



Relationship between Cultural Intelligence and Self-adjustment of Expatriates in the Airline Industry

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Abstract

The failure of expatriates in the aviation context is caused by a mismatch between cultural intelligence and self-adjustment. This study investigates the relationship between cultural intelligence and expatriate self-adjustment in the aviation context. A quantitative approach is adopted based on the research question, “*What is the relationship between cultural intelligence and self-adjustment?*” Data was collected using pen-and-pencil questionnaires distributed to 349 flight attendants of diverse nationalities who are working with two major airlines in the Middle East. The structural equation modelling (SEM) approach is used to analyze and test hypotheses. The result reveals that metacognitive cultural intelligence (CQ), cognitive CQ, and motivational CQ of expatriates is significantly related to general adjustment and interactive adjustment at work. It is noticeable that behavioral CQ has no significant relationship with self-adjustment of expatriates. The results of this study expand the field of knowledge on cultural intelligence and indicate that organizations should implement support packages to enhance the adjustment capability of their expatriate staff by paying more attention to expatriates’ cultural intelligence. Limitations and future research are discussed.

Keywords: Cultural Diversity, Cultural Intelligence, Expatriate, Human Resource Management, Self-adjustment

Introduction

Organizations in a globalized environment must increasingly face the challenges of managing diverse employee groups (Collings et al., 2019). Cultural diversity is one of the vital issues in human resource management (HRM) (Collings et al., 2019; Lim et al., 2016; Noe et al., 2019). It exists between nations, and within countries. Lim et al. (2016) propose that culture is composed of forces affecting the values, beliefs, and actions of a group of employees in an organization. It is clear that cultural diversity is increasing among the workforce of organizations. In the US, the Bureau of Labor Statistics (2018) reports that by 2024 the workforce in the US is expected to be 77.6% white, 12.6% African American, 6.3% Asian, and 3.5% other groups. Other group includes individuals of multiple racial origin, Native Americans, Native Alaskans, Native Hawaiians and other Pacific Islanders. The report also shows that the percentage of African Americans and Asian Americans in the US labor force is increasing and that the percentage of Asian Americans in the workforce is expected to increase more than other races (from 6.3% in 2018 to 7.3% in 2028) (Bureau of Labor Statistics, 2018). Therefore, organizations must recognize this trend and set effective strategies to manage the issue.

The challenge of HRM at the international level is to learn how to increase global competitiveness of companies and organizations which have employees from different countries and cultures. The term *expatriate* has been used to designate employees who are living and working outside their home country. Noe et al. (2019, p. 304) defined it as an “employee set by his or her company to manage the company in a different country”. McNulty & Brewster (2017) argue that the meaning of expatriate has not been clearly defined because it includes any individual working in an international environment. Haak-Saheem & Brewster (2017) applies the term expatriate to any form of workforce that internationally transfer across the globe. However, fundamental to all definitions of



expatriate include five assumptions: (a) they must stay abroad; (b) they must be employed; (c) they are staying temporarily; (d) they are non-citizens of that particular country; and (e) legal compliance is required (McNulty & Brewster, 2017; Haak-Saheem & Brewster, 2017). It is clear that the meaning and roles of *expatriate* are varied and unclear.

Background of the Study

Air transportation influences our modern global society. Its system creates and support millions of jobs worldwide. It formulates part of economic lifeline of many countries (The World Bank, n.d.). A aviation organizations employ staff of different nationalities to serve their diverse customers. As reported by the National Business Aviation Association (2020), a diverse workforce in the aviation industry increases their ability to respond to their customers' needs. For example, there are employee of at least 15 nationalities on one flight by Emirates Airlines to serve customers that may be from 145 nationalities (Tadros, 2019). This example shows that expatriates play an important role in the aviation industry. Most airlines employ expatriates and provide them with accommodation in the host country. Emirates provides a complex in Dubai and, Qatar provides a complex for their staff in Doha. Most staff from different countries will spend their lives in the countries till the end of their contract. Although, there have been extensive studies of expatriates in many contexts e.g., a study of Filipino expatriates in Taiwan (Chen, 2015) and another of expatriates in business settings in Japan (Huff et al., 2014), more study in expatriates in multinational organizations will help HR in the aviation industry to manage and develop their expatriate employees.

Significance of the Study

Existing literature reports that poor adjustment to a different culture as measured by the level of cultural intelligence is the cause of failure of expatriates to perform their duties satisfactorily or to complete the full term of their contract (Littrell et al., 2006; Sri Ramalu & Subramaniam, 2019; Wang & Varma, 2019). According to Evans et al. (2006), it is a critical issue for HRM in organizations as the percentage of expatriates returning home before their assignment contract expires is between 15% to 40% for US firms, with a lower figure for European and Japanese firms. The cost of such premature repatriation is high. Inability to cope with stressful situations and lack of skill in communicating with people from a different culture are frequently cited as reasons why an expatriate returns prematurely.

Currently, expatriation has become more diverse and complex and the term "hidden expatriates" has come to be used (Haak-Saheem & Brewster, 2017, p. 423). Works on cultural intelligence and self-adjustment e.g. Haak-Saheem & Brewster (2017); Sri Ramalu & Subramaniam (2019); Wang & Varma (2019) claim that the issue of cultural intelligence and expatriate self-adjustment should be re-examined and explored under different contextual conditions such as the country in which an expatriate works and lives. Additionally, they propose that the ambiguity of the meaning of expatriate requires more empirical evidence to confirm whether expatriate cultural intelligence affects the ability to self-adjust. This study extends existing knowledge in the field of expatriate employee and self-adjustment in a multinational environment, specifically in the Middle East. The main objective of this study is to investigate the relationship between cultural intelligence and expatriate self-adjustment among flight attendants.



Literature Review

Cultural Intelligence

Cultural intelligence (CQ) is defined as an individual's ability to develop and manage effective relationships in a culturally diverse environment (Ang et al., 2006; Ang et al., 2007; Ang & van Dyne, 2008). CQ is a set of behaviors used to react to external stimuli in anticipation of changes encountered in a new cultural context. It is essentially people skills needed in a global workplace (Thomas & Inkson, 2005). The concept of CQ was first developed by Earley & Ang (2003). At the first stage of this development, Earley & Ang (2003) proposed three factors of CQ including mental, motivational and behavioral components. Later, Ang et al. (2007) further developed the model to include four factors: metacognitive CQ, cognitive CQ, motivational CQ, and behavioral CQ. The development of CQ represents a new paradigm of cultural studies which shifts away from focusing on cultural differences to focusing on how to effectively manage situations characterized by cultural differences.

Metacognitive CQ is an individual's strategy for developing cultural intelligence before encountering a diverse culture. This process includes adjusting the mental map that an individual uses when the reality differs from his expectation (Giorgi et al., 2016). Cognitive CQ is the ability to judge how cultures are similar or different from a host culture. This includes general knowledge on economic and legal systems, values, norms, and sociolinguistics of the new culture (Czerwionka et al., 2015). Motivational CQ is an individual's interest and confidence in encountering a different culture. Behavioral CQ is an individual's ability to adapt verbal and nonverbal behavior to make it effective within diverse cultures. Non-verbal behavior concerns gestures and facial expressions; and verbal behavior includes accent and tone of language used (Ang et al., 2007; Earley & Ang, 2003).

There are numerous studies of the relationship between CQ and physical and psychological adaptation, especially in the education industry in several countries such as the US, Japan, and China (e.g., Huff et al., 2014; Ward et al., 2009; Wood & Peters, 2014). The current economic situation creates more workforce mobility around the globe. Empirical evidence obtained from CQ studies in other contexts, such as in the Middle East, has contributed to the current understanding of expatriates' CQ and their self-adjustment (Haak-Saheem & Brewster, 2017).

Self-adjustment

The theory of *met expectations* suggests that the meeting of an individual's expectations in work creates satisfaction and ability to adapt (Caligiuri et al., 2001). Self-adjustment is defined as the ease with which an individual adapts when moving to an unfamiliar environment in which new behaviors, norms, values and assumptions need to be learnt (Evans et al., 2006). If the reality meets expectations, it is easier to live in the new environment. Many studies support this notion that accurate expectations is related to better self-adjustment (Caligiuri et al., 2001; Huff et al., 2014; Humberg et al., 2019).

In 1985, Diener et al. proposed psychological adjustment as part of self-adjustment. Later, in 1989, Black & Stephens proposed three components of self-adjustment including general adjustment, interactive adjustment, and adjustment at work. Almost 20 years later in 2018, Genkova & Kaune (2018) defined self-adjustment as having two components: sociocultural and psychological adjustment. To investigate expatriate self-adjustment, an appropriate definition of expatriate needs to be established as each definition of expatriate may well fit with different classifications of self-adjustment. For example, expatriates who voluntarily work abroad may have more psychological readiness than employees who need to go abroad because they cannot deny the assignment.



Studies claim that an individual with cultural intelligence will be able to develop satisfying relationships in a host country with new conditions and that this shows the ability of an individual to self-adjust (e.g., Chen, 2015; Huff et al., 2014). Expatriates who stay in a host country for a long time need to adapt to living conditions such as in regard to housing, healthcare, and food. Also, unavoidably, they will need to socialize or interact with local people and to communicate with people at work. Therefore, it would be of benefit to organizations with expatriate staff to investigate the relationship between each component of CQ and self-adjustment.

The following three hypotheses have been developed along with 12 sub-hypotheses.

Hypothesis 1: Metacognitive CQ is positively related to self-adjustment.

Hypothesis 1a: Metacognitive CQ is positively related to general adjustment.

Hypothesis 1b: Metacognitive CQ is positively related to interactive adjustment.

Hypothesis 1c: Metacognitive CQ is positively related to adjustment at work.

Hypothesis 2: Cognitive CQ is positively related to self-adjustment.

Hypothesis 2a: Cognitive CQ is positively related to general adjustment.

Hypothesis 2b: Cognitive CQ is positively related to interactive adjustment.

Hypothesis 2c: Cognitive CQ is positively related to adjustment at work.

Hypothesis 3: Motivation is positively related to self-adjustment.

Hypothesis 3a: Motivation is positively related to general adjustment.

Hypothesis 3b: Motivation is positively related to interactive adjustment.

Hypothesis 3c: Motivation is positively related to adjustment at work.

Hypothesis 4: Behavior is positively related to self-adjustment.

Hypothesis 4a: Behavior is positively related to general adjustment.

Hypothesis 4b: Behavior is positively related to interactive adjustment.

Hypothesis 4c: Behavior is positively related to adjustment at work.

Methodology

Data Collection and Analysis

The sample size is calculated by using the a-priori sample size calculator for structural equation modeling (SEM). The criteria have been set as an anticipated small effect size of 0.2, the desired statistical power level of 0.8, and a probability level of 0.05. As a result, a sample size of at least 425 cases is required (Soper, n.d.). In this study, a purposive sampling approach is used to collect the data from two major airlines in the Middle East. A total of 450 questionnaires were distributed to flight attendants of 47 nationalities. After data screening, 349 sets were usable which meets the minimum sample size for model structure recommended by Soper (n.d.). The researcher included many nationalities to enhance the generalizability and justification of the study. These two airlines were chosen because they hire only expatriate flight attendants of different nationalities and all of them must stay in accommodation provided in each airline's home base country.

**Table 1** Demographic Distribution of Respondents

Category	Frequency	Percentage
Gender	Male	7
	Female	342
Age (Years)	22–27	43.3
	> 27–33	40.3
	> 33–39	13.5
	> 39–45	2.6
	> 45	.3
	< 1	19.2
Work Experience (Years)	> 1–5	55.9
	> 5–10	18
	> 10–15	4.9
	> 15	2

Note: n = 349

Measurement

Cultural Intelligence. Respondents rated their cultural intelligence according to 20 items in the Cultural Intelligence Scale (CQS) adapted from Ang et al. (2007), ($\alpha = .906$). This measurement has been widely used in many studies reported in leading professional journals e.g., Alon et al. (2016); Thomas et al. (2015); Wood & Peters (2014). There are four dimensions of CQS: (a) metacognitive; (b) cognitive; (c) motivation; and (d) behavior. Sample statements include, “*I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds, I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me, and I am conscious of the cultural knowledge I apply to cross-cultural interactions*”.

Self-adjustment. Respondents rated their self-adjustment according to 14 items from the Expatriate Adjustment Scale (EAS) adapted from Black & Stephens (1989), ($\alpha = .898$). It has been widely used in several studies such as Lin et al. (2012). The EAS consists of three dimensions: (a) general adjustment; (b) interaction adjustment; and (c) work adjustment. Sample statements include, “*I can adjust myself to living condition in general*”, and “*I can adjust myself to housing conditions and when socializing with local people*”.

Data Analysis**The Characteristics of Respondents**

Respondents are 349 flight attendants who currently work with two major airlines in the Middle East. Participants are of 47 different nationalities including Indian (15.2%), Thai (11.5%), Filipino (11.2%), Japanese (6.6%), South African (4.9%), Korean and Malaysian (2.9%). The rest (44.8%) are Algerian, Angolan, Argentinian, Belgian, Bosnian, Brazilian, Bulgarian, Cameroon, Chilean, Chinese, Costa Rican, Cuban, Czech, Egyptian, Greek, Hong Kong, Indonesian, Italian, Kenyan, Lithuanian, Macedonian, Mauritian, Mexican, Moldovan, Morocco, Pakistani, Portuguese, Romanian, Russian, Salvadoran, Serbian, Singaporean, Slovenian, Sri Lankan, Sudanese, Taiwanese, Tunisian, Ugandan, Ukraine, Venezuelan, and Zimbabwe.

Validity, Reliability and a Correlation Analysis of Measurement Tools

Table 2 presents convergent validity using Average Variance Extracted (AVE) and Construct Validity (CR). AVE should be .50 or higher to suggest adequate convergent validity. CR should be .70 or higher to indicate



adequate convergence or internal consistency of the measurement items (Hair et al., 2010). Correlation coefficients indicate the strength of the association between the variables. As shown in Table 2, the correlation coefficient value of constructs under the same variable is stronger than between variables which indicate discriminant validity. Cronbach's alpha is the most widely used measure for reliability of a measurement. Hair et al. (2010) propose that the value should be greater than .70.

Table 2 Mean, Standard Deviation, AVE, CR and Cronbach's Alpha Value of Constructs and Intercorrelation among Variables

Construct	Mean	SD	AVE	CR	Cronbach's Alpha	1	2	3	4	5	6	7
1. Meta Cognitive CQ	4.03	2.78	.50	.86	.82							
2. Cognitive CQ	3.04	5.04	.50	.87	.85	.45**						
3. Motivational CQ	4.08	3.38	.50	.85	.83	.55**	.39**					
4. Behavioral CQ	3.85	4.01	.60	.87	.86	.50**	.39**	.46**				
5. General Adjustment	3.78	5.14	.50	.86	.84	.44**	.36**	.43**	.35**			
6. Interactive Adjustment	3.02	4.46	.70	.90	.90	.34**	.39**	.36**	.30**	.53**		
7. Adjustment at Work	4.02	2.36	.70	.86	.83	.42**	.29**	.43**	.30**	.52**	.41**	

Note: n = 349; ** p < .01

Verification of Research Model

A goodness of fit model shows a value exceeding the cut off value of RMSEA (.40 or lower), CFI (.90 or higher), and TLI (.90 or higher). The result shows a model that "fits well" (Hair et al., 2010, p. 650). Therefore, it appears that this structural equation model (SEM) fits the research hypotheses. The result of SEM of metacognitive CQ, cognitive CQ, motivational CQ, behavioral CQ, general adjustment, interactive adjustment, and adjustment at work is presented in Figure 1. The value of the overall research model was judged as satisfactory for verifying the hypotheses as shown in Table 3.

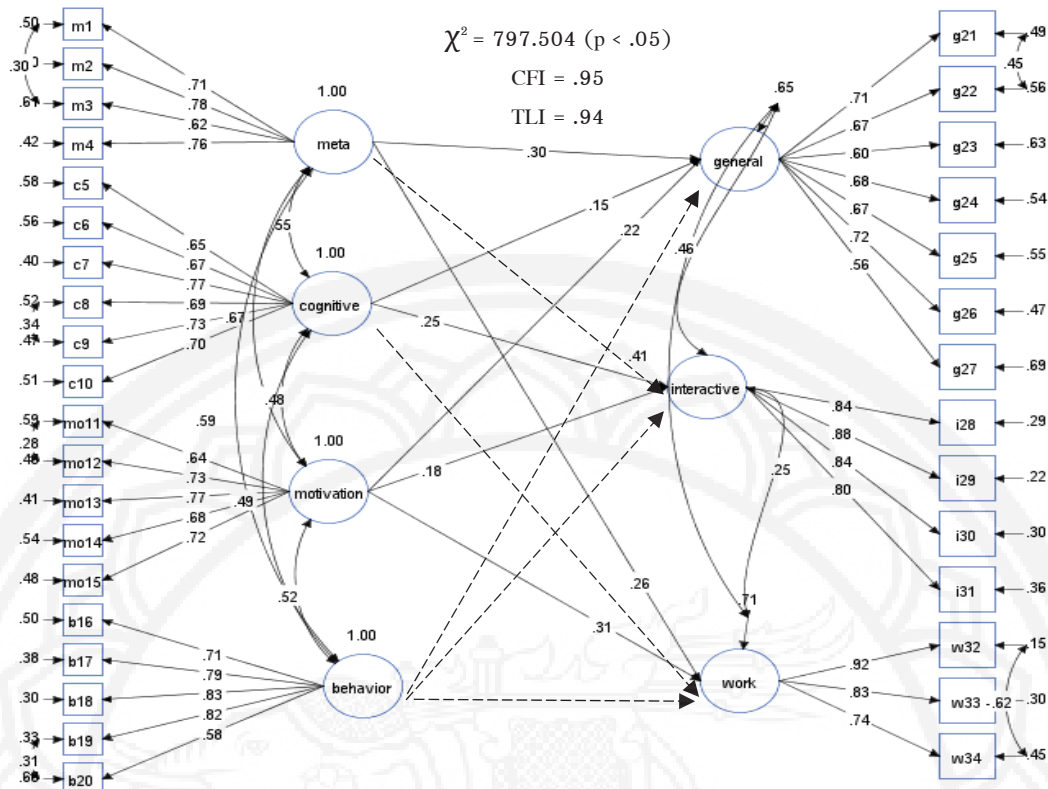


Figure 1 Research Result

Note: n = 349; Dashed Line Represents a Nonsignificant Relationship ($p > .05$);

Solid Line Represents a Significant Relationship ($p < .01$); Except Path between Cognitive \rightarrow General;

Motivation \rightarrow General and Motivation \rightarrow Interactive is Significant at $p < .05$;

Meta = Metacognitive CQ; Cognitive = Cognitive CQ; Motivation = Motivational CQ; Behavior = Behavioral CQ;

General = General Adjustment; Interactive = Interactive Adjustment; Work = Adjustment at Work

Table 3 Analysis of Overall Model for Research Hypotheses

Hypothesis	Path	β Value	Standard Error	p-value	Rejected / Accepted
1a	Metacognitive CQ \rightarrow General	.30	.09	.00	Accepted
1b	Metacognitive CQ \rightarrow Interactive	.14	.09	.15	Rejected
1c	Metacognitive CQ \rightarrow Work	.26	.09	.00	Accepted
2a	Cognitive CQ \rightarrow General	.15	.07	.04	Accepted
2b	Cognitive CQ \rightarrow Interactive	.25	.07	.00	Accepted
2c	Cognitive CQ \rightarrow Work	.02	.07	.79	Rejected
3a	Motivational CQ \rightarrow General	.22	.09	.01	Accepted
3b	Motivational CQ \rightarrow Interactive	.18	.09	.03	Accepted
3c	Motivational CQ \rightarrow Work	.31	.08	.00	Accepted
4a	Behavioral CQ \rightarrow General	.02	.08	.66	Rejected
4b	Behavioral CQ \rightarrow Interactive	.02	.08	.82	Rejected
4c	Behavioral CQ \rightarrow Work	.01	.07	.91	Rejected



Discussion and Conclusion

This section discusses the research question “What is the relationship between cultural intelligence and self-adjustment?”

The results show that cultural intelligence influences self-adjustment of expatriate flight attendants who are living in the Middle East. Metacognitive CQ shows strong influence on general adjustment. It explains 30% of the relationship between metacognitive and general adjustment ($\beta = .30$; $p < .01$). Expatriates who apply to be a flight attendant are informed about accommodation and information about the organization’s rules and regulations. This strategic process can help applicants handle the new environment that they will encounter. Basically, this process happens to everybody who will move to a new country. This finding confirms the study of Giorgi et al. (2016) that creating a plan can help increase the degree of comfort of expatriates. The strategic framework helps expatriates keep an open mind and be flexible enough to fit with a challenging environment; especially in relation to fear of being involved in violence, kidnapping, or terrorist acts (Bader & Schuster, 2015).

Cognitive CQ reveals a strong influence on interactive adjustment. Cognitive CQ explains 25% of the relationship between intercultural knowledge and interactive adjustment ($\beta = .25$; $p < .01$). Among the three dimensions of CQ, intercultural knowledge has the strongest affect on expatriate interaction with host country citizens. Consequently, intercultural knowledge enhances an expatriate’s ability to build and support wise action. The results of this study confirm those of Thomas et al. (2015) that intercultural knowledge enhances the ability to predict interactive adaptation. Additionally, Czerwionka et al. (2015) propose that intercultural knowledge can be developed after an expatriate has lived abroad. Moreover, in this study, 80% of respondents have been living in the host country for more than one year which may affect the level of their intercultural knowledge.

Lastly, the results indicate that motivational CQ shows a strong relationship with adjustment at work. It explains 31% of the relationship between motivational CQ and adjustment at work ($\beta = .31$; $p < .01$). Maslow’s hierarchy of needs proposes that an individual is driven to work in order to fulfill basic needs which start with physiological needs and safety needs. The primary attraction for expatriates when taking a job with premium airlines in the Middle East is the compensation package. Many studies show that positive motivation enhances an employee’s positive mentality at work (e.g., Martin, 2005). Therefore, positive motivation may support an employee’s positive behavior at work.

On the other hand, in this study behavioral CQ does not show any significant relationship with any component of self-adjustment ($p > .05$). This result contradicts the results obtained by Earley & Ang (2003). Behavioral CQ represents verbal and nonverbal actions while interacting with local people (Ang et al., 2006). A flight attendant’s verbal and nonverbal actions do not relate to all forms of self-adjustment for several reasons. First, English is the official language used by host country nationals; therefore, it is most comfortable for expatriates to communicate in English. Second, the organization provides accommodation for expatriates so they feel more comfortable as they are among people of the same profession. Although empirical evidence regarding the relationship between gender and self-adjustment is limited, 98% of the participants in this study are female.

In this study expatriate refers to flight attendants who are based in Middle Eastern countries. It was found that an expatriate’s cultural intelligence enhances their ability to self-adjust. CQ covers the areas of metacognitive CQ, cognitive CQ, motivational CQ, and behavioral CQ. Each dimension of CQ has a different relationship to self-adjustment but it can be said that expatriates that best fit the culture of the host country can self-adjust more



effectively. This finding benefits human resource management in aviation organizations in areas such as recruitment and selection, training and development. HR needs to focus on the competencies of effective expatriates during the recruitment process. Evans et al. (2006) propose that HR should measure expatriates' characteristics such as the self-oriented dimension and the perceptual dimensions using effective tools. Such a process could help to identify the right person for an organization. Furthermore, training and development programs could enhance the ability of expatriates to adjust and reduce culture shock.

Implication

These findings regarding CQ can be practically applied at the national level and at the organizational level.

At the National Level. Expatriates provide significant financial support to the economic growth of their home country. For example, most Philippine laborers are hired to work abroad (Chen, 2015). Remittances sent home by Filipinos working abroad rose 4.3% in 2017 and hit a record \$28.1bn (Venzon, 2018). These remittances contributed significantly to real GDP of the Philippines. Maimbo & Ratha (2005) report that remittances are regarded as one of the foremost financial resources which contribute to economic growth in several countries around the globe, particularly in countries in South East Asia. This fact indicates that government agencies should give attention to training future expatriates before their assignment abroad. In addition to hard skills which are required by all expatriates, soft skills such as cultural intelligence is also necessary. Results of many studies show that the ability to interact effectively across cultures is a fundamental job requirement for just about everyone in every profession but that it is impossible to learn the customs and traits of every single culture. To succeed in a multi-cultural environment employees need to discard culturally-based assumptions and pay careful attention, in a mindful and creative way, to cross cultural cues. This can support the completion of assignments abroad by expatriates and will contribute to national economic success as has been shown by some countries such as the Philippines.

Organizational Level. Every organization seeks employees who perform their duties well and help lead the organization to meet its goals. Theoretically, employees who fit well with organizational culture show more potential in meeting the requirements of the organization. Thus, HRM in organizations should note that an assessment of soft skills may be required during the process of recruitment and selection. This study provides evidence that cultural intelligence is one of those required soft skills for expatriates who will spend time in a host country. General adjustment refers to how well expatriates accustom themselves to the local environment including facilities, housing, and food. Interactive adjustment refers to how well they communicate with local people outside the workplace. Importantly, expatriates must be able to adjust to life in the workplace such as with organizational rules and regulations and among other employees. The results of this study show that expatriates who will be successful in adjusting will require cultural intelligence capability including metacognitive CQ, cognitive CQ, and motivational CQ.

Limitations and Recommendation for Future Research

Some limitations to this study should be noted. Firstly, although there is a diversity of sample, the results cannot identify the differences among nationalities. Alon et al. (2016) proposes that psychometric properties and power of prediction require a large sample size. Thus, more research is needed to determine if the differences among participants in the study affect the relationship between CQ and self-adjustment. Secondly, this study



investigates the failure of expatriates to adjust to their target culture. Further research is needed to determine if there are other outcomes of CQ. Thirdly, all data for the current research was collected via questionnaire so common method bias may have occurred (Podsakoff et al., 2003). Lastly, because of limited time and resources it was not feasible to conduct random sampling. Employing purposeful sampling to collect data may limit the generalization of results.

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