

Gap Analysis of Maturity Level in the Implementation of Quality Culture to Reduce Construction Failure Rate in Construction Companies in Indonesia

Raseesha Nauratul Gustia*, Yusuf Latief**, Rully Andhika***

* Civil Engineering Department, Faculty of Engineering Universitas Indonesia
Kampus Baru UI Depok, 16424, Indonesia

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Abstract- The phenomenon of the increasing rate of construction failures in Indonesia on projects carried out by highly qualified contractors is very detrimental in terms of physical, material, and the level of confidence in the quality of the work. Based on previous research, the dominant factor affecting construction failure is the application of quality culture within the organization. This study aims to determine a strategy based on a gap analysis of the existing conditions of quality culture by using the Quality Maturity Model approach to reduce the failure rate of construction in Indonesia. This study uses a literature study and survey method conducted by distributing questionnaires to respondents in major contractors in Indonesia. The results of this study indicate that contractors in Indonesia have reached a maturity level of a “managed” quality culture which can be improved by taking into account the indicators that have been prioritized based on the quality culture maturity gap analysis in order to reduce the failure rate of construction. Further research on the strategy for increasing the maturity level of quality culture is proposed.

Index Terms- Quality Culture, Maturity Level, Construction Failure, Indonesian Contractors.

I. INTRODUCTION

In accordance with the Presidential Regulation Number 75 of 2014 concerning the Acceleration of Provision for Priority Infrastructure which aims to accelerate the provisions of priority infrastructure in an effective, efficient, accurate, and timely manner [1], making all construction companies in Indonesia provide services on construction consultancy and/or construction work [2] become more competitive in terms of time, cost, quality, and work safety. This is related to the very poor emphasis on the quality of the construction industry related to final products, processes, workers, and materials [3] thus that 31 construction failures were recorded in projects carried out in the 2017-2019 timeframe which have cost property, objects, and lives. Based on a national news website, it can be concluded that in line with the large phenomenon of the increasing rate of construction failure and the implementation of an accelerated construction development program in Indonesia, the objectives of the program have not been successfully achieved.

According to Wiyana [3], construction failure can be caused by technical and non-technical factors. The technical factors referred to are factors caused by deviations in the implementation process that do not meet technical specifications. Meanwhile, the non-technical factors referred to are factors caused by the pre-contract process, the incompetence of the business entity, the unprofessional management of the managers, and weak supervision. Based on several previous studies, the most dominant factor for construction failure in all studies is individual action or human error which is caused by a lack of concern or carelessness from the individual themselves [4]. This makes the problem of carelessness binding and can be overcome by implementing a good and effective quality culture within the construction companies [5] [6].

The emphasized point here is the need for implementing a quality culture within the organization to ensure the successful implementation of a good quality management system [7]. The obstacle encountered in implementing a good quality culture is the received treatment from construction companies that are reluctant to change the quality culture into one which focuses on achieving greater customer satisfaction and improving all processes at all levels within the company [7] [8]. The failure of the quality culture change is because the organization is concentrated on changing artifacts, without changing the underlying assumptions that determine perceptions, thought processes, feelings and behavior [9]. In the process of changing to a better quality culture, a quality culture maturity approach is needed as a reference for prioritizing action [9] [10].

The maturity of quality culture itself will be studied more deeply and become the focus of this research. This study aims to determine a strategy based on a gap analysis of the existing conditions of quality culture by using the Quality Maturity Model approach to reduce the failure rate of construction in Indonesia. The results expected in this study are recommended indicators or priority areas of the maturity of quality culture that should be improved by contractors in Indonesia.

There has been no research that has examined and explored the maturity level of quality culture in the construction sector. The differing factor from previous studies is the product of this research, which is a strategy to increase the maturity level of quality culture based on gap analysis in order to reduce construction failures in construction companies in Indonesia.

Thus, this research is only limited to its object, namely contractors in Indonesia, due to the different conditions of culture that exist in different countries.

II. THEORITICAL STUDY

1. Quality Culture in Construction Companies

There are already quality management requirements applied by construction companies in Indonesia, where all construction companies participating in a bid must "have a Quality Management Certificate, Environmental Management Certificate, and Occupational Health and Safety Certificate; (only required for Complex/High-Risk Construction Works and/or designated for Large Business Qualifications)" [11] and that Class 7 construction companies (the highest class of construction company qualifications in Indonesia) must have a valid ISO 9001 certification to be eligible for conducting a construction project [12]. From the two examples of regulations and definitions above, it can be said that a quality management system already exists in Indonesia. However, with the abundance of construction failure, it can be said that the problem of the quality culture itself is not the absence of a quality management system, but the implementation of the system.

Several differences must be considered when implementing a quality program to a construction project [13] since almost all construction projects are unique products. Construction projects are usually evaluated subjectively, and the participants in a construction project (Owner, Planner, Main Contractor, Subcontractor, Material supplier, etc.) are different for each project [14]. These difficulties make a quality management system that relies on uniformity and stability difficult to implement in the construction industry.

These difficulties, in addition to the high cost of certification, make companies reluctant to consistently conduct a quality management system [15]. They are only willing to try to run more consistently if the regulation urges them to do so. Many studies that have been conducted state that the implementation of ISO quality management by construction companies is only intended to meet requirements, both from the government and from clients, as is the case in Indonesia [7]. As a result, the implementation of quality culture aspects in construction companies in Indonesia has not been done to the fullest extent [16].

2. Construction Failure

Construction failure is a condition where the results of construction work are not in accordance with the work specifications that have been agreed in the contract, either partially or completely, as a result of errors made by service users or service providers [17]. Moreover, based on Watt (1999), construction failure is a failure or deficiency in the function, performance, legal requirements, or requirements of building users, which can be in the form of structures, services, or other facilities of the affected building [18].

Josephson & Hammarlund (1999) state that the direct causes of construction errors are mainly due to individuals who are affected by conditions. This is in accordance with the statement by Beukel (1994) that building defects occur because of the failure of the system that regulates worker activities [19]. Based on a study conducted by Josephson & Hammarlund (1999), it was identified that approximately 50% of the cost of errors was derived from what they called motivation defects. Motivation defect is categorized as a defect caused by the desire of individuals to contribute, through their own actions, to the resulting organizational actions. Of the 50% defects caused by this motivation, the results of the research stated that most of them were due to forgetfulness or carelessness, only a few were due to intention, and about 29% were due to lack of knowledge, while a small proportion was due to lack of communication, due to pressure, and also risk factors [20].

3. Maturity Level of Quality Culture

Based on the literature review, the quality culture maturity model is necessary for developing a quality culture in a company. This is because a company needs organizational assistance in assessing their current level of quality culture and identifying actions needed to be done to increase the maturity level [10]. A quality maturity approach is indispensable as a tool for cultural change which often fails [9].

According to Wilson (2015), there are five levels in the measurement of maturity known as the Quality Maturity Model or QMM. The five levels of QMM are Ad hoc - Repeatable - Defined - Managed - Continuous [9].

TABLE I. THE FIVE LEVELS OF MATURITY MODEL

Level	Komponen	Definitions
1	<i>Ad hoc</i>	Implementation of quality culture is nonexistent or chaotic.
2	<i>Repeatable</i>	Implementation of quality culture is existent but not well-defined or well-structured.
3	<i>Defined</i>	Implementation of quality culture is existent and well-defined, but not routinely conducted.
4	<i>Managed</i>	Implementation of quality culture is well-defined and routinely executed, but not routinely evaluated or even if it is, evaluation results are not followed with corrective improvement.
5	<i>Continuous</i>	Implementation of quality culture is well-defined, routinely executed, routinely evaluated, and sustainably improved.

III. METHOD

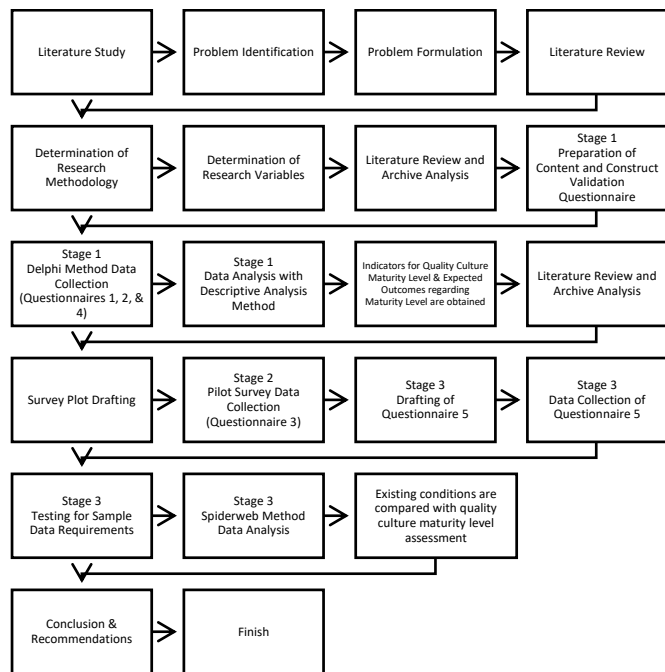
1. Research Method

This research was conducted with construction companies in Indonesia as the objects of research. The research variables were

determined by conducting literature studies and expert validation. The expected conditions regarding the maturity level of quality culture are obtained from 26 experts with expert qualifications or experts in the field of construction who have at least 10 years of experience, with minimum positions at the manager level with minimum academic qualification of a bachelor's degree. The existing condition of the maturity level of quality culture is obtained from the results of distributing questionnaires to 217 respondents who work for 32 contractors in Indonesia. The results of data collection on existing conditions, maturity level, quality culture are tested first with Data Adequacy Test (KMO & Bartlett), Comparative Homogeneity Test (Independent T Sample & Anova), Validation Test (Product moment Pearson Correlation), and Reliability Test (Cornbach's Alpa) with SPSS software.

The product of this research is the existing condition of the maturity level of quality culture in construction companies. With this, a gap analysis can be carried out with optimum conditions in order to reduce the rate of construction failure in construction companies in Indonesia. The results of data analysis will be represented in the form of a spider web diagram.

Fig. 1. Stages of Research Methodology



2. Research Variables (Dimensions of Quality Culture Maturity Level & Construction Failure)

There are 5 (five) variables for the dimensions of Quality Culture Maturity Level that can be used to assess the implementation of the culture, especially in construction companies, according to the literature review and expert validation. The variables and indicators (sub-variables) that have been identified based on the sources are:

TABLE II. RESEARCH VARIABLES

No.	Variable	Indicator (Sub-Variable)	Description	Sources
X1	Leadership	Vision and Values Setting, Trust, Inspiration and Motivation, Decision Making, Commitment of Leaders Setting, Expectations/Straightforward Language.	Working in a system and process with a group of people working with one another requires a sense of leadership to develop missions and visions of the organization into a sustainable development.	Wilson (2015); Nesensohn, Bryde, Ocheng & Fearon (2015); Flyvbjerg (2012); Spiak (2012), Wibowo & Waluyu (2015); Wan
X2	Management & Communication	Knowledge Management, Process Management, Vertical Alignment, Horizontal Alignment, Optimization, Making of Strategic Plan, Progress Monitoring, Performance Measurement, Documentation, Flow of Communication, Consistency, Fulfillment, Proactive/Preventive, Root Cause Analysis/Corrective Action, Suitability of Employee Structure, Customer Feedback.	The implementation of managerial and communications aspects of organization that is related with the failure of implementing a quality management system is often caused by the lack of clear objective, unrealistic team expectations, inadequate management support, and lack of implementation strategies.	Mahmood & Mohammed (2008); Andersen & Jessen (2002), Jarrat, (1985); Batara (2020).
X3	Learning & Empowerment	Employee Empowerment, Current Nature and Level or Learning, Employee Incentive to Innovate, Contribution, Teamwork.	An emphasis on team learning, the sharing of knowledge, and organizational learning pushes collaborative learning, which surpasses individual learning, as well as equips employees a new way of behaving (offering the right skills and attitude) which describes empowerment as a process in which authority trickles down from the vision of company executives to lower-level employees.	
X4	Organizational Attitude	Attitude Towards Risk, Attitude Towards Quality, Attitude Towards Quality Improvement, Attitude Towards Change, Presence of Change, Initiative on Quality Improvement, Presence of Responsibility on Quality, Attitude Towards Mistakes, Justice (Focus on Process), Advantages/Functional Skills, Customer Service	In the implementation of quality management, it is recommended that all managers alter the organization into a more flexible, agile, adaptive, responsive, and value-adding structure/	

No.	Variable	Indicator (Sub-Variable) (Definition of Quality).	Description	Sources
X5	Investment on Human Resources	Attitude Towards Employees, Training Accuracy, Employee Development, Awarding and Recognition of Employees, Punishment on Employees.	Intellectual property as skills and the employee's knowledge on manpower in implementing quality culture.	
No.	Variable	Description	Sources	
Y1	Rework Costs	The cost expended in the process of adjustment of initial requirements by conducting fulfilment and correction to pursue existing deviations.	Peter E.D. Love, Teo, & Morrison, (2018).	
Y2	Rework Occurrences	The activities needed to be conducted to achieve left behinds/deviations from the previously existing requirements.		

	have also become the basis for the formulation of all policies, procedures, targets, performance indicators/KPIs and employee development plans.		improvement activities.
Continuous	Upper management has defined, communicated and aligned the company's vision and values. All employees have implemented it and it has become a daily behavior that is always tried to be maintained.	Top-level management fosters trust from employees and creates a feeling of openness. Management gets sympathy from all employees.	Leaders inspire, motivate, encourage, organize, and direct employees to ensure that all aspects of achieving quality culture maturity can be formed.

In stage 1 of expert validation, the content and construct variable is validated by conducting a descriptive analysis of the variables & indicators of Quality Culture Maturity. There are 5 Variables & 42 indicators that have been validated as the appropriate quality culture maturity variables that affect construction failure rate. At this stage, several variables are added on the basis of advice from experts & previous research.

IV. RESULT & DISCUSSION

The 5 variables and 42 indicators (sub-variables) above are used as a reference for assessing the Quality Culture Maturity Level, specifically for contractors. From the list of variables and indicators (sub-variables) above, the dimensions of maturity, which are a view of information management, project as strategy, work processes and deliverables, organizational culture, and data standards [21] have been accommodated. Furthermore, the identification of maturity conditions at each level of indicator (sub-variables) that has been validated by the expert (in the expert validation process stage 2) is as follows.

TABLE III. EXAMPLE OF INDICATOR AND QUALITY CULTURE MATURITY LEVEL

Indicator / Maturity Level	X1.1. Vision and Mission Setting	X1.2. Trust	X1.3. Inspiration and Motivation
Ad-Hoc	Upper management has not set a vision and values.	Management creates a sense of distrust and eliminates a climate of openness.	Unmotivated.
Repeatable	Upper management has clearly defined the company's vision and values and it has been implemented in the company culture, but it is still difficult for employees to understand.	There is a sense of distrust towards the upper management who lacks understanding which hinders openness.	New employees are generally motivated, but over time it will vanish.
Defined	Upper management has defined the company's vision and values and communicated them to all employees through various media including dialogue sessions and through the induction of new employees	There is a bit of distrust towards the upper management. However, there is still a little sense of openness.	Some employees are motivated while some are not, depending on each individual.
Managed	The company's vision and values have been defined and communicated to all employees and	There is a sense of trust towards the upper management as well as a feeling of openness.	Certain teams/fields have been motivated and inspired to carry out quality

1. Assessment on the Expected & Existing Conditions of Quality Culture Maturity Level in Indonesia

The collection of the questionnaire data regarding the conditions of quality culture maturity level was distributed to 31 contractors and thus data from 124 respondents were obtained. Furthermore, the data sufficiency test, the validity test homogeneity, and the reliability test were carried out using the SPSS software on the results of the main questionnaire data. After the data is proven sufficient, homogeneous, valid, and reliable, it is followed by data processing and analysis.

Data processing is conducted to determine 2 findings. The first is a comparison between the existing and expected maturity level quality culture conditions based on the data obtained from respondents. The second is the relationship between the X variable (from each indicator) and the Construction Failure Variable, namely the Re-work Cost and the Re-work Amount based on the Pearson Correlation Test of the respondent data. The following is the value of the maturity level of quality culture in construction companies in Indonesia, which is shown in Table 4 along with the deviation between the expected conditions and the relationship between the Maturity Level of Quality Culture and Construction Failure.

TABLE IV. RESULT OF MATURITY LEVEL IN IMPLEMENTATION OF QUALITY CULTURE IN INDONESIA

Code	Indicator	Expected Quality Culture Maturity Level Condition	Existing Quality Culture Maturity Level Condition	Gap between Expected & Existing Conditions	Correlation of X with	
					Y1 (Rework Cost)	Y2 (Rework Amount)
X1.1	Vision and Values Setting	5	4	-1	.220**	.142*
X1.2	Trust	5	4	-1	.208**	0.117
X1.3	Inspiration and Motivation	5	4	-1	.229**	.222**
X1.4	Decision Making	5	4	-1	.234**	.261**
X1.5	Commitment of Leaders	5	4	-1	.200**	.241**
X1.6	Setting Expectation	5	3	-2	.177**	.239**

Code	Indicator	Expected Quality Culture Maturity Level Condition	Existing Quality Culture Maturity Level Condition	Gap between Expected & Existing Conditions	Correlation of X with	
					Y1 (Rework Cost)	Y2 (Rework Amount)
	s/Straightforward Language					
X2.1	Knowledge Management	5	4	-1	.238**	.157*
X2.2	Process Management	5	4	-1	.423**	.149*
X2.3	Vertical Alignment	5	5	0	.282**	.238**
X2.4	Horizontal Alignment	5	4	-1	.284**	.211**
X2.5	Optimization	5	4	-1	.178**	.198**
X2.6	Making of Strategic Plan	5	4	-1	.225**	.290**
X2.7	Progress Monitoring	5	4	-1	.280**	.220**
X2.8	Performance Measurement	5	4	-1	.211**	.202**
X2.9	Documentation	5	4	-1	.189**	0.123
X2.10	Flow of Communication	5	4	-1	.193**	.216**
X2.11	Consistency	5	4	-1	.236**	.173*
X2.12	Fulfillment	5	4	-1	.182**	.163*
X2.13	Proactive/Preventive	5	4	-1	.233**	.195**
X2.14	Root Cause Analysis/Corrective Action	5	4	-1	.169*	.146*
X2.15	Suitability of Employee Structure	5	4	-1	.316**	.204**
X2.16	Customer Feedback	5	4	-1	.179**	.211**
X3.1	Employee Empowerment	5	4	-1	.206**	.276**
X3.2	Current Nature and Level of Learning	5	3	-2	.199**	.191**
X3.3	Employee Incentive to Innovate	5	5	0	.203**	.252**
X3.4	Contribution	5	4	-1	.224**	.331**
X3.5	Teamwork	5	4	-1	.198**	0.114
X4.1	Attitude Towards Risk	4	3	-1	.173*	.202**
X4.2	Attitude Towards Quality	5	4	-1	.154*	.206**
X4.3	Attitude Towards Quality Improvement	5	4	-1	.257**	.290**
X4.4	Attitude Towards Change	5	4	-1	.322**	.178**
X4.5	Presence of Change	5	4	-1	.185**	.159*
X4.6	Initiative on	5	4	-1	.295**	.198**

Code	Indicator	Expected Quality Culture Maturity Level Condition	Existing Quality Culture Maturity Level Condition	Gap between Expected & Existing Conditions	Correlation of X with	
					Y1 (Rework Cost)	Y2 (Rework Amount)
	Quality Improvement					
X4.7	Presence of Responsibility on Quality	5	5	0	.209**	.185**
X4.8	Attitude Towards Mistakes	5	4	-1	.194**	.165*
X4.9	Justice (Focus on Process)	5	4	-1	0.112	.177**
X4.10	Advantages /Functional Skills	5	4	-1	.224**	.186**
X4.11	Customer Service (Definition of Quality)	5	4	-1	.173*	.144*
X5.1	Attitude Towards Employees	5	3	-2	.318**	.272**
X5.2	Training Accuracy	5	4	-1	.287**	.214**
X5.3	Employee Development	5	4	-1	.208**	.244**
X5.4	Awarding and Recognition of Employees	5	4	-1	.175*	.265**
X5.5	Punishment on Employees	5	4	-1	.196**	.288**
Average		5	4			

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

2. Analysis on the Gap Between Existing and Expected Condition of Quality Culture Maturity Level

From Table 4, which shows the value of the expected and existing conditions for all contractors is obtained, the analysis based on the gap between the expected conditions and the existing conditions is divided based on the following variables.

a) Leadership

Fig. 2. Spider Web Diagram for the Leadership Variable

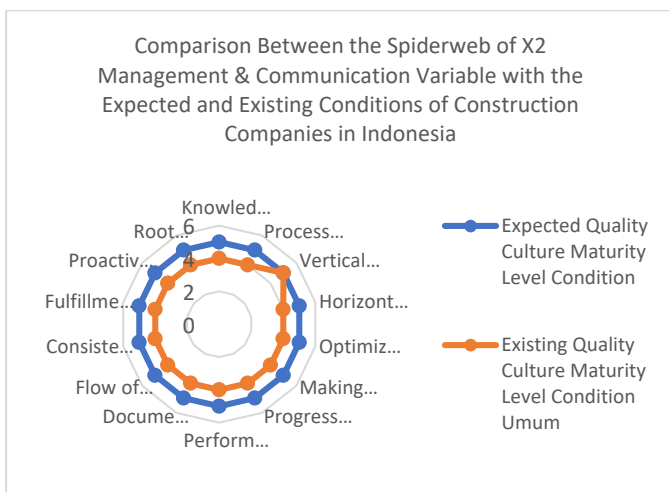


Based on Figure 2 above, the quality culture maturity condition for the leadership variable is at level 5 while the existing condition for quality culture maturity is at level 4 which is "managed", or more specifically, the implementation of quality culture in leadership has been defined and has been routinely implemented but has not been regularly evaluated or even if it has, the evaluation results are not followed up with improvements. This shows that there are 1 to 2 levels of gap in the maturity levels in the leadership dimension that must be achieved in order to reduce construction failures, where in previous research, it has been explained to be related to the development of the organization's mission and goals for sustainable development [9].

The biggest gap is in Indicator X1.6, "Setting Expectations/Straightforward Language" which is currently at the "Defined" level. Based on previous research, it is advisable for upper management to cooperate with employees when setting expectations so that they are clear, measurable, and mutually agreed to achieve Quality Culture Maturity at the "Continuous" level [10].

b) Management & Communication

Fig. 3. Spider Web Diagram for the Management & Communication Variable



As shown in Figure 3 above, the expected condition for the quality culture maturity level in the Management & Communication dimension is at level 5, while the existing condition of the quality culture maturity level is at level 4 "managed" which means that the application of quality culture in Management and Communication has been defined (defined), has been carried out regularly, but has not been evaluated regularly or if it has, the results of the evaluation are not followed up with improvements. This shows that there is 1 level of gap in the maturity level of the Management & Communication dimension that must be achieved to reduce construction failures, where based on previous research, is closely related to the managerial condition of an organization which can be the result of a lack of clear objectives and implementation strategy [22]. Meanwhile, there are indicators that have reached the expected conditions, namely, indicator X2.3 "Vertical Alignment".

c) Employee Participation and Empowerment

Fig. 4. Spider Web Diagram for the Employee Participation & Empowerment Variable



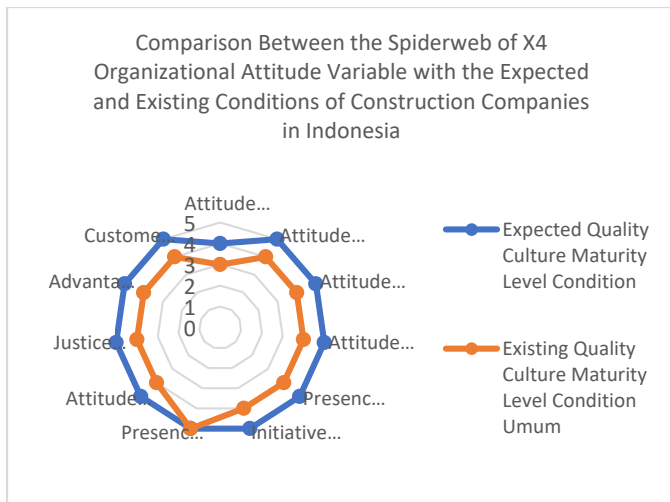
Based on Figure 4 above, the expected condition for the quality culture maturity level for the employee participation and empowerment dimension is at level 5 while the existing condition of quality culture maturity level is at Level 4 "managed", which means that the quality culture on employee participation and empowerment has been defined, has been carried out regularly, but has not been evaluated regularly or if it has, the results of the evaluation are not followed up with improvements. This shows that there are 1 to 2 levels of gap of maturity levels in the dimension of Participation and Empowerment that must be achieved to reduce construction

failures, where based on previous research, an emphasis on team learning, organizational learning with collaborative learning that goes beyond individual employees, employees' incentive to behave in a new way new will affect the empowerment process where power flows down from the vision of the company leader to employees [9].

The biggest gap is in Indicator X3.2 "Current Nature and Level of Learning" which is currently still at the "Defined" level. Based on previous research, it is recommended that companies create a system that aims to facilitate employees to share learning, information, and knowledge [10]. In addition, there are indicators that have reached the expected conditions, namely the X3.3 indicator "Employee Incentive to Innovate".

d) *Organizational Attitude*

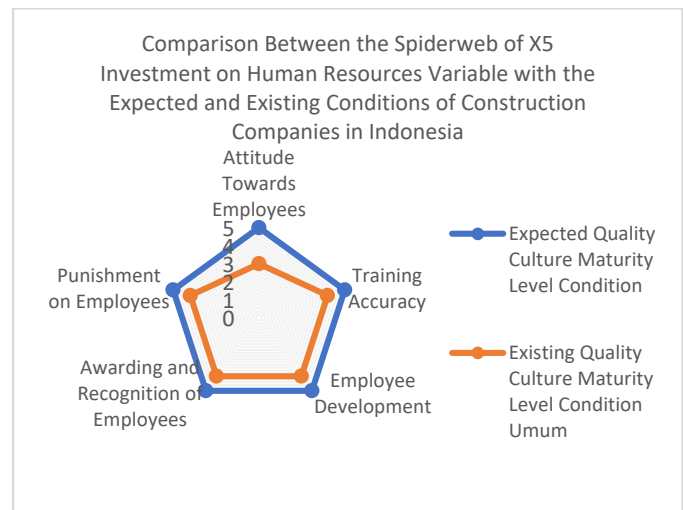
Fig. 5. Spider Web Diagram for the Organizational Attitude Variable



Based on Figure 5 above, the expected condition for the quality culture maturity level for Organizational Attitude is at level 5 while the existing condition for quality culture maturity level is at Level 4 "managed", which means that the application of quality culture to organizational attitudes has been defined, has been routinely implemented, but has not been evaluated regularly or even if so, the evaluation results are not followed up with improvements. This shows that there is 1 level of gap in the maturity level for the dimension of organizational attitudes that must be achieved to reduce construction failures. Based on previous research, it is explained that organizational attitudes are developed based on the quality culture that exists in the company [23]. In addition, there are indicators that have reached the expected conditions, namely the indicator X4.7 "Perceptions of Quality Responsibility".

e) *Investasi pada SDM*

Fig. 6. Spider Web Diagram for the Investment on Human Resources Variable



Based on Figure 6 above, the expected condition for the quality culture maturity level for investment in human resources is at level 5 while the existing condition is at Level 4 "managed", which means that the application of quality culture to investment in human resources has been defined, has been routinely implemented, but has not been evaluated regularly or even if it has, the results of the evaluation have not been followed up with improvements. This shows that there are 1 to 2 levels of gap in the maturity levels in the dimension of investment in human resources that must be achieved to reduce construction failures. Based on previous research, it is known that this variable includes intellectual capital as skills and the laborers' knowledge regarding quality culture implementation [9].

The biggest gap is in Indicator X5.1 "Attitude to Employees" which is currently still at the "Defined" level. Based on previous research, it is recommended that the company views employees as the main asset of the company and providing commitment and guarantee of employee welfare [9].

This research is only limited to the case study of contractors in Indonesia, therefore further research can be developed for larger data samples. The limitation of this research is to analyze the gap between the existing and the expected conditions on the maturity level of quality culture in construction companies in Indonesia. However, further research can be conducted to develop technical strategies or systems with the aim of increasing the maturity level of the quality culture in order to reduce construction failures in Indonesia.

V. CONCLUSION

If seen from the deviation value between the existing and expected condition of the maturity level of quality culture in contractors in Indonesia and the value of its effect on the indicators of quality failure, there is a recommendation that can

be submitted to contractors in Indonesia, namely 3 priority indicators that must be considered and improved for construction companies in Indonesia to achieve the conditions expected by experts to reduce the failure rate of construction in Indonesia, which is provided in Table 5. However, all indicators of quality culture must be considered and improved in order to obtain maximum results for reducing the failure rate of construction in Indonesia.

TABLE V. RECOMMENDATION FOR THE 3 TOP-PRIORITY INDICATORS WHICH SHALL BE IMPROVED

Variable	Code	Indicator	Description	Source	Significance with Constructi on Failure
Investment in Human Resources	X5.1	Attitude Towards Employees	View employees as company assets that are committed to running company systems	Wilson (2015)	Highly Significant
Leadership	X1.6	Setting Expectations / Straightforward Language	Leaders and employees work together to set clear and measurable expectations	Spiak (2012)	Highly Significant
Employee Participation & Empowerment	X3.2	Current Nature and Level of Learning	The nature and level of learning of all employees are evaluated, monitored, and regularly renewed.	Spiak (2012)	Highly Significant

From the prioritized indicators above, there are recommended strategies for increasing the maturity level of quality culture as follows:

1. Companies are advised to view employees as the main asset of the company with commitment and guarantee of employee welfare. This aims to make employees company assets that are committed to run the company system [9].
2. Management is advised to reformulate expectations for employees (usually in the form of a Key Performance Index) that is clear and measurable. These KPIs can be mutually agreed upon by employees and evaluated regularly [10].
3. Companies are advised to facilitate employees to share learning, information, and knowledge [10]

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AUTHORS

First Author – Raseesha Nauratul Gustia, Master Candidate, Universitas Indonesia – Civil Engineering Department, Faculty of Engineering; E-mail: raseesha@gmail.com; Address: Kampus Baru UI Depok, 16424, Indonesia.
Second Author – Yusuf Latief, Professor, Universitas Indonesia – Civil Engineering Department, Faculty of Engineering; Address: Kampus Baru UI Depok, 16424, Indonesia.
Third Author – Rully Andhika, Phd Candidate, Universitas Indonesia – Civil Engineering Department, Faculty of Engineering; Address: Kampus Baru UI Depok, 16424, Indonesia.