

Effect of Prior International Experience on Cultural Intelligence Level and Cross-Cultural Adjustment Among Temporary Project Team

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ABSTRACT

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Globalisation is no longer a new phenomenon in recent years. Many businesses employ eligible expatriates to work in their organisations, including the construction sector. The ability of an expatriate to adapt effectively across cultures is commonly referred to as cultural intelligence (CQ) and cross-cultural adjustment (CCA). Both are cited as essential factors for expatriate performance in the international workplace. Nevertheless, the interrelationship between the CQ of the international construction project team and CCA has mostly been ignored. Hence, this study intended to explore the correlation between CQ and CCA levels among construction expatriates and further investigated the effect of prior international experience on their CQ and CCA level. Spearman rank correlation and Mann-Whitney U test were conducted on the 191 responses accepted. The results revealed their CQ has positively and significantly correlated with CCA, i.e. general, work and interaction, particularly in motivational CQ. Moreover, expatriates' prior international experience in the study domain could lead expatriates to a lower CQ and a lower adjustment level. Respondents with prior international work experience had a higher CQ level. However, the longer the period of previous international work experience, the weaker the cognitive CQ and behavioural CQ. This study can contribute to the predictors affecting the outcome of international assignments that can be employed to select the right applicants to fit into a multicultural project team in the construction industry.

Contribution/Originality: The primary contribution of the paper is the discovery that motivation CQ is crucial for construction expatriates' adaptation. Prior non-work international experience may have reduced expatriates' CQ and adjustment level, whereas those who had worked abroad had higher CQ scores. Prior work experience abroad improves CQ but not adjustment.

1. Introduction

[Global Construction Perspectives and Oxford Economics \(2015\)](#) projected that by 2030 the overall construction value would surpass US\$212 trillion, with an estimated 14.7 per cent of the global Gross Domestic Product. The dynamic global economy offers construction firms the ability to reach various countries around the world, as the market is now open without restrictions. With globalisation, culture has become increasingly diversified, causing more complicated cross-cultural interactions that will create misunderstandings. It is challenging to standardise globalisation since all foreign relationship requires cultural change. When people are unaware of their own culture, they will be overwhelmed or nervous when interacting with people from an unfamiliar culture. People can find it hard to adapt to living and working in another culture ([Ozer, 2019](#); [Thomas & Inkson, 2004](#)).

The previous study has found that cultural variations contribute to project management difficulties. The relationship between construction teams and companies from various backgrounds is one of the most challenging problems confronting international construction projects, primarily when the project team is only formed temporarily. The construction industry is fragmented due to extensive collaboration among construction professionals from various fields. Clients, consultants, and contractors must all collaborate and be on the same page ([Che Ibrahim, Rahmat, Belayutham & Costello, 2020](#); [Santoso & Loosemore, 2013](#); [Sarpin et al., 2019](#)). Temporary team research is specific, contradicting common theories as they bring together many professionals who may have little experience working along and who are required to share their knowledge to achieve complex duties. Earlier research suggests that team coordination in temporary multicultural teams can affect team effectiveness and overall project performance. Tension is more likely to occur and increase due to diverse backgrounds, as cultural gaps are posed between temporary teams that could use various approaches to cope with disputes ([Tabassi, Abdullah & Bryde, 2018](#)).

Expatriates who are psychologically and physically trained are essential tools for multinational corporations. Expatriates who can sustain abroad efficiently become vital to an organisation ([Remhof, Gunkel & Schlaegel, 2014](#)). Hence, this study aimed to investigate the effect of prior international experience on CQ and CCA levels among construction expatriates. Specifically, the purposes of this study explored the associations between CQ and ad CCA levels, investigated the correlation between the length of prior international experiences on CQ and CCA levels, and also examined the effect of expatriates' prior international experiences on their CQ and CCA level. Therefore, this study targeted professionals from the construction industry who currently worked outside of their home country to achieve the study's aim.

2. Literature Review and Hypotheses Development

In 1983, Gardner's Theory of Multiple Intelligence indicated that intelligence could be made up of different factors consisting of linguistic, musical, logical-mathematical, spatial, bodily-kinesthetic and personal intelligence and all this intelligence should be mutually separate, but in contact with each other (Gardner, 2011). Cultural intelligence (also known as cultural quotient; CQ) is one form of intelligence that can be grouped into a broad area essential for social experiences in a diversified cultural environment. An individual with high CQ can respond to various cultural contexts, concentrating on the interaction (Ang et al., 2007; Earley & Ang, 2003; Kong, Ma, Ji & Li 2020; Sousa, Gonçalves & Santos, 2019). As a critical aspect of effective engagement in foreign markets, CQ has been suggested to emphasise expatriates' role (Wang et al., 2019).

The CQ model, based on the contemporary intelligence theories proposed by Sternberg and Detterman (1986), including cognitive, metacognitive, motivational and behavioural CQ, was introduced by Earley and Ang (2003). The various cultural information pertaining to economics, legal, social, religious, marriage and language is cognitive CQ (Kong et al., 2020; Wang et al., 2019). Metacognitive CQ is a higher cognitive mechanism, and in 2007, Soon Ang and the team applied this facet to the original CQ (Ang et al., 2007; Ang & Van Dyne, 2015). It represents the mental capacity to learn and understand cultural information that includes interpreting and modifying cultural knowledge and tracking its accuracy for people from various cultural backgrounds (Sahin & Gürbüz, 2014; Sousa et al., 2019). Before and during interactions, individuals with strong metacognitive CQ are actively conscious of the cultural expectations and standards of various countries or groups of people (Ang & Van Dyne, 2015; Earley & Ang, 2003). Motivational CQ is the fundamental enthusiasm of a person in communicating with individuals from other cultures. A person with a better motivational CQ will have self-assurance in engaging with people from different cultures (Kong et al., 2020). Behavioural CQ is one's capability to deploy suitable verbal and nonverbal acts in acculturation (Hu, Liu, Zhang & Wang, 2020). This skill allows expatriates to learn and relate to the local culture and environment through unique cultural indicators from local people (Earley & Ang, 2003). In their cross-cultural experiences, those with high behavioural CQ show versatility and communicate competently with people from different backgrounds (Sahin & Gürbüz, 2014).

Cross-cultural adjustment (CCA), also known as intercultural adjustment or expatriate adjustment, has a psychological impact on one's easement and comfortable lifestyle in an unfamiliar cultural setting. It has multifaceted constructs including general, interaction and work adjustment as expatriates who can adjust to the general environment will adapt to the new work roles and communicate with host nationals (Black, 1988; Black & Stephens, 1989).

General adjustment concentrates on the adaptation of individuals to the everyday life of the host country, including food, health care, living conditions, housing, shopping and living costs (Black & Stephens, 1989; Chao, Takeuchi & Farh, 2016; Lee, Joseph Li & Wu, 2018). Interaction adjustment emphasises comfort in socialising and communicating with local nationals in both work and non-work settings (Akhal & Liu, 2019; Wu & Ang, 2011). Work adjustment demonstrates a person's adjustment to the job tasks, the obligations of the job, and the job's condition. It is a work-related variable known to be the easiest of all three facets of the parent and the subsidiary organisation in the host country has similarities (Konanahalli et al., 2014; Takeuchi & Chen, 2013). CCA is often

associated with an individual's ability to survive and succeed in a new environment (Dang, Vu & Nguyen, 2020). A person's capability to survive and flourish in a new community is often correlated with CCA. Expatriates are possible to minimise confusion by learning to interact with and communicate with individuals from the new community while transitioning to another culture. Eventually, they will begin to feel familiar with the culture and integrate with it (Lee et al., 2018).

2.1. Relationship Between CQ and CCA

CQ is a capability to adapt and work efficiently in intercultural environments, yet CCA is the extent of well-being and comfort of living in a foreign country. These two constructs are closely related. In the host country, persons with high CQ are predicted to respond faster (Chao et al., 2016; Gu, 2015). To ensure better intercultural adaptation, CQ has been described as a key personality trait (Nguyen, Jefferies & Rojas, 2018). An expatriate would be more prepared with international cultural awareness and knowledge (cognitive CQ) if he experienced a positive transition in a host country. Cognitive CQ can be perceived as a precondition for acculturation as it enables an individual to connect and perform in an intercultural environment competently. An individual's understanding of cultural diversity influences him frequently in both work and non-work settings (Chao et al., 2016; Konanahalli et al., 2014).

When interacting with persons, locations, and activities between various cultures, metacognitive CQ encourages one to be accessible and receptive, so it can be considered to enhance the degree of transition to new cultures. One who dominates better metacognitive CQ would be highly aware of others' expectations from cultural views as it represents the acquisition and interpretation of host cultural information (Chao et al., 2016; Gu, 2015; Wu & Ang, 2011). An expatriate who can relate well to a host country would be more concerned with international culture and intrigued by the host country's social life (motivational CQ) (Chao et al., 2016; Wang et al., 2019). The higher the individual's motivational CQ, the better his general adjustment and accustoming to interaction and work since motivational CQ emphasise the pleasure of learning about cultural differences. Due to the personal incentive to acquire the requisite information, those with more excellent motivational CQ tend to adapt faster (Akhal & Liu, 2019).

It is necessary to display the correct verbal and non-verbal behaviour to exhibit culturally acceptable sounds, gestures, and facial expressions to understand cultural differences (Black, 1990). Therefore, a high behavioural CQ person is versatile and able to make good impressions and establish better cross-cultural connections. People with high behavioural CQ can adjust their actions to engage with local people and behave more efficiently in a cross-cultural sense. As a result, behavioural CQ is positively correlated to expatriate transitions (Ang et al., 2007; Daher, 2019). Since research in temporary teams is specific, the conventional theories tested in the previous study might not be applicable to the unique construction project team. Therefore, this study would like to confirm the traditional hypothesis that when expatriates have a higher CQ level, they can adjust very well in the host country.

Hypothesis 1: Construction expatriates' cultural intelligence has a significant and positive influence on cross-cultural adjustment.

2.2. Influence of Prior International Experience on CQ and CCA

Individual differences were examined extensively as predictors of the level of personal adjustment, one of which was international experience. International experience has previously been demonstrated as a significant determinant contributing to CQ development (Chao et al., 2016). Nguyen et al. (2018) reported that studying abroad could offer advantages concerning intercultural matters, including the formation of individual characteristics and development. Their results showed that students studying abroad showed improvements in personal development, such as CQ. Culturally intelligent expatriates with a more extended experience of living overseas by observational learning will make anticipatory changes to the new job climate more readily. In this way, they can use their previous international experience as an essential body of knowledge to establish reasonable work perceptions and adjust behaviour accordingly (Setti, Sommovigo & Argentero, 2020). They will benefit from their experience to develop detailed intellectual knowledge that will be effective in forecasting effects in a series of potential contexts (Takeuchi, Tesluk, Yun & Lepak, 2005). Consequently, prior international experience will enable expatriates with higher CQ to cope successfully with potential cross-cultural circumstances (Lee & Sukoco, 2010).

Furthermore, past researchers indicated that international exposure is a critical factor for improving expatriate adjustment (Takeuchi et al., 2005). Previous work or non-work-related exposures globally encourage the creation of precise work standards, according to Black and Gregersen (1991). As a result, a higher degree of change and success may be expected. Many studies found that prior international experience from work and non-work was significant and positively correlated with acculturation in the foreign country (Takeuchi & Chen, 2013). Lee and Sukoco (2010), indicated that having substantial foreign experience could contribute to lower CQ for expatriates, as they already see themselves as competent in cross-cultural matters.

Since the previous findings contradict each other and there is a lack of research into how prior international experience will affect a temporary project team, the following hypotheses are generated to further the insights into how prior international study and work experience will affect the level of CQ and adjustment level in the construction project team.

Hypothesis 2: Prior international work experience has a significant and positive influence on cultural intelligence and cross-cultural adjustment.

Hypothesis 3: Construction expatriates with prior international work experience will have higher cultural intelligence and higher cultural adjustment.

Hypothesis 4: Prior international study experience has a significant and positive influence on cultural intelligence and cross-cultural adjustment.

Hypothesis 5: Construction expatriates with prior international study experience will have higher cultural intelligence and higher cultural adjustment.

3. Methodology

3.1. Participants and Sampling Strategy

Professionals working outside their home country in the construction industry were the research population for this study. A self-administered questionnaire was established to collect data, and the first question was set to confirm whether the respondents were currently working away from their birth country. A pretest was conducted to guarantee the questionnaire's relevance and precision and the necessary modifications were made based on the feedback collected to get rid of any doubts and inconsistencies. Demographic data, CQ scores, and the respondents' CCA levels were collected through the web survey adopted in this study.

Since the target population is very large and the sampling frame is unlikely to be justified, hence non-probability sampling methods, specifically purposive sampling and snowball sampling were employed in distributing the questionnaire. The questionnaire was sent out by email to multinational construction companies, however, no active responses were received. Most of the responses were collected through LinkedIn, the world's largest professional network ([LinkedIn Corporation, 2022](#)). The LinkedIn platform is used for professional networking where employers are posting jobs and job seekers post their curriculum vitae. Hence, the respondents' profiles could be studied before the invitation to participate in the questionnaire was sent. Personal messages would be sent to the targeted respondents and 203 responses received; however, 12 participants were excluded due to incomplete data or are not working away from their country of origin currently or are not working in the construction industry, leaving 191 participants for analysis. The demographic data of respondents were presented in [Table 1](#).

Table 1: Respondents' Demographic Distribution (N=191)

Variables	Percentage (%)	Variables	Percentage (%)
Gender		Region of birth country	
Male	76.4	Australia and Oceania	1.0
Female	23.6	Asia	78.0
		Africa	4.2
Age		Europe	14.7
30 years old and below	18.3	America	2.1
31 - 40 years old	47.1		
41 - 50 years old	20.4	Region of host country	
Above 50 years old	14.1	Australia and Oceania	7.3
		Asia	84.8
Marital Status		Africa	1.0
Considered as single	31.9	Europe	2.6
Married	61.3	America	4.2
Cohabited	6.8		
		Number of years stay in host country	
Position		Less than and equal to 1 year	18.9
Director/Associate director	12.6	More than 1 year to 5 years	39.8
Project manager/Site supervisor	13.6	More than 5 years to 10 years	27.7
Architect/Landscape architect	4.7	Above 10 years	13.6
Engineer (Structural, civil, mechanical & electrical)	15.2		
Quantity Surveyor	53.9	Previous study abroad	

		experience	
		Yes	35.6
		No	64.4
Nature of company			
Development/Client/Owner	11.5		
Project management	8.9	Previous work abroad	
		experience	
Main contractor	35.6	Yes	62.8
Specialist contractor	12.0	No	37.2
Consultant	31.9		

3.2. CQ and CCA Measures

The well-known Cultural Intelligence Scale (CQS) developed by [Ang et al. \(2007\)](#) to measure CQ consisting of four(4) constructs involving 20 items in total was employed in this study. The constructs comprise metacognitive (4 items), cognitive (6 items), motivational (5 items), and behavioural (5 items). Each item was evaluated by using a 7-point Likert scale from strongly disagree to strongly agree. Four (4) items from metacognitive CQ will be added to find the group mean, followed by cognitive CQ, motivational CQ and behavioural CQ. Every construct would contribute to a quarter of the total CQ score, and a grand mean would be generated for the total CQ score.

In addition, a highly cited cross-cultural adjustments scale developed by [Black and Stephens \(1989\)](#) was employed in this study. The adjustment level was measured by using general adjustment, interaction adjustment and work adjustment. 14 variables in total were surveyed consisting of 7 items general adjustments, measuring the adjustment level of the respondents on the living condition, food, cost of living etc., 4 items interaction adjustments that are measuring the socialising and interacting with host nationals and 3 items of work adjustments on performance and responsibility using a 7-point Likert scale from very unadjusted to very adjusted in the host country.

3.3. Prior International Experience Measures

Previous international experience has been assessed over the years, divided into work and non-work domains. The non-work domain will be limited to the past studies abroad experience before starting to work in the current job. Respondents need to specify the number of years they had worked globally before the current assignments and their length of time studying abroad. Nonparametric tests were used in this study because the CQ and CCA levels were measured using ordinal variables ([Doane & Seward, 2016](#); [Howitt & Cramer, 2017](#)). The years of prior international experience were correlated with CQ level and CCA using the Spearman correlation test. The nonparametric inferential test which is the Mann-Whitney U test would be used to determine the differences between a group with prior international experience and a group with no prior international experience.

4. Result and Discussion

4.1. Reliability and Validity Analysis

20 items of CQ and 14 items of cultural adjustment were tested with a reliability test to assess the internal consistency. The alpha for 20 items CQ was .958, which indicated excellent internal consistency reliability as shown in [Table 2](#). When breakdown into four constructs, inclusive of metacognitive (.933), cognitive (.922), motivational (.944) and

behavioural (.929), all alpha was excellent in internal consistency reliability, representing that all items deserved to be retained, leading to a decrease in the alpha if deleted. 14 items of cultural adjustment were tested with Cronbach's Alpha and the result was excellent. The alpha for general adjustment was .957, interaction adjustment was .950 and work adjustment was .967. Overall consistency in cultural adjustment level was .973 which led to a decrease in the alpha if deleted any items.

Table 2: Reliability Statistics on CQ and CCA Level (N=191)

Variables	Cronbach's Alpha	N of Items
Cultural Intelligence	0.958	20
Metacognitive	0.933	4
Cognitive	0.922	6
Motivational	0.944	5
Behavioural	0.929	5
Cultural Adjustment	0.973	14
General adjustment	0.957	7
Interaction adjustment	0.950	4
Work adjustment	0.967	3

Confirmatory Factor Analysis (CFA) was conducted to assess the convergent validity of CQS and cultural adjustment measures. In CQS, all loadings exceed .80 except COG2 (.66), indicating that all four facets had a strong correlation and worked well together. Goodness-of-fit related to this 20-items model of the CQS (CFI = .947; RMSEA = .079) exhibited a good fitting model to be used. In the adjustment level, all loadings also exceed .80, indicating that the adjustment items worked well together. The overall fit supports the measurement model with the root mean squared error (RMSEA) was .085 and a comparative fit index (CFI) was .972. RMSEA of adjustment items was exceeding .80 therefore the adjustment scale only could be considered as an acceptable range of fit model. All these figures support the overall measurement quality and thus demonstrate adequate construct validity and reliability.

4.2. Correlations Between CQ and CCA

The result in Table 3 showed that all four CQ facets were positively related to all three dimensions of adjustment, indicating that persons with greater CQ levels in the host country seemed to have a more substantial adaptation (Wang, 2016; Wood & St. Peters, 2014). There was a statistically significant positive correlation between the CQ of the respondents and their adjustment level, ($r_s(191) = .483, p = .000$). In general, expatriates who have high CQ will adjust better in the host country. The effect size of $r_s = .483$ is considered medium or typical based on Cohen effect size (Morgan, Leech & Gloeckner, 2011). Most of the correlations between CQ and adjustment level had medium or typical effect size, except the motivational CQ appeared to have larger than the typical correlation with interaction adjustment ($r_s = .501$) and work adjustment ($r_s = .501$). A highly motivated expatriate is always enthusiastic about engaging with host nationals. They can manage complications and encounters when they experience a cultural shock by observing, considering, and acting in a distinct culture to socialise with culturally diverse people (Kong et al., 2020; Wang et al., 2019). Hence, motivational CQ plays a more important role for the expatriates in adjusting their life in the host country with the effect size larger than typical on total adjustment ($r_s = .526$).

Table 3: Descriptive Statistic and Correlations between CQ and CCA Level (N=191)

Variables	Mean	SD	1	2	3	4	5	6	7	8	9
1. Metacognitive	5.556	1.162	1								
2. Cognitive	4.969	1.194	.483*	1							
3. Motivational	5.599	1.114	.591*	.542*	1						
4. Behavioral	5.133	1.165	.490*	.437*	.548*	1					
5. Total CQ	75.917	14.060	.749*	.798*	.797*	.765*	1				
6. General Adjustment	5.534	1.214	.366*	.297*	.441*	.273*	.402*	1			
7. Interaction Adjustment	5.374	1.341	.328*	.408*	.501*	.353*	.475*	.701*	1		
8. Work Adjustment	5.714	1.259	.348*	.285*	.501*	.289*	.408*	.746*	.651*	1	
9. Total Adjustment	79.153	16.936	.385*	.369*	.526*	.352*	.483*	.891*	.873*	.881*	1

Notes: *Correlation is significant at the 0.05 level, **Correlation is significant at the 0.01 level

4.3. Influence of Prior International Study Experience on CQ and CCA Level

35.6% of respondents studied overseas before and the remaining never study abroad, however, 13.1% of the respondents pursued further study while working in the host country. The inferential test was conducted to investigate whether there was any influence of prior international study experience on the expatriates' CQ level and CCA level. Mann-Whitney U test was used to determine the significant difference between respondents who had prior international study experience (N=68) and who never studied abroad before (N=123).

From Table 4, it was surprising to find out that respondents who had never studied abroad before had a higher mean rank at the CQ level if compared to expatriates who had previous international study experience. Expatriates who never studied abroad had significantly better CQ levels in behavioural BQ ($p=.047$) compared to the expatriates who studied abroad before, particularly in varying the rate of speaking (BEH3, $p=.030$) and altering facial expressions (BEH5, $p=.018$) when a cross-cultural situation requires it. Expatriates who did not have prior international study experience were also found to be significantly different from those who had the experience in checking the accuracy of cultural knowledge by interacting with people from different cultures (MC4, $p=.011$). An inferential test on the adjustment level between the group who had previous international study experience and the group without the experience was conducted using the Mann-Whitney U test. The result in Table 4 showed that the adjustment level of those who never studied abroad was better than those who had. It was amazing to find out that expatriates who never studied abroad adjusted significantly better in general adjustment ($p=.043$), particularly in food (GA3, $p=.043$), entertainment or recreation facilities and opportunities (GA6, $p=.014$). Expatriates with no prior international study experience also adjusted better to specific job responsibilities (WA1, $p=.034$) compared to expatriates who studied abroad before.

A correlation was computed to investigate if there was a significant association between years of study abroad with the expatriates' CQ level and adjustment level. Out of 191 respondents, only 68 (35.6%) had prior international study experience before working abroad and will be used to test the association. About half of the respondents only

studied two years and below internationally, while 19% of the respondents studied less than one year. 13 respondents studied more than five years internationally and the descriptive statistics were tabulated in Table 5. It was hypothesised that the international experience would have a positive and significant influence on the CQ level and adjustment level. From the findings in Table 6, only "I know the rules for expressing nonverbal behaviours in other cultures" (COG6, $r_s = -.283$, $p = .019$) showed a significant small effect size for this study. The findings subsequently contradicted the hypothesis that the direction of the correlation was positive as cognitive and behavioural showed the association in a negative direction, which means that expatriates who had more prior international study experience tend to have lower cognitive and behavioural CQ levels. There was a positive correlation between the number of years of study abroad and adjustment level, however, the result did not prove significant statistically. Interacting with host nationals on a day-to-day basis (IA2), $r_s(68) = .251$, $p = .039$ was the only variable that showed significance statistically and the effect size was only considered small according to Cohen (1988).

Table 4: Inferential Statistics on CQ and CCA Level Based on Prior International Study Experience (N=191)

CQ Variables	Mean Rank		Asymp. Sig. (2-tailed)	CCA Variables	Mean Rank		Asymp. Sig. (2-tailed)
	Yes (N=68)	Never (N=123)			Yes (N=68)	Never (N=123)	
MC1	91.10	98.71	0.326	GA1	90.45	99.07	0.264
MC2	91.10	98.71	0.325	GA2	88.94	99.90	0.158
MC3	90.61	98.98	0.286	GA3	85.67	101.71	0.043*
MC4	83.15	103.11	0.011*	GA4	85.78	101.65	0.046*
Metacognitive	87.82	100.52	0.123	GA5	92.69	97.83	0.512
COG1	88.13	100.35	0.128	GA6	83.43	102.95	0.014*
COG2	93.86	97.18	0.682	GA7	88.29	100.26	0.129
COG3	95.46	96.30	0.916	General Adjustment	85.17	101.99	0.043*
COG4	92.34	98.02	0.483	IA1	95.56	96.24	0.931
COG5	87.67	100.61	0.107	IA2	95.79	96.11	0.968
COG6	91.50	98.49	0.386	IA3	95.85	96.08	0.977
Cognitive	90.08	99.27	0.270	IA4	97.71	95.05	0.735
MOT1	90.43	99.08	0.276	Interaction Adjustment	95.20	96.44	0.880
MOT2	92.52	97.92	0.496	WA1	85.24	101.95	0.034*
MOT3	91.38	98.56	0.355	WA2	86.85	101.06	0.075
MOT4	90.65	98.96	0.299	WA3	88.14	100.35	0.125
MOT5	92.29	98.05	0.462	Work Adjustment	86.32	101.35	0.066
Motivational	89.71	99.48	0.239	Total Adjustment score	86.93	101.01	0.091
BEH1	87.69	100.59	0.106				
BEH2	87.67	100.61	0.106				
BEH3	84.90	102.14	0.030*				
BEH4	90.46	99.06	0.283				
BEH5	83.62	102.85	0.018*				
Behavioral	85.38	101.87	0.047*				
Total CQ	86.46	101.28	0.076				

Notes: CQ and CCA details refer to Appendix I, *significant level at 0.05, **significant level at 0.01

Table 5: Frequency of Years of Prior International Study Experience (N=68)

Number of Years	Frequency	Percent
1 year and below	13	19.1
More than 1 year to 2 years	22	32.4
More than 2 years to 5 years	20	29.4
More than 5 years	13	19.1
Total	68	100.0

Table 6: Correlation Between Years of Prior International Study Experience With CQ Level and CCA Level (N=68)

CQ Variables	Correlation Coefficient	Asymp. Sig. (2-tailed)	CCA Variables	Correlation Coefficient	Asymp. Sig. (2-tailed)
MC1	0.024	0.846	GA1	0.119	0.334
MC2	0.113	0.358	GA2	0.171	0.163
MC3	0.040	0.747	GA3	0.084	0.497
MC4	-0.036	0.773	GA4	0.153	0.212
Metacognitive	0.039	0.750	GA5	0.110	0.372
COG1	-0.057	0.646	GA6	0.074	0.550
COG2	-0.140	0.256	GA7	-0.010	0.934
COG3	0.025	0.842	General Adjustment	0.100	0.415
COG4	-0.057	0.645	IA1	0.101	0.412
COG5	-0.124	0.315	IA2	0.251*	0.039
COG6	-0.283*	0.019	IA3	0.050	0.683
Cognitive	-0.134	0.277	IA4	0.133	0.281
MOT1	0.113	0.359	Interaction Adjustment	0.124	0.314
MOT2	0.141	0.253	WA1	0.200	0.102
MOT3	0.038	0.761	WA2	0.073	0.556
MOT4	0.152	0.217	WA3	0.116	0.348
MOT5	0.109	0.376	Work Adjustment	0.125	0.309
Motivational	0.148	0.228	Total Adjustment	0.118	0.337
BEH1	-0.027	0.827			
BEH2	0.093	0.450			
BEH3	0.134	0.277			
BEH4	-0.008	0.945			
BEH5	-0.179	0.143			
Behavioral	-0.036	0.770			
Total CQ	0.012	0.924			

Notes: CQ and CCA details refer to Appendix I, *significant level at 0.05, **significant level at 0.01

4.4. Influence of Prior International Work Experience on CQ and CCA Level

62.8% of the respondents had prior international work experience with 46 respondents having only five years and below previous international work experience. 61.7% of the pool of respondents who had prior international work experience had more than 5 years of international work experience indicating that the respondents in this study had extensive international work experience as shown in Table 7. Mann-Whitney U test was

conducted to find out the differences between expatriates who had previous international work experience and who were the first-timer working in the host country.

Table 7: Frequency of Years of Prior International Work Experience (N=120)

Years	Frequency	Percent
1 year and below	10	8.3
More than 1 year to 5 years	36	30.0
More than 5 years to 10 years	43	35.8
More than 10 years to 15 years	11	9.2
More than 15 years	20	16.7
Total	120	100

In the overall CQ score, respondents who had prior international work experience had higher CQ levels than those without. According to Table 8, there was a significantly higher level from the perspective of metacognitive ($p = 0.001$) and motivational CQ ($p = 0.027$).

Table 8: Inferential Statistics on CQ and CCA Level Based on Prior International Work Experience (N=191)

CQ Variables	Mean Rank		Asymp. Sig. (2-tailed)	CCA Variables	Mean Rank		Asymp. Sig. (2-tailed)
	Yes (N=120)	Never (N=71)			Yes (N=120)	Never (N=71)	
MC1	105.63	79.73	0.001*	GA1	97.90	92.79	0.504
MC2	106.12	78.89	0.000*	GA2	96.50	95.16	0.862
MC3	104.31	81.95	0.004*	GA3	97.23	93.92	0.673
MC4	100.78	87.92	0.099	GA4	94.91	97.85	0.709
Metacognitive	106.18	78.80	0.001*	GA5	94.85	97.94	0.691
COG1	100.63	88.17	0.118	GA6	93.86	99.62	0.465
COG2	94.44	98.64	0.601	GA7	92.79	101.42	0.270
COG3	98.25	92.20	0.443	General Adjustment	94.00	99.39	0.512
COG4	95.70	96.51	0.920	IA1	93.90	99.55	0.470
COG5	98.98	90.96	0.313	IA2	98.41	91.93	0.410
COG6	98.33	92.06	0.432	IA3	95.42	96.99	0.843
Cognitive	97.20	93.97	0.696	IA4	95.84	96.27	0.955
MOT1	99.86	89.48	0.187	Interaction Adjustment	95.07	97.57	0.759
MOT2	101.87	86.08	0.044*	WA1	95.37	97.07	0.828
MOT3	102.08	85.73	0.034*	WA2	95.38	97.04	0.834
MOT4	102.88	84.38	0.020*	WA3	96.70	94.82	0.811
MOT5	102.05	85.77	0.036*	Work Adjustment	95.85	96.26	0.959
Motivational	102.75	84.58	0.027*	Total Adjustment score	94.95	97.77	0.733
BEH1	97.49	93.48	0.611				
BEH2	98.08	92.49	0.481				
BEH3	99.62	89.88	0.215				
BEH4	100.23	88.85	0.152				
BEH5	98.07	92.51	0.489				
Behavioral	99.53	90.04	0.248				
Total CQ	101.57	86.59	0.070				

Notes: CQ and CCA details refer to Appendix I, *significant level at 0.05, **significant level at 0.01

Expatriates who had previous international work experience were conscious of their cultural knowledge when interacting with people with different cultural backgrounds (MC1, $p = 0.001$) and when applying to cross-cultural interactions (MC3, $p = 0.004$).

They can adjust their cultural knowledge when interacting with people from an unfamiliar culture (MC2, $p = 0.000$) compared to the expatriates who did not have prior international work experience. The expatriates who had previous working abroad experiences were confident that they could socialise with locals in an unfamiliar culture (MOT2, $p = 0.044$) and dealt with the stresses of adjusting to a new culture (MOT3, $p = 0.034$). Those with prior international work experience felt more enjoyable living in a culture that is unfamiliar (MOT4, $p = 0.020$) and confident that they can get adapted to the shopping conditions in a different culture (MOT5, $p = 0.036$).

In general, it was surprising to find out that the expatriates who never had prior international work experience had a higher mean rank in adjustment level; only no significant differences were found between the groups. It can be noticed from Table 8 that the mean ranks for expatriates who had no previous background in foreign employment were higher in general adjustment, interaction adjustment and work adjustment than expatriates with prior experiences. Even though expatriates with prior international work experience had higher CQ levels however their adjustment level was slightly lower than those never worked abroad before.

Table 9: Correlation Between Years of Prior International Work Experience with CQ and CCA Level (N=120)

CQ Variables	Correlation Coefficient	Asymp. Sig. (2-tailed)	CCA Variables	Correlation Coefficient	Asymp. Sig. (2-tailed)
MC1	0.151	0.100	GA1	0.070	0.450
MC2	0.079	0.393	GA2	0.149	0.105
MC3	0.137	0.134	GA3	0.098	0.285
MC4	0.014	0.878	GA4	-0.020	0.825
Metacognitive	0.095	0.300	GA5	0.075	0.413
COG1	0.098	0.286	GA6	-0.042	0.651
COG2	-0.100	0.278	GA7	-0.074	0.422
COG3	-0.016	0.859	General Adjustment	0.052	0.576
COG4	-0.002	0.986	IA1	0.048	0.601
COG5	-0.047	0.606	IA2	0.147	0.109
COG6	-0.126	0.170	IA3	0.070	0.447
Cognitive	-0.036	0.694	IA4	0.093	0.311
MOT1	0.106	0.249	Interaction Adjustment	0.096	0.298
MOT2	0.056	0.546	WA1	0.051	0.584
MOT3	0.032	0.731	WA2	0.022	0.811
MOT4	0.069	0.454	WA3	0.037	0.690
MOT5	0.033	0.717	Work Adjustment	0.043	0.641
Motivational	0.101	0.274	Total Adjustment	0.053	0.566
BEH1	-0.058	0.527			
BEH2	-0.069	0.455			
BEH3	-0.019	0.834			
BEH4	-0.103	0.262			
BEH5	-0.192*	0.036*			
Behavioral	-0.109	0.235			
Total CQ	0.007	0.940			

Notes: CQ and CCA details refer to Appendix I, *significant level at 0.05, **significant level at 0.01

62.8% or 120 expatriates had prior international work experience before the current job. Correlation between the number of years working abroad previously and the CQ

level of the expatriates was tested using Spearman rho to investigate the effect of international work experience on expatriates' CQ level. The frequency of years of previous international working experience was tabulated in Table 7 with 8.3% having less than one year of foreign experience, 30% having an international work experience of one to five years, and the remainder having an international work experience of more than five years. The result tabulated in Table 9 was similar to the correlation between prior international study experiences where cognitive and behavioural CQ developed negative influence on CQ level but not significant statistically except for variable BEH5, "I alter my facial expressions when a cross-cultural interaction requires it" ($r_s(120) = -.192, p = .036$) appeared to be a negative relationship with CQ with small effect size. The findings indicated that the more prior international working experience an expatriate had, the lesser cognitive and behavioural CQ. There was no statistically significant correlation between the number of years working abroad previously and CCA. Prior international work experience had a positive relationship with CCA except for general adjustment in shopping, entertainment or recreation facilities and opportunities, and health care facilities but the correlation was not significant.

5. Conclusion

The correlation between the CQ level of the respondents was a medium effect size to their overall CCA level. Motivational CQ proved to be the largest in impact size when associated with expatriate adjustment. Motivational CQ helps expatriates develop a willingness to appreciate living in a foreign environment and connect with people from dissimilar cultures. The result revealed that expatriates without past international study experience had a slightly higher mean rank in CQ score and were more willing to learn about a new culture and act accordingly significantly (behavioural CQ). Moreover, the findings also showed that the expatriates never studied abroad before can adjust better in general adjustment. These results suggest that having prior international experience in the non-work domain could possibly lead expatriates to a lower CQ and a lower adjustment level.

Respondents with prior international experience related to the work domain had a higher CQ level than those assigned for the first time abroad. They were more alert to the cultural prospects in the host country and more prepared to interpret cultural information (metacognitive CQ). They were concerned about international culture and were interested in the host country's social life compared to those without prior international work experience (motivational CQ). Although those who had prior international work experience had a higher CQ level, their adjustment level was not significantly different from those who worked abroad for the first time. The length of previous foreign experience had not seen a significant influence on the level of CQ and the level of adjustment, although it can be found that the number of years had been negatively associated with cognitive CQ and behavioural CQ.

5.1. Theoretical and Practical Implications

This study has made a few contributions to the literature on the international construction industry. First, the association of CQ constructs with CCA by the construction professionals was investigated and motivational CQ plays a vital role. Besides, prior international study experience is not essential for improving the CQ level of an expatriate. This study explains that no substantial effect of the length of previous international experience on the CQ level and adjustment level.

For multinational construction companies and international human resource administration, the current study has some practical implications. The results indicated that all CQ measurements are significantly associated with cross-cultural change. Recruiters should determine the level of CQ of their applicants before hiring them, in particular, they may consider recruiting highly motivated candidates. Representatives of human resources may not have to consider the candidates' previous experience in their student life, whether they are studying overseas. It is also crucial to pay attention to the length of previous international experience. The findings could indicate that having extensive international experience may cause expatriates to have lower cognitive and behavioural CQ as they already perceive themselves as competent about cross-cultural difficulties. During the personnel selection process, recruiters should pay more attention to CQ because greater CQ indicates a higher degree of adaptation regardless of previous foreign experience. A module primarily based on strengthening motivational CQ can be provided anytime a company needs to offer training to its expatriates. An organisation could promote the advantages of host country assignments to increase their motivation and as a result, expatriates may be able to adjust well to an unfamiliar cultural setting.

5.2. Limitation and Future Study

This study delivers tentative suggestions for the recruiting of construction professionals among a temporary multicultural project team. Several limits, though, are also worth considering. This study only considered the association of CQ level and CCA level and the impact on them of prior international experience, other control variables were not included in the study, such as gender, age, duration of stay in the host country, and working experience etc. Therefore, future exploration can consist of these variables determining the effect on the CQ level and CCA level. As this analysis was based on a sample of convenience, the generalisation of findings to the whole population may be limited. However, since the target respondents were reached randomly from the internet, it represented a broad range and thus mitigated generalisation problems to some degree. Despite various shortcomings, the findings of this research offer initial insights into the study of expatriates contributing to the international construction project team.

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Conflict of Interests

The authors declare no conflict of interest in this study.

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