The Relationship between Cultural Intelligence, Emotional Intelligence, and Student Performance

Nur Arief Rahmatsyah Putranto[a], Shimaditya Nuraeni[b],
Aurik Gustomo[c], Achmad Ghazali[d]

[a] *School of Business and Management ITB, Jl Ganesha 10, Bandung 40132, Indonesia*
nur.arief@sbm-itb.ac.id
[b] *School of Business and Management ITB, Jl Ganesha 10, Bandung 40132, Indonesia*
shimaditya@sbm-itb.ac.id
[c] *School of Business and Management ITB, Jl Ganesha 10, Bandung 40132, Indonesia*
aurik@sbm-itb.ac.id
[d] *School of Business and Management ITB, Jl Ganesha 10, Bandung 40132, Indonesia*
achmadghazali@sbm-itb.ac.id

ABSTRACT

Performance is important at the level of both the company and the individual. A person achieving impressive performance will most likely find it easier to gain employment. One determining factor in whether an individual can achieve this is his/her intelligence. Its various types include; Emotional Intelligence (EI), relating to a person's ability to control his/her emotions and use them for positive ends, and Cultural Intelligence (CQ) that influences an individual's ability to interact and perform meaningfully in a multicultural context.

This study aims to explore the relationship between EI, CQ, and student performance using a research population composed of business school students. The results reveal a significant positive relationship between CQ and EI except in the area of learner performance where EI has a profound constructive impact, while that of CQ is negative.

JEL Classifications: M14, O35

Keywords: cultural intelligence; emotional intelligence

I.   INTRODUCTION

One factor that can affect individual performance is intelligence whose concept has been accepted since the early 20th century and has been gaining ever-increasing currency since its inception. Initially, the concept of intelligence was known only as IQ until Thorndike (1936) introduced an alternative consisting of abstract, mechanical, and social elements. The third aspect, social intelligence (SI), became a concern to many scholars and was later divided into two variables. The first is the interpersonal aspect within which an individual's intelligence, through interaction with others, is affected by his/her mood, temperament, motivation, and intentions. The other aspect is intrapersonal in nature focusing on how well someone understands him/herself and how he/she expresses his/her feelings (Gardner, 2002; Wong and Law, 2002). The concept of Emotional Intelligence (EI), which subsequently emerged as part of SI, was characterized by Goleman (1995) as the ability to control impulses and delay gratification, regulate mood, empathize and experience hope. More recently, the concept of Cultural Intelligence (CQ), defined as "an individual's capability to function and manage effectively in culturally diverse settings" (Ang *et al.*, 2007), has emerged as a direct response to the era of globalization.

These various concepts of intelligence have attracted the attention of scholars both in terms of their influence as well as the instruments used to measure them. However, research into the relationship between different forms of intelligence is still limited in scope because each possesses its own unique character. However, the need for a model that may explain the link between intelligence remains. This is because, by knowing the relationship between different forms of intelligence, a more in-depth understanding can be achieved (Crowne, 2009). In addition, knowing the relationship between contrasting concepts of intelligence, can exploit opportunities to acquire new knowledge (Crowne, 2009). Ultimately, the fruits of this research, related to the relationship between CQ and EI, can be used as a basis to determine how such a relationship can affect a person's performance.

Based on the above, there is a need for further research to be undertaken into the relationship between differing forms of intelligence. Crowne (2009) conducted a study which produced a model describing the relationship between SI, EI, and CQ. However, the proposed model was arrived at exclusively through study of the relevant literature and its validity remains to be confirmed through empirical study. Therefore, the objectives of this study are to investigate empirical evidence regarding the relationship between (1) CQ and EI, including their various components, (2) students' experience of applying their CQ and EI when traveling abroad, and (3) the role of students' CQ and EI in their academic performance.

II.   LITERATURE REVIEW

A.   Emotional Intelligence

After the emergence of SI concepts, others related to human intelligence began to develop. One commanding the attention of scholars is related to the concept of EI, a sub-element of SI (Salovey and Mayer, 1990). Since its emergence, the concept of EI has continued to evolve, thereby producing a wide range of contrasting opinions

(Cartwright and Pappas, 2008). Salovey and Mayer (1990) argued that EI forms part of social intelligence involving the ability to understand and control one's own emotions and monitor those of others in order to guide one's thoughts and actions. Meanwhile, Goleman (1996) regarded EI as a set of skills that affect a person's ability to perform, work in groups and adapt, as and when necessary, in doing so. In line with this, Salovey and Pizarro (2003) argued that EI constitutes the ability to perceive, express, understand, use, and regulate emotions as a means of adapting and, in doing so, improving performance. In this study, the definition used is that of Mayer and Salovey (1997), namely, the ability to understand, assess, express, and regulate emotion and knowledge related to emotions.

Based on this definition, Salovey and Mayer (1990) divided EI components into four dimensions; emotional self-appraisal, the emotional appraisal of others, the regulating of emotion, and the use of emotion to facilitate performance. Self-emotional appraisal consists of individuals' ability to understand their emotions and express them naturally (Salovey and Mayer, 1990). People with highly developed emotional self-appraisal will be able to understand their feelings more meaningfully than those who lack this competence (Salovey and Mayer, 1990). The emotional appraisal of others resides in a person's ability to experience and understand the emotions of others (Salovey and Mayer, 1990). Those with a deep appreciation of fellow human beings' feelings and emotions will be better able to understand them (Salovey and Mayer, 1990). The regulation of emotion refers to an individual's ability to control his/her feelings, enabling him/her to withstand psychological pressure (Salovey and Mayer, 1990). Use of emotion refers to the capacity for individuals to apply it to positive activities, thereby improving personal performance (Salovey and Mayer, 1990).

B.   Cultural Intelligence

The term CQ has gained increasing currency since the early 2000s. However, due to its unclear construct, not many scholars initially paid attention to this phenomenon. Since Early and Ang (2003) developed a model describing CQ as an intelligence that accommodates cultural factors, the scholarly attention paid to it has begun to increase. CQ is defined by the two academics cited above as an intelligence affecting a person's ability to adapt to and perform to a high standard within a new cultural environment or when he/she interacts with people drawn from different cultures. Individuals with high CQ demonstrate an ability to adapt more quickly when interacting with people from different cultural backgrounds in order to attain an enhanced level of performance.

As with EI, CQ has certain constituent components. Ang *et al*. (2007) argued that CQ comprises four elements; metacognition is a mental process that individuals use to acquire knowledge, including knowledge processes, and learn about culture, cognition includes knowledge about the norms, beliefs, rules and symbols of different cultures that individuals learn from education and experience, motivation relates to the willingness to learn and perform in a multi-cultural context, and behavior refers to an individual's capability to execute both verbal and nonverbal actions when interacting with people of different cultures.

C.   The Relationship between EI and CQ

There are two contrasting arguments regarding the relationship between EI and CQ. The first states that these constitute different forms of intelligence because cultural aspects are not taken into account in the former, while they are a factor emphasized by CQ (Earley and Peterson, 2004). This position is supported by the suggestion that people demonstrating considerable EI within their native cultures, do not necessarily manifest similar levels when operating in a different cultural context (Crowne, 2009). In addition, one aspect emphasized by CQ is the ability to process information (the metacognitive aspect) and related cultural knowledge (the cognitive aspect) which bear no relation to an individual's emotions (Ang *et al*., 2007; Crowne, 2009). Furthermore, even if a person possesses significant EI, a lack of relevant knowledge about different cultures can cause him/her to fail to adapt when interacting with others. The same proviso applies to an individual with strong CQ since its possession does not necessarily mean that he/she can understand and control his/her emotions. Indeed, understanding and controlling emotions do not form part of the cultural aspect. This fact shows that there is a fundamental difference between EI and CQ.

On the other hand, some scholars argue that there is a relationship between EI and CQ since the former focuses on a person's ability to understand one's own emotions as well as those of others (Salovey and Mayer, 1990). However, the manner in which individuals express their emotions can vary depending on the origin of the culture so that relevant cultural knowledge can affect a person's ability to understand the emotions of others (Crowne, 2009). In addition, elevated EI allows one to be open to new experiences that show similarities to the motivational aspects of CQ indicating a person's desire to interact with people from contrasting cultural backgrounds (Crowne, 2009). Both EI and CQ emphasize aspects of a person's behavior where he/she can behave well if it can control his/her emotions and act in accordance with the existing culture.

III.   METHODOLOGY

The research methodology was quantitative in nature, involving the use of a questionnaire. This document consisted of two parts, the first adapted from Ang *et al*. (2007) and the second incorporating a 7 Likert-scale based on the work of Wong and Law (2002). In terms of students' performance, the data was gathered from their GPA scores. The samples were taken from undergraduates at sophomore and senior level with the total number of respondents being 230. The data gathered was then processed statistically to identify any relationship between CQ, EI, and student performance.

IV.   RESULT AND FINDINGS

A.   The Relationship between EI and CQ

EI and CQ have a positive and significant correlation with a coefficient of 0.329. This result is in line with previous research that revealed a relationship between EI and CQ (Crowne, 2009).

Table 1
Correlation between EI and CQ

			EI	CQ
Spearman's rho	I	Correlation Coefficient	1.000	.329**
		Sig. (2-tailed)	.	.000
		N	230	230
	Q	Correlation Coefficient	.329**	1.000
		Sig. (2-tailed)	.000	.
		N	230	230

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

Table 2
Correlation of EI components towards CQ

			SEA	OEA	UOE	ROE	CQ
Spearman's rho	SEA	Correlation Coefficient	1.000	.153*	.181**	.375**	.285**
		Sig. (2-tailed)	.	.020	.006	.000	.000
		N	230	230	230	230	230
	OEA	Correlation Coefficient	.153*	1.000	.006	.086	.223**
		Sig. (2-tailed)	.020	.	.927	.195	.001
		N	230	230	230	230	230
	UOE	Correlation Coefficient	.181**	.006	1.000	.063	.218**
		Sig. (2-tailed)	.006	.927	.	.341	.001
		N	230	230	230	230	230
	ROE	Correlation Coefficient	.375**	.086	.063	1.000	.114
		Sig. (2-tailed)	.000	.195	.341	.	.084
		N	230	230	230	230	230
	CQ	Correlation Coefficient	.285**	.223**	.218**	.114	1.000
		Sig. (2-tailed)	.000	.001	.001	.084	.
		N	230	230	230	230	230

*: correlation is significant at the 0.05 level (2-tailed); **: correlation is significant at the 0.01 level (2-tailed).

With regard to EI components, only Regulation of Emotion (ROE) does not demonstrate an important relationship. The other components: Self-emotion Appraisal (SEA), Others' Emotion Appraisal (OEA), and Use of Emotion (UOE) manifest positive and significant relationships, with coefficients of 0.285, 0.223, and 0.218 respectively (see Table 2). This result shows that an individual's ability to handle stress has no relationship with that of adapting to a multicultural context. The probable

explanation for this is that the stress respondents experienced do not result from the interaction with people from different cultures.

All CQ components have a positive and significant relationship with EI, although all these components' coefficient correlation is rather weak, especially for the behavioral component (0.151). The metacognitive, cognitive, and motivational components have coefficients of correlation of 0.247, 0.288, and 0.296 respectively (see Table 3). This shows that individuals easily able to adapt to a multicultural context (in terms of both knowledge and experience) are most likely to demonstrate high levels of EI probably because those able to manage their emotions easily will demonstrate flexibility when interacting with people of other cultures.

Table 3
Correlation of SQ components towards EI

			Metacognitive	Cognitive	Motivationa	Behavioral	EI
Spearman's rho	Metacognitive	Correlation Coefficient	1.000	.399[**]	.442[**]	.408[**]	.247[**]
		Sig. (2-tailed)	.	.000	.000	.000	.000
		N	230	230	230	230	230
	Cognitive	Correlation Coefficient	.399[**]	1.000	.396[**]	.398[**]	.288[**]
		Sig. (2-tailed)	.000	.	.000	.000	.000
		N	230	230	230	230	230
	Motivational	Correlation Coefficient	.442[**]	.396[**]	1.000	.360[**]	.296[**]
		Sig. (2-tailed)	.000	.000	.	.000	.000
		N	230	230	230	230	230
	Behavioral	Correlation Coefficient	.408[**]	.398[**]	.360[**]	1.000	.151[*]
		Sig. (2-tailed)	.000	.000	.000	.	.022
		N	230	230	230	230	230
	EI	Correlation Coefficient	.247[**]	.288[**]	.296[**]	.151[*]	1.000
		Sig. (2-tailed)	.000	.000	.000	.022	.
		N	230	230	230	230	230

[*]: correlation is significant at the 0.05 level (2-tailed); [**]: correlation is significant at the 0.01 level (2-tailed).

B.   The Relationship between Students' Experience of Traveling Abroad and EI and CQ

Statistically speaking, no significant relationship exists between whether students have previous experience of study abroad and their emotional and cultural intelligence level (see Table 4). The coefficient correlation between students' international travel experience with their EI and CQ is 0.061 and 0.107 was respectively. This finding is

somewhat paradoxical since individuals with experience of interacting with people from different countries will usually possess more fully developed CQ. This situation probably prevails because students are going abroad for holiday. Since the objective is going to holiday, the students more likely to have interactions among themselves rather than communicate and interact with locals, so they will have limited interaction with people from different countries.

Table 4
Relationship between Previous Experiment on Study Abroad with EI and CQ level

			Study Abroad	CQ	EI
Spearman's rho	Study Abroad	Correlation Coefficient	1.000	.107	.061
		Sig. (2-tailed)	.	.141	.408
		N	189	189	189
	CQ	Correlation Coefficient	.107	1.000	.329**
		Sig. (2-tailed)	.141	.	.000
		N	189	230	230
	EI	Correlation Coefficient	.061	.329**	1.000
		Sig. (2-tailed)	.408	.000	.
		N	189	230	230

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

Table 5
Relationships among GPA, EI, and CQ

			GPA	CQ	EI
Spearman's rho	GPA	Correlation Coefficient	1.000	-.075	.159*
		Sig. (2-tailed)	.	.255	.016
		N	230	230	230
	CQ	Correlation Coefficient	-.075	1.000	.329**
		Sig. (2-tailed)	.255	.	.000
		N	230	230	230
	EI	Correlation Coefficient	.159*	.329**	1.000
		Sig. (2-tailed)	.016	.000	.
		N	230	230	230

*: correlation is significant at the 0.05 level (2-tailed); **: correlation is significant at the 0.01 level (2-tailed).

C.   The Relationship between Student Performance and EI and CQ

Interestingly, student performance, as measured by means of GPA scores, has a negative relationship with CQ (-0.075). On the other hand, student performance has a significant positive relationship (0.159) with emotional intelligence even though it could be considered weak in character (see Table 5 above). The finding related to EI supports previous research on the subject (Salovey and Mayer, 1990). However, the conclusion about CQ is interesting since the more able students, when adapting to multicultural contexts, achieve lower grades. This situation may prevail because the manner in which the students are being graded still does not accommodate a multicultural context.

V.   CONCLUSION

The research reported here has proved empirically the existence of a positive and significant, albeit rather weak, relationship between emotional intelligence and cultural intelligence. Considering the relationship between students' previous study abroad experience and emotional and cultural intelligence, the investigation described here confirms that none of significance exists. Nevertheless, with regard to the sample taken, the relationship can be considered as positive in nature. Finally, student performance, as indicated by GPA scores, enjoys a positive and important relationship with emotional intelligence, while for the selected sample, its relationship with cultural intelligence was negative in nature.

VI.   RECOMMENDATIONS

The research sample used in the investigation was limited to SBM students. Although elements of the analysis undertaken produced significant results, it might prove beneficial in any future project to employ a broader and more varied sample. Moreover, the results of this piece of research still need to be explored by means of a qualitative approach (interview or FGD) in order to arrive at a comprehensive understanding regarding the relationship between CQ, EI, and student performance.

REFERENCES

Ang, S., L. Van Dyne, C. Koh, K.Y. Ng, K.J. Templer, C. Tay, and N.A. Chandrasekar, 2007, "Cultural Intelligence: Its Measurement and Effects on Cultural Judgment and Decision Making, Cultural Adaptation and Task Performance." *Management and Organization Review,* 3(3), 335-371.

Cartwright, S., and C. Pappas, 2008, "Emotional Intelligence, Its Measurement and Implications for the Workplace." *International Journal of Management Reviews*, 10(2), 149–171.

Crowne, K.A., 2009, "The Relationships among Social Intelligence, Emotional Intelligence, and Cultural Intelligence." *Organization Management Journal,* 6, 148-163.

Earley, P.C., and S. Ang, 2003. *Cultural Intelligence: Individual Interactions across Cultures*. Stanford, Calif: Stanford University Press.

Earley, P.C., and R.S. Peterson, 2004, "The Elusive Cultural Chameleon: Cultural Intelligence as a New Approach to Intercultural Training for the Global Manager." *Academy of Management Learning and Education*, 3(1): 100-115.

Gardner, H., 2002, "On the three faces of intelligence." *Daedalus,* 131(1), 139-142.

Goleman, D., 1995. *Emotional Intelligence*. New York: Bantam Books.

Goleman, D., 1996. *Emotional Intelligence: Why It Can Matter More Than IQ*. London: Bloomsbury.

Mayer, J. D., and P. Salovey, 1997. "What is emotional intelligence?" In P. Salovey, and D. Sluyter (Eds.), *Emotional Development and Emotional Intelligence: Educational Implications*. New York: Basic Books, 3–34.

Salovey, P., and J.D. Mayer, 1990. "Emotional Intelligence", *Imagination, Cognition, and Personality*, 9(3): 185–211.

Salovey, P., and D. Pizarro, 2003. "The Value of Emotional Intelligence." In R.J. Sternberg, J. Lautrey, and T.I. Lubart (Eds), *Models of Intelligence: International Perspectives*, 263–278.

Thorndike, R.L., 1936, "Factor Analysis of Social and Abstract Intelligence." *Journal of Educational Psychology, 27*(3), 231-233.

Wong, C., and K.S. Law, 2002, "The Effects of Leader and Follower Emotional Intelligence on Performance and Attitude." *The Leadership Quarterly, 13*(3), 243-274.