

# Improving Employee Performance through Emotional Intelligence and Intellectual Intelligence

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This study aims to determine the effect of emotional intelligence and intellectual intelligence on performance mediated by communication ability. The population was employees at PT Petrokimia Gresik. The number of samples was 125 employees. Data was collected using a questionnaire and analysed by path analysis techniques. The results showed that emotional intelligence directly had a positive and significant effect on performance. Intellectual intelligence directly has a positive and significant effect on performance. Emotional intelligence directly has a positive but insignificant effect on communication ability. Intellectual intelligence directly has a positive and significant effect on communication abilities. Communication abilities directly have a positive and significant effect on performance. Communication ability mediates the effect of emotional intelligence on performance. Communication ability mediates the effect of intellectual intelligence on performance.

**Key words:** *Emotional, Intellectual, Communication, Performance, Path Analysis.*

## INTRODUCTION

A company will use their resources maximally to achieve their goals. One important resource is employees. Employees with high ability, motivation and organisational support should be able to provide good work results. Sedarmayanti (2016: p. 11) explained "human resource management is a process to utilise human resources effectively and efficiently through planning, mobilising, and controlling all values that become human power to achieve goals or processes of human resource empowerment with all the physical and psychological potential to achieve the goals".

Tampubolon (2013: p. 73) explained "the high effectiveness of an organisation facilitates to achieve the organisational goals". Employee performance in an organisation cannot be separated from existence of Emotional Intelligence (EI), Intellectual Intelligence (II) and Communication Ability (CA). EI is a "feeling of appreciation or sensitivity, tenderness, refinement of feelings to help each individual to solve problems" (Prawironegoro, 2016: p. 98). Robins & Judge (2015: p. 57) describe II as "an ability needed to do various mental activities to think reason and solve problems". Prawironegoro (2016) explained that "communication aims to affect all members of the organisation in order to jointly achieve the organisational goals".

Goleman (2013: 56) showed that contribution of IQ to a person's success is only about 20%; the remaining 80% is determined by a group of factors called EI. Furthermore, usually people who have only high academic intelligence tend to have unreasonable anxiety, are overly critical, fussy, tend to withdraw, seem cold and tend to find it difficult to express their resentment and anger appropriately.

A low level of EI makes people become a source of problems. Based on characteristics above, a person with high IQ but a low level of EI tend to be seen as: stubborn, difficult to socialise, indifferent, easily frustrated, do not easily trust others, not sensitive to conditions and Environment, and tend to give up when experiencing stress. The opposite condition, people with an average IQ level but have high EI tend to be calmer. Having high EI improves the employee performance and has a very important role in carrying out their duties.

PT Petrokimia Gresik is committed to continuing to grow and develop together with community, in order to support the realisation of national food security and progress in world agriculture. PT Petrokimia Gresik continues to strive to improve employee performance. Therefore, this study aims to determine the effect of EI and II on Employee Performance (EP) mediated by Communication Ability (CA).

## **LITERATURE REVIEW**

### **Emotional Intelligence**

Sunar (2010) stated that EI is "a person's ability to accept, assess, manage, and control the emotions of himself and others around him". Prawironegoro (2016: p. 98) defined "emotional intelligence as the intelligence of appreciation, or sensitivity, tenderness, refinement, and feeling, it means in company is suffering, because what is produced does not belong to him". This intelligence is the result of living to work and striving to improve the life.

Emotional intelligence can be seen from several aspects. Goleman (2015: p. 56-57) stated that emotional intelligence has five basic skills:

1. Self-awareness

It is a person's ability to know their feelings and consequences of these feelings and use them to make decisions for using a realistic benchmark.

2. Self-management

It is the ability to recognise one's own emotions, express and control emotions and sensitivity to conscience; all of them are used in relationships with other people and daily actions.

3. Motivation

Motivation is the ability to use desire to generate enthusiasm and energy at any time to achieve a better state, take initiative, act effectively, and be able to withstand the failure and frustration.

4. Social awareness (empathy)

It is the ability to understand other people like self-understanding. Someone who is empathetic will be able to understand views and opinions of others, understand the feelings of others, create trusting relationships, and be able to adapt to both the environment and various types of individuals.

5. Relationship management

It is a person's ability to manage their emotions well in the relationship with others, create and maintain relationships with others, can effect, lead, deliberate, resolve disputes and be able to work in teams.

Wiliandari (2015: p. 8) stated "employees who have high emotional intelligence were also able to face problems at work. Stable emotions also help them to think clearly and can easily communicate what they want to solve one by one".

### **Intellectual Intelligence**

Vandy (2012: p. 35) stated that "intellectual is intelligent thinking and a brilliant brain to manage the right and left brains equally". Meanwhile, Robbins & Timothy (2015: p. 57) stated "intellectual intelligence is the ability needed to perform various mental activities,

think, reason and solve problems". Binet & Simon (2014: p. 57) explained the II as an ability which consists of three characteristics, namely:

1. The ability to direct thoughts or actions.
2. The ability to change the action when they have been taken.
3. Ability to criticise yourself.

Purwanto (2013: p. 55-56) explained that human intellectual intelligence was affected by following factors:

1. Inborn

Heredity is determined by traits and characteristics inherited from birth, first of all it is determined by our nature.

2. Maturity

Every organ in the human body experiences growth and development, every organ (physical and psychological) can have maturity if it reaches the ability to carry out its respective functions. A person cannot solve certain problems because they are too difficult as their body organs are still too immature to do it; maturity has a close relation with the age.

3. Formation

Formation is all circumstances outside one's self to affect the development of intelligence. We can distinguish intentional (done in schools) and accidental formation.

4. Interest and distinctive character

Interest directs actions towards a goal and as an impetus for that activity. Humans interact with the outside world. They are motivated to use and investigate the outside world (manipulate and explore motives). It creates an interest in something that and encourages them to do more and better.

5. Freedom

Freedom means that humans can choose certain methods of solving problems.

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## Communication Ability

Moehariono (2012) explained communication ability "refers to actions by one or more people, which send and receive messages that are distorted by noise, occur in a certain context, have a certain effect and there is an opportunity for feedback". Devito (2011: p. 26) explained "communication ability as a person's ability to communicate effectively". This capability includes knowledge about the role of environment (context) to influence the content and form of communication messages. For example, knowledge may be appropriate to be communicated to certain listeners in a certain environment, but may not be appropriate for other listeners and environments.

Mangkunegara (2014) stated that dimensions to measure the level of communication skills in organisations are as follows:

1. Wisdom and politeness

It is a person's attitude in taking objective actions or decisions, by paying attention to ethics, courtesy and manners.

2. Receipt of feedback

It is self-readiness to receive feedback from subordinates, superiors and colleagues.

3. Share information

It is a person's attitude to share the information to the right people and at the right time.

Humans always carry out social interactions with society, because humans are called social and cultured creatures. The intensity of social interaction cannot be seen from their dependence on giving and receiving information (Prawironegoro, 2016). Therefore, the purpose of communication is as follows:

1. The conveyed information can be understood by others.
2. To understand other people.
3. To make the ideas can be accepted by others.
4. To move other people to do something.

## Performance

Goleman (2015) defined performance as an expression of "abilities based on knowledge, attitudes and skills and motivation to produce something". Performance according to Kasmir

(2016: p. 182) was "the results of work and behavior that has been achieved in completing tasks and responsibilities given in a certain period". Meanwhile, Rivai in Rahadi (2010: p. 4) explained "the performance is the result or level of success of a person as a whole in a certain period in carrying out a task compared to various possibilities such as standard work results, targets or criteria that have been determined in advance and have been agreed with employees and managed primarily to achieve productivity and effectiveness in order to build success, both individually and in an organisation".

Mangkunegara (2014: p. 13) stated five dimensions in controlling employee performance:

1. The physiological dimension

A person will work best if the person works in various operational configurations, various tasks whose rhythm speed is adjusted to physical awareness.

2. The psychological dimension

Work is an expression of personality. Someone will get satisfaction from their work by showing better performance than some people who do not like their work.

3. The social dimension

Work is an expression of social relations among fellow employees. An atmosphere of conflict among employees can reduce performance, both individually and in groups.

4. Economic dimension

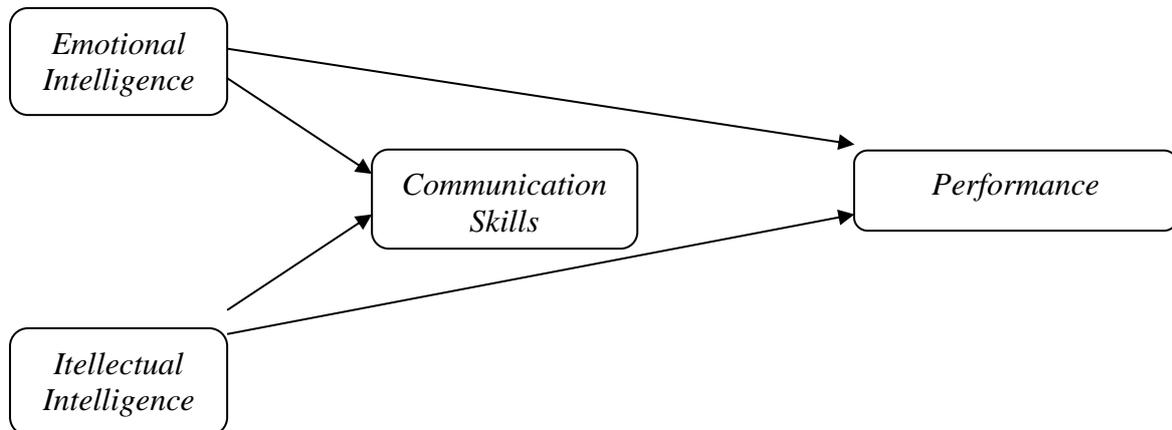
The reward for the services can inhibit or encourage employees to excel.

5. Balance dimension

The balance is obtained from work to fulfill life needs and will spur someone to work better in order to achieve this balance.

### **Research conceptual framework and hypotheses**

Based on description given above, conceptual framework of this study is presented in Figure 1.



**Figure 1:** Research Conceptual Framework

Based on above conceptual framework, the research hypotheses are:

- H1. Emotional Intelligence directly has a significant effect on Communication Ability.
- H2. Intellectual Intelligence directly has a significant effect on Communication Ability.
- H3. Emotional Intelligence directly has a significant effect on Performance.
- H4. Intellectual Intelligence directly has a significant effect on Performance.
- H5. Communication Ability directly has a significant effect on Performance.
- H6. Communication Ability mediates the effect of Emotional Intelligence on Performance.
- H7. Communication Ability mediates the effect of Intellectual Intelligence on Performance.

## RESEARCH METHODS

This research was conducted at PT Petrokimia Gresik. The population of this study was all employees of PT Petrokimia Gresik totaling 2353. 125 samples were taken, determined by a convenience sampling method, where each population has the opportunity to be a sample.

Data was collected using a Five-point Likert Scale questionnaire, starting from 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree to 1 = strongly disagree. Questionnaires were distributed directly to employees to increase response rates. From the distributed questionnaire 125 research data samples were obtained. After checking, it was found that 10 could not be used due to incomplete answers. The final number of samples from this study was 115 people. The data obtained was then analysed using path analysis. Path analysis is the development of multiple regression analysis techniques by examining the direct effect of independent variable on dependent variable and indirect effect of independent variable on dependent variable using the mediating variable. The indirect effect was calculated using the Sobel test technique.

## RESULTS AND DISCUSSION

### Description of research object

The PT Petrokimia fertiliser factory was built in Gresik City, East Java, by Government in 1964 and operation was inaugurated on July 10, 1972 by President of Republic of Indonesia, Soeharto. Starting from production of nitrogen-based fertilisers, PT. Petrokimia Gresik developed its ability to produce phosphate-based fertilisers and then expanded towards compound fertiliser production. From various steps of innovation and factory development carried out, PT Petrokimia Gresik has metamorphosed from being a fertiliser factory to become the largest and most comprehensive fertiliser industry in Indonesia. Occupying an area of more than 450 hectares, PT Petrokimia Gresik manages industrial estates in an integrated manner, and produces fertiliser and non-fertiliser products that are highly competitive. PT Petrokimia Gresik operates more than 21 factories consisting of fertiliser factories and factories to produce non-fertiliser products, with a production quantum above 6 million tons/year.

### Data analysis

The data obtained was analysed for validity and reliability. The test results show that data obtained is valid. This is evidenced by value of  $r_{count} > r_{table}$ , namely  $0.518 > 0.1710$ . Therefore, all items of questionnaire statement are valid.

Reliability testing used the Cronbach Alpha method. A questionnaire is reliable if the Cronbach Alpha value is greater than 0.60. The reliability results for statement items in this study show that Cronbach alpha value was between 0.757 - 0.881 greater than 0.60. It can be concluded that statement items are reliable.

### Path Analysis

Path analysis is an extension of multiple regression analysis. The first step is to perform multiple linear regression analysis. From these results, Sobel test was conducted to determine the effect of independent variable on dependent variable mediated by mediating variable. The results of regression analysis are presented in tables 1 and 2 below.

**Table 1: The effect of Emotional Intelligence and Intellectual Intelligence on communication skills**

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	10.159	0.283		40.089	0.000
1 Emotional Intelligence	0.417	0.100	0.395	40.178	0.000
Intellectual Intelligence	0.334	0.093	0.339	30.592	0.000

Dependent Variable: Communication ability  
R<sup>2</sup>: 0. 467

Source: Primary data analysed 2020.

**Table 2: The Effect of Emotional Intelligence and Intellectual Intelligence and Communication Ability on Performance**

Model	Unstandardised Coefficients		Standardised Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	0.614	0.258		20.383	0.019
2 Emotional Intelligence	0.161	0.091	0.152	10.776	0.078
Intellectual Intelligence	0.378	0.083	0.381	40.523	0.000
Communication Ability	0.359	0.075	0.356	40.759	0.000

Dependent Variable: Employee Performance  
R<sup>2</sup>: 0, 619

Source: Primary data analysed 2020.

The analysis can be done based on results of linear regression analysis above. The first hypothesis states that EI directly has a significant effect on CA. Table 1 shows that results of calculation of beta coefficient are 0.395 with a significance level of  $0.00 < 0.05$ . These results indicate that EI has a direct and significant positive effect on CA. Therefore H1 is accepted. The results of this study are consistent with results of research of KızıltepeTürkan (et al., 2020) that EI has a significant effect on CA. Therefore, to improve employee communication ability, companies need to improve employee emotional intelligence.

The second hypothesis states that II directly has a significant effect on CA. Table 1 shows that calculation of beta coefficient is 0.339 with a significance level of  $0.00 < 0.05$ . These results indicate that II directly has a positive and significant effect on CA. Therefore H2 is

accepted. The results of this study are consistent with results of research of Eide et al., (2020) and McDowwel et al., (2020) that II can improve employee CA. Therefore, to improve employee communication ability, companies need to improve intellectual intelligence so that employees become smarter and company is more advanced.

The third hypothesis states that EI directly has a significant effect on Performance. Table 2 shows that calculation of beta coefficient is 0.152 with a significance level of  $0.078 > 0.05$ . These results indicate that EI directly does not have a significant effect on performance. Therefore H3 was rejected. The results of this study are not consistent with research conducted by Samimi et al., (2020) and Ali & David (2020), which shows that to improve communication ability, it is necessary to increase intelligence and emotional mastery.

The fourth hypothesis states that II directly has a significant effect on performance. Table 2 shows that calculation of beta coefficient is 0.381 with a significance level of  $0.00 > 0.05$ . These results indicate that II does not directly have a significant effect on performance. Therefore H4 was accepted. The results of this study are consistent with research conducted by Hetzroni (2020) that intellectual intelligence plays an important role in improving employees' performance.

The fifth hypothesis states that CA directly has a significant effect on performance. The results of data analysis show that calculation of beta coefficient is 0.566 with a significance level of  $0.00 > 0.05$ . These results indicate that EA directly has a significant effect on performance. Therefore H5 is accepted. The results of this study are consistent with Lee & Kim (2020) who shows that communication ability plays an important role in improving employee performance. Communication allows people to work more effectively and efficiently so that performance increases.

After testing the direct effect, the next step is to carry out path analysis, namely the indirect effect of independent variable on dependent variable through the mediation variable. Mediation analysis was performed using the Sobel test. The complete calculation of Sobel test is shown in Table 3.

**Table 3: Matrix for Testing the Effect of Mediation Variable**

	Direct	Indirect	Sig	Description
X1 → Z	0.395	-	0.00	Positive and significant
X1 → Y	0.152	-	0.00	Positive and insignificant
Z → Y	0.356	-	0.00	Positive and significant
X1 → Z → Y	-	$0,395 + (0,152 \times 0,356) = 0,449$		Positive and significant
X2 → Z	0.339	-	0.00	Positive and significant
X2 → Y	0.381	-	0.00	Positive and significant
Z → Y	0.356	-	0.00	Positive and significant
X2 → Z → Y	-	$0.395 + (0.381 \times 0.356) = 0.531$		Positive and significant

Description:

X1: Emotional Intelligence

X2: Intellectual Intelligence

Z: Communication Ability

Y: Performance

Source: Secondary data analysed, 2020

Based on calculation of Sobel test, indirect effect hypothesis can be carried out. The sixth hypothesis states that. CA mediates the effect of EI on performance. Table 3 shows show that EI has a significant direct effect on CA. Conversely, EI does not have a significant effect on performance. Meanwhile, CA itself has a significant effect on performance. The Sobel test calculation shows that obtained beta coefficient is 0.449. The results of these calculations are greater than the direct effect of EI on performance. Therefore, the sixth hypothesis is accepted, that CA mediates the effect of EI on performance. The mediation that occurs is perfect mediation, where EI has a significant effect on performance, but CA does not have a significant effect on performance. Meanwhile communication ability has the role of mediating the effect of emotional intelligence on performance (Ghozali, 2014)

The seventh hypothesis states that CA mediates the effect of II on performance. Table 3 shows that II has a significant direct effect on CA. Likewise II has a significant effect on performance. Meanwhile, CA itself has a significant effect on performance. The Sobel test calculation shows that obtained beta coefficient is 0.531. The calculation result is greater than the direct effect of II on performance. Therefore, the seventh hypothesis is accepted, that CA



mediates the effect of EI on performance. The mediation type is partial mediation, where EI has a significant effect on performance and CA has a significant effect on performance. Meanwhile communication ability has the role of mediating the effect of Emotional intelligence on performance (Ghozali, 2014)

## CONCLUSIONS AND SUGGESTIONS

Path analysis is an important tool to determine the effect of the independent variable on dependent variable through the mediation variable. The conclusion of this study can be conveyed as follows:

1. EI directly has a positive and significant effect on CA. Therefore, communication ability improvement can be done by increasing emotional intelligence.
2. II directly has a positive and significant effect on CA. Therefore, communication ability improvement can be done by increasing intellectual intelligence.
3. EI direct has a positive but insignificant effect on performance. Therefore, the performance improvement needs to be done by exploring other variables that affect it.
4. II directly has a positive and significant effect on performance. Therefore, performance improvement can be done by increasing intellectual intelligence.
5. CA directly has a positive and significant effect on performance. Therefore, performance improvement can be done by increasing the communication abilities.
6. CA mediates the effect of EI on performance. The mediation that occurs is perfect mediation
7. CA mediates the effect of II on performance. The mediation that occurs is partial mediation

This research has weaknesses that need to be followed up in future research. The first weakness is the samples only use one company, even though the number of employees is large, results of this study cannot be generalised to other companies. To increase generalisability, future research needs to be done with samples from various organisations. The second weakness is that this study still uses path analysis which is unable to analyse the effect of indicators on the variables studied. Therefore, future research can use PLS or AMOS analysis tools.



## REFERENCES

- Ali, Monin Talha and Daniel David. 2020. Family Communication in Long-Term Care During a Pandemic: Lessons for Enhancing Emotional Experiences. *The American Journal of Geriatric*. First available on 12 September 2020.
- Binet, A and Simon, T. 2014. *The Development Of Intelligence In Children (The Binet – Simon Scale)*. Jakarta : PT. Bumi Aksara.
- Eide, Ann Elida, Erik Andreas and Saether Arild Aspelund. 2020. An investigation of leaders' motivation, intellectual leadership, and sustainability strategy in relation to Norwegian manufacturers' performance. *Journal of Cleaner Production*. First available on 11 January 2020
- Factors predicting school staff's responsivity toward students with intellectual and developmental disability and complex communication needs. *Research in Developmental Disabilities*. First available on 7 May 2020
- Ghozali, I. (2014). *Aplikasi analisis Multivariate dengan Program SPSS*. Semarang: Badan Penerbit UNDIP.
- Goleman, Daniel. 2013. *Emotional Intelligence*. Jakarta: Gramedia Pustaka Utama.
- Goleman, Daniel. 2015. *Emotional Intelligence*. Alih Bahasa: T. Hermay. Jakarta: Gramedia Pustaka Utama.
- Hetzroni, Maayan Shalev Orit. 2020. Relationship between Interprofessional Communication and Team Task Performance. *Clinical Simulation in Nursing*. First available on 1 April 2020.
- Kızıltepe, Rukiye, Türkan Yılmaz and IrmakTobias Hecker. 2020. Prevalence of violence by teachers and its association to students' emotional and behavioral problems and school performance: Findings from secondary school students and teachers in Turkey. *Child Abuse & Neglect*. First available on 11 January 2020
- Mangkunegara, Prabu Anwar. 2014. *Evaluasi Kinerja SDM*. Bandung PT. Refika Aditama.
- McDowell, William C., Whitney, O. Peake Michael and L. Harris. 2018. Building small firm performance through intellectual capital development: Exploring innovation as the "black box". *Journal of Business Research*. First available on 1 February 2018
- Moehariono. 2012. *Pengukuran Kinerja Berbasis Kompetensi*. Bogor : Ghalia Indonesia.
- Samimi, Mahdiye, Mohammad Hassan, Majidi Saeed and Khorashadizadeh. 2020. Secure communication based on chaos synchronization using brain emotional learning. *AEU - International Journal of Electronics and Communications*. First available on 4 September 2020.
- Prawironegoro, Darsono dan Dewi Utari. 2016. *Manajemen SDM Abad 21 (Sumber Daya Manusia)*. Jakarta : Mitra Wacana Media.
- Purwanto, Djoko. 2010 *Komunikasi Bisnis*. Erlangga : PT. Gelora Aksara Pratama.
- Robbins, P. Stephen and A. Judge Timothy. 2015. *Peilaku Organisasi*. Jakarta: Salemba Empat.