastructure Division Expert	35	Bachelor Degree
2	Expert 2	QA/QC Manager	10	Bachelor Degree
3	Expert 3	Coordinator of Management System	11	Bachelor Degree
4	Expert 4	Project Manager	10	Bachelor Degree
5	Expert 5	QA/QC Manager	10	Bachelor Degree
6	Expert 6	Coordinator of QA/QC, HSE Management System	25	Bachelor Degree
7	Expert 7	Project Manager	11	Bachelor Degree
8	Expert 8	Head of Business Unit Building and Infrastructure	25	Bachelor Degree
9	Expert 9	Project Manager	29	Bachelor Degree
10	Expert 10	Project Manager	19	Bachelor Degree

5. Result and Discussion

Based on the results of the descriptive analysis, the authors found 11 leadership system variables and their indicators in improving quality culture, which have been validated by several experts. The variable consists of intellectual stimulation; inspiration and motivation; management skill; personal integrity, professional, and emotional competency; communication and interpersonal skill; development and empowerment; visionary, focus, and strategic planning; individual consideration; innovation, improvement, and problem solving; contingent reward; and stakeholder involvement.

5.1 Numerical Results

1. Intellectual stimulation

Based on the literature intellectual stimulation is one of the components of transformational leadership. Intellectual stimulation is the behavior of leader who stimulate or encourage their members to increase creativity, innovation, and performance in dealing with a problem. Indicators of intellectual stimulation are shown in Table 3 as follows.

Table 3. Indicator of intellectual stimulation

No.	Indicator
1	Leader introduces team to quality procedures, related regulations, equipment, and related preventive measures.
2	Top management emphasize to management that quality is a leadership priority.
3	The leader always instills a quality culture every time he evaluates his subordinates and always emphasizes the importance of quality activities.
4	Top management encourage employee to participate in comparative study for quality improvement in terms of products, processes, and services.
5	In checking the achievement of quality objective, leader encourage the use of analytical technique and tool, such as diagram, chart, statistical technique, etc.
6	The leader tries to encourage the attention and awareness of member to solve the problem with new approach or perspective or with a lesson that has been determined by the policy that have been made.
7	Leader is able to stimulate the intelligence of his members to increase their creativity and innovation, increase rationality and problem solving skills carefully.
8	Leader helps subordinates to develop themselves by providing regular training.
9	Leader carries out literacy in an effort to improve quality.

2. Inspiration and motivation

Indicators of inspiration and motivation are shown in Table 4 as follows.

Table 4. Indicator of inspiration and motivation

No.	Indicator
1	Leader holds quality meeting and communicates policy/regulation on a regular basis.
2	The company supports and encourages teamwork to solve any work and quality problem.
3	Management encourages employee to have pride in their work.
4	Leader perform performance appraisal well so as to motivate team members to be more productive.
5	Leader presents a vision that focuses on change rather than focusing on task-related goals that align with team members.
6	Leader shares a positive vision/quality goal that is easy to understand, attractive, and clear at every opportunity.
7	Leader motivates and inspires team member to prioritize quality and continuous improvement.
8	Leader inspires team member for knowing, understanding, and implementing objective of organization.
9	Leader set a good example.
10	Leader motivates and inspires team member to achieve and improve work performance.
11	Leader becomes as role model for team member in achieving quality goals.
12	Top management persuade employee to agree with it based on their change-focused vision.

3. Management skill

There are 15 indicators in management skill variable, shown in Table 5.

Table 5. Indicator of management skill

No.	Indicator
1	Leader has the ability to select and use appropriate method, procedure, process, tool, techniques, and specialized knowledge in achieving quality.
2	Leader carries out a scheduled inspection system in the work area by manager, worker representative, and/or project member as a control and improvement measure.
3	Top management develops corrective action.
4	Top management develops preventive action.
5	Top management leadership is excellent not only in terms of financial performance, but also in overall quality orientation.
6	Human and material resource availability is well fulfilled by management.
7	Leader measures with a random sample the potential error in certain workplace, process, and work activity.
8	Leader compares quality performance in company or service unit in different location.
9	Leader controls potential error at its source.
10	Leader controls the work method that will be applied.
11	Leader is able to organize, coordinate, plan, and control resource effectively to achieve quality objective.
12	Top management is willing to provide the resource needed to achieve quality objective.
13	Leader is able to see the organization as a whole and solve problem from a systemic perspective.
14	Leader ensures clear expectation and responsibility for team member and understands their importance to the project.
15	Leader collects information independently about efficiency, effectiveness, and constraint of the overall quality management system.

4. Personal integrity, professional, and emotional competency

There are 20 indicators in personal integrity, professional, and emotional competency, shown in Table 6.

Table 6. Indicator of personal integrity, professional, and emotional competency

No.	Indicator
1	Leader complies with all legal requirement.
2	Leader is able to work within ethical standard recognized.
3	Top management is responsible for ensuring that employee salary are paid on time even during period of negative cash flow.
4	Leader has the good character such as honest, trustworthy, competent, committed, integrity, courage, directness, imagination, loyalty, responsible.
5	Leader is loyal to the company.
6	Leader works with full responsibility by performing work that meet technical standard.
7	Leader shows commitment and consistency with what has been designed to achieve quality objective.
8	Leader is able to work effectively with people from various background.
9	Leader is able to control themselves in all situation and respond calmly.
10	Leader is able to admit weakness and explicitly accept responsibility for failure.
11	Leader has emotional competency to control his feeling in handling projects.
12	Leader is able to maintain consistent performance in various situation and stay focus in action to achieve goal.
13	Leader is able to make clear decision and encourage implementation by using rational and emotional perception.
14	Leaders recognize and consider the need and perception of team in making decision and proposing solution.
15	Leader can influence team to change their point of view based on understanding their position by giving perspective and reason for the change.
16	Leader demonstrates a clear commitment in facing challenge and makes the team supporting their chosen direction.
17	Leader is stable in looking for opportunity, taking initiative, and following up in managing and controlling problem to get better changes.

No.	Indicator
18	Leader takes responsibility for making the right decision, considering the impact, and using strength to achieve goal correctly within budget, schedule, required quality and safety requirement.
19	Leader takes action to account for the vision.
20	Leader is able to ensure his action and behavior when facing the problem, particularly with worker in construction.

5. Communication and interpersonal skill

There are 11 indicators for communication and interpersonal skill variable, shown in Table 7.

Table 7. Indicator of communication and interpersonal skill

No.	Indicator
1	Leader always ensures the information quality received and distributed.
2	Leader gives the team feedback on the result of quality management review meeting.
3	Leader gives the team feedback on the result of the internal quality audit report.
4	Leader gives the team feedback on the result of the external quality audit report.
5	Leader facilitates active communication between project team and stakeholder.
6	Leader presents a vision that focuses on change rather than task-related goal.
7	Leader has good interpersonal skill so he can communicate effectively.
8	Leader actively listens, understands, responds and exchanges information accurately, precisely, and relevantly with each stakeholder using appropriate method.
9	Leader maintains well communication in accordance with existing policy.
10	Leader is able to carry out structured communication to improve better performance.
11	Leader uses team social group to socialize and build a quality culture.

6. Development and empowerment

Indicators of development and empowerment are shown in Table 8 as follows.

Table 8. Indicator of development and empowerment

No.	Indicator
1	Company has a development plan competence for the employee. Leaders have the skills to empower the teams in every time.
2	Management plans regular quality-related training to improve employee capability.
3	Employees/teams are empowered to make decision about quality.
4	Management conducts team-building training.
5	Leader sets higher quality target and concentrates work on target to be achieved.
6	Leader provides direction to the team clearly for understanding the quality need in their work.
7	Leader provides direction to the team so the team understand the quality objective for each project.
8	Leader empowers the team by implementing job rotation and expanding or increasing work.
9	Leader holds activity for the team that can foster new and better mindset, attitude, and behavior.
10	Leader involves the team in the activity of setting quality goal.
11	Leader involves the team in internal quality management evaluation meeting.
12	Leader gives the team the opportunity to take responsibility for making decision on their work related to quality.
13	Leader has the skill to empower the team in every opportunity.
14	Leader gives freedom to the team to determine the method of implementation, and also encourages finding new idea in completing their work.
15	Leader encourages the team to find new way of doing work.
16	Leader encourages the team to learn from the job and develops new skill.
17	Leader provides direction to the team to understand quality objective of department/unit so they can understand their position in achieving the company's quality goal.

No.	Indicator
18	Leader always tries to improve teamwork and team cohesiveness by balancing the provision of autonomy and involvement in the team.
19	Leader always considers the need of individual and develop their strength in every situation.
20	Leader encourages the team to give advice in an effort in improving quality.
21	Leader at all level encourage the team to be able to provide suggestions in improving the quality of their work.
22	Leader encourages the team to participate in achieving goal.
23	Leader allows the team to take part in the decision-making process.
24	Leader empowers the team to link day-to-day activity to the vision.
25	Leader involves the team in identifying and resolving quality problem.
26	Leader participates with the team in the process or activity of implementing quality management.

7. Visionary, focus, and strategic planning

There are 19 indicators for visionary, focus, and strategic planning variable, shown in Table 9.

Table 9. Indicator of vision, focus, and strategic planning

No.	Indicator
1	Leader shares project vision with the team.
2	Leader derive and plan goal basen on company goal, effectively for the team.
3	Leader sets goal, strategy, policy, procedure and work instruction that support the quality management system.
4	Leader integrates the quality policy with the company's business plan.
5	Top management instruct manager that quality is one of the priority of the goal to be achieved.
6	Leader describes how to manage quality in project through the company's quality policy so that team, worker, and others know the leader's commitment to quality.
7	Leader establishes, implements, and maintains quality-based policy to support sustainable improvement of the quality system.
8	Work quality objective is relevant with the organization's existing quality policy.
9	Leader designs a quality system that can reduce the level of uncertainty in the results of the work.
10	Leader makes structured individual performance appraisal measure so that performance review can be given regularly and consistently.
11	Leader applies work autonomy on the basis of trust.
12	Leader encourages and ensures the safety of the team to report all form of potential violation of quality.
13	Leader establishes an organizational structure that supports the implementation of the established quality management policy.
14	Leader is able to think broadly about existing problem and consider short-term and long-term opportunity or threat.
15	Leader has good imagination and innovation skill, and has a clear vision of the future.
16	Leader focuses on the goal to be achieved and encourages the team to do the same.
17	Leader involves the team in formulating policy together.
18	Leader has a high sense of ownership the quality management system that has been established.
19	Leader arranges work requirement according to the ability of the team.

8. Individual consideration

There are 6 indicators for individual consideration variable, shown in Table 10.

Table 10. Indicator of individual consideration

No.	Indicator
1	Leader encourages a system of sustainable and long-term employment contract for the team.
2	Leader supports by helping the team to fulfill specific need, to achieve ambition and develop individual competency.

No.	Indicator
3	Leader receive suggestion like new idea from the team about problem and challenge during work.
4	Leader treats the team with respect.
5	Leader accepts the team from various backgrounds.
6	Leader pays attention to the team prosperity and creates a good work environment.

9. Innovation, improvement, and problem solving

There are 5 indicators for innovation, improvement, and problem solving, shown in Table 11.

Table 11. Indicator of innovation, improvement, and problem solving

No.	Indicator
1	Leader always tries to increase the teams loyalty to the company.
2	Leader always tries to improve the quality of work continuously.
3	Leader/management is able to see situation and limit problem that appear differently, and the ability to define problem space, solution and take action in an effort to deal with problems wisely.
4	Leader influences and improves the performance of the team.
5	Leader regularly raises quality issue in every discussion.

10. Reward and recognition

Indicators of reward and recognition are shown in Table 12 as follows.

Table 12. Indicator of reward and recognition

No.	Indicator
1	Leader gives reward to team member who achieve quality goal. The reward can be salary increases, promotion, praise, or other positive feedback.
2	Top management promotes employee for continuous quality improvement.
3	Top management rewards employee with salary increases if there is quality improvement.
4	Top management provides bonus for continuous quality improvement.
5	Leader must be relevant in the balance between psychological and physical need in the work environment.
6	Leader gives reward to the team who achieve quality goal. The reward can be learning opportunity like training, workshop, seminar, etc.
7	Leader provides recognition through public statement.

11. Stakeholder Involvement

Indicators of stakeholder involvement are shown in Table 13 as follows.

Table 13. Indicator of stakeholder involvement

No.	Indicator
1	Leader builds good relationship with stakeholder sustainably in achieving organizational goal.
2	Leader are responsible for the interest of stakeholder.
3	Leader is able to build relationship with stakeholder representative for various interest such as project scope, design, plan, budget and schedule.
4	Leader involves stakeholder in improving quality of work.
5	Leader involves the team in meeting to discuss quality with client or subcontractor/supplier.
6	Leader always encourages the team to satisfy stakeholder.
7	Leader always encourages the team to generate a good work that satisfy the company's internal user.
8	Leader tries to avoid and disclose possible conflict of interest with all stakeholder.

5.2 Proposed Improvement

Based on data collection and analysis, there are 11 leadership system variables in improving quality culture that can affect the construction failure rate. Furthermore, that is necessary to conduct a survey to find out the condition of the

leadership system in construction company in Indonesia. In the other hand, a survey also aims to find out whether the 11 variables are already present in the company's system. After knowing the condition of the leadership system, we can arrange a strategy that must be applied within the construction company in an effort to reduce the construction failure.

5.3 Validation

According to experts, in general, the variables and indicators of the leadership system that have been compiled can represent effort to reduce construction failure in Indonesia. Variables and indicators of the leadership system are also considered important in improving the quality culture in construction company.

6. Conclusion

It can be concluded that the leadership system is one of the important things in improving a quality culture. There are 11 variables from the leadership system that can affect the construction failure rate, namely intellectual stimulation; inspiration and motivation; management skill; personal integrity, professional, and emotional competency; communication and interpersonal skill; development and empowerment; visionary, focus, and strategic planning; individual consideration; innovation, improvement, and problem solving; reward and recognition; and stakeholder involvement. In the future, it is necessary to conduct a survey of these 11 variables in construction company to find out how much influence these variables have on construction failure.

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