The Relationship between Cultural Intelligence and Socio-Cultural Adjustment: An Empirical Study on International Students in the Northern University of Malaysia

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ABSTRACT

The main purpose of this study was to explore the role of Cultural Intelligence (CQ) and its effect on international students' sociocultural adjustment in the context of pursuing education in higher learning institutions in Malaysia; specifically in Northern University of Malaysia. The data used for this study derived from the questionnaire survey conducted randomly among the international students in Northern University of Malaysia who came from 27 different nationalities. A total number of 397 valid responses were successfully obtained. The descriptive analysis, reliability analysis and correlation analysis were undertaken in this study. Strategy CQ (Metacognitive), Drive CQ (Motivation) and Action CQ (Behavioural) were found to be negatively related to sociocultural adjustment. Only one of the dimensions for CQ; Knowledge CQ (Cognitive), was found to influence sociocultural adjustment. Finally, limitations of the study and direction for future of the studies are discussed.

1. Introduction

In the last two decades, the world has seen a tremendous increase in the number of students that choose to study overseas. With the internationalization of higher education, the inflow of international students has become a significant source of income for higher education providers and the economy as a whole (Adnett, 2010). Universities and institutes of higher education, both public and private are upping the ante and aggresively marketing their education programs to entice international students to their shores. As a result of economic globalization and heightening of governments' awareness of the perceived links between education and economic competitiveness, many governments across the world have invested huge sums of money to setup more higher education institutions and boosting more international student enrolments.

Exporting higher education services emerged in Malaysia in the late 1980s and early 1990s and is now becoming global phenomena. International students' enrolment in higher education in Malaysia has expanded considerably in the last decades and Malaysia is fast becoming a centre of educational excellence in the region. Flow of international students in Malaysia has increased steadily since 1996, when various higher education reforms were introduced to facilitate the entry of international students into higher education institutions. Ministry of Higher Education (MOHE) reported the total number of international student enrolled in private and public institutions of higher education in Malaysia for year 2011 was 93,000 which represent 2 per cent of international student population around the world. In addition, MOHE has targeted that the number of international students' enrolment will rise to 200,000 by the year 2020 (Ministry of Higher Education Annual Report, 2011; Abu Bakar & Abdul-Talib, 2013; Abdul-Talib et al., 2016).

Hence, to become a major player and enjoy the benefits of having international students, higher education institutions in Malaysia need to provide an environment and resources to cater their academic and social needs.

Generally, international students decide to study aboard in the hope to gain great experience in different study environment, which will form new cultural, social and academic values to them. However, while they are pursuing their tertiary education abroad, international students may encounter numerous issues and challenges because they have to live in a new environment which is completely different from their home country. Bhawuk and Brislin (2000), and Hofstede (2001) indicate that people exposed to overseas experiences as a result of working or studying often encounter stressful situations that challenged their coping processes. For international students, in addition to language issues and academic concerns, they are also being plagued by problems acclimatising to the social and cultural aspects of the host country. This situation can lead to a stressful learning process that may affect their psychological well-being. Previous studies on the determinants of sociocultural adjustment have studied on social skills, interpersonal behaviours, social psychology of intercultural interactions, learning culture-specific skills, psychological adaptation (Argyle, 1969; Bochner, 1986; Ward and Kennedy, 1993; Masgoret and Ward, 2006). Malaklolunthu and Selan (2011) have conducted a study to investigate adjustment problems among international students in Malaysian private higher education institutions, and findings revealed that poor relationship with local students and communication problems are among factors contributing to social adjustment difficulties. The findings from these studies have shed light on the issues related to sociocultural adjustment and had enhanced our understanding of the relationship

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between sociocultural adjustment and adaptation factors. However, the significant rise of CQ factors has been largely overlooked in existing studies on sociocultural adjustment.

As CQ is a relatively new construct, there has been limited empirical research to date on its role in the prediction of psychological and socio-cultural adaptation. Few studies have looked at the relationship between CQ and the sociocultural adjustment among the international students (Ward, Wilson and Fischer, 2011; Ward et.al, 2009). Ward and Fischer (2011) study examines four core components of CQ: Action CQ, Drive CQ, Knowledge CQ and Strategy CQ as predictors of cross-cultural adaptation problems in a longitudinal study of international students in New Zealand. Ward et.al, (2009) study explores the relationship between CQ and Emotional Intelligence (EQ) as a means of construct validation and investigates the incremental validity of CQ scores in the prediction international students' sociocultural adjustment. However, beyond these studies, researchers have not examined the correlation between the four dimensions of CQ (Early and Ang, 2003) and socio-cultural adjustment (Ward and Kennedy, 1999) specifically among the international students in Malaysia. The main focus of the current study is to investigate whether CQ would positively influence international students' sociocultural adjustment in a higher learning institution in Malaysia. Another important aim of this study is to explore the differential effects of the four CQ dimensions, namely Strategy CQ, Knowledge CQ, Action CQ and Drive CQ, on international students' sociocultural adjustment.

2. Literature Review
Cultural Intelligence (CQ)

Cultural Intelligence (CQ) is claimed to be the theoretical extension of Gardner's Theory of Multiple Intelligence (Earley and Ang, 2003). Gardner (1983) came up with the theory of Multiple Intelligence that focused on the importance of non-cognitive aspect of intelligence. Gardner (1983) defines intelligence as "the ability to solve problems or to create products that are valued with one or more cultural settings" (p.11). He argues that there are various forms of intelligence essential for solving different kinds of problems (beyond the traditional focus on academic and cognitive problems). Considerable attention has been focused on Emotional Intelligence, Social Intelligence, and Practical Intelligence, but none of these intelligences focus on the ability to solve cross-cultural problems (Gardner, 1993). This gap has prompted Earley and Ang's (2003) work on Cultural Intelligence (CQ).

Earley and Ang (2003) introduced the construct of CQ to explain differences in the effectiveness of individual interactions across cultures. Cultural Intelligence (CQ) has been defined as ''a person's capability to adapt effectively to new cultural contexts'' (Earley and Ang, 2003). As an individual has difference capability, CQ reflects what a person can do in culturally diverse settings. Thus, it is distinct from stable personality traits which can describe what a person typically does across time and across situations (Costa and McCrae, 1992). Early (2002) proposed that an individual's capacity to adapt to unfamiliar cultural environments is based on three dominants facets: (1) cognitive, (2) motivational, and (3) behavioural. He believes that effective cross-cultural interaction means the successful collaboration with someone who has a different social and cultural background.

Few years later, Ng et al. (2007) operationalised CQ as a four-factor model that includes Metacognitive (Strategy), Cognitive (Knowledge), Motivational (Drive) and Behavioural (Action) components. Based on Sternberg and Detterman's (1986) framework of the multiple foci of intelligence, these four complementary dimensions allow for specific cultural related behaviours that are pertinent for coping in a new cultural setting.

Knowledge CQ reflects general knowledge and knowledge structures about culture. Knowledge CQ relates to an individual's knowledge of specific norms, practices and conventions in new cultural settings. Knowledge CQ focuses on the knowledge of the norms, practices and conventions in different cultures acquired from education and professional experiences (Ang et al., 2007). This includes the knowledge of the economic, legal and social systems of different cultures and subcultures (Triandis, 1994) and knowledge of the basic frameworks of cultural values (Hofstede, 2001).

Strategy CQ is defined as one's mental capability to acquire and understand cultural knowledge. Strategy CQ reflects an individual's cultural awareness during interactions with people from different cultural backgrounds. It consists of the cognitive strategies that used to acquire and generate coping strategies (Ng and Early, 2006). Those with high strategy CQ are consciously aware of others cultural preferences before and after interactions (Ang et al., 2007).

Drive CQ reflects individual capability to direct energy toward learning about and functioning in intercultural situations (Ang et al., 2007). Drive CQ is a critical component of CQ because it is a source of drive. According to Early and colleagues (Early and Ang, 2003; Ng and Early, 2006), this component directs and motivates one's adaptation to a new cultural setting. Those with high drive CQ direct attention and energy toward cross cultural situations based on intrinsic interest (Deci and Ryan, 1985) and confidence in their cross cultural effectiveness (Bandura, 2002).

Action CQ reflects individual capability to exhibit appropriate verbal and nonverbal actions in culturally diverse interactions (Ang et al., 2007). As (Hall, 1959) emphasized, mental capabilities for cultural understanding and motivation must be complemented by the ability to exhibit appropriate verbal and non-verbal actions based on cultural value of a specific setting. According to Early and Ang (2003), those with high action CQ capable at exhibit situational appropriate behaviours based on broad range of verbal and non-verbal capabilities such as exhibiting culturally appropriate words, tones, gestures and facial expressions.

Sociocultural Adaptation

Cross-cultural adjustment can be extremely challenging. Apart from changes in job and academic responsibilities, the cross-cultural adjustment of foreign professionals or students includes their general adjustment to a different climate, a new culture, a variety of language barriers, local traffic, shopping, entertainment, local food, health care service, and other general living conditions (Bhaskar-Shrinivas, Harrison, Shaffer, and Luk, 2005). The increasing number of international students place increased emphasis on colleges and universities to ensure the success of international students' adjustment to local cultures because lack of adjustment may cause dropout of overseas students.

Sociocultural adaptation is defined in terms of behavioural skills, as an ability to "fit in" or effectively interact with members of the host culture (Ward and Kennedy, 1996). Sociocultural adaptation concerns on

people's sense as to how well they can 'fit in' to the new environment. It has been associated with variables that influence culture learning and acquisition of social skills in the host culture, like language fluency, acculturation strategies, length of residence in a host culture and cultural distance (Searle and Ward, 1990: Ward and Kennedy, 1999). Ward argues that there are two adaptation domains that are relevant for all acculturating persons: psychological and socio-cultural. Socio-cultural adaptation is linked to behaviours and skills. Sociocultural adaptation is best explained within a social skills or cultural learning paradigm. Several authors have identified different domains of sociocultural adaptation; for example, Black and Stephens (1989), who have researched intercultural adjustment in the management field, specify the following three domains: general adjustment (managing daily life), interaction adjustment (relating effectively to host nationals), and work adjustment (accomplishment of work-related objectives).

As studied in social learning model, socio-cultural adjustment is impacted by prior cross-cultural practices, cross-cultural distance, cross-cultural contact, cross-cultural training and the period of time in the new culture (Befus, 1988; Furnham and Bochner, 1982). The construction of predictive models of socio-cultural adjustment, assessed in terms of social difficulty, is theoretically embedded in a social learning-social cognition framework. Research has indicated that general cultural knowledge, length of residence in the host culture, and amount of contact with host nationals, affect socio-cultural adaptation (Ward and Kennedy, 1992; Ward and Searle, 1991). Ward and Kennedy (1992) found that a greater amount of interaction with host nationals was associated with fewer social difficulties, improved communicative competence and facilitated general adaptation to life overseas. Moreover, other research studies have found that social integration and having local friends is linked with lower levels of stress (Redmond and Bunyi, 1993), fewer psychological adjustment problems (Pruitt, 1978), and that satisfaction with host national relations predicts better psychological adjustment among international students (Searle and Ward, 1990). Due to this view, international students can face challenges such as culture shock, lack of support, homesickness, limited social skills and stereotyping and prejudice; and many more.

Sociocultural adjustment typically increases in the early stages of sojourning until it finally reaches a plateau where the new culture is sufficiently familiar (Furnham and Bochner, 1986; Ward and Kennedy, 1993). The greatest sociocultural difficulties are expected at point of entry. This is the period in which the sojourner has the least familiarity with and knowledge about the host culture. There is also limited experience of meaningful interactions with host nationals. Adaptation problems would be anticipated to decrease markedly in the early period of the sojourn and continue to decrease slightly over time. In the culture learning tradition the acquisition of culture specific skills would be predicted to follow a learning curve fairly steep at the beginning of the sojourn and eventually levelling over time. Ward and Kennedy (1996) research on Malaysian and Singaporean students in New Zealand seem to confirm this pattern.

3. Theoretical Framework

In this paper, we proposed a theoretical framework to investigate the effects of CQ on international students' sociocultural adjustment as shown in Figure 1. The independent variable is CQ and the dependent variable is socio-cultural adjustment. CQ comprises four dimensions: 1) Knowledge CQ; 2) Strategy CQ; 3) Drive CQ; and 4) Action CQ. The main purpose of this study is to investigate the effect of CQ on international student's sociocultural adjustment.
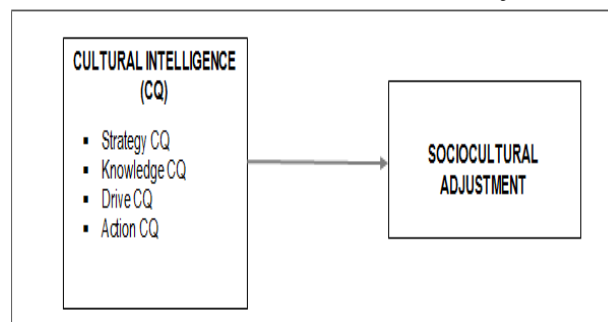

Figure 1. Theoretical Framework.

The following hypotheses are developed to determine the influence of four CQ dimensions on international student's sociocultural adjustment.

H1 – Knowledge CQ positively influence international student's sociocultural adjustment.

H2 – Strategy CQ positively influence international student's sociocultural adjustment.

H3 – Drive CQ positively influence international student's sociocultural adjustment.

H4 – Action CQ positively influence international student's sociocultural adjustment.

4. Research Methodology

The population for this study is 1,648 international students who are currently enrolled in Northern University of Malaysia. Judgmental sampling technique was used to select potential respondents in this study. According to Sekaran (2000, p.278), judgmental sampling 'involves the choice of subjects who are in the best position to provide the information required'. The rationale for choosing this approach is because this study only focused on international students, and the respondents were those who have been living and studying in a foreign country, i.e., Northern University of Malaysia for more than six months or in one semester. The sample size (n=310) was determined using Krejcie and Morgan's (1970) table of sample sizes. However, taking into consideration of low response rates 600 questionnaires were distributed, of which 403 were returned and 397 were usable, representing a response rate of 67.17 percent. Data analysis is performed using Statistical Package for the Social Sciences (SPSS) and AMOS.

The research population includes international students who are studying in Northern University of Malaysia. The respondents were those who have been living and studying in a foreign country, i.e., Northern University of Malaysia for more than six months or in one semester. CQ was measured using Cultural Intelligence Scale (CQS) developed by Ang et al. (2007). The CQS, consisted of 20 items with four sub-scales which consisted of Strategy CQ (4 items), Knowledge CQ (6 items), Drive CQ (5items) and Action CQ (5 items). Sample items include, 'I am conscious of the cultural knowledge I apply to cross-cultural interactions' (Strategy CQ), 'I know the norms for expressing non-verbal behaviours in other cultures' (Knowledge CQ), 'I am confident that I can socialise with locals in a culture that is not familiar to me' (Drive CQ) and 'I vary the pace of my speaking when a cross-cultural interaction requires it' (Action CQ).All CQ items were rated on a 7-point Likert scale, ranging from 1 (strongly disagree) to 7 (strongly agree). In order to measure the level of sociocultural adjustment, Furnham and Bochner's

(1982) Social Situations Questionnaire (SSQ) was used in the present study. The SSQ consists of 40 items that focused on the skills that are required to manage everyday social situations in new cultural contexts. Examples of these items are: 'Getting used to the pace of life', 'Adapting to local etiquette', and 'Adapting to College and Local Environment'. A five -point scale was employed, ranging from 1 (no difficulty) to 5 (extreme difficulty).

5. Research Findings and Discussion

A total of 600 questionnaires were distributed among international students in Northern University of Malaysia, and 403 questionnaires were returned for a response rate of 67.17%. Men constituted 70.3% of total sample, most of the international students fell under 20-25 years of age, and 77.8 % were pursuing bachelor's degree. The respondents were from 27 different nationalities; with respondents from Somalia representing the biggest sub-group (20.9%), followed by Indonesia (20.4%), China (13.6%) and Thailand (12.3%). Collectively, 35.3% of the respondents were from the African region, 34.2% were from the South East Asian region, and 13% were from the Western Asian region. While China represents the sole country of East Asia (13.6%); Uzbekistan (2.3%) and Pakistan (0.3%) represent Central Asia and South Asian regions, respectively. Non-Asian countries include Canada (1.3%) and Russia (0.3%).

The hypotheses were tested via multiple regression analysis. Table 1 presents the result of regression analysis for CQ and socio-cultural adjustment. The result of the present study demonstrated that only one of CQ dimension; Knowledge CQ (cognitive) was positively correlated to international students' socio-cultural adjustment (β =0.19; t = 3.78). In other words, higher level of Knowledge CQ is associated with better sociocultural adjustment. Earley and Ang (2003) contended that CQ is largely independent of general cognitive ability. Individuals with high Knowledge CQ are able to anticipate and understand similarities and differences across cultures (Brislin et al. 2006). In addition, Ang et al. (2007) asserted that cognitive capabilities such as questioning assumptions, adjusting mental models, and rich cultural knowledge schemas are mainly important for making accurate judgments and decisions when situations involve cultural diversity. This demonstrated that Knowledge CQ represents the knowledge component in the adjustment process and it is an important determinant of one's ability to minimize misunderstandings and misinterpretations during cross-cultural interactions.

In the modern world where global boundaries are being reduced, applying CQ becomes more and more important. CQ is one of the capabilities required for international students that can help them to interact with people from different cultural background effectively. Each dimension of CQ have special relevance to different outcomes. Ang et al., (2007) and Templer et al., (2006) claimed that it is critical to examine CQ as a multidimensional construct with differential relationships and specific intercultural effectiveness outcomes. Responding to calls for a better understanding of the factors of CQ (Ang et al., 2007; Templer et al., 2006), this paper has investigated the effect of the four CQ factors on individual's sociocultural adjustment and results clearly demonstrated that Knowledge CQ is the strongest predictor of individual's sociocultural adjustment.

Table 1. The Influence of CQ dimensions and Socio-Cultural Adjustment

Construct (s)	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	β	*t*	sig.
Strategy CQ	0.017	0.025	0.04	0.687	0.492
Knowledge CQ	0.082	0.022	0.19	3.784	0.000
Drive CQ	-0.023	0.023	-0.058	-0.99	0.323
Action CQ	0.007	0.024	0.015	0.275	0.783

F= 55.840; Sig. F= .000; N= 397; Dependent Variable: Socio-Cultural Adjustment

Cultural knowledge can be taught and shared in a number of ways. According to Ang and Dyne, (2008), cultural knowledge could be acquired through education and personal experiences. Previous scholars have asserted that socio-cultural adjustment, is affected by culture-specific factors, such as length of residence in the host country (Ward and Kennedy, 1996) and interactions with host nationals (Ward and Kennedy, 1993; Ward and Rana-Deuba, 2000). As majority of the international students (67.5%) have been in Malaysia for more than one year, they have moved from cultural shock or crises phase to cultural adjustment phase. At this point of time, the sense of being alienated no longer exist and most of them have become accustomed to the new environment. International students may lack the confidence or self-efficacy to adapt in their new learning environment, thus they may seek help from host national students for social, emotional, and academic support. In particular, strong social support allow them to be more at ease and comfortable living and studying in foreign country. University support plays an important role in improving international student's adjustment. For instance, Northern University of Malaysia has organised many programs such as talks, seminars, workshops, camps, classes, peer assistance and many more to aid international students at every step of their social life, academic and cultural adaptation in campus.

6. Conclusion

This study has been conducted to explore the effects of four CQ dimensions on international student's socio-cultural adjustment. Results demonstrated that only one dimension of the CQ, knowledge or cognitive CQ has a positive influence on the socio cultural adjustment. The present study makes a valuable contribution to the body of research on CQ and cross-cultural management. Our study provides empirical evidence that Knowledge CQ could help international students to seek better ways to adjust themselves to the new environment. Therefore, it is important for higher learning institution in Malaysia to support the conditions that facilitate and accelerate the development of Knowledge CQ among international students. CQ can be enhanced by creating learning environment and designing teaching approach that support international students' adjustment process.

This study has certain limitations that provide venues for future research. One limitation of this study was the use of self-reported questionnaire, so it might pose potential problems such as common method bias (CMV). The use of a variety of research methods such as interview and longitudinal survey could help researchers to better explore CQ influence on cross-cultural adjustment under different

conditions and over lengthy period of time. The second limitation arises from the context of the study. Due to the constraints of time and resources, the samples in this study are limited to international students who are pursuing their studies in studying in Northern University of Malaysia. In order to further validate the findings in wider and broader contexts, future studies should include international students who are pursuing tertiary education in public and also private universities in Malaysia. Future researchers should consider longitudinal study since the level of individual CQ and cross-cultural adjustment may varies over time. Therefore, longitudinal study would provide more accurate evidence of the relationship among variables at a different period of time. We conclude by hoping for this research to stimulate more research attention on how CQ can enhance cross-cultural adjustment by examining various antecedents, moderators and mediators that may affect the relationship.

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