

A COMPARISON OF TWO MODELS EXPLAINING THE SAME PHENOMENON

A comparative analysis of Cultural Intelligence and the Integrated Model of
Intercultural Communication Competence

Master's thesis

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<p>Abstract</p> <p>The present study compares the model of Cultural Intelligence (CQ) with the Integrated Model of Intercultural Communication Competence (IMICC). Both models explain the phenomenon of intercultural competence (ICC) but were developed in different disciplines. This study is motivated by similarities that have been discovered on a superficial level between the two models, the criticism of some CQ scholars that CQ is a cleaner construct than ICC models (e.g. Ang & Van Dyne, 2008), and the difficulty of developing instruments that are coherent with its conceptual definition (Blalock, 1982). This study is driven by the need to develop coherent, reliable, and valid models and instruments, especially in today's importance of assessment instruments.</p> <p>Results of the comparative analysis suggest that both models incorporate a similar view on explaining ICC, which points out the interrelatedness of both disciplines. It also confirms the notion that conceptualisations of ICC are often reinvented (Spitzberg & Changnon, 2009). The analysis also highlighted several flaws of both models. The models were tested in two countries, but the authors claim them to be applicable across cultures. Moreover, many items of both instruments are not coherent with their conceptual definition, which impairs the validity of the instruments. The analysis also demonstrated that the criticism by CQ scholars towards other ICC model is not justified as CQ features inconsistencies as well.</p> <p>The study demonstrated that the conceptualisation of ICC and CQ has to go beyond the common but limited approach of focussing on the individual and several dimensions. It is important to incorporate aspects that help to better reflect the actual communication process. Interdisciplinary research can assist in this quest, as it can lead to integrating and combining different approaches and methods, and eventually to building a more complete model of ICC (Cummings & Kiesler, 2005). Implications for future research also are that assessment instruments need to be developed carefully to ensure their validity and reliability, as an invalid instrument can result in the wrong assessment of individuals.</p>	
<p>Keywords</p> <p>Intercultural competence, Cultural Intelligence, Comparative Analysis, Integrated Model of Intercultural Communication Competence</p>	
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1. INTRODUCTION

Intercultural communication competence (also referred to as ICC) is a topic that is increasingly studied across disciplines. The reason for this multidisciplinary study is the emergence of a new phenomenon in a globalized world: We are increasingly dealing with people from different cultures and countries. Although intercultural communication per se occurs already since millennia (Porter & Samovar, 1997; Rogers & Steinfatt, 1999), the scientific research of this phenomenon only emerged in the middle of the 20th century (Sinicrope, Norris, & Watanabe, 2007). Since the early beginning of analysing the failures and difficulties of Peace Corps, diplomats, and expatriates abroad, ICC research has evolved considerably, and nowadays adapts different approaches in various contexts and disciplines (Deardorff, 2011; Rathje, 2007; Sinicrope et al., 2007).

A major assumption in intercultural competence research is that some individuals have capabilities and characteristics that enable them to successfully deal with intercultural encounters and situations. These capabilities and characteristics arouse the interest of researchers in various disciplines, although the approach towards explaining the phenomenon and the capabilities differs (Deardorff, 2011). Various names, terms, models, and concepts have emerged, and even within one discipline there is a manifold variety of concepts, models, and assessment instruments (Deardorff, 2011;

Paige, 2004; Sinicrope et al., 2007). This diversity of concepts illustrates the importance of the topic in scientific research today. At the same time, this variety means that there are different approaches of conceptualising and measuring this phenomenon.

1.1 Motivation, relevance, and objectives of the study

The variety of models and concepts dealing with intercultural competence, the broad field of human sciences as well as the multidisciplinary field of intercultural communication all increase the possibility to develop similar models in different disciplines. Along with the evidence that manifold concepts and models exist, the motivation for conducting the present study arose when reading about the model of cultural intelligence (further referred to as CQ) and recognizing similarities to ICC. These similarities were the study of the same phenomenon of the ability to successfully communicate with people of other cultures and the division into similar dimensions such as cognition, motivation, and behaviour.

Recognizing these similarities triggered the idea to compare CQ to a model of ICC. But this idea was further motivated by other important aspects. Some CQ scholars display harsh criticism towards intercultural competence models and scales. For instance, Ang and Van Dyne (2008) state that:

In sum, existing intercultural competency scales lack coherent theoretical foundations and often mix ability and nonability characteristics. Since this approach mixes different types of individual differences, it raises questions of construct validity. (pp. 9-10)

The authors further argue that “Accordingly, CQ is a “cleaner” construct that assesses multiple aspects of intercultural competence in a single instrument, based on a theoretically grounded, comprehensive and coherent framework” (Ang & Van Dyne, 2008, p. 10). The authors’ criticism implies that other models and scales of intercultural competence are not theoretically grounded, mix stable traits with abilities, and do not have a coherent framework. On the webpage of CQ another criticism can be found:

There are many different concepts and measures of various inter-cultural competencies. Some of these are well known and widely used. Some, however, mix ability, personality, and typical behaviors. Others lack a coherent theoretical foundation. Some are not validated by rigorous scholarly research. Most important, none of these other concepts or approaches is based on the multiple intelligences literature. (Van Dyne & Livermore, n.d.).

The authors state that the major weakness of intercultural competence scales is the lack of a multiple intelligence approach and therefore imply that any other model not developed within the multiple intelligence approach is not a valid and theoretically founded model. Paradoxically, neither Earley and Ang (2003) who first developed the model of CQ, nor Ang and Van Dyne (2008) exclusively rely on intelligence literature but also on intercultural communication literature. With regards to this study it will be therefore interesting to verify in a thorough analysis whether CQ is a cleaner construct than other ICC models.

The criticism displayed by the authors also highlights the gap that exists between those two disciplines and the difficulty of interdisciplinary research. Interdisciplinary research is difficult due to different disciplinary

standards and paradigms (Lowe & Phillipson, 2009) but it can lead to integrating new ideas and approaches to the study of a similar phenomenon (Cummings & Kiesler, 2005). Hence, another motivation for conducting this study is to bridge the gap between different disciplines, to highlight the importance of interdisciplinary research, and to increase appreciation for work accomplished in other disciplines.

Another reason for conducting this study is the importance of assessment instruments. Measurement tools have long been prominent in intercultural training research (Paige, 2004) but have become increasingly important in different research disciplines, as well as the educational and the corporate sector (Deardorff, 2009; Pusch, 2004). However, many frameworks and instruments do not always serve the needs of choosing the adequate person (Trompenaars & Wooliams, 2009). Moreover, the development of operational definitions of a former theoretical concept can be very difficult (Blalock, 1982). If the conceptual fit, the linkage between the conceptual and operational definitions of a model (Frey, Botan, & Kreps, 2000) is not strong, the model and its instrument's reliability and validity is at stake. Therefore, the instrument of CQ will be analysed and compared to the instrument of an ICC model. This also serves the practical need of improving and creating reliable and valid assessment instruments.

The *purpose of this study* is to compare CQ to a model of ICC. The other model chosen for this comparison is the Integrated Model of Intercultural Communication Competence (further referred to as IMICC). CQ was developed by Earley and Ang, and the IMICC by Arasaratnam and various co-authors.

Several objectives that guide the implementation of this study can be derived from the above mentioned motivation. These objectives will also help to further determine the research questions, which will be presented at a later stage. The first objective is the examination of the possibility if the two models feature similarities even though they were developed within a different discipline, and if these similarities are significant. The second objective is to address the criticism of Ang and Van Dyne (2008) and to examine whether CQ in comparison with an intercultural competence model is a cleaner construct. Resulting from the criticism of the authors, it will also be an objective to demonstrate the importance and the value of interdisciplinary research. The third objective is to address the question of how cultural intelligence and intercultural competence are measured in the models and whether the conversion from a theoretical concept to an assessment instrument had been successful. This is important with regards to the increasing use of instruments to measure individuals' competencies and abilities (Deardorff, 2009; Fantini, 2009; Pusch, 2004) and the difficulty of creating an instrument that measures the right aspects (Blalock, 1982).

To summarize, there are several theoretical and practical needs for conducting this study. A comparison of CQ and the IMICC can give interesting insights into the model building process and the concepts involved in both models. This study will also try to determine whether CQ is indeed a cleaner construct compared to the IMICC, or if CQ or both models, encounter several inconsistencies. With regards to the common use of assessment instruments and the difficulty of developing coherent operational definitions, it will be

valuable to compare and analyse the assessment instruments of CQ and the IMICC.

This study will take the form of a comparative study between CQ and the IMICC. Before turning to the description of the method, it will be shortly explained how and why the IMICC was chosen to be compared with CQ.

1.2 Choosing the ICC model

Before conducting the comparison, it was important to find a suitable model of ICC. The model was chosen based on similarity, as the first impression of CQ was its similarity to intercultural competence. Two similar aspects to ICC in general had been observed already before: the study of the same phenomenon and the division into similar dimensions. These two aspects were the criteria for finding another model for the comparison. Both models, CQ and the IMICC addressed the *same phenomenon*, namely what capabilities influence the intercultural competence or intelligence of an individual. Earley and Ang (2003), who developed the CQ model, say that “the need to understand why some people are more adept at adjusting to new cultural surroundings than others is sufficient justification to explore a new theory of cultural intelligence” (p. 59). They further describe their motivation for developing CQ as follows:

We are committed to understanding what is involved in a person’s adjustment and understanding of a culture foreign to them. Why is it that some people adjust to new cultures, understand existing practices, and can behave appropriately and effectively while others flounder? (Earley & Ang, 2003, p. 91)

The authors imply that certain skills and capabilities are needed to function well in an intercultural context. Arasaratnam and Doerfel (2003) say that “we argue that the first step for developing a culture-general model of ICC is to investigate the identity and nature of variables that contribute towards ICC” (p. 2). The main question both models address is what abilities or qualities make an individual more capable to deal with intercultural situations and encounters than other ones.

The other aspect found to be similar to ICC was the *division into similar dimensions*. CQ is divided into four dimensions, which are metacognition, cognition, motivation, and behaviour (Ang & Van Dyne, 2008). The IMICC is based upon the dimensions cognition, affection, and behaviour, and it also has an instrument comprising these three dimensions (Arasaratnam, 2009).

There are two other aspects which were found to be similar in both models and which further motivated the choice of the IMICC. Both models were designed as *culture-general* models. Culture-general implies that the model is applicable to any culture or country. Ang and Van Dyne (2008) explain that “CQ is not specific to a particular culture” and “(...) CQ is specific to particular types of situations (culturally diverse) and it is not culture specific” (p. 8). Arasaratnam and Doerfel (2003) state that “though much progress has been made in this area of research since Hall, a satisfactory model of ICC and a scale that translates well into different cultures are yet to be developed” (p. 2).

Both models were built to measure the cultural intelligence and the intercultural competence of individuals and have therefore developed an

assessment instrument. The Cultural Intelligence Scale, or CQS, was developed by Van Dyne, Ang, and Koh (2008). Arasaratnam (2009) developed a scale addressing the three dimensions (further referred to as the ICC scale).

These four aspects, namely the study of the same phenomenon, the division into similar dimensions, a culture-general approach, and the development of a measurement instrument were the reason to choose the IMICC for a comparison.

After explaining the purpose, the motivation, the objectives, and the reason for choosing the IMICC, the method of this study will be explained in the following section.

2. METHODOLOGY

The purpose of this study is to compare CQ with the IMICC, which will be achieved through a qualitative comparative analysis. A qualitative approach was chosen because this study aims at achieving a profound and detailed understanding of a complex topic (Trochim, 2006). The comparative method also is qualitative and pervades many aspects of qualitative research (Boeije, 2002; Given, 2008). One of the main ideas of comparative research is searching and discovering similarities and differences amongst phenomena or entities (Given, 2008; Mills, van de Bunt, & de Bruijn, 2006; Warwick & Oshersleben, 1973). Often comparative research focuses on cross-national or cross-societal comparisons, not on models (e.g. Hantrais, 1995; Mills, van de Bunt, & de Bruijn, 2006; Warwick & Osherson, 1973). Therefore, the existent information on comparative studies will be adapted to the needs of the present study for it aims at discovering similarities and differences among two models which, on the surface, address the same phenomenon. The scope of this study is not only limited to searching for similarities and differences. Comparative analysis can also contribute to theory-building of both models (Collier, 1993).

Before conducting the comparison, it is important to gather comparable data. These data have to be produced by the researcher in the course of the study through data analysis (Boeije, 2002). In order to gather the relevant data and to familiarise the reader with the topic, it is essential to first

introduce both models. The introduction will take the form of an atheoretical case study. These are descriptive single case studies, which can serve as a means to data gathering and contribution to theory-building (Lijphart, 1971).

After the introduction of the models, the comparative analysis will follow. The design of the comparison is guided by several sources that apply the comparative method. These sources serve as a reference point and as a guideline to organizing this study. One of these sources is a guide to writing compare-and-contrast academic papers written for the Harvard Writing School. In this overview, Walk (1998) presents several possibilities to conduct a comparative analysis. With regards to organising the study, there are two possibilities: a text-by-text and a point-by-point analysis. A text-by-text analysis first discusses A and then B. The point-by-point analysis on the other hand discusses comparable points of A and B. The point-by-point analysis will be used in this comparative study.

This method of comparison has been found in other comparative studies. These comparative studies are from various disciplines such as intercultural communication (Callahan, 2004), communication (de Vreese, Peter, & Semetko, 2001), information technology (Lee, Su, & Shen, 2007), sociology (Pfau-Effinger, 1998), psychology (Russel, 1994), and health science (Wang, 2001). The authors in these articles apply a similar method as suggested by Walk (1998). The authors first introduce the different systems they are about to compare. In the comparison, they then discuss selected aspects of the systems at the same time. Pfau-Effinger (1998) for example discusses the changes of female labour participation in several countries before she starts comparing another aspect. Lee, Su, and Chen (2007) first introduce

four wireless protocols and then start to compare different aspects (e.g. security or network size) for each of these protocols. The other articles mentioned above apply the same method of simultaneously explaining the influence of one aspect on all the systems compared in the study. Therefore, the comparison in this study will be conducted through the same method of simultaneously contrasting the two models with one aspect. This point-by-point comparison offers the advantage that it immediately highlights the differences or similarities between the models.

To summarize, the present study will combine several methods for conducting the comparison between CQ and the IMICC. In the beginning, the models will be described separately in the form of an atheoretical case study. This introduction primarily serves the need to introduce the models to the reader and to distinguish comparable data. The actual comparison will analyse the found data point by point. This ensures that the information gathered from the comparison is not lost in the text and that the reader is able to easily follow the comparison.

The research questions which guide the comparative analysis will be introduced at a later stage. This is due to the specific nature of the research questions and the method chosen for this study. As previously explained it is necessary to first collect comparable data. Therefore, the research questions will be presented after introducing CQ and the IMICC. This procedure also ensures that the choice of the research questions is clear and comprehensible. The three objectives of this study will guide the collection of comparable data.

2.1 Data collection

The data collection of the present qualitative study differs from other qualitative studies as the data are not gathered through interviews, surveys, questionnaires, experiments or observations, but through an extended literature review. Secondary data, data which have been previously collected by other scholars (Frey et al., 2000) are the key data and the main information source for the present research.

Data were collected for three purposes: The finding of a model which could be compared to CQ, background information on the concept of intelligence, and finding material on how to conduct theoretical comparative research. The key data for both models comprise books, handbooks, articles, and conference papers. Databases and search engines such as EBSCOhost (Communication & Mass Media Complete, and Academic Search Elite), Google, Google Scholar, and Nelliportaali were used to search information for all three purposes.

The search terms for finding the ICC model included: model of intercultural communication competence, model of intercultural competence, general model of intercultural competence, culture-general model of intercultural competence, measuring intercultural competence, and others. Relevant information on CQ and the intelligence concept was found in databases offered through Nelliportaali such as ProQuest Psychology Journals, and ScienceDirect (Elsevier). Key words for the search of comparative research methods included the following: comparative research, comparative analysis, comparative research in communication, comparative research in

intercultural communication, how to do comparative research, comparisons in communication research, comparative and theoretical study, and others.

2.2 Outline of the thesis

After explaining the purpose, the motivation, and the method of this study, the next two chapters will introduce both models. Chapter three will illustrate ICC and describe the IMICC in more detail. The fourth chapter will cover the intelligence concept as well as CQ. Comparable data are collected throughout the introduction and will be presented in chapter five along with a small recap of the method and the research questions. Chapter six will analyse and compare certain aspects of both models. The results of the comparison will be discussed in chapter seven. A conclusion on the conducted research, limitations, and directions for future research will be covered in chapter eight.

3. THE INTEGRATED MODEL OF INTERCULTURAL COMMUNICATION COMPETENCE

This chapter will give a short overview of ICC, before turning to a detailed presentation of the IMICC. The IMICC was developed within the discipline of intercultural communication. This recap will help to position the IMICC within the research discipline and to better understand its background.

3.1 Intercultural Communication Competence

There is no mutual consent about the definition of intercultural communication competence (Deardorff, 2006; Fantini, 2000; Rathje, 2007; Spitzberg & Changnon, 2009). This is also reflected in the various amount of different terms that exist to describe this phenomenon such as intercultural competence, intercultural communication competence, cultural competence, global literacy, intercultural sensitivity, and many others (Deardorff, 2006). There exist manifold definitions for underlying concepts such as competence, communication, intercultural, and culture, but also for the skills and abilities that are considered necessary to be intercultural competent (Spitzberg & Changnon, 2009). As there is no agreement about the definition of ICC, there exists a variety of models that describe different aspects and define competence differently (Rathje, 2007). This variety of models goes beyond communication

research and can be found in disciplines or research areas such as education, health care, sales, management, and others. (Spitzberg & Changnon, 2009).

Despite the variety of definitions and models there exist some aspects of intercultural competence, which are integrated into most models, or which are at least accepted by many scholars (Deardorff, 2011; Spitzberg & Changnon, 2009). One of these features is that many models and also many definitions of ICC allocate certain abilities along a set of categories or dimensions such as cognition, motivation or affection, and skills (Bolten, 2006 cited in Rathje, 2007; Jensen, 2007; Spitzberg & Changnon, 2009). Many models focus on the individual (Spitzberg & Changnon, 2009). Another feature often cited is that intercultural competence needs to be appropriate and effective (Deardorff, 2011; Wiseman, 2002).

However, this approach is not accepted amongst all intercultural competence scholars. Straub (2007 cited in Moosmüller & Schönhuth, 2009) argues that intercultural competence needs to integrate more concepts as well as a contextual factor. This is echoed by scholars of other disciplines such as linguistics or intercultural discourse. Scholars of linguistics or language education emphasise the importance of language competence which is often ignored or left to others by ICC scholars (Fantini, 2000). Others argue that relational, episodic, situational, and interactional aspects are important to integrate (Blommaert, 1991 cited in Koole & ten Thije, 2001; Spitzberg, 1994). In intercultural discourse, the interaction between the group is analysed, not only the individual (Koole & ten Thije, 2001). There are other models which integrate aspects such as the context of the interaction and the interrelationship of the interactants (Rathje, 2007). Despite these various approaches it is still

very common to rely on a set of dimensions and focus on the individual (Spitzberg & Changnon, 2009).

The IMICC is one of the models which integrate the three dimensions of cognition, affection, and skills. Therefore, a small excursus will explain these three dimensions in more detail and will also illustrate the meaning of appropriate and effective behaviour.

3.1.1 Knowledge, motivation, and skills

Spitzberg and Cupach (1984) defined intercultural competence as behaviour which needs to be appropriate and effective. Appropriate behaviour implies that rules and norms of other interactants are understood and respected (Spitzberg & Cupach, 1984). Effective communication or behaviour is the ability to achieve personal goals by manipulating and controlling one's environment (Wiseman, 2002). As intercultural competent communication behaviour needs to be both appropriate and effective, the desire to achieve one's personal goal may not be at the disadvantage of the other interactant; the desired goals need to be achieved with relation to costs and alternatives (Spitzberg, 1994; Spitzberg & Cupach, 1984).

The *knowledge* dimension is often conceptualized as the knowledge about people, the context, and the culture which enables an individual to engage in competent, effective, and appropriate behaviour. (Lustig & Koester, 2003; Neuliep, 2009; Spitzberg & Cupach, 1984; Wiseman, 2002). Culture-general knowledge such as interaction patterns or interpersonal relationships are as important as culture-specific knowledge such as the knowledge about norms, beliefs, values, and preferred interaction patterns of a specific culture (Lustig & Koester, 2003; Spitzberg & Cupach, 1984). Other important levels of

knowledge are the use of personal constructs, which enable individuals to exhibit appropriate and effective behaviour, empathy, and emotions (Spitzberg & Cupach, 1984). In order to acquire and incorporate the necessary knowledge, individuals need to be aware of the feedback they receive from others (Wiseman, 2002).

Motivation in intercultural communication is often conceptualized as approach and avoidance, emotions, a set of feelings, intentions, and personal drives. Spitzberg and Cupach (1984) describe the motivational component within the approach-avoidance construct. According to the authors, an individual can be either eager to interact with another person or wants to avoid the contact, based on goals or reward contingencies. Hence, our goals, plans, objectives, and desires guide the choices we make during interactions (Lustig & Koester, 2003). Other influencing aspects on our motivation are emotions and feelings, attitudes towards individuals of other countries, and the positive and negative experiences of previous interactions (Lustig & Koester, 2003; Spitzberg & Cupach, 1984). Furthermore, an individual can be skilful but still avoid a certain interaction at the same time due to a negative motivation (Wiseman, 2002). Neuliep (2009) states that the more knowledgeable an individual is the more likely he or she is to be motivated to communicate with people from other cultures. Likewise, an individual with a high level of motivation to interact with people from other cultures increases his or her knowledge through interactions.

Researchers agree that the *skills or behavioural* dimension of intercultural competence focuses on the appropriate and effective accomplishment of certain skills or behaviours (Lustig & Koester, 2003;

Wiseman, 2002). Competent behaviour displayed during the interaction process needs to be appropriate and effective (Lustig & Koester, 2003). This behaviour needs to be goal-oriented and repeatable by the individual (Morreale, Spitzberg, & Barge, 2006). Behaviours which are displayed by accident and without the individual being able to cognitively relate the displayed action to a successful outcome are not considered to be competent (Morreale et al., 2006). Behaviours or skills that are not goal-oriented and thus driven by personal motivation are not regarded as competent skills (Wiseman, 2002).

It is acknowledged by many scholars that an individual competent in knowledge and motivation is not necessarily able to (willingly or unwillingly) display appropriate and effective behaviour (Lustig & Koester, 2003; Spitzberg & Cupach, 1984). Therefore, an individual needs to be competent in all three aspects to be intercultural competent (Lustig & Koester, 2003; Spitzberg, 1983; Wiseman, 2002).

This short overview introduced the most common approaches in ICC. The following chapter will introduce the IMICC.

3.2 The Integrated Model of Intercultural Communication Competence

The Integrated Model of Intercultural Communication Competence (IMICC) is a recent developed culture-general model of ICC. The model was developed by Arasaratnam and several co-authors over a period of several years, between 2003 and 2011. The basic structure of the IMICC was already developed in 2003, when Arasaratnam and Doerfel (2003) conducted an empirical study to

develop a new model of ICC. The model was labelled the IMICC in 2010 (Arasaratnam et al., 2010a).

According to Arasaratnam et al. (2010a) the IMICC is unique and different from other ICC models because of its development from an emic approach, its culture-general mode, and a bottom-up approach. The emic or bottom-up approach in this context implies the examination of a phenomenon from the insider's point of view as well as discovering instead of developing important dimensions (Morris, Leung, Ames, & Lickel, 1999; Sinicrope et al., 2007). The IMICC is a model which tries "(...) to investigate the identity and nature of the variables that contribute towards ICC" (Arasaratnam & Doerfel, 2003, p. 2). The IMICC consists of five qualities which will be explained in more detail in the following paragraph.

3.2.1 The five qualities of the IMICC

The IMICC consists of five qualities. These qualities were identified by participants from the first study of the IMICC in 2003. These are empathy, motivation, global attitude or positive attitude towards people from other cultures (ATOC), and the ability to listen. Experience originally was part of the IMICC as well, but was later eliminated. It was replaced by sensation seeking.

Empathy is defined as "(...) an individual's ability to engage in cognitive and emotional role taking and to adapt his or her behaviour appropriately to the situation" (Arasaratnam, 2004, p. 3). An empathetic individual is able to execute (perceived) competent behaviours, engage in other-oriented behaviour, and is able to put himself or herself in the shoes of others (Arasaratnam, 2004). In almost all of the studies empathy is measured with adapted versions of the Multicultural Personality Questionnaire by Van

der Zee and Van Oudenhoven (2000; see Arasaratnam, 2006; Arasaratnam et al., 2010a; Arasaratnam et al., 2010b) with one exception in 2004, where Arasaratnam used Mehrabian and Epstein's (1972) empathy scale (Arasaratnam, 2004).

Motivation means that an intercultural competent person is interested in getting to know and interacting with people from other cultures (Arasaratnam, 2004). Motivation may also lead to behaviours that are perceived desirable by others. Arasaratnam (2006) further states that motivation is "(...) the desire to engage in intercultural interactions for the purpose of understanding and learning about other cultures" (p. 94). Motivation is measured with a scale developed by Arasaratnam herself, though it was often modified in subsequent studies (see Arasaratnam, 2004; Arasaratnam, 2006; Arasaratnam, 2009 Arasaratnam et al., 2010a; Arasaratnam et al., 2010b). It is not explained how these items were developed.

Global attitude or *ATOC* describes the openness of an individual towards other cultures and worldviews (Arasaratnam, 2004). An individual with global attitude has "(...) positive attitudes towards people of other cultures and (...) is not ethnocentric" (Arasaratnam, 2004, p. 5). In all studies ATOC is measured through modified versions of Remmers, Gage, and Rummel's (1960) ATOC scale (see Arasaratnam, 2004; Arasaratnam, 2006; Arasaratnam, 2009 Arasaratnam et al., 2010a; Arasaratnam et al., 2010b).

The *ability to listen well* and to pay attention, also defined as *interaction involvement*, describes "(...) the extent of one's cognitive and behavioural engagement in conversation" (Arasaratnam, 2004, p. 5). An individual with the ability to listen well is able to listen actively and understand

the needs of others. Interaction involvement is measured in all the studies with modified versions of Cegala's (1981) Interaction Involvement Scale (see Arasaratnam, 2004; Arasaratnam, 2006; Arasaratnam, 2009; Arasaratnam et al., 2010a; Arasaratnam et al., 2010b).

Intercultural *experience* is a variable which was identified by participants to be an important indicator for becoming more competent (Arasaratnam, 2004). This included the ability of the individual to learn from experience and adapt his or her behaviour. However, the variable was later eliminated from the IMICC because it proved difficult to evaluate the impact of intercultural experience on an individual's ICC (Arasaratnam et al., 2010b).

While being a personality variable, "(...) one of the key players in ICC" as Arasaratnam et al. (2010b, p. 76) put it, is *sensation seeking*. In their study, the authors found that sensation seeking was positively related to attitudes towards people of other cultures and empathy. Sensation seeking is characterised by "(...) the need for novelty, excitement and adventure, as well as with a low attention span" (Zuckerman, 1994 cited in Arasaratnam & Banerjee, 2007) and is mainly known in medical studies, especially as a pre-disposition variable related to risky behaviour such as drug and alcohol abuse, but also high-risk sports (Arasaratnam et al., 2010b; Arasaratnam & Banerjee, 2011). However, Morgan and Arasaratnam (2003) found that sensation seeking should not only be associated with dangerous behaviour but also with desirable social behaviour such as investing in intercultural friendships. Arasaratnam (2005) found that sensation seeking seems to increase contact-seeking behaviour to people from other cultures. Arasaratnam et al. (2010b) argue that the sensation of intercultural experiences presents a novelty that sensation

seekers are drawn to. Sensation seeking is measured through modified versions of Hoyle, Stephenson, Palmgreen, Lorch, and Donohew's (2002) sensation seeking scale (see Arasaratnam & Banerjee, 2007; Arasaratnam et al., 2010b; Arasaratnam & Banerjee, 2011).

3.2.2 Developing the IMICC

The IMICC was developed and continuously adjusted throughout several studies. Study 1 was the most important one, because it collected information on different abilities and was used to build the initial structure of the model. This study was conducted by Arasaratnam and Doerfel in 2003. The goal of the authors was to build a culture-general model which was conceptually sound (Arasaratnam & Doerfel, 2003). Instead of defining important abilities themselves, they let the participants of the study define these abilities. They drew on Bruner's (1990) idea of shared meaning in a culture, which implies that there exists a shared meaning of an aspect, in this case intercultural competence, amongst the members of one culture. Thus, asking members of different cultures about their perception of intercultural competence could lead to a collection of meaningful characteristics. The authors chose this emic approach to minimize the researcher's influence and because an insider better understands a cultural phenomenon (Arasaratnam et al., 2010a). (Arasaratnam & Doerfel, 2003, pp. 2-3; 11.)

Arasaratnam and Doerfel (2003) asked members of different cultures about their perception of intercultural competence. The qualitative study was conducted amongst 37 U.S. American and international students and non-students through open-ended interviews. The participants were frequently involved in intercultural communication. For the analysis the authors used a

semantic network analysis. In order to emphasise the importance of perceived intercultural communication competence no self-reports were used. The following questions were given to the participants:

Q1: How would you define intercultural communication?

Q2: Can you identify some qualities or aspects of people who are competent in intercultural communication?

Q3: Can you identify some specific individuals whom you think are particularly competent in intercultural communication and say why you perceive them as such?

Q4: What are aspects of good communication in your culture/opinion?

Q5: What are aspects of bad communication in your culture/opinion?

(Arasaratnam & Doerfel, 2003, p. 16)

The authors distinguished five different qualities of a good communicator which were empathy, previous intercultural experience/training, motivation, global attitude (ATOC), and the ability to listen well in conversation. (Arasaratnam & Doerfel, 2003.)

The subsequent studies were conducted in different universities in the USA and Australia. The goal of all the studies was to further test the five qualities, their relation to each other, and the structure of the model. The IMICC was also tested in Australia to explore the model's utility in a different culture (Arasaratnam et al. 2010a). Experience was eliminated as a quality and was replaced by sensation seeking (Arasaratnam et al. 2010b)

3.2.3 The IMICC instrument

Arasaratnam (2009) conducted another study in order to develop and test a new ICC instrument. The ICC scale comprises the dimensions of cognition, affection, and behaviour (Arasaratnam, 2009).

To describe the cognitive dimension, Arasaratnam (2009) drew on the cognitive-complexity concept as it is related to the ability to display persuasive and integrative communication skills, and to the ability to relate to others. The author incorporated items that describe the ability of an individual to use differentiated personal constructs during intercultural communication. The five items of affection are based on findings by Arasaratnam and Doerfel (2005), Arasaratnam (2006), and Redmond (1985), which suggest that the ability to emotionally relate to people of other cultures as well as affective empathy are related (Arasaratnam, 2009). Affection is defined as the “(...) ability to emotionally connect with someone from a different culture” (Arasaratnam, 2009, p. 3). To describe behaviour, the author defined it as “(...) a person’s ability to engage in behaviours that are associated with intercultural as well as interpersonal competence, such as intentionally seeking interaction with people from other cultures (...), adapting behaviours or changing communication patterns according to the other (...), and engaging in friendships with people from other cultures” (Arasaratnam, 2009, p. 3).

Arasaratnam (2009) developed a 15 item scale which was tested amongst Australian and international students. The ICC scale is a 7-point variation Likert-type scale with 1=strongly disagree and 7=strongly agree. After the initial test, five items were eliminated from the scale as they did not perform well in the factor analysis. According to Arasaratnam (2009) the

measure performed well; however, she notices that the reliability is not as high as desired. The original 15 items scale as well as the final version can be found in the appendices 1 and 2.

The ICC scale was used in study five (Arasaratnam et al., 2010b) as well as another study in 2011 in relation to sensation seeking (Arasaratnam & Banerjee, 2011). However, the scale was modified for these studies. Items were added (see Arasaratnam et al., 2010b) or deleted (see Arasaratnam & Banerjee, 2011). These choices as well as the additional and deleted items were not further illustrated or presented by the authors. Thus, for the present research the scale of 2009 will be used.

To summarize, the IMICC is a culture-general model of ICC which was developed through an emic approach. This approach allowed the researchers to collect opinions about perceived intercultural competent communication. In contrast to other models, the IMICC was built through an empirical study. The five qualities build the theoretical foundation of the model (Arasaratnam et al., 2010b). The IMICC also was constantly developed, tested, and adjusted, so that experience, first identified by Arasaratnam and Doerfel (2003), was eliminated and replaced by sensation seeking. The five qualities are measured through different scales, and Arasaratnam (2009) developed an ICC scale to measure cognition, affection, and behaviour.

The next chapter will focus on the model of CQ. The field of intelligence will be shortly outlined in order to introduce the reader to the fundamental aspects which build up CQ. Then, a detailed description will illustrate the model of CQ.

4. CULTURAL INTELLIGENCE

Cultural intelligence is based upon various theories of intelligence, for instance Gardner's multiple intelligences approach and non-academic intelligences. It thus differentiates itself from the more traditional view of intelligence as a one dimensional construct (Earley & Ang, 2003). A short outline of the different concepts and theories of intelligence will be presented in this chapter. As definitions of intelligence are manifold, the focus will lie on those works that form the basis of CQ and other non-academic intelligences such as practical and emotional intelligence.

4.1 Different concepts of intelligence

The concept of intelligence has a long and diverse history, and there exist various definitions, traditions, and theories (see Gardner, 1993; Sternberg, 1986a). Often, intelligence is defined and measured through intelligence tests such as IQ. However, many researchers have tried to abandon this view and investigated other aspects of intelligence (e.g. Gardner, 1993; Goleman, 1995; Sternberg, 1986a). According to Sternberg (1986a) operational definitions of intelligence have been widely accepted by scientists and the public, even though "We might think that no serious scientist would propose such a definition, or that if one did, no one would take it seriously" (Sternberg, 1986a, p. 2). He argues that intelligence tests often function as the definition of intelligence itself (opposed to being based on a definition) and that

operationally defining intelligence keeps researchers from discovering other aspects of its nature. Gardner (1993) argues that the focus on intelligence tests hinders “(...) a better way of thinking about intelligence (...)” (p. 3). To improve intelligence tests, it is necessary to first improve the understanding of intelligence (Sternberg, 1986a).

Two important approaches are relevant for the development of CQ, which are the multiple intelligences approach and the non-academic intelligences approach (Earley & Ang, 2003). In contrast to conventional or traditional intelligence approaches, these two focus on other facets of the individual.

4.1.1 Multiple intelligences and non-academic intelligences

Gardner (1993) developed the *multiple intelligences approach* in order to improve modern intelligence assessment and to investigate those aspects of an individual, where a high level of competence could be reached as well. He argued that there is more than one form of intelligence innate to us, which defines who we are and how we behave as an individual. He described seven different intelligences that make up the whole intelligence of an individual. Those intelligences are linguistic intelligence, musical intelligence, logical-mathematical intelligence, spatial intelligence, bodily-kinaesthetic intelligence, intrapersonal intelligence, and interpersonal intelligence (Gardner, Kornhaber, & Wake, 1996).

Another important approach in intelligence research, which resembles Gardner’s approach of multiple intelligences, is the *non-academic intelligences* approach. The term non-academic intelligence refers to the discovery of some researchers that intelligent behaviour as measured in IQ

tests often is not transferable to real-life situations (Earley & Ang, 2003). Other intelligences such as social intelligence, emotional intelligence, and practical intelligence have been developed over the years. These intelligences focus on cognitive problem solving skills needed in everyday life (Van der Zee, Thijs, & Schakel, 2002). According to Goleman (1995) there are aspects that have a higher influence on our success than IQ. He draws on studies by Vaillant (1977), and Felsman and Vaillant (1987), who proved that individuals with lower IQ scores could be as successful in work, family, and relationships as individuals with higher IQ scores. Intelligence concepts such as emotional or practical intelligence focus on these other aspects.

4.1.2 Sternberg's (1986) framework

The model of CQ also is based upon the work of Sternberg (1986b) where he united scholars' and scientists' different views of intelligence in one framework (Earley & Ang, 2003). In the framework, Sternberg distinguishes between three loci of intelligence, namely the individual, environmental, and individual-environmental (Sternberg, 1986b). In the individual locus of intelligence one can find four aspects which are critical to CQ. These are metacognition, cognition, motivation, and behaviour. The four terms have been highlighted in figure 1, which displays part of the framework developed by Sternberg.

Individual Level	
Molar Level	Behavioural Level
Cognitive a) Metacognition i) Processes ii) Knowledge iii) Process-Knowledge interaction b) Cognition i) Processes (a) selective attention (b) learning (c) reasoning (d) problem solving (e) decision making ii) Knowledge iii) Process-Knowledge interaction c) Metacognition-Cognition Interaction Motivational a) Level of Energy b) Direction of Energy c) Level-Direction Interaction	1. Academic a) Domain-General b) Domain-Specific c) General-Specific Interaction 2. Social a) Within-Person b) Between-Persons c) Within-Between Interaction 3. Practical a) Occupational b) Everyday Living c) Occupational-Everyday Living Interaction

Figure 1: Excerpt of Sternberg's (1986b) framework of intelligence

The four dimensions of CQ can be found in this framework, which makes this framework one of the most significant to the development of the model.

To summarize, the above chapter gave a small overview of some definitions, theories, and concepts of intelligence. Many researchers expressed the opinion that the widespread custom of measuring intelligence only through IQ tests does not coincide with the true nature of intelligence, but is based upon wrong intentions and wrong definitions (Gardner, 1993; Sternberg, 1986a). Many see academic intelligences as only one part of intelligence. There are several approaches to intelligence, which take other aspects into consideration

and do not only focus on the performance in answering mathematical or biological questions. Some of these theories and approaches form the basis of CQ, which will be introduced in the next chapter.

4.2 Cultural Intelligence

The model of cultural intelligence was first introduced and described by Earley and Ang in 2003 (Earley & Ang, 2003). They define CQ as “A person’s capability for successful adaptation to new cultural settings, that is, for unfamiliar settings attributable to cultural context” (Earley & Ang, 2003, p. 9). They drew on the framework of Sternberg (1986b; see figure 1) and developed three aspects that form and further explain the phenomenon of CQ, which are: cognitive CQ, motivational CQ, and behavioural CQ. Later on, the metacognitive aspect was separated from cognitive CQ and established as an own dimension. The authors introduced the abbreviation CQ with relation to IQ, and other intelligences such as emotional intelligence (EQ).

CQ is conceptualized on the individual level due to the difficulty of reflecting intelligence to groups or organisations and because it is part of an individual’s characteristics and differences (Earley & Ang, 2003). Thus, as in many other models (also in ICC) that seek to find out what makes someone more capable of dealing with different cultures than others, CQ deals with the capabilities, competences, and intelligence of an individual. Furthermore, the authors explain that CQ is a part of every individual’s characteristics and that CQ is achieved through an individual’s experiences. (Earley & Ang, 2003, p. 6.)

CQ also is an ability or capability instead of an interest or personality (Ang & Van Dyne, 2008). CQ is a state-like individual difference

and can be adjusted or changed over time. However, Ang, Van Dyne, Koh, Ng, Templer, Tay, and Chandrasekar (2007) state that research has shown that some personality traits can be related to CQ. Ang, Van Dyne, and Koh (2006) discovered that openness to experience is related to all four dimensions of CQ and therefore can be regarded as a significant predictor of CQ. Other personality traits such as conscientiousness, agreeableness, emotional stability, and extraversion almost all related to one of the CQ dimension. CQ also is a multicultural approach, thus, it is not limited to function in one certain culture but in all (Van Dyne & Livermore, n.d.).

An important premise of CQ is that it is an etic and emic model. Earley and Ang (2003) assume that in a cultural context emic and etic constructs and processes exist. Emic is related to behaviour or a context within a culture, and it can only be fully understood within that context (Earley & Ang, 2003; Morris et al., 1999). Etic on the other hand means that behaviour or a context is universal across cultures, thus something from an outside point of view (Earley & Ang, 2003; Morris et al., 1999). For instance, the cognitive functions of every human being such as memory or recall are etic (Earley & Ang, 2003).

In the following sections the four dimensions of CQ will be explained in more detail.

4.2.1 Metacognitive CQ

Earley and Ang (2003) included metacognition in cognitive CQ, whereas it was later acknowledged as an own dimension. Metacognition is described as something that “(...) guides our awareness of our own self-conceptions and mental functioning” (Earley & Ang, 2003, p. 122). Metacognition is important

to CQ because it indicates active reflection about cultural others and intercultural situations, it challenges the individual's thinking and assumptions based on their cultural knowledge, and it lets individuals adjust their strategies (Ang & Van Dyne, 2008).

The term metacognition “refers to thinking about thinking, or knowledge and cognition about cognitive objects” (Flavell, 1987 cited in Earley & Ang, 2003, p. 100). The biggest challenge a person dealing with other cultures has to face are “(...) observing, indentifying and creating cognitive and metacognitive strategies for dealing with a new culture” (Earley & Ang, 2003, p. 115). Thus, metacognition enables the individual to develop important strategies to acquire knowledge or to handle certain situations. Important components are metacognitive knowledge and metacognitive experience. Metacognitive knowledge is the knowledge acquired by an individual about others, different types of information, and the strategies that are necessary to achieve a certain goal. Metacognitive experiences refer to “(...) conscious experiences that are affective, cognitive and based on a cognitive activity” (Earley & Ang, 2003, p. 103). The authors explain that metacognitive experiences show when an individual realises that it is difficult to achieve a certain goal. Ang and Van Dyne (2008) further highlight that an individual with high metacognitive CQ has a conscious cultural awareness of norms and preferences. (Earley & Ang, 2003, pp. 100-104.)

4.2.2 Cognitive CQ

Cognitive CQ demonstrates the individual's knowledge of norms, values, and practices of different cultures gained from previous experience (Ang & Van Dyne, 2008). The authors consider cognition as a significant part of CQ

because the knowledge of other cultures affects one's thinking processes and behaviour. Cultural knowledge includes knowledge of various systems such as the social, economy, and legal system. The knowledge of cultural universals as well as cultural differences is important. (Ang & Van Dyne, 2008, pp. 5-6.)

Declarative, procedural, and conditional knowledge also are important aspects of cognition (Earley & Ang, 2003). Declarative knowledge is the knowledge of an individual about oneself, others, and objects and procedural knowledge describes the knowledge of how to act (Earley & Ang, 2003). The authors differentiate procedural knowledge from metacognition. According to the authors a person with high procedural knowledge has the ability to execute appropriate actions and develop effective strategies automatically. Conditional knowledge refers to the knowledge of when and why to display certain behaviours over others. Along with procedural and conditional knowledge, tacit cultural knowledge describes the non-tangible aspects of a culture which have to be acquired either through observation and mimicking and which have to be used at the right time. Equally important to cognitive CQ is the knowledge that reasoning, decision-making, communication styles, social perception, and self-concept may differ across cultures. (Earley & Ang, 2003, pp. 103-117.)

4.2.3 Motivational CQ

Motivational CQ is defined as the ability to invest in learning about cultural differences and directing one's own interest towards functioning in a cultural diverse environment (Ang & Van Dyne, 2008). Furthermore it is considered as a "source of drive" which directs an individual's energy towards performing well in unfamiliar intercultural situations (Ang & Van Dyne, 2008, p. 6). The

main components of motivational CQ are values, efficacy expectations, and goals (Earley & Ang, 2003).

Values in motivational CQ are considered to have an influence on the decision to perform certain actions over others (Earley & Ang, 2003). They assist an individual in the decision of which action to perform and how to evaluate the culture the individual is confronted with. Furthermore, an individual's tendency or disposition to openness to new experiences is reflected through values. Thus, the authors convey that the more open an individual is towards unfamiliar situations, the more accurate he or she will evaluate an unfamiliar culture. Values are also built through previous experiences. In relation to self-concept, values enable individuals to determine in which social group they feel more comfortable about themselves. (Earley & Ang, 2003, pp. 135-146.)

Values alone do not ensure a person to be motivated to engage in communication with people from other cultures. Therefore, the authors point out the importance of self-efficacy. According to the authors self-efficacy is "a judgement of one's capability to accomplish a certain level of performance" (Bandura, 1986 cited in Earley & Ang, 2003, p. 138). The authors further explain that self-efficacy is linked to a specific context which means that one's effective communication in culture A does not ensure an effective communication in culture B. A high efficacy also ensures that a person is thriving for new and more effective ways to communicate with the environment. Goal setting complements self-efficacy as goals define the purpose and direction of the performance, and influence a person's normative beliefs of what think they can achieve and should try to accomplish (Wood &

Bandura, 1989 & Bandura, 1997 cited in Earley & Ang, 2003). (Earley & Ang, 2003, pp. 137-141.)

4.2.4 Behavioral CQ

The last dimension, behavioural CQ, demonstrates the ability to implement appropriate verbal and non-verbal communication during interactions in a cultural diverse environment, which is reflected by verbal and nonverbal flexibility (Van Dyne et al., 2008). The authors state that the focus lies on non-verbal and verbal communication behaviour because they are the most obvious characteristics when interacting. Earley and Ang (2003) explain that next to skills, the knowledge of foreign languages increases the probability of an individual to learn about another culture.

There are three premises of behavioural CQ (Earley & Ang, 2003). Behavioural CQ focuses on external processes and thus only on overt (observable) behaviour. Secondly, behavioural CQ focuses on those behaviours which are performed in an interpersonal context. Thirdly, the authors differentiate culturally intelligent behaviour from culturally competent behaviour. They regard culturally intelligent behaviour as purposive, motive-oriented, and strategic whereas they define culturally competent behaviour as passive, nonconscious, and less agentic (possibility to make choices). In relation to CQ self-presentation and self-enhancement are important as they imply that any human being is thriving for executing appropriate behaviour, so that others do not see him or her as incompetent. This accounts for intercultural contexts as well, because an individual dealing with other cultures needs to be more conscious about the choice of behaviour. (Earley & Ang, 2003, pp. 156-159.)

Furthermore, verbal and nonverbal behaviours are important (Earley & Ang, 2003). The authors list language, paralanguage (sounds, rate of speaking, tone of voice, etc.), kinesics, facial expressions, proxemics, and time as behaviours individuals have to be conscious about in intercultural situations.

To summarize, CQ is divided into similar dimensions like other models of ICC. Cognition, motivation, and behaviour play a key role in ICC concepts, and they also form the basis for the IMICC. In the following section the development of Cultural Intelligence Scale will be introduced. It is an assessment instrument that was developed to measure CQ.

4.2.5 Development of the CQS

The model of CQ first was developed from a theoretical perspective. To be able to measure and evaluate the CQ of individuals, an assessment instrument was developed. The Cultural Intelligence Scale (in short CQS) was developed by Van Dyne et al. (2008). First, the authors defined the four dimensions on the operational level. Metacognitive CQ is defined as the capability to consciously interact in intercultural situations. The authors drew on O'Neil and Abedi (1996) and Pintrich and DeGroot (1990) for items such as "awareness, planning, regulating, monitoring and controlling cognitive processes of thinking and learning" (Van Dyne et al., 2008, p. 19). Cognitive CQ is defined as cultural knowledge, which comprised the knowledge about economic, legal, and social systems of other cultures. The authors refer to the Human Relations Area Files of Murdock (1987) as well as to Triandis (1994). For motivational CQ, the capability to direct attention towards learning and functioning in intercultural situations, they drew on Deci and Ryan (1985) for intrinsic satisfaction and Bandura (2002) for self-efficacy. Finally, behavioural CQ was

operationally defined as the ability to use appropriate verbal and nonverbal behaviour in intercultural situations. The authors drew on Gudykunst and Ting-Toomey (1988), and Hall (1959) for verbal and non-verbal flexibility in cross-cultural situations. (Van Dyne et al., 2008, p. 19.)

After defining the dimensions, the authors developed items for each dimension. They drew on Hinkin (1998) and developed an item pool with the double amount of items that would be used in the final scale (Van Dyne et al., 2008). Each item reflected only one idea and they were phrased in a short, simple, direct, and positively worded manner. A pool of 53 items was generated which was assessed by three faculty and three international executives with relevant expertise according to clarity, readability, and definitional fidelity. In the end, the authors kept 10 items for each dimension. The CQS, just like the ICC scale of Arasaratnam, is a 7-Likert type scale with 1=strongly disagree and 7=strongly agree. The CQS can be found in appendix 3. (Van Dyne et al., 2008, p. 19.)

The authors conducted six studies in total, which all addressed different goals (Van Dyne et al., 2008). The *first study* aimed at testing and confirming the model's structure and was conducted amongst 576 Business school undergraduates in Singapore. After evaluating the results with deleting items with high residuals, low factor loadings, small standard deviations, and extreme means, the authors kept 20 items. The four-factor model was confirmed in the study. A *second study* was conducted in order to prove generalizability across samples (Van Dyne et al., 2008). Therefore, a second nonoverlapping sample of 447 students in Singapore completed the scale. This time, the 20 item scale was used. The four-factor structure was re-confirmed.

The *third study* aimed to prove generalizability over time. 204 students from study 2 completed the scale again after a period of four months. As CQ is malleable, the authors also tested whether some of the students' CQ changed over time. The results proved that the students' CQ changed and that the scale structure was stable across time. The *fourth study* was conducted to prove generalizability across countries. This time students from a large Midwestern university in the United States completed the scale. The results of study 4 were compared with study 2. The four-factor structure was re-confirmed. (Van Dyne et al., 2008, pp. 22-26.)

The first four studies were conducted with a self-report. However, Van Dyne et al. (2008) explain that a self-report is not sufficient and that an observer's evaluation is equally important. Therefore they developed an observer report, which can be found in appendix 4. A *fifth study* was then made to demonstrate whether the CQS was valid across methods, thus validity between the self-report and the observer report. The study was conducted amongst managers that participated in an executive MBA program in a university in the U.S. The managers completed the self report scale and an observer scale of one randomly assigned person of their MBA team. The authors also used three items regarding interactional adjustment by Black and Stephens (1989). The results proved that the CQS was consistent between self-report and observer report. The observer report of the CQS can be found in appendix 4. The *sixth study* addressed the discriminant and incremental validity of the CQS. The study was conducted amongst participants of study two and four. They completed another questionnaire addressing cognitive ability, EQ, CJDM, interactional adjustment, and mental well-being. The CQS was

compared to these five aspects. Results proved the discriminant and incremental validity of the CQS compared to the five aspects. (Van Dyne et al., 2008, pp. 26-31.)

Given that CQ was only a theoretical model, the development of the CQS was important to obtain a measurement instrument. Furthermore, the six studies confirmed not only the four-factor structure of CQ, but they also demonstrated its stability across samples, time, countries, and methods, as well as its discriminant and incremental validity (Van Dyne et al., 2008). The authors conclude that these studies and the findings indicate the validity and reliability of the CQS. (Van Dyne et al., 2008, p. 16-36.)

To summarize, CQ is an intelligence model which can be classified into the domain of non-academic and multiple intelligences. CQ is a multidimensional model which consists of the dimensions metacognition, cognition, motivation, and behaviour. It focuses on the individual as a culture-general model. In contrast to the IMICC, it was developed as a theoretical model with a scale being developed at a later point.

The introduction of both models is now completed. This introduction helped to gather data for the comparison and to further clarify the research questions of this study. The next chapter will discuss the research questions and preliminary findings.

5. RESEARCH QUESTIONS

After introducing both models and gathering comparable data, the research questions will be presented. Beforehand, a small recap of the method and preliminary findings will be presented.

5.1 Method and preliminary findings

The purpose of this study is to discover similarities and differences between CQ and the IMICC by means of comparative analysis. Comparative research focuses on searching and discovering similarities amongst phenomena (Mills, van de Bunt, & de Bruijn, 2006; Warwick & Oshersleben, 1973). The comparative analysis also contributes to the theory-building (Collier, 1993). Comparable data for this study, which have to be produced by the researcher through data analysis (Boeije, 2002) were collected through two atheoretical case studies of both models (Lijphart, 1971). Conducting these case studies served two needs: collecting comparable data and introducing the models to the reader. The actual comparison will be organised according to a point-by-point analysis, a method which is often used in comparative research (e.g. Callahan, 2004; de Vreese, Peter, & Semetko, 2001; Lee, Su, & Shen, 2007; Pfau-Effinger, 1998; Russel, 1994; Wang, 2001). Comparable data of CQ and the IMICC are discussed simultaneously to immediately highlight the similarities and differences between the models.

In table 1, the most significant similarities found in the atheoretical description of both models are presented. With regards to the objectives of this study, the research questions will be formulated through these preliminary findings. Due to a limit in time and space only a few points are selected for the comparison. These points are regarded to be most important for this study.

Table 1: Preliminary findings and similarities between CQ and the IMICC

		CQ	IMICC
Conceptual level	Focus on the individual	Yes	Yes
	Malleable over time	Yes	Yes
	Consider the perceiver's perspective	Yes	Yes
	Similar dimensions	Yes	Yes (but only loosely based on these dimensions)
	All dimensions are necessary to be competent/intelligent	Yes	Yes
	Use of an emic/etic paradigm	Yes	Yes
	Culture-general	Yes	Yes
Operational Level	Assessment instrument	Yes	Yes
	Several studies conducted to validate the instruments	Yes	Yes
	Use of a 7-Likert type scale with 1=strongly agree and 7=strongly disagree	Yes	Yes

Just as many other models in ICC, CQ and the IMICC focus on the individual as the unit of analysis. CQ is defined as the capability of an individual to function well in intercultural situations (Ang & Van Dyne, 2008) and the IMICC measures the intercultural competence of an individual (Arasaratnam, 2009).

Both models also imply that CQ and ICC are not a fixed or static aspect of personality, but that they can change over time. Ang and Van Dyne (2008) state that CQ is changeable because it can be enhanced over time. Although this is not stated directly by Arasaratnam and her co-authors, it is implied that they have this point of view by their reference to previous intercultural communication literature (e.g. Spitzberg & Cupach, 1984). Researchers agree that a high competence in knowledge and motivation do not automatic lead to a high competence in skills (Lustig & Koester, 2003; Spitzberg & Cupach, 1984). Therefore, it can be assumed that intercultural competence is malleable as well.

Another similarity is that both models in some way acknowledge the perceiver's perception. Arasaratnam and Doerfel (2003) built a model based on participants' perceived intercultural competent behaviour. CQ on the other hand does not consider the perceiver's perspective in the model building, but in the CQS. The CQS offers a self-report and an observer-report.

The instruments of both models also feature similar and different aspects. Both scales consist of self-reports and they arranged their items according to the dimensions. The number of items differs, but both scales use a 7-Likert type scale to answer the items. Both also use 1=strongly disagree and 7= strongly agree (Ang & Van Dyne, 2008; Arasaratnam, 2009).

Apart from similarities, differences were found as well. For instance, it was assumed that both models are divided into three or four dimensions. Whereas CQ is, the IMICC is only loosely based on three dimensions and is mainly described through five qualities. These qualities

differed in their nature from the dimensions of CQ. The ICC scale of the IMICC, however, is divided into similar dimensions as CQ.

These preliminary findings help to further define the research questions. The research questions also represent the objectives of the study, which have been mentioned in the introduction.

5.2 Research questions

The three objectives of this study help to specify the research questions that will guide the comparative analysis. The first objective of this study is to determine, whether both models feature similar aspects. The second objective is to address the criticism of Ang and Van Dyne (2008) and Van Dyne and Livermore (n.d.) and to investigate whether CQ indeed is a cleaner construct than other ICC models and scales. Due to the importance of assessment instruments, the third objective of this study is to evaluate the instruments of both models regarding their reliability and validity.

As can be seen from table 1, the similarities can be found on the conceptual and the operational level. Therefore, the comparative analysis in this study will be guided by research questions, which examine aspects on both levels. The analysis on the conceptual level seeks to explain the abstract theory, the conceptual definitions, and other concepts of the models (Blalock, 1982; Frey et al., 2000). Some premises of the models such as their culture-general or their etic and emic approach form part of the comparison on the conceptual level. The analysis on the operational level on the other hand deals with the observable and measurable aspects of the models (Frey et al., 2000). This includes the assessment instruments and the operational definitions of both models. The first three research questions analyse subjects which form part of

the conceptual definition of the models. The fourth research question will cover aspects on the operational level.

The first research question examines both models from the perspective of Spitzberg's division of intercultural competence models. This aspect was mentioned by Arasaratnam et al. (2010b) and was therefore included in the comparison. Moreover, several similar aspects of both models, such as the focus on the individual or the use of a set of dimensions, comprise aspects that form part of Spitzberg's division of models. The analysis will show whether both models can be classified as the same system or whether they differ. This question also helps to determine whether both models comply with the notion of Spitzberg and Changnon (2009) that many models in ICC focus on the individual and three dimensions.

RQ1: Do the models belong to same system of Spitzberg's division of intercultural competence models?

The second research question examines both models with regards to the emic and etic paradigm, as this aspect is represented in both CQ and the IMICC. To distinguish between both paradigms is sometimes difficult (Pike, 1967), but it is recommended by many researchers to integrate both approaches in order to conduct a sound research (Berry, 1999; Gudykunst & Mody, 2002; Morris et al., 1999). Therefore, the claims of the authors regarding their approach in the models will be investigated in particular. The research question also seeks to answer which aspects of both models are emic and etic.

RQ2: How are the two paradigms represented in the models and does the analysis find support for the authors' claims?

The third research question analyses whether both models are culture-general. It is stated by the authors of both models that they are applicable across cultures. The analysis will therefore focus on the development of the models and several studies used to develop the assessment instruments to examine whether the models have been tested and verified in several cultures.

RQ3: Are the models culture-general and how do the authors account for their models' culture-general approach?

The fourth research question addresses the importance of assessment in research and the corporate sector (Deardorff, 2009; Pusch, 2004) and the difficulty of developing a conceptually sound and reliable instrument (Blalock, 1982, Trompenaars & Wooliams, 2009). It examines the conceptual fit between the conceptual definitions, the operational definitions, and the instrument items of both models. Therefore, the models' instruments as well as their conceptual and operational definitions will be examined to determine whether the conceptual fit is strong and represents a valid instrument.

RQ4: Are the operational definitions and items in the measurement instruments of both models coherent with their conceptual definitions?

These four research questions will guide the comparative analysis of this study. All research questions address the objectives that have been formulated earlier. All research questions address the objective to examine whether CQ is a cleaner construct than the IMICC. RQ4 aims at investigating both models' instruments regarding their validity and reliability. They also serve the purpose of finding similarities and differences between the models. The next chapter will examine these four research questions.

6. COMPARATIVE ANALYSIS

The goal of this study is to compare the models of CQ and the IMICC. The aspects chosen for the comparison will not be only contrasted, but they will also be critically evaluated.

The first point of analysis addresses RQ1 and will classify both models according to Spitzberg's (1994) division of intercultural competence models. This point was chosen because it was mentioned by Arasaratnam et al. (2010b). It will be investigated whether the models can be classified into the same categories or whether there is a difference.

The second research question will evaluate the emic and etic paradigm in CQ and the IMICC. The authors of both models state that they use either one (IMICC) or both paradigms (CQ). It will be analysed whether both models comply with their authors' claims.

The third point of analysis will investigate RQ3 and will deal with the culture-general approach of both models. This aspect was chosen for comparison due to the initial impression of an inconstancy with the authors' claims and the countries involved in the study.

The last point of the chapter will address RQ4 and deals with the conceptual and operational definitions of the dimensions in relation to the assessment instrument. This was chosen because of the importance of a reliable and valid instrument. These instruments are used to evaluate individuals and they thus need to be coherent with the theoretical definition of the concepts. It

will also be critically analysed whether the instruments and their items measure what the authors intend to measure.

6.1 Comparison according to Spitzberg's classification

The first point of the comparative analysis addresses RQ1 and herewith the question whether CQ and the IMICC can be classified as the same system according to Spitzberg's (1994) division of intercultural competence models. The analysis was added to this research as Arasaratnam et al. (2010b) explain that the five qualities of the IMICC are similar to the components of the individual system described by Spitzberg.

Spitzberg (1994) divides models of intercultural competence into the individual, the episodic, and the relational system. Those three systems explain the character of the communication process, the situation, and the relationship between the actors. Each system incorporates the characteristics of the previous systems.

The *individual system* "(...) includes those characteristics an individual may possess that facilitate competent interaction in a normative sense" (Spitzberg, 1994, p. 350). Spitzberg describes several predictions for the individual system that are always related to the communicator and his competence in knowledge, motivation, and skills. The author implies that an individual competent in these criteria is more likely to be "normatively competent" (p. 353). But even though these behaviours may be regarded as competent in general, they may not be perceived as competent by the coactor or in a specific encounter (Spitzberg, 1994). This is where the episodic system comes into play.

The *episodic system* “(...) includes those features of a particular Actor that facilitate competence impressions on the part of a specific Coactor in a specific episode of interactions” (Spitzberg, 1994, p. 350). Spitzberg explains that “characteristics of an Actor influence the impressions of the Coactor in a specific episode of interaction” (p. 353). The episodic system comprises “those characteristics of an Actor that increase the likelihood that the Coactor views the Actor as competent in a given episode of interaction” (p. 357). The focus lies on an episode of interaction. Furthermore, the characteristics of the actor and their influences on the coactor are taken into account as well. The episodic system accounts for the interplay between two communicating individuals as well as perceived communication competence.

The *relational system* “includes those components that assist a person’s competence across the entire span of relationships rather than in just a given episode of interaction” (Spitzberg, 1994, p. 350). Spitzberg also states that it “(...) refers to the level of communicative quality in an established relationship” (p. 357). Thus, the relational system focuses on the relationship between the communicating individuals and the influence on the relational competence.

Arasaratnam et al. (2010b) already implied that the five qualities of the IMICC can be classified within the individual systems approach of Spitzberg. This notion can be confirmed in this analysis. The IMICC instrument is based upon the idea of cognition, affection, and behaviour (Arasaratnam, 2009). The IMICC does consider neither the relationship (friends, colleagues, etc.) between interacting individuals nor the episode of interaction. The same accounts for CQ, which is organised into four

dimensions. Three are overlapping with Spitzberg's, namely cognition, motivation, and behaviour. The CQ model also does not cover the relationship between individuals, the episode of interaction, or previous interaction. These aspects make both models individual systems models.

Both models only feature one aspect of the episodic system, which is perceived communication competence. Arasaratnam et al. (2010a) state that intercultural competence can be evaluated best from the perceiver's perspective. However, the only instrument of the ICC scale is a self report. Thus, participants are evaluated based upon their opinion of their competence, not on their competence perceived by others. The aspect of perceived competence is only slightly represented through the five qualities, which participants of study 1 stated to be qualities they perceived as competent. Similar to the IMICC, the perceiver's perspective is not explicitly considered in the theoretical description of CQ. However, the CQS has an observer report, so in practice the authors offer the possibility to include the perceiver's perspective into the whole evaluation of the individual. Thus, both models can be classified as an individual systems model with a slight inclination towards an episodic systems model.

To summarize the above analysis, both the IMICC and CQ can be regarded as an individual system according to Spitzberg's definition. Additionally, both feature one aspect typical for the episodic system. The models focus on communication, cognitive processes, and abilities which are allocated along several dimensions. However, the authors do not go further with their conceptualization regarding the relationships between individuals and the episode of interaction(s). Most important, the possibility that a

competent or cultural intelligent individual still might be perceived as the opposite is only taken into account partially in both models.

The next section will analyse the emic and etic paradigm in both models.

6.2 The emic and etic paradigm in both models

The next section addresses RQ2 and covers the analysis of the emic and the etic paradigm in both models. The authors of both models claim that they use either one or a combination of both approaches in the development of their models. The goal is to determine, whether the authors' statements are coherent with the approach in the models.

Arasaratnam et al. (2010a) state that the IMICC is developed from an emic point of view. Earley and Ang (2003) explain that CQ is both emic and etic. Though the emic and etic paradigm are sometimes referred to culture-specific and culture-general models (Bennett, 1998), the culture-general aspect is distinguished from the etic paradigm in this study and will be analysed separately. After a short discussion of the definitions of the emic and etic paradigm, it will be examined whether the approaches in both models comply with their authors' claims.

6.2.1 The emic and etic paradigm in scientific research

The emic and the etic paradigm are important in social sciences research (Morris et al., 1999). The terms emic and etic originate from Pike's (1967) studies about phonetics and phonemics (Gudykunst, 2002). The perceptions of both terms differ sometimes between researchers and disciplines, but the main view stays consistent across disciplines. A dilemma found across disciplines is

that researchers seem to favour one over the other, but often do not see them as an entity (Morris et al., 1999). Table 2 presents an overview of definitions of emic and etic.

Table 2: Overview of definitions of the emic and etic paradigm

Emic approach	Etic approach
Studies behaviour within the system (Morris et al., 1999)	Studies behaviour from outside the system (Morris et al., 1999)
One culture is analysed (Pike, 1967)	More than one culture is analysed (Pike, 1967)
Phenomena are only fully understood by members of the culture (Morris et al., 1999)	Phenomena are described which apply across cultures (Morris et al., 1999)
Culture-specific approach (Bennett, 1998)	Culture-general approach (Bennett, 1998;)
Qualitative research (Gudykunst, 2002)	Quantitative research (Gudykunst, 2002)
Structure discovered by the analyst (Pike, 1967)	Structure is created by the analyst (Pike, 1967)

The *emic paradigm* describes behaviour or a context which is studied within a culture and which can only be fully understood within that specific context (Morris et al., 1999). The authors further state that “emic accounts describe thoughts and actions primarily in terms of the actor’s self-understanding—terms that are often culturally and historically bound” (Morris et al., 1999, p. 782). The emic paradigm is a culture-specific approach where only one culture is studied and analysed (Bennett, 1998; Pike, 1967). The structure also must be discovered by the analyst (Pike, 1967). The emic paradigm also is often affiliated with qualitative research (Gudykunst, 2002).

The *etic paradigm* on the other hand describes behaviour which is studied from outside of the system (Morris et al., 1999). In contrast to the emic paradigm, several cultures are analysed describing phenomena that are

applicable across cultures (Morris et al., 1999; Pike, 1967). Bennett (1998) regards it as a culture-general approach and Gudykunst (2002) links it with quantitative research. Within the etic paradigm the structure is created by the analyst (Pike, 1967).

Despite their different approach, many researchers (Berry, 1999; Morris et al., 1999) argue that the emic and etic paradigm should not be separated. Usually researchers favour either one or the other in their studies (Morris et al., 1999). The choice for either one of them is based in different assumptions that researchers have about culture. However, many argue that both concepts display a continuum rather than two separate concepts and that the understanding of culture, emic, and etic are related to each other. Berry (1999) concludes that emic and etic research should not be regarded as two opposite approaches but rather as “symbiotic”. Gudykunst (2002) further suggests that both approaches are needed for a sound cross-cultural research. He maintains that “the questions researchers pose should drive their methods; the methods researchers use should *not* drive the questions they pose” (Gudykunst, 2002, p. 166). Thus, depending on the research questions researcher shall decide which approach can answer the questions best, the emic or the etic approach.

To conclude, the common notion amongst researchers regarding the emic and etic paradigm is that they should not be separated but rather be applied as an entity. Although different methods are associated with both paradigms, they can complement each other.

6.2.2 The emic and etic approach in the IMICC and CQ

After discussing the meanings of both the etic and the emic paradigm, this study will now turn towards the analysis of the models and whether they are coherent with their authors' claims. CQ was developed within the emic and etic paradigm (Earley & Ang, 2003) whereas the IMICC uses an emic approach (Arasaratnam et al., 2010a).

Arasaratnam et al. (2010a) state that the IMICC is unique to other models because it was initially developed from an emic approach. The authors draw on Bruner (1990) and Geertz (1973) and argue that social phenomena are best understood from a person inside the cultural environment of the phenomenon. They further concur that in non-emic approaches the researcher's own culture influences the way the model is built. They also draw on van de Vijver and Leung (1997) and explain that a model needs an emic approach in order to be applicable across cultures. After developing a model from the emic perspective, an expanded testing across cultures is necessary to prove its relevance across cultures. Arasaratnam et al. (2010a) do not further state whether the etic paradigm plays any role within the development or the structure of the IMICC. The exclusively emic approach of Arasaratnam et al. (2010a) is coherent with the criticism of Berry (1999) and Morris et al. (1999) that both paradigms are often separated. (Arasaratnam et al., 2010, pp. 2- 3.)

Earley and Ang (2003) on the other hand state that CQ is both emic and etic. The authors state that some concepts of CQ, such as self-enhancement, self-efficacy, and self-consistency, are examples of etic constructs (Earley & Ang, 2003). These three concepts can be found in any culture, as all human beings have these functions. Regarding the emic

approach, Earley and Ang (2003) state that “The more proximate is behaviour to cultural values or norms, the more likely it is to be emic (...)” (p. 67). They argue that if CQ is conceptualized on an individual level and to a specific context, some aspects are emic. Hence, every human being has a self-concept (etic), but how this self-concept is defined and what it implies according to their own culture is emic.

This short introduction highlighted that both models use different approaches. Now it will be investigated whether these emic and etic aspects can be found in both models. The claim of Arasaratnam et al. (2010a) that the IMICC was developed within the emic paradigm seems to be valid. In study 1 Arasaratnam and Doerfel (2003) asked students to give their opinion about competence in their own culture. They asked insiders about their perception of a competent person (cf. Morris et al., 1999). The structure of the IMICC was discovered by the researchers, as the model was build according to the answers of the participants of study 1. This is coherent with Pike’s (1967) explanation of an emic model. Furthermore, the first study was qualitative (cf. Gudykunst, 2002). To summarize, the IMICC features three aspects characteristic for the emic paradigm.

However, it was found, that the IMICC also features etic aspects. Because the authors do not mention whether the IMICC is also etic, it is assumed that the authors’ desire was to develop an exclusively emic model. The IMICC, just like CQ, is designed to work across cultures (Arasaratnam et al., 2010a), which is an aspect typical for the etic paradigm. It is stated by Pike (1967) that an etic approach analyses several cultures, whereas an emic approach analyses only one culture. The purpose of the first study of the

IMICC was to find emic aspects of a culture that are relevant in other cultures as well. This would turn these former emic aspects into etic aspects of a culture. In compliance to its developers, it is intended for etic purposes, namely evaluating the intercultural competence of individuals from any culture. Thus, although the authors state that their model is developed from an emic perspective, the IMICC is aimed at etic purposes and features various etic attributes. This finding demonstrates the difficulty to sometimes distinguish between the different paradigms (Pike, 1967). None the less it can be concluded that the IMICC is a model that is both emic and etic. As the authors never state whether the IMICC is also etic, it is difficult to evaluate, if they have been wrong with their intention of an emic concept or if they just do not state directly that it is also etic. However, it leads to the conclusion that the authors' claims of a unique emic model can not be supported. Table 3 illustrates the emic and etic aspects found in the IMICC.

Table 3: Emic and etic aspects of the IMICC

Emic aspects of the IMICC	Etic aspects of the IMICC
Asking members of different cultures about their understanding of ICC (from the inner perspective) (Morris et al., 1999)	Testing the five characteristics in various studies in different locations amongst members of different cultures (cf. Morris et al., 1999)
The IMICC structure (characteristics) were discovered by the researchers (cf. Pike, 1967)	Behaviour that is universally seen as competent (cf. Morris et al., 1999)
Study 1 was qualitative (cf. Gudykunst, 2002)	The model aims to be culture-general (cf. Bennett, 1998)
	Follow-up studies were quantitative (cf. Gudykunst, 2002)

The approach to the emic and etic paradigm is different in the CQ model from that of the IMICC. Earley and Ang (2003) state their assumptions on the emic and etic approach of CQ only in the theoretical description of the model. As explained previously, the authors acknowledge that certain constructs within the model are emic, such as self-enhancement or self-efficacy. Thus, on the conceptual level, the authors integrate the emic paradigm (cf. Bennett, 1998; Pike, 1967). There are also several aspects of the theoretical conceptualisation which comply with the characteristics of an etic approach. CQ is aimed to work across cultures. In contrast to the IMICC, CQ and the CQS were created by the authors (cf. Pike, 1967). The theoretical construct of CQ was created by Earley and Ang (2003). The items for the CQS were developed by Van Dyne et al. (2008) and then assessed by experts. Table 4 presents the emic and etic aspects of CQ.

Table 4: Emic and etic aspects of CQ

Emic aspects of CQ	Etic aspects of CQ
Takes into consideration culture-specific aspects on a theoretical level (cf. Bennett, 1998; Pike, 1967)	Takes into consideration universal aspects on a theoretical level (cf. Bennett, 1998; Pike, 1967)
	The model aims to be applicable across cultures (cf. Morris et al., 1999)
	The authors developed the theoretical framework (cf. Pike, 1967)
	Items for the scale were developed by the researchers and tested by experts (cf. Pike, 1967)

To conclude, CQ features aspects typical for the emic and the etic paradigm. After listing the authors' claims and the etic and emic aspects found in CQ it

becomes apparent that the model seems to be more etic than emic. From the conceptual or theoretical point of view, Earley and Ang (2003) have integrated both paradigms. But in fact, the only emic aspect found in this analysis is in the theoretical description. The emic aspect is neither represented in the development of the CQS nor in the scale itself. Several etic aspects are represented throughout all stages within the model. Thus, although the authors claim it to be both emic and etic, this analysis showed that it seems to be more etic than emic.

The above presentation of both models illustrates the difficulty of placing and developing a model within the emic and etic paradigm (Pike, 1967). The IMICC was aimed to be designed exclusively within the emic paradigm. CQ was designed within the emic and etic paradigm, but as the analysis showed, the emic aspect has only been found in the theoretical description. This gives the impression that the emic approach was integrated merely to fulfil the goal of treating both paradigms as an entity. To conclude, a mixture between the approaches of both models (emic approach to some of the characteristics; etic approach to some of the characteristics) may result in a model that is more complete and closer to telling the truth about an individual. Nevertheless, in direct comparison both models integrated the emic and the etic paradigm which is an interesting aspects regarding the criticism displayed by some researchers that one paradigm is favoured over the other. Both models comply with the recommendations to integrate both paradigms. This analysis also showed that both CQ and the IMICC feature questionable aspects, which is an interesting finding concerning the criticism of some CQ scholars towards other ICC models and scales.

The next section will analyse the culture-general approach in CQ and the IMICC.

6.3 The culture-general approach in both models

Some researchers state that the emic and etic approach reflect culture-specific and culture-general approaches (Bennett, 1998). The culture-general approach will be distinguished from the etic paradigm in this analysis. Culture-general means that a model is applicable across cultures. Its content describes behaviour or processes that are universal and not specific to one culture. This aspect has been chosen for comparison because the authors of both models state that they are designed for culture-general purposes. In this section, it will be investigated if the models are applicable across cultures and if they have been developed within a culture-general context.

Both models are designed as culture-general models (Ang & Van Dyne, 2008; Arasaratnam, 2004) and their culture-general approach was verified through several studies. The first three studies of the IMICC were conducted amongst local and international students in universities in the USA. The fourth and the fifth study were done in an Australian university. Study four explicitly tested the IMICC's applicability in a different cultural setting. A similar approach can be observed for the CQ model. Van Dyne et al. (2008) conducted six studies to develop and validate the CQS. The first three studies as well as study six were conducted amongst undergraduate business students of Singapore University. The fourth study was conducted in a university in the USA and tested the construct validity across countries. The participants of study five were U.S. American managers attending a MBA program at a university

This first analysis shows that both models were tested in a two location context. The IMICC was tested in the USA and Australia, whereas CQ was tested in Singapore and the USA. Although both models were indeed tested in a different cultural setting, it is difficult to name them culture-general by only testing them in two countries. Furthermore, both models were tested in at least one “Western” country. Arasaratnam (2004) argues that a lot of models developed within a European-American context are often generalized to all cultures. Her statement implies that she is aware of this Western bias. For that reason, the model was tested in another location, and local and international students were included in all studies. But although Australia does not count to Euro-America, one still has to consider its status as an ethnically and politically more “Western” country. The Australian culture may represent a more unusual area for ICC studies but a Russian, Chinese, or Nigerian University may fulfil that desire for unbiased studies even more. The same accounts, though to a lesser extent, to CQ. The model was first tested in Singapore, later in the USA. Singapore does not represent a Euro-American bias; however, the USA does. And although it is not necessarily a bad thing to test a model in a Western country, it challenges the validity and the culture-general approach of a model if the model is only tested in one other country.

A deeper look into the studies itself will help to determine whether the two location problem was balanced by including international students. The IMICC studies used local and international students. Unfortunately there were no data for the CQ studies. The analysis therefore focuses on the IMICC. Table 5 illustrates the distribution of local and international students of study 1, 2,

and 4 of the IMICC. The other studies have been left out as there was no specific data given about the division of local and international students.

Table 5: Division of local and international students in the IMICC studies

	Local students	International students	Countries
Study 1 (2005)	12 (USA)	25	15
Study 2 (2004)	386 (USA)	78	34
Study 4 (2010)	246 (Australia)	154	35

What can be observed from table 5 is that local students outnumbered international students by far. In study 1, the most important study of the IMICC as the initial model was built upon these results, 12 out of 37 participants were from the U.S. The remaining 25 participants are allocated amongst 15 countries, of which a maximum of four represent Malaysia and India. Other nationalities are represented by even fewer participants. Another critique is that although international students have been involved, one must not forget that they were living abroad at that point of the study and might not be the “perfect” ambassador of their culture due to acculturation and adaptation. Although they have not forgotten their own cultural values, a foreign experience influences the personal development. Moreover, many cultures of participants in study 1 are represented by only one person. Asking one member of a culture does not give an accurate answer about his or her culture’s shared meaning of ICC. The same accounts for studies 2 and 4. In study 4, 21 Chinese and 20 Indian students represented the maximum number amongst international students, but they were opposed to 246 Australian students.

To conclude, although international students have participated in the studies, they were outnumbered by local students. Moreover, the significant first study did not incorporate sufficient multicultural views of competence, resulting in a domination of the U.S. American perception, leading to an overrepresentation of the U.S. American view of intercultural competence. The other studies aiming at further testing the structure of the model resulted in testing the model in a rather limited cultural context.

As stated previously, there are no specific data about the participants of the CQ studies. However, it was found that all studies were conducted either in Singapore or the USA. Although the population of Singapore and the U.S. is heterogeneous, the lack of information does not leave any other choice but to omit this knowledge and to assume that only two nationalities were involved. The CQS, like the IMICC, was tested in a limited cultural context. Nevertheless, the authors (Van Dyne et al., 2008) argue that the structure of the CQS is stable across countries.

To conclude, both the IMICC and the CQS were developed and validated in a two location context. Both models were tested within a limited international context using mostly participants from two countries. The IMICC incorporates views of international students and seems to be slightly more culture-general than CQ. On the other hand, the CQ studies were conducted in one country that does not fulfil the Western bias. Due to the authors' claim that the models are applicable across cultures, another two models have been developed that are generalized or imposed on other cultures.

The final part of the comparative analysis will examine and contrast the assessment instruments of the models.

6.4 Conceptual and Operational Definitions

In this section, it will be investigated whether the operational definitions and items of the scales of both models are coherent with their conceptual definitions. The IMICC was developed through an empirical study which serves as the theoretical background of the model (Arasaratnam et al., 2010b). Therefore, hardly any conceptual definitions are presented. In contrary to the IMICC, the conceptual definitions of CQ are available. This analysis will not compare the definitions itself but will focus on the concepts and items used in both models. Furthermore, it will be investigated whether the instruments measure what the authors claim them to measure.

The CQS (Ang et al., 2008) and the ICC scale of Arasaratnam (2009) will be used for this comparison. Both scales have three dimensions in common: cognition, affection or motivation, and behaviour or skills. The ICC scale does not feature any metacognitive items. There are also other differences between the two scales. The CQS has 20 items in total, the final ICC scale only 10. Due to an inconsistent number of items in the ICC scale in subsequent studies (e.g. Arasaratnam et al., 2010b; Arasaratnam & Banerjee, 2011) the original scale with 15 item will be used. Some of the eliminated items also resembled items of the CQS, so it was decided to use the original 15 item scale. The first part of this analysis will focus only on metacognitive CQ. Afterwards, the dimensions and items of both models will be presented and compared.

6.4.1 Metacognitive CQ

On the conceptual level, Earley and Ang (2003) state that metacognition allows an individual to execute certain strategies which are necessary to acquire

knowledge or to handle an intercultural situation. Van Dyne et al. (2008) argue that metacognitive CQ is displayed by “(...) awareness, planning, regulating, monitoring, and controlling the cognitive processes of thinking and learning” (p. 19). On the operational level, Ang and Van Dyne (2008) define an individual with a high metacognitive CQ to be “(...) consciously aware of the cultural preferences and norms of different societies prior to and during interactions”. At the same time these individuals “(...) also question cultural assumptions and adjust their mental models (...)” (p. 5). In table 6, the conceptual definition, the operational definition, and the items of the CQS are presented.

Table 6: Definitions of metacognitive CQ and items in the CQS

Conceptual definition	Operational definition	Items in the scale
<ul style="list-style-type: none"> • Observing, identifying, creating and modifying cognitive and metacognitive strategies for dealing with a new culture (Earley & Ang, 2003) • An individual’s level of conscious cultural awareness during cross-cultural interactions (Ang & Van Dyne, 2008) 	<ul style="list-style-type: none"> • Being aware of the cultural preferences and norms of other cultures, questioning cultural assumptions and adjusting mental models (Ang & Van Dyne, 2008) • Awareness, planning, regulating, monitoring and controlling cognitive processes of thinking and learning (Van Dyne et al., 2008) 	<p>MC1: I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds</p> <p>MC2: I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me</p> <p>MC3: I am conscious of cultural knowledge I apply to cross-cultural interactions</p> <p>MC4: I check the accuracy of my cultural knowledge as I interact with people from different cultures</p>

Strategies about how to think and learn in an intercultural situation are characteristic for metacognitive CQ. The operational definition is coherent with the conceptual definition. The items, however, are restricted to adjusting and being conscious of cultural knowledge. Also, MC1 and MC3, and MC2 and MC4 are repetitive, only marked by a slightly different phrasing. MC1 deals with the consciousness of using cultural knowledge with people from different cultural backgrounds, and MC3 deals with the conscious appliance of cultural knowledge to cross-cultural interactions. An interaction between people from different cultural backgrounds can also be defined as a cross-cultural interaction, just as in MC3. The verbs “apply” and “use” have the same meaning in this context, both indicating the utilisation of cultural knowledge. Hence, both items focus on the same aspect, namely dealing with the awareness of cultural aspects during cross-cultural situations. The same applies to MC2 and MC4. Adjusting (MC2) and checking for accuracy (MC4) implies a conscious awareness of the individual to change or adapt the cultural knowledge when interacting.

Strategies and planning are considered to be important (Earley & Ang, 2003) for metacognitive CQ, but they are not reflected in the items. The only two strategies represented in the items are adjusting and being conscious about cultural knowledge. On the conceptual level, the authors also divided metacognition into metacognitive knowledge and experiences (Earley & Ang, 2003). None of these aspects can be found in the items of metacognitive CQ. Possible other items could have been items such as “I am aware that knowing the languages of other countries can be helpful for a successful cross-cultural interaction” in order to reflect a different viewpoint of metacognitive strategies.

Ang and Van Dyne (2008) drew on O'Neil and Abedi (1996), who differentiate between four metacognitive items which are planning, self-checking, cognitive strategy and awareness. Examples given by the authors for those four items are:

Planning: I tried to understand the task before I attempted to solve it.

Self-checking: I checked my work while I was doing it.

Cognitive strategy: I used multiple-thinking techniques or strategies to solve the task.

Awareness: I was aware of my ongoing thinking process.

(O'Neil & Abedi, 1996, p. 235.)

According to those examples in comparison with items of metacognitive CQ, Van Dyne et al. (2008) only incorporated two topics, self-checking and awareness. Planning and cognitive strategy were not used. The incomplete use of items is contradictory to the definition of metacognitive CQ by Earley and Ang (2003). The authors stated that metacognitive CQ is observing, identifying, and creating cognitive and metacognitive strategies for dealing with a new culture. However, this conceptualisation had been left out in the operationalisation of metacognitive CQ. It is not clear why planning and cognitive strategy have been left out, as both of them are equally important. It is possible though, that these topics were eliminated from the original item pool. However, it impairs the validity of the scale if not the whole concept is reflected in the items but only those which performed well in the first study.

6.4.2 Cognitive CQ and cognitive ICC

According to Earley and Ang (2003) declarative, procedural, and conditional knowledge are important components of cognitive CQ. Declarative knowledge describes the knowledge about oneself, others, and objects. Procedural knowledge describes the knowledge of how to execute actions. Conditional knowledge describes the usefulness of strategies in different contexts. Other important concepts are reasoning, decision-making, and the self-concept of an individual (Earley & Ang, 2003). On the operational level, cognitive CQ is defined as the knowledge of cultural universals and cultural differences (Ang & Van Dyne, 2008). Van Dyne et al. (2008) define cognitive CQ as the knowledge about norms, practices, and conventions of other cultures. In table 7, the conceptual and operational definitions of cognitive CQ and the items of the CQS are presented.

Table 7: Definition of cognitive CQ and items in the CQS

Conceptual definition	Operational definition	Items in the scale
<ul style="list-style-type: none"> • Declarative, procedural and conditional knowledge, tacit cultural knowledge (Earley & Ang, 2003) • Reasoning, decision-making, self-concept (Earley & Ang, 2003) 	<ul style="list-style-type: none"> • Indicates the knowledge of oneself, cultural universals and culture differences (Ang & Van Dyne, 2008) • Knowledge of norms, practices and conventions in different cultural settings (Van Dyne et al., 2008) 	<p>COG1: I know the legal and economic systems of other cultures</p> <p>COG2: I know the rules (e.g., vocabulary, grammar) of other languages</p> <p>COG3: I know the cultural values and religious beliefs of other cultures</p> <p>COG4: I know the marriage systems of other cultures</p> <p>COG5: I know the arts and crafts of other cultures</p> <p>COG6: I know the rules for expressing nonverbal behaviours in other cultures</p>

Declarative knowledge has been well transferred into the CQS as the items of cognitive CQ deal with the knowledge about other languages and aspects of cultures. The items also deal with cultural universals, an aspect declared important by Ang and Van Dyne (2008). However, procedural knowledge has not been transferred at all. Though procedural knowledge is also important for behavioural CQ, it was clearly described as an aspect of cognition (Earley & Ang, 2003). But none of the items of cognitive CQ is dealing with this type of knowledge. Thus, the transfer from the conceptual definitions to the items of cognitive CQ is incomplete.

Furthermore, the phrasing of the items is not clear at times. All items refer to universal aspects of culture, but at the same time they seem to refer to all existing cultures. For example, COG1 implies that one knows the legal and economic systems of other cultures. It is not clear whether the item refers to all cultures that exist or to the countries familiar to the individual completing the scale. This also makes the evaluation difficult. Does a 7 imply that the individual knows every economic system in the world, even though this probably is impossible? What does a 7 mean with reference to COG2 and the knowledge about other languages and their grammar system? What is argued in this study is that a different phrasing may improve the understanding of the items. For instance “I am aware that other cultures have legal and economical system which might differ from my own country” or “I know that other languages have a different syntax, grammar, etc.”. This illustrates the difficulty of answering this question and also allows for the possibility for a wrong evaluation of an individual’s cognitive CQ.

To conclude, the knowledge about other cultures has been translated well from the conceptual definition to the items of the CQS. The other types of knowledge, as well as self-concept or reasoning are not represented in the items. Hence, the conversion from the conceptual to the operational definition as well as to the items is incomplete. Furthermore, it was discovered that the phrasing of the items makes it difficult to accurately answer them.

Cognitive ICC

The items as well as the conceptual constructs used for cognitive ICC differ from cognitive CQ. The main construct used is the cognitive complexity

theory, which deals with the ability of an individual to use differentiated personal constructs to describe and interpret behaviour in an intercultural context (Arasaratnam, 2009). This construct was also considered an important aspect by Spitzberg and Cupach (1994). Table 8 presents the underlying theories, the operational definition, and the five items of the ICC scale. The black items have been eliminated from the original scale.

Table 8: Original cognitive items in the ICC scale

Conceptual background	Operational definition	Items in the scale
<ul style="list-style-type: none"> • Cognitive complexity theory (Adams-Webber 2001; Gudykunst & Kim, 2003; Spitzberg & Cupach, 1984) 	<ul style="list-style-type: none"> • Employing differentiated constructs in an intercultural setting (Arasaratnam, 2009) • Ability to relate to the other and construct messages to meet other's needs (Chen, 1996) 	<p>1. I often find it difficult to differentiate between similar cultures (Ex: Asians, Europeans, Africans, etc.)</p> <p>2. I feel a sense of belonging to a group of people based on relationship (family, friends) instead of cultural identity (people from my culture, people from other cultures). (eliminated)</p> <p>3. I find it easier to categorize people based on their cultural identity than their personality.</p> <p>4. I often notice similarities in personality between people who belong to completely different cultures.</p> <p>5. If I were to put people in groups, I will group them by their culture than their personality. (eliminated)</p>

The main focus lies on three personal constructs: culture, personality, and relationship. Item 2 and item 5 were eliminated after a factor analysis, leaving the cognitive part of the scale with three remaining items (Arasaratnam, 2009). Item 3 and item 5 are slightly similar, because they describe the same action of grouping or categorizing people according to their culture or personality. This similarity may have been the reason for a poor factor analysis and hence, the elimination of item 5.

To conclude, the cognitive items of the ICC scale seem to be coherent with the conceptual definition of the cognitive complexity theory. Adams-Webber (2001) studied this theory amongst Canadian couples and their personal constructs. He tried to discover the personal constructs of the couples by asking them to describe other people. Arasaratnam (2009) reflects the cognitive complexity theory to an intercultural context and also uses a different approach. The objective is not only to detect the personal constructs of the individuals but to detect their ability to be aware of those constructs.

But even though the concept is represented well in the items, the cognition dimension of the ICC scale is limited to only one concept. Other aspects such as culture-general and culture-specific knowledge, knowledge about language, or expected and appropriate behaviour are aspects which are often considered important by many researchers (e.g. Lustig & Koester, 2003; Neuliep, 2009; Spitzberg & Cupach, 1984), but have not been taken into account. Though the scale is coherent with the chosen conceptual background, it is too limited regarding the broad context of cognition.

In direct comparison with cognitive CQ, the items of cognitive ICC differ significantly from those of the CQS. The conceptual definitions and

employed concepts also differ from each other. There is no congruence between these two scales in the cognitive dimension. Similarity can not be confirmed for this aspect; however, it highlights the different conceptualisation of cognition in these two models. A look into other communication literature showed that cultural knowledge is an important aspect in intercultural competence as well (Lustig & Koester, 2003). Hence, the difference found in this study is merely a result of different interpretations of the authors, rather than a difference between disciplines.

6.4.3 Motivational CQ and affective ICC

Important aspects of motivational CQ are an individual's values, their efficacy expectations, and goals (Earley & Ang, 2003). On the operational level, Ang and Van Dyne (2008) define motivational CQ as “(...) the capability to direct attention and energy toward learning about and functioning in situations characterized by cultural differences”. The conceptual and operational definitions as well as the items of motivational CQ are presented in table 9.

Table 9: Definition of motivational CQ and items in the CQS

Conceptual definition	Operational definition	Items in the scale
<ul style="list-style-type: none"> • A person's values, efficacy expectation and goal setting (Earley & Ang, 2003) • Intrinsic interest and self-efficacy (Ang & Van Dyne, 2008) • Bandura, 2002; Deci & Ryan, 1985 	<ul style="list-style-type: none"> • Direct attention towards learning about and functioning in situations characterized by cultural differences (Ang & Van Dyne, 2008) 	<p>MOT1: I enjoy interacting with people from different cultures</p> <p>MOT2: I am confident that I can socialize with locals in a culture that is unfamiliar to me</p> <p>MOT3: I am sure that I can deal with the stresses of adjusting to a culture that is new to me</p> <p>MOT4: I enjoy living in cultures that are unfamiliar to me</p> <p>MOT5: I am confident that I can get accustomed to the shopping conditions in a different culture</p>

The conceptual definition is based on Deci and Ryan's (1985) definition of intrinsic motivation (Ang & Van Dyne, 2008). An individual that engages in an activity without the prospect of any rewards or control is intrinsically motivated (Deci & Ryan, 1985). Furthermore, "they experience interest and enjoyment, they feel competent and self-determining, they perceive the locus of causality for their behaviour to be internal, and in some instances feel flow" (Deci & Ryan, 1985, p. 34). Self-efficacy, which is "a judgement of one's capability to accomplish a certain level of performance" (Bandura 1986 cited in Earley & Ang, 2003) also is important to motivational CQ. The items of motivational CQ all address the intrinsic motivation of an individual. The operational definition of directing attention towards learning and functioning in

intercultural situations is well presented in the items. The items also display the judgement of one's capability to accomplish things.

There is only one item that does not seem to fit into the scale, which is MOT5. This item deals with the confidence of an individual to get accustomed to the shopping conditions of another country. All the other items of motivational CQ address more general aspects such as socializing with people from a different country or enjoying to live in cultures that are unfamiliar. MOT5 seems to be rather specific and out of place compared to the other ones. The choice of the authors of having very broad items addressing intercultural situations and one specific one is not quite clear. Furthermore, it is not comprehensible why shopping conditions are put over other more important aspects of adaptation such as learning and speaking another language, or working, studying, or doing business in a different culture. Apart from MOT5, motivational CQ seems to be coherent.

Affective ICC

The differences observed between cognitive CQ and cognitive ICC can also be observed between motivational CQ and affective ICC. The concepts applied in affective ICC differ from those used in motivational CQ. The affective items of the ICC scale focus on an individual's ability to emotionally relate to people from different cultures (Arasaratnam, 2009). The author refers to a study on affective empathy and communication competence by Redmond in 1985, where results suggested that there is a behavioural representation between empathy and communication competence. Arasaratnam and Doerfel (2003) found that the ability to emotionally relate to others is related to ICC. In table

10, the operational definitions and the affective items of the scale are presented. The item in black has been removed from the original scale.

Table 10: Original affective items in the ICC scale

Operational definition	Items in the scale
<ul style="list-style-type: none"> • Ability to emotionally connect with individuals from other countries (Arasaratnam, 2009) • Relation between ICC and the ability to emotionally relate to others (Arasaratnam & Doerfel, 2005) • Behavioural enactment between affective empathy and communication competence (Redmond, 1985) 	<p>6. I feel that people from other cultures have many valuable things to teach me.</p> <p>7. I feel more comfortable with people from my own culture than with people from other cultures.</p> <p>8. I feel closer to people with whom I have a good relationship, regardless of whether they belong to my culture or not. (eliminated)</p> <p>9. I usually feel closer to people who are from my own culture because I can relate to them better.</p> <p>10. I feel more comfortable with people who are open to people from other cultures than people who are not.</p>

Most of the affective dimension items focus on feeling close or feeling comfortable with other individuals. Item 1 is the only one which is different from the other items, as it refers to what individuals can learn from people of other cultures. Item 2 and item 4 are very similar as they both comprise the idea of feeling more comfortable or closer to individuals of the same culture. The only item, which deals with the idea of feeling closer to an individual due to the relationship, was eliminated from the original scale. Apart from item 1, all items illustrate a rather ethnocentric view of feeling close to people from

one's own culture. This particular phrasing might have been chosen by the author to trigger different reactions in the person completing the scale. A different phrasing, such as "I feel comfortable with people of other cultures" may provoke the participants to answer according to a social desirable bias, as a seemingly desirable answer of feeling comfortable with people from other cultures is already presented to them.

Like cognitive ICC, the affective items cover the underlying definitions but the focus is too narrow. They only focus on interpersonal relationships and affection. Arasaratnam also clearly distinguishes between motivation and affection as she developed a motivation scale (Arasaratnam, 2006). Due to this difference, a comparison between motivational CQ and affective ICC is not meaningful. Moreover, the complete motivational scale is not presented in any of the studies and is therefore not used as a comparison.

6.4.4 Behavioural CQ and behavioural ICC

Associative and dissociative behaviours with relation to self-presentation, overt behaviour, self-presentation, and self-enhancement are important aspects of behavioural CQ (Earley & Ang, 2003). On the operational level behavioural CQ consists of appropriate nonverbal and verbal behaviour (Van Dyne et al., 2008). They further say that "Behavioral CQ is based on having and using a broad range of behaviors" (Van Dyne et al., 2008, p. 17). Table 11 represents the items, the conceptual and the operational definitions of behavioural CQ.

Table 11: Definition of behavioural CQ and items in the CQS

Conceptual definition	Operational definition	Items in the scale
<ul style="list-style-type: none"> Self-presentation, associative and dissociative behaviours, self-enhancement 	<ul style="list-style-type: none"> Capability to exhibit appropriate verbal and nonverbal behaviour and adjust it during interactions (Ang & Van Dyne, 2008) 	<p>BEH1: I change my verbal behaviour (e.g., accent, tone) when a cross-cultural interaction requires it</p> <p>BEH2: I use pause and silence differently to suit to suit different cross-cultural situations</p> <p>BEH3: I vary the rate of my speaking when a cross-cultural situation requires it</p> <p>BEH4: I change my nonverbal behaviour when a cross-cultural situation requires it</p> <p>BEH5: I alter my facial expressions when a cross-cultural interaction requires it</p>

With reference to the conceptual definitions, the items seem to be coherent. Self presentation and self-enhancement imply that humans are aiming for displaying appropriate behaviour and are therefore conscious about what they do (Earley & Ang, 2003). All the items deal with the willingness and the conscious act of the individual to display appropriate behaviour. To a certain extent, associative behaviours are represented in the items as well. All the items express behaviours which benefit others and oneself, in this case the adjustment of behaviour to the other individual. The items of behavioural CQ

cover two topics: verbal behaviour and nonverbal behaviour, which is coherent with Ang and Van Dyne's (2008) operational definition.

However, the choice of the items itself is somewhat inconsistent and by times limited. The first three items all deal with verbal behaviour. However, the authors choose to have one item (BEH1) which describes verbal behaviour in general, and two other items that describe a specific verbal behaviour (pause, silence, and rate of speaking). The same accounts for BEH4 which covers nonverbal behaviour in general and BEH5, which deals with a specific aspect (facial expression) of nonverbal behaviour. The choice of presenting a general item and a specific one is not clear.

Considering the literature Van et al. (2008) refer to (Gudykunst & Ting-Toomey, 1988; Hall, 1959), the behavioural CQ items are too limited. Within verbal communication, there are four communication styles (Gudykunst & Ting-Toomey, 1988). These styles are direct versus indirect, elaborate versus succinct, personal versus contextual and instrumental versus affective. These styles describe the different orientations that have been identified to be important in various cultures in verbal communication. Communication styles have been completely left out from behavioural CQ, although they are as important as the other aspects of verbal behaviour. The same accounts for nonverbal behaviour. Only one aspect (facial expression) is presented, although there are many more (Gudykunst & Ting-Toomey, 1988). Other aspects of non-verbal communication are for example proxemics, haptics, and chronemics. The distance or space kept towards other individuals or our touching behaviour may cause the same troubles as a difference in facial expressions.

To conclude, Van Dyne et al. (2008) have acknowledged various aspects mentioned by Gudykunst and Ting-Toomey but left out important aspects at the same time. The translation from the conceptual definition of behavioural CQ into an operational definition, and then into the items has been a limited success. The choice for preferring certain items over others is not stated by the authors. As with the metacognitive items of CQ, it is possible that some items were eliminated after the testing of the scale. But as the original items are not presented, it is only an assumption that other aspects of non-verbal communication behaviour were presented in the original scale.

Behavioural ICC

As in the previous two dimensions, the behavioural items of the ICC scale differ significantly to those of behavioural CQ. They describe an individual's ability to engage in intercultural and interpersonal competent behaviours (Arasaratnam, 2009). The desire to seek contact with people from other cultures (Arasaratnam, 2009) and intercultural friendships (Arasaratnam, 2005) are part of intercultural behavioural competence. Arasaratnam (2009) also refers to Rubin and Martin (1994) and included the ability to adjust and change communication behaviours in the ICC scale. Table 12 presents the operational definitions as well as the behavioural items of the ICC scale. The black items have been eliminated from the original scale.

Table 12: Original behavioural items in the ICC scale

Conceptual background	Operational definition	Items in the scale
<ul style="list-style-type: none"> Adjusting and changing behaviour (Rubin & Martin, 1994) 	<ul style="list-style-type: none"> Ability to engage in intercultural and interpersonal competent behaviours (Arasaratnam, 2009) Intentionally seeking contact to people from other cultures (Arasaratnam & Doerfel, 2005) Engaging in friendships with people from other cultures (Arasaratnam, 2005) 	<p>11. Most of my close friends are from other cultures.</p> <p>12. I usually change the way I communicate depending on whom I am communicating with. (eliminated)</p> <p>13. When I interact with someone from a different culture I usually try to adapt some of his/her ways. (eliminated)</p> <p>14. Most of my friends are from my own culture.</p> <p>15. I usually look for opportunities to interact with people from other cultures.</p>

The original behavioural items display all three operational definitions and conceptual backgrounds. But as items 12 and 13, the only items dealing with actual behaviour, have been eliminated from the final scale, it is limited to only interpersonal relationships. However, this is only partially coherent with the conceptual definitions of Arasaratnam (2009). The remaining items do not display any skills or behaviour. Having friends in general indicates that a person is able to engage in competent behaviour, but the state of having friends is not behaviour or a skill.

Furthermore, some of the items take the form of motivational items. With reference to the motivation scale used by Arasaratnam et al.

(2010a) the item 10 is similar to the following item: “I enjoy initiating conversations with someone from a different culture” (p. 7). The phrase “looking for opportunities...” is very similar in its meaning to “I enjoy initiating...”. Due to the elimination of the only items dealing with adjusting and changing behaviour, the behavioural ICC scales consists of items that are more motivational than behavioural. The validity and reliability of the behavioural scale seems to be questionable. Though Arasaratnam (2009) states that there is future research necessary to test the original 15 item scale she also implies that the instrument seems to be conceptually sound. In direct comparison to behavioural CQ, there are similarities and differences. The aspect of adapting or changing behaviour can be found in both conceptual definitions. However, the only items encompassing behaviour were eliminated from the ICC scale, so that in the end the scales are very different from each other.

6.4.5 Summary

To summarize the last point of analysis, the comparison of the scales, the items, and the conceptual and operational definitions provided an interesting insight into the validity of the models’ instruments. The comparison showed that the conceptual and operational definitions in all dimensions differed from those of the other model. This became apparent in all three dimensions. For instance, the concepts important of cognitive CQ were different from those in cognitive ICC. Furthermore, not all dimensions could be compared. Metacognition is only a part of the CQS, but not of the ICC scale. It also emerged that Arasaratnam (2009) distinguishes between motivation and affection, which often is interchangeably used in ICC literature. For that

reason, the affective items encompassed different theoretical concepts than motivational CQ.

With regards to the conceptual fit, the items of metacognitive CQ, cognitive CQ, and behavioural CQ do not represent all the concepts that were considered to be important on the conceptual level. Some concepts are not presented in the items, the phrasing sometimes makes it difficult to answer the question, and some items were repetitive. The conceptual definitions of motivational CQ on the other hand were translated well into the items and the scale seems to be valid in that part. The same accounts for the ICC scale. Although the ICC scale was more consistent with the conceptual and operational definitions and the items found in the scale, it often was too limited. The focus of the three dimensions is too narrow. For instance, cognitive ICC focuses only on one topic. This topic has been recognized as part of cognition by other researchers, but as one part amongst many others. As the only topic it does serve to adequately evaluate the cognitive competence of an individual. To summarize, both scales only partially fulfilled the conversion from the conceptual level to the operational level. Both represent their items well; however, important concepts had been left out or the focus of the dimension was too narrow. Thus, although the authors state that their scales are valid, they feature aspects which need to be improved.

The analysis in chapter 6 provided very interesting results regarding many aspects of both models. Significant similarities were found but the analysis also pointed out the differences. The results of the comparison will be discussed in the following chapter.

7. DISCUSSION

The goal of this study was to compare CQ and the IMICC. The analysis was guided by three objectives which further supported the necessity of this study. The first objective was to examine whether the two models featured any similarities and whether these similarities were significant, even though the models were developed in different research disciplines. The second objective was to determine whether the criticism of some CQ scholars towards ICC models and scales (e.g. Ang & Van Dyne, 2008; Van Dyne & Livermore, n.d.) was justified and whether CQ indeed would prove to be a cleaner construct than the IMICC. Simultaneously, the necessity for interdisciplinary research was addressed. The third objective was to address the importance of assessment instruments in today's world and to examine the instruments of both models with regards to their reliability and validity.

The comparative analysis delivered very interesting results. The initial impression of similarity can be confirmed for many aspects of both models, and the results promise to give interesting directions for future research. The aspects of comparison and the results of the analysis are presented in table 13, which will be discussed in detail in the next sections.

Table 13: Summary of compared aspects of CQ and the IMICC

Aspects of comparison	CQ	IMICC
Spitzberg's definition	Individual system	Individual system
Emic and etic approach	Emic and etic as stated by the authors; however, the emic approach can only be found in the theoretical description	Emic and etic, not coherent with the authors' claims
Culture-general approach	Too limited testing in other cultures	Too limited testing in other cultures
Conceptual and operational definitions	Many items are not coherent with the conceptual definition	Many items are not coherent with the conceptual definition, and the focus is often too narrow

7.1 Spitzberg's classification

The first point of the analysis examined whether both models could be classified into the same system according to the approach of Spitzberg (1994), who divided intercultural competence models into the individual, episodic, and relational system. The analysis showed that both models are an individual system as both models focus on the individual and are divided into several dimensions. They featured only one aspect typical for the episodic system. Both consider perceived competence or intelligence; however, only to a small extent. This is a major similarity discovered in this study. Both models represent the very common approach of focussing on the individual and placing certain abilities along a set of dimensions (Spitzberg & Changnon, 2009).

But despite the models being part of a very common approach, the analysis also shows how limited the scope of both models is. There have been

many attempts to develop and establish models that take other aspects into consideration; however, they are not the majority (Spitzberg & Changnon, 2009). Many argue that other aspects such as the relation between the interactants, episodic, and situational aspects need to be integrated (Blommaert, 1991 cited in Koole & ten Thije, 2001; Spitzberg, 1994). This is echoed by other scholars in research areas such as intercultural discourse or language education (e.g. Byram, 1997; Fantini, 2000; Koole & ten Thije, 2001).

7.2 Emic and etic approach

The analysis of the emic and etic paradigm within both models presented interesting results. The goal was to determine whether the authors' statements regarding the emic and etic approach were coherent with the actual implementation within the model. On the one hand the authors' claims could not be entirely supported. The IMICC features both emic and etic aspects, although it was developed from an emic point of view, with no further reference to an etic approach. CQ proved to be both emic and etic, just as claimed by the authors. However, analysis of both models showed that the emic aspects are scarce in contrast to aspects characteristic of the etic paradigm. The emic aspect in CQ can only be found in the theoretical description, whereas it is slightly better represented in the IMICC. These results are consistent with Pike's (1967) finding, that it is difficult to develop a model within both paradigms.

The analysis discovered another similarity between the models, because they both feature emic and etic aspects. Even though the authors' statements could not be supported entirely, they incorporated the emic and etic paradigm, which is necessary to build a coherent model (Berry, 1999; Pike,

1967). Nevertheless, it is necessary to reassess the emic paradigm in both models, as it was only slightly represented in both models.

7.3 The culture-general approach

The third point of analysis evaluated whether both models were culture-general and whether the claims of the authors regarding the models' culture-general nature were true. The analysis, however, can not entirely support the culture-general approach of both models. CQ and the IMICC were developed and tested in a very limited context, but the authors claim that they proved to be applicable across cultures (Ang & Van Dyne, 2008; Arasaratnam et al., 2010a). Furthermore, both models and instruments were developed with a Western bias. They were tested in only two countries. The IMICC was tested in the USA and Australia, and CQ in Singapore and the USA. These findings confirm the notion of some scholars that social phenomena are still mainly studied from a Western perspective (Deardorff, 2006; Martin, 1993; Triandis, 1984; Trompenaars & Woolliams, 2009; Van de Vijver & Leung, 2009). Interestingly, apart from the similarity of using a culture-general approach, both models feature the similarity of not being culture-general enough. Although the instruments were tested in two different countries the scope is too limited to be culture-general. The instruments can not be claimed to be valid across cultures unless they are further tested in other cultures as well.

The results of this analysis demonstrate that both models were developed in a limited cultural context, but are recommended to be applicable in any culture. This constitutes a dilemma as both models are imposed on cultures although it has not been proved yet that they apply to these cultures. This can be very dangerous, especially when the instruments are used on a

commercial basis such as CQ. This can lead to inefficiencies, taking the wrong decisions, and can also result in inconclusive data (DeVellis, 2003; Hinkin, 1995; Trompenaars & Woolliams, 2009).

The criticism of Livermore and Van Dyne (n.d.), which was directed at ICC scales, applies to both the IMICC and CQ with regards to their culture-general approach. Both models have not been validated enough to be applied to other cultures but the ones used in the studies. With regards to that aspect, CQ is not a cleaner construct than the IMICC.

7.4 Conceptual and operational definitions

The fourth point of analysis focused on analysing the instruments of both models. The goal was to determine whether the items and operational definitions were coherent with the conceptual definitions. The results of the analysis are ambivalent. The analysis of the conceptual fit, the link between the conceptual and operational definitions, showed that the conversion from the conceptual definition to the items was not always coherent. This applies to almost all of the items of both instruments. The analysis also showed that despite the use of similar dimensions, the conceptualisation differed between models, leading to different items amongst all dimensions.

The items of the CQS did not comprise the most important concepts that were mentioned previously by the authors. The conceptual fit of the ICC scale was more consistent; however, the scope of the each dimension is too narrow, measuring too few facets of intercultural competence. The results of the analysis confirm the notion of Blalock (1982) that creating a strong linkage between the conceptual and operational definition is difficult. The results regarding the ICC scale, and the choice of integrating certain

concepts over others, also reflect the notion that there is no uniform opinion on a definition or conceptualisation of intercultural competence (Deardorff, 2006).

There were also other issues impairing the validity of both instruments. The authors assume, that individuals of different cultures respond in the same manner to assessment instruments. However, it has been proven in several studies that response styles differ across cultures (Harzing, 2006; Van de Vijver & Leung, 2009). These differences can manifest in aspects such as avoidance of extreme scores vs. the usage of extreme scores (Van de Vijver & Leung, 2009). This aspect of different response styles has been overlooked in the development in both instruments, which is ironic, as they are claimed to work across cultures. In practice, this again can lead to making wrong assumptions and taking the wrong decisions after completing the assessment of an individual.

Furthermore, the studies of both models rely on students as the main participants. This is very common in communication studies (Frey et al., 2000) but it does not reflect the target group of most models or instruments. It is important that instruments are tested amongst a population that is close to the target group of the instruments (Hinkin, 1995). Otherwise, the needs of the target group may not be addressed by the instrument; something that is more common in the corporate sector than expected (Trompenaars & Woolliams, 2009).

Both instruments also rely on a self-report. The CQS also offers an observer-report; however the items are the same as for the self-report, which is difficult to use when evaluating the inner mental processes of an individual. Deardorff (2009) and Fantini (2009) argue that a multi-method and multi-

perspective approach is better for assessing the intercultural competence of an individual. They do not recommend relying only on one strategy or method, even though a single-method approach is very common.

These findings do not only draw the attention to the quality of the instruments of CQ and the IMICC, but also to the necessity to carefully evaluate and to ensure the quality of assessment instruments in general. Assessment instruments of any kind have pervaded many aspects of our lives and are used in different contexts (Deardorff, 2009; Pusch, 2004). Therefore, it is dangerous if instruments are developed and promoted which are not reliable or valid enough. It is necessary to carefully monitor the development of an instrument to create a reliable and valid assessment instrument.

7.5 Summary

To summarize, the results of the comparative analysis demonstrate that both models feature similarities and differences. Both models examine the competence of an individual, they both aim to work across cultures, they can be classified as an individual system (cf. Spitzberg, 1994), they are developed within the emic and etic paradigm, they allocate abilities along a similar set of dimensions, and they both feature a similarly structured 7-Likert type scale to evaluate individuals. The analysis has also shown that although the models use similar dimensions, their conceptual definitions as well as the items in the assessment instruments differ.

Both models represent the most common types of models in intercultural competence (Spitzberg & Changnon, 2009). However, these types of models are not always handy or representative of the communication process, as they do not model the actual interaction process, where other

aspects are influential at the same time. One example is language, an aspect often ignored by intercultural communication scholars (Fantini, 2000), but not of less importance. Piller (2012) even argues that language is the most important part of communication. Both CQ and the IMICC are designed to evaluate an individual's ability to deal with other cultures, but they do not include (second) language competence. An individual might be cultural intelligent or intercultural competent according to the result of the scale, but if the person is not able to communicate with other individuals due to a lack of language knowledge, the communication process would be very difficult and the person would probably not be perceived as competent. This also accounts for other aspects that are overlooked in this type of models.

With regards to the second objective of this study, the results allow for the conclusion that CQ is not a cleaner construct than the IMICC. The discussion pointed out other problematic issues of both models and their instruments. Some of these aspects are the difficulty of placing a model in both the emic and etic paradigm, the limited testing of scales in other cultures, the unawareness of different response styles across cultures, and the reliance on students in testing the models. It was shown that the emic paradigm is not well presented in CQ, whereas the IMICC was placed within the emic paradigm but featured etic aspects as well. The culture-general mode of both models could not be confirmed, as the models were tested in too few cultures. Both scales act on the assumption that individuals across cultures respond in the same manner. But it has been shown in various studies that response styles differ across cultures (Harzing, 2006). Another issue found in both models, which is very common in social sciences, is the frequent use of students (Frey et al., 2000).

However, it is recommended to choose a sample similar to the instrument's target group (Hinkin, 1995). It is also necessary to ensure that the model addresses the needs of the target group (Trompenaars & Woolliams, 2009). The instruments of CQ and the IMICC mainly relied on testing students, even though they are targeted at a broader audience.

Altogether, the analysis presented very interesting and promising results. The significance of these findings with relation to the fields of ICC and intelligence as well as their impact on future research will be discussed in the conclusion.

8. CONCLUSION

The purpose of the present study was to compare the model of CQ to a model of intercultural competence. The analysis as well as the discussion of the results presented interesting insights into both disciplines and models, and several conclusions can be drawn.

Both models showed significant similarities in various aspects. Both models comply with the very common approach in developing ICC models, which is to describe intercultural competence as an individual locus and on the basis of abilities divided into three dimensions of cognition, motivation, and skills (Spitzberg & Changnon, 2009). Although CQ is from a different discipline, it fulfils the same basic characteristics. These similarities confirm the notion of Spitzberg and Changnon (2009) that similar kinds of conceptualisations are reinvented. The results of this study show that this reinvention does not only happen within one discipline, but also across disciplines. This also points out the multidisciplinary nature of ICC and the relation between communication and psychology. It also diminishes the importance of the criticism displayed by some CQ scholars towards intercultural competence scales, as their approach, at least in the basic structure of the model, is very similar.

However, it is not necessarily only positive that CQ and the IMICC represent a very common type of intercultural competence models. Many

scholars voiced the opinion that other aspects are important in conceptualising intercultural competence and many have tried to establish different kinds of models (Spitzberg & Changnon, 2009). These other aspects include for example language (Byram, 1997; Fantini, 2000), the focus on the group instead of only the individual and the interaction between these individuals (Deardorff, 2006; Koole & ten Thije, 2001), or the episode and relational aspect in communication (Spitzberg, 1994). Future research on developing ICC models should evolve from focussing on the individual and on three dimensions to incorporating more aspects into the model in order to better reflect the actual interaction process.

More cooperation between these disciplines could assist in the goal of integrating more aspects. Instead of criticising the approach of another discipline, interdisciplinary research and cooperation between researchers could lead to developing new ideas, approaches, and over all, new models that comprise aspects from psychology, communication research, or other disciplines (Cumming & Kiesler, 2005). Interdisciplinary research offers the opportunity to build a more complete model of the phenomenon of intercultural competence

With regards to the second objective to verify that CQ is a cleaner construct, the analysis exposed and accentuated several flaws in both models. The results of the analysis lead to the conclusion that CQ, although elevated to a different level by Ang and Van Dyne (2008) and Van Dyne and Livermore (n.d.) is not a cleaner construct than some models of ICC but instead lacks validity and reliability in some aspects. This accounts for the IMICC as well. Interestingly, both models showed a lack of coherency in similar aspects,

namely the limited culture-general approach and inconsistencies within the instruments. Both models should not be applied to any culture, unless they are tested in more countries. It has been criticised by many scholars (e.g. Martin, 1993; Triandis, 1984; Trompenaars & Woolliams, 2009) that phenomena are mainly studied from a Western or Anglo-Saxon perspective. Both models conform to that criticism. Imposing models, instruments, or methods on other cultures may lead to inefficiencies or taking wrong decisions (DeVellis, 2003; Trompenaars & Woolliams, 2009). Therefore, it is necessary and highly recommended to continue testing both models' instruments in different cultures to integrate other cultural perspectives and to ensure that they are not imposed on other cultures. In general, this aspect also shows how difficult it is to develop a culture-general model. Therefore, it is necessary to carefully address cultural differences in the use of assessment instrument, and test the models in sufficient countries.

The analysis also showed that the items of both instruments were not always coherent with their conceptual definition. Although the conceptual fit was strong for some items, for most of them it was not. This further challenges the validity and reliability of the models, which is already impaired by the limited culture-general approach. It is dangerous to offer an instrument which raises these questions of validity and reliability, as its use can lead to making the wrong decisions or may lead to contradicting results if more studies are conducted (DeVellis, 2003; Hinkin, 1995). All these aspects highlight the difficulty of developing a reliable and valid instrument, especially when the concepts involved are so complex that they become difficult to observe and to operationalize (Hinkin, 1995). This process of developing an instrument

becomes even more complex and difficult, when the instrument is designed to be applicable to individuals from all cultures. With regards to the frequent use of assessment instruments (Deardorff, 2009; Pusch, 2004) it becomes dangerous if some parts in the scale development process contain inconsistencies. Therefore, it is necessary to carefully assess the conceptual definitions of a model before developing operational definitions and items. This is important, especially when the concepts involved are so complex and abstract.

To conclude, this study showed that models developed in different disciplines can be similar in significant aspects. This finding highlights the interrelatedness of the communication and psychology discipline but also the risk of reinventing similar kinds of concepts. It also points to the importance of interdisciplinary research, which in fact could prevent reinventing concepts and models to a certain extent. It rather offers the possibility to combine methods and approaches of various disciplines and get a more detailed understanding of complex phenomena and constructs (Cummings & Kiesler, 2005). This study has also demonstrated the difficulty of developing a reliable and valid instrument and the necessity to carefully evaluate instruments that one intends to use.

8.1 Open questions and limitations of the study

Despite a thorough analysis some aspects could not be further clarified in the present study. Due to a limit in time and space, an empirical study was not added to the comparative analysis. This was decided already quite early in the process of planning the study. An empirical study would have complemented the theoretical comparison and could have delivered additional support for the

findings on the theoretical level, especially in terms of finding similarities in the outcome of both models' instruments. The hypothesis for the empirical study would be that individuals, who score high on the CQS, score high on the ICC scale as well, and vice versa. The analysis of these results could have further confirmed some of the findings of the theoretical comparison such as the reinvention of concepts, or the orientation towards similar outcomes. It is highly recommended for future research, to combine the theoretical comparison with an empirical comparison. Until then, the lack of an empirical approach has to be regarded as one limitation of the current study.

Another limitation which has to be addressed is that this study is written within the discipline of intercultural communication. This may have resulted in a bias towards CQ. Through extensive research in psychology and intelligence literature it was tried to avoid the bias. But despite all efforts it remains a limitation of the study that the researcher has an impact on the organisation of the study, which questions are asked, and how the results are analysed and interpreted. This subjectivity is also represented in the choice of comparing CQ to the IMICC, and not another model. In comparative research with only few cases, the selection is usually theory-driven and hence more subjective as the researcher chooses the cases (Given, 2008).

8.2 Concluding words

The present study provided detailed insights into the models of CQ and the IMICC. Apart from finding similarities in both models, this study also exposed serious issues in the development of the models. The study demonstrated and confirmed the notion of Deardorff (2006) and Spitzberg and Changnon (2009) that definitions of ICC are rich and manifold which increases the probability of

reinventing concepts of ICC. The multidisciplinary nature of ICC and the interrelatedness between the disciplines can even lead to developing similarly structured models. An increase of interdisciplinary research allows for the possibility to combine aspects of both disciplines, to avoid continuously inventing similar models, and may even assist in building a more complete model of intercultural competence or cultural intelligence.

It was also demonstrated that the type of models which focus on the individual are still very common, even though efforts have been made towards developing other models (Spitzberg & Changnon, 2009). Both models overlook other important aspects that contribute to the communication process. This finding draws the attention to the necessity that being able to successfully deal with individuals of other cultures is not only a matter of the individual, and that even more efforts have to go into supporting the types of models that go beyond studying the individual. Situational and contextual factors such as the relation with the other interactants, perceived competence, language, and other aspects, describe a more complete the communication process (Byram, 1997; Deardorff, 2006; Fantini, 2000; Koole & ten Thije, 2001; Spitzberg, 1994).

This study also demonstrated that it is difficult to develop reliable and valid instruments and that it is necessary to carefully evaluate the measurement instruments that are being developed. Assessment instruments need to be evaluated carefully by researchers and by the ones who intend to use them to ensure that the right aspects are measured and the right decisions are taken.

In general this study illustrated that the phenomenon of intercultural competence is important in many disciplines and that different approaches are taken to explain and measure this phenomenon. The variety of these approaches, concepts, and models also demonstrates the difficulty of measuring something so abstract as intercultural competence or cultural intelligence.

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Appendix 1

The original ICC scale by Arasaratnam (2009)

1=strongly disagree, 7=strongly agree

1. I often find it difficult to differentiate between similar cultures (Ex: Asians, Europeans, Africans, etc.)
2. I feel a sense of belonging to a group of people based on relationship (family, friends) instead of cultural identity (people from my culture, people from other cultures).
3. I find it easier to categorize people based on their cultural identity than their personality.
4. I often notice similarities in personality between people who belong to completely different cultures.
5. If I were to put people in groups, I will group them by their culture than their personality.
6. I feel that people from other cultures have many valuable things to teach me.
7. I feel more comfortable with people from my own culture than with people from other cultures.
8. I feel closer to people with whom I have a good relationship, regardless of whether they belong to my culture or not.
9. I usually feel closer to people who are from my own culture because I can relate to them better.
10. I feel more comfortable with people who are open to people from other cultures than people who are not.
11. Most of my close friends are from other cultures.

12. I usually change the way I communicate depending on whom I am communicating with.

13. When I interact with someone from a different culture I usually try to adapt some of his/her ways.

14. Most of my friends are from my own culture.

15. I usually look for opportunities to interact with people from other cultures.

Appendix 2

The Final ICC scale by Arasaratnam (2009)

1=strongly disagree, 7=strongly agree

1. I often find it difficult to differentiate between similar cultures (Ex: Asians, Europeans, Africans, etc.)
2. I feel that people from other cultures have many valuable things to teach me.
3. Most of my friends are from my own culture.
4. I feel more comfortable with people from my own culture than with people from other cultures.
5. I find it easier to categorize people based on their cultural identity than their personality.
6. I often notice similarities in personality between people who belong to completely different cultures.
7. I usually feel closer to people who are from my own culture because I can relate to them better.
8. Most of my friends are from my own culture.
9. I usually look for opportunities to interact with people from other cultures.
10. I feel more comfortable with people who are open to people from other cultures than people who are not.

Appendix 3

The Cultural Intelligence Scale: Self-report (Ang & Van Dyne, 2008)

1=strongly disagree, 7=strongly agree

Metacognitive CQ

- MC1 I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.
- MC2 I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.
- MC3 I am conscious of the cultural knowledge I apply to cross-cultural interactions.
- MC4 I check the accuracy of my cultural knowledge as I interact with people from different cultures.

Cognitive CQ

- COG1 I know the legal and economic systems of other cultures.
- COG2 I know the rules (e.g., vocabulary, grammar) of other languages.
- COG3 I know the cultural values and religious beliefs of other cultures.
- COG4 I know the marriage systems of other cultures.
- COG5 I know the arts and crafts of other cultures.
- COG6 I know the rules for expressing non-verbal behaviors in other cultures.

Motivational CQ

- MOT1 I enjoy interacting with people from different cultures.
- MOT2 I am confident that I can socialize with locals in a culture that is unfamiliar to me

MOT3 I am sure I can deal with the stresses of adjusting to a culture that is new to me.

MOT4 I enjoy living in cultures that are unfamiliar to me.

MOT5 I am confident that I can get used to the shopping conditions in a different culture.

Behavioral CQ

BEH1 I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.

BEH2 I use pause and silence differently to suit different cross-cultural situations.

BEH3 I vary the rate of my speaking when a cross-cultural situation requires it.

BEH4 I change my non-verbal behavior when a cross-cultural situation

BEH5 I alter my facial expressions when a cross-cultural interaction requires it.

Appendix 4

The Cultural Intelligence Scale: Observer-report (Ang & Van Dyne, 2008)

1=strongly disagree, 7=strongly agree

Metacognitive CQ

- MC1 This person conscious of the cultural knowledge he/she uses when interacting with people with different cultural backgrounds.
- MC2 This person adjusts his/her cultural knowledge as he/she interacts with people from a culture that is unfamiliar.
- MC3 This person in conscious of the cultural knowledge he/she applies to cross-cultural interactions.
- MC4 This person checks the accuracy of his/her cultural knowledge as he/she interacts with people from different cultures.

Cognitive CQ

- COG1 This person knows the legal and economic systems of other cultures.
- COG2 This person knows the rules (e.g., vocabulary, grammar) of other languages.
- COG3 This person knows the cultural values and religious beliefs of other cultures.
- COG4 This person knows the marriage systems of other cultures.
- COG5 This person knows the arts and crafts of other cultures.
- COG6 This person knows the rules for expressing non-verbal behaviors in other cultures.

Motivational CQ

- MOT1 This person enjoys interacting with people from different cultures.

MOT2 This person is confident that he/she can socialize with locals in a culture that is unfamiliar.

MOT3 This person is sure he/she can deal with the stresses of adjusting to a culture that is new.

MOT4 This person enjoys living in cultures that are unfamiliar.

MOT5 This person is confident that he/she can get used to the shopping conditions in a different culture.

Behavioral CQ

BEH1 This person changes his/her verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.

BEH2 This person uses pause and silence differently to suit different cross-cultural situations.

BEH3 This person varies the rate of my speaking when a cross-cultural situation requires it.

BEH4 This person changes his/her non-verbal behavior when a cross-cultural situation requires it.

BEH5 This person alters his/her facial expressions when a cross-cultural interaction requires it.