

**CULTURAL INTELLIGENCE IN MULTICULTURAL
TEAMS:
A SYSTEMATIC LITERATURE REVIEW**

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Master's Thesis
Master's Degree Programme
in Intercultural Management
and Communication
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and Communication studies
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Spring 2020

UNIVERSITY OF JYVÄSKYLÄ

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Title Cultural Intelligence in Multicultural Teams – A Systematic Literature Review	
Subject Intercultural Management and Communication	Level Master's Thesis
Month and year May, 2020	Number of pages 54
<p>Abstract</p> <p>Since the number of cross-cultural encounters in the modern working society is growing. It has become important to knowledge one's own course of action in multicultural environment. People who work naturally well in cross-cultural situations are called culturally intelligent. These people can rapidly change their behavior and adapt to the multicultural environment. This capability is called cultural intelligence (CQ). Cultural intelligence becomes especially important when people from varying cultural backgrounds work together in teams.</p> <p>This study takes a review on research made on cultural intelligence in multicultural teams. This study is conducted by using systematic literature review consisting of 17 research articles which were collected from four different academic databases. The aim of this review is to analyse and describe the research made on this subject, to have a clear overview. This will benefit future researchers to know which viewpoints and issues should be addressed to advance the research on cultural intelligence in multicultural teams.</p> <p>The results of this systematic literature review show that the main viewpoints of papers that studied cultural intelligence in multicultural teams were from the team members' perspective, constructed by surveys and or questionnaires and the results show that cultural intelligence has a positive impact on multicultural teams' performance. In addition, some of the studies were focusing on how cultural intelligence can be affected by multicultural teamwork. These results also show that multicultural teamwork has a positive impact on the development of cultural intelligence. The main theory these findings were based on was Earley & Ang's (2003) Cultural Intelligence theory. Additionally, the methods used were based on their Cultural Intelligence Scale.</p> <p>Based on the results, one can see that the research made to this day on cultural intelligence in multicultural teams shows that cultural intelligence does have a positive effect on multicultural teams' performance. In addition to this, cultural intelligence grows when working in cross-cultural environments.</p> <p>Based on this systematic literature review the future viewpoints for studying cultural intelligence in multicultural teams should focus on replicating the existing studies and finding new alternative ways of measuring cultural intelligence.</p>	
Keywords intercultural intelligence, cultural intelligence, multicultural, intercultural, cross-cultural, teams, teamwork	
Depository University of Jyväskylä	
Additional information	

Tiedekunta Humanistinen tiedekunta	Laitos Kieli ja viestintätieteiden laitos
Tekijä Mirella Torkko	
Työn nimi Cultural Intelligence in Multicultural Teams – A Systematic Literature Review	
Oppiaine Intercultural Management and Communication	Työn laji Pro Gradu tutkielma
Aika Toukokuu, 2020	Sivumäärä 54
<p>Tiivistelmä</p> <p>Nyky-yhteiskunnassa mahdollisuus työskentelyyn ilman että tapaa ihmisiä, joiden kulttuurista eroaa meidän omastamme, on jatkuvasti pienentymässä. Tämän takia on hyvä tiedostaa omia toimintatapojaan monikulttuurisissa tilanteissa. Ihmiset, jotka toimivat luontevasti ympäristöissä, joissa ollaan tekemisissä eri kulttuurien kanssa, kutsutaan kulttuurisesti älykkäiksi. Näillä ihmisillä on kyky nopeasti sopeutua muutokseen ja muuttaa omaa käyttäytymistään ympäristön mukaan. Tällaista kykyä kutsutaan kulttuuriseksi älykkyydeksi (cultural intelligence). Kulttuurinen älykkyys nousee tärkeäksi tekijäksi erityisesti, kun työskennellään tiiviissä ryhmissä, joissa jäsenten kulttuuritaustat ovat erilaisia.</p> <p>Tämän tutkielman tarkoitus on luoda katsaus tutkimuksiin, jotka käsittelevät kulttuurista älykkyyttä monikulttuurisissa tiimeissä. Tämä tutkielma on toteutettu systemaattisella kirjallisuuskatsauksella analysoimalla 17 tutkimusartikkelia aiheesta, jotka on valikoitu neljästä akateemisesta tietokannasta. Tämän katsauksen päämääränä on jäsentää ja kuvailla jo tehtyjä tutkimuksia, jotta aiheesta saataisiin muodostettua selkeä yleiskuva. Tällainen tieto hyödyttää tulevia tutkijoita saamaan tietoa siitä mihin näkökulmiin ja ongelmiin tulisi tarttua, jotta tutkimus tästä aiheesta etenis.</p> <p>Katsauksen tulokset osoittavat, että yleisimmät kulttuurista älykkyyttä monikulttuurisissa tiimeissä tutkineet artikkelit on tehty tiimien jäsenten perspektiivistä. Tutkimukset on toteutettu kyselyiden avulla ja tulokset osoittavat, että kulttuurisella älykkyydellä on positiivinen vaikutus monikulttuuristen tiimien tulokseen. Lisäksi osa tutkijoista keskittyivät tutkimaan sitä, miten kulttuuriseen älykkyYTEEN voidaan vaikuttaa monikulttuurisella tiimityöskentelyllä. Näiden tuloksien mukaan monikulttuurisessa tiimissä työskentely vaikuttaa myös positiivisesti kulttuurillisen älykkyuden kehittämiseen. Teoriapohjana tutkimuksissa käytettiin pääasiassa Earley & Ang (2003) Cultural Intelligence -teoriaa ja tutkimusmenetelmät perustuivat heidän julkaisemaansa Cultural Intelligence Scale -menetelmään mitata kulttuurienvälisiä älykkyyttä.</p> <p>Katsauksessa käytetyn kirjallisuuden mukaan kulttuurienvälisellä älykkyydellä monikulttuurisissa tiimeissä on positiivinen vaikutus tiimin tulokseen ja kulttuurienvälisen älykkyys itsessään kasvaa, kun työskennellään monikulttuurisessa ympäristössä.</p> <p>Tämän katsauksen pohjalta on mahdollista osoittaa, että tutkimusta kulttuurienvälisestä älykkyydestä monikulttuurisissa tiimeissä tulisi tulevaisuudessa keskittää siihen, että jo olemassa olevia tutkimuksia tulisi toisintaa ja uusia vaihtoehtoisia tapoja mitata kulttuurienvälisiä älykkyyttä tulisi löytää ja kehittää.</p>	
Asiasanat kulttuurienvälinen älykkyys, monikulttuurisuus, tiimityöskentely, tiimit	
Säilytyspaikka Jyväskylän Yliopisto	
Muita tietoja	

TABLE OF CONTENTS

INTRODUCTION	1
1 CULTURAL INTELLIGENCE.....	3
1.1 Defining intelligence	3
1.2 Cultural intelligence.....	5
1.3 The role of cultural intelligence in multicultural teams.....	9
2 METHODOLOGY.....	13
2.1 Systematic literature review as a method	14
2.2 Research questions.....	15
3 SYSTEMATIC LITERATURE REVIEW	17
4 FINDINGS	20
4.1 Research methods	20
4.2 The concept of cultural intelligence	22
4.3 The relationship of cultural intelligence and teamwork	24
4.4 Suggestions for future research	28
5 DISCUSSION	31
6 CONCLUSION.....	37
Appendix	45

INTRODUCTION

Technology has enabled the globalization to rapidly grow in only few decades and the fact is that one simply cannot hide from it anymore, when living so to say normal day to day life. The happenings all around the world has been brought to our living rooms and even in our pockets and wrists by different gadgets. This means that people have never been more aware of what is happening around the globe, and presumably there is no going back. Additionally, people are moving from one country to another more since changes in the living standards are either making it possible or requiring it. Therefore, people need to adapt to live in an environment where encounters with people from different cultural backgrounds are becoming the norm. Some people are naturally more willing and open for this, however, there are also ways to educate people and even train the skills that help one to live and work in the global environment.

Thus, researchers have been particularly interested in the factors that make some cope better in culturally diverse settings and cultural intelligence is seen as a factor that enables one to function effectively in such situations. Intelligence itself is a topic that has been researched for decades and over the years divided into several sub-categories. However, because cultural intelligence focuses specifically on settings characterized by cultural diversity it differs from other kind of intelligences. (Dyne, Ang & Koh: 2009: 16) Therefore, there has been a lot of research around the subject and global companies are particularly interested to hear the research findings. Since these findings may eventually become guidelines for global companies, helping to define what kind of qualities they are looking for when recruiting and additionally, how their employees are trained. For instance, the Cultural Intelligence Scale (CQS) is proposed to be used as a tool for organizations to find the most suitable employees for global and / or cross-cultural positions. Therefore, it is vital to see how these studies are

conducted, what has been studied and to what sources, theories and data the findings are based on. (Dyne, Ang & Koh: 2009: 35)

This thesis focuses on how cultural intelligence in multicultural teams is studied. This is an important subject to study since cross-cultural encounters are becoming more common in every profession. The aim of this study is to clarify how the role of cultural intelligence in multicultural teams is seen and how the research should proceed in the future. First intelligence in general is discussed together with the definition of the term cultural intelligence. The following chapter focuses on the development of a successful team in working life, with an emphasis on working in a multicultural environment.

1 CULTURAL INTELLIGENCE

This chapter introduces the concept of cultural intelligence. First, the term intelligence is introduced and compared to cultural intelligence. The second chapter discusses cultural intelligence thoroughly, including theories on the subject, common subcategories, the necessity of cultural intelligence and lastly the means for measuring it.

1.1 Defining intelligence

“An intelligence is the ability to solve problems, or to create products, that are valued within one or more cultural settings.” (Gardner, 1983 in Plucker & Esping, 2013: 19)

The human intelligence has been a focus of interest since the days of philosophers Plato and Aristotle, who analysed human excellence. One may even argue that the human intelligence is the most comprehensively or controversially investigated concept in psychology. (Plucker & Esping, 2013: 4,7) When speaking about intelligence, one tends to connect it to people in certain occupations such as doctors, mathematicians, professors and other graduates. The Oxford dictionary explains the word intelligence as “The action or fact of mentally apprehending something; understanding, knowledge, comprehension (of something)” (The Oxford English Dictionary). However, this does not directly refer to a certain field of knowledge, skills or occupation, therefore based on this basic explanation of intelligence one may assume that anyone who acquires knowledge is intelligent. Even so, at least in the Western society, certain knowledge and skills are valued more than others. For example, the knowledge of law and the skills to represent in front of a judge is more appreciated than the knowledge of

nursing and the skills to take care of other people. Comparing the salaries of these occupations can be taken as a revelatory indicator, since in the Western society one's worth is often connected to one's wealth.

Intelligence, as many other human qualities, is not something that is easily measured even though some researchers have presented various means of measuring it. Neuroscientist Jeff Hawkins (2005: 103) claims that intelligence does not differ from observation, because it is based on the same memory and prediction algorithm in the neocortex. This means that all tests that measure intelligence in fact test people's skill to predict different things. Additionally, this means that all mammals with neocortex, are intelligent in their own level. Still, humans have the capability to understand the unreal, and how something can be similar and different simultaneously, which differentiates human intelligence from other mammals.

(Rousselot & Tallon, 1998: 2-3) For example how all thumbs are fingers, but not all fingers are thumbs.

There are also differences in how people see what intelligent behaviour is. For instance, some may think that intellectuals are those whose voices are heard the loudest, and some may think that intelligence is to stay quiet. Especially, what is seen as intelligent behaviour or what kind of person is described as intelligent is related to ones surrounding society and dominant culture in the community. Different skills and knowledge are given higher priority in certain living conditions. For instance, in industrialized societies a literate and mathematically talented person is seen more intellectual than an illiterate person. On the contrary, in agrarian societies social productivity and cognitive enthusiasm are beneficial and therefore more valued (Serpell 2000: 549). Hence, the definition of intelligence may vary depending on one's background. This means that the research around intelligence is also divided and one should pay close attention to the definition each researcher is studying (Plucker & Esping, 2013: 10-11).

1.2 Cultural intelligence

There are many things that we do not even acknowledge in ourselves that are connected to our cultures. Culture is seen as a mixture of practices, artefacts and symbols that are commonly used and accepted in a particular group of humans, which have formulated based on their own different social histories (Serpell, 2000: 549). For instance, many of our behavioural norms are unconsciously programmed by cultures. Therefore, it is often the case that we only think how peculiar other cultures seem to us but forget the fact that our culture is as alien to them. Instead of expecting others to be similar to us, one should learn to understand the differences. It may be easier to understand the variety of cultures existing and how people have their own culture-related ways to behave, but the challenge is to acknowledge that one's own culture is not superior to others. This is the starting point of cultural intelligence.

(Thomas & Inkson, 2009: 12-14)

The most used definition of cultural intelligence (CQ) is by Earley and Ang (2003): "CQ is defined as an individual's capability to function effectively in situations characterized by cultural diversity" (Ang & Dyne 2008: xv). Thus, a person who engages with people from other cultures is perceived as culturally intelligent. Therefore, studying foreign languages, gaining cross-cultural experience from work of studies or spending time in culturally diverse environment can increase one's cultural intelligence. (Ang & Dyne 2008: xi-xii)

Researchers Ang and Dyne (2008: 4-5) propose that cultural intelligence has four different dimensions: metacognitive, cognitive, motivational and behavioural. This is based on Sternberg and Detterman's study (1989) which proposed such division of person's intelligence

Metacognitive cultural intelligence

Metacognitive cultural intelligence: “[...] refers to an individual’s level of conscious cultural awareness during cross-cultural interactions.” Thus, people who are capable of consciously acknowledging and questioning their own cultural assumptions are also more open to adjusting their cultural knowledge when interacting with people with different cultural backgrounds. A person with high metacognitive cultural intelligence is capable of planning, monitoring and revising other cultures’ mental models. With this critical thinking process, they can consequently increase their accuracy of understanding and easily adjust their behaviour in a culturally different situation. (Ang & Dyne 2009: 5-6, 17)

Cognitive cultural intelligence

Cognitive cultural intelligence: “[...] reflects knowledge of norms, practices, and conventions in different cultures that has been acquired from educational and personal experiences.” Almost all human communities share the same fundamental systems which, however, vary from culture to culture such as technological innovations, ways to provide food, economic activity, social interaction, beliefs, taking care of descendants, aesthetic preferences and communication patterns. Thus, a person with high cognitive cultural intelligence can on one hand understand how cultures have similarities but how on the other hand, how cultures may vary in things, such as how education, politics and social interaction patterns are constructed, and is therefore able to cooperate with people from different cultural societies naturally. (Ang & Dyne 2009: 5-6, 17)

Motivational cultural intelligence

Motivational cultural intelligence: “[...] reflects the capability to direct attention and energy toward learning about functioning in situations characterized by cultural differences.”

Simply, people with high motivational cultural intelligence have an inner drive that makes them more motivated to take part in cross-cultural interactions. Thus, this means that a basic sense of confidence and interest in the unknown is required. (Ang & Dyne 2009: 6-7, 17)

Behavioral cultural intelligence

Lastly, behavioral cultural intelligence: “[...] reflects the capability to exhibit appropriate verbal and nonverbal actions when interacting with people from different cultures.” Verbal and non-verbal interactions are the centre of social interactions and therefore, behavioral cultural intelligence might be the most critical out of the dimensions of cultural intelligence since it is the most visible. Others cannot see one’s thoughts, feelings or motivations, thus, it all comes down to how well one can act and explain oneself in practice. All four dimensions together form the overall cultural intelligence construct and they may or may not correlate with each other. (Ang & Dyne 2009: 6-7, 17)

Cultural intelligence is not seen as a characteristic that an individual in a certain culture has and it is not directly connected to other traits such as interests, decision making, performance or adjustments. Instead, it is considered a specific individual factor among other individual capabilities which emerge in culturally diverse situations. Therefore, cultural intelligence is viewed as a key factor for multicultural team members to have in order to work together successfully. (Ang & Dyne, 2008: xiii, 7)

Measuring cultural intelligence

The Cultural Intelligence Scale (CQS) is designed by Ang et al. (2004) for the need to measure the formulation of intelligence that guides individuals’ thoughts and social behaviours in cross-cultural environment. It consists of a questionnaire (where respondents answer from 1 = *strongly disagree* to 7 = *strongly agree*) with 20 items which measure the four dimensions of cultural intelligence: four for metacognitive cultural intelligence, six for cognitive cultural

intelligence, five for motivational cultural intelligence and five for behavioural cultural intelligence. The scale is proposed as a key tool for organizations for identifying employees who would be most suitable for working in cross-cultural encounters. Additionally, it can provide vital information for individuals of their own cultural intelligence and provide a foundation for personal self-development. (Ang et al. 2004: 30-35)

FIGURE 1

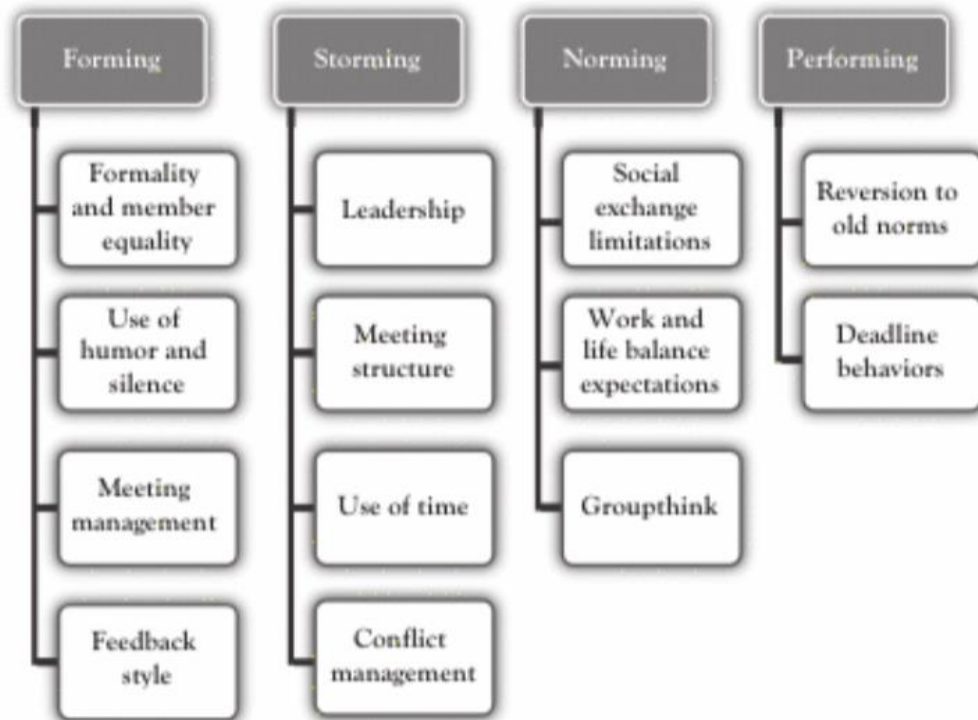
CQ Factor	Questionnaire Items
Metacognitive CQ	
MC1	I am conscious of the cultural knowledge I use when interacting with people with different cultural backgrounds.
MC2	I adjust my cultural knowledge as I interact with people from a culture that is unfamiliar to me.
MC3	I am conscious of the cultural 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 nonverbal 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 accustomed 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 nonverbal behavior when a cross-cultural situation requires it.
BEH5	I alter my facial expressions when a cross-cultural interaction requires it.

Copyright © Cultural Intelligence Center 2005. Used by permission. Use of this scale is granted to academic researchers for research purposes only. For information on using the scale for purposes other than academic research (e.g., consultants and nonacademic organizations), please send an email to cquery@culturalq.com.

1.3 The role of cultural intelligence in multicultural teams

When talking about teamwork, a theory by Bruce Tuckman (1965) is one of the most well-known. It suggests that there are four stages in team development: forming, storming, norming and performing. In the first phase *forming* (originally named as testing and dependence) group members attempt to examine and discover what kind of behaviour is acceptable and are uncertain about their roles. Often in this phase the members try to look for guidance from outside the group. (Tuckman, 1965: 386) In this stage the group decides on how meetings and giving and receiving feedback will be organized. While the members are starting to interact with each other for the first time their cultural expectations for formality effects on how they get acquainted. There can be differences between cultures in the required level of relationship for discussing certain personal topics, for example family and money. Additionally, there can be awkward situations before the members find a common ground for what is considered appropriate humour and how silence is interpreted. (Dufrene & Lehman, 2016: 16-17)

FIGURE 2



When moving to the *storming* stage, the team members are starting to gain more confidence and want to work without help from outside. This stage was originally labelled as *intragroup conflict*. Which referred to how group members are starting to emotionally respond to task demands and there might be feelings of discrepancy between individual orientations and what is demanded by the task (Tuckman, 1965:386). Thus, people are still trying to find their place in the group and the hierarchy is unclear. Therefore, different views of how things should be done can cause conflict, for example with time and schedule management, or whether leadership style should be more relation than task centred. Additionally, difficulties may arise from how to handle the conflicts when they start to emerge, because in some cultures people are intentionally avoiding conflict, whereas for others it can be seen as a necessity to gain criticism in order to improve oneself and the group. (Dufrene & Lehman, 2016: 18)

In the *norming* (originally labelled as development of group cohesion) stage the group members start to work more as a team and less as individuals and start the procedures to fulfil the tasks. However, there may still be some differences for example, in how close relations the team members want to have with each other. Some only discuss business with co-workers while some prefer personal relations in order to give their best for the group. Additionally, it is important that the group members still have the courage to promote their own ideas without fearing that the group cohesion suffers. This helps the group to produce innovative solutions and a good outcome. (Dufrene & Lehman, 2016: 18-19)

In the fourth stage *performing* (originally labelled as emergence of solutions), all the team members share a common goal, and everyone knows their place in achieving it, which means that they have become capable of solving upcoming issues together. However, disagreements may arise from meeting the deadlines, as some like to work until the last minute and others prefer to start early and finish with time to spare. (Dufrene & Lehman, 2016: 19-20)

The possibility of conflict increases when people's background, experiences and characteristics, such as age, gender and culture, differ. High diversity between the team members often means that people have different communication styles and ways of conveying information. Each generation has their own knowledge, experiences and values that have shaped their lives. It is vital to understand that these experiences have shaped individual's way of understanding different phenomena, and through acknowledging this, one can improve their communication with people from different backgrounds. (Dufrene & Lehman, 2016: 9,13) Moreover, through understanding other people's cultural values and communication norms team environment becomes rewarding and enjoyable (Binder, 2009: 46).

It is rewarding to hire people from different age groups. Younger generations have new ideas and presumably a broad range of technology skills while the older generations have the

experience that money cannot buy. This applies also with people from different cultural backgrounds. The key for a team to work effectively together is acceptance and adaptation. (Dufrene & Lehman, 2016: 13-15) This has additional value in multicultural teams.

In a team it is crucial to build trust in another, however, cultural values and norms may hinder the process of learning to trust one another. Nevertheless, mutual trust can be achieved through cultural awareness training, exercising and sharing experiences (Binder, 2009: 50). More organically this happens if people can get to know each other through discussions and sharing things that are not related to work. By socializing people can get to know each other in a more personal level and learn more about their culture. If team members cannot communicate with each other in informal surroundings, it may lead to a situation where the members only discuss work related issues with each other. This may cause the team to lack cohesion. To build a good team spirit, team members should be able to trust one another and be satisfied with the team, because this helps the team to be successful in achieving its goal. Without trust other important factors such as commitment, cooperation, communication and contribution are more difficult to form, and the team is more likely to fail. (Dufrene & Lehman, 2016: 5-6)

2 METHODOLOGY

The motivation for studying cultural intelligence comes from the fact that nowadays it has become more important to be culturally aware when entering the working life and starting one's career. When studying intercultural communication cultural intelligence is a topic that is commonly discussed in the literature. The theory behind it is relatively new and therefore it is interesting to see how it has been approached in the academical publications, for instance, what are the theories, methods and literature used. Something of particular interest is the viewpoint; are these publications mainly using the term cultural intelligence to explain something or are they studying cultural intelligence's effect on something. Additionally, which aspects still need further research or have not yet been studied at all. At first glance it would appear that cultural intelligence is often connected to intercultural competence (ICC) and these two are used almost as synonyms. Thus, it is interesting to discover whether these studies which claim they are studying cultural intelligence have actually linked it to some other phenomenon.

Teamwork-skills are important in one's studying and working environment and the best way to have to train these skills is to have practical experience. In upper level education it has become a norm that local students are having the same classes as exchange students and working together as a team. Thus, the number of cross-cultural encounters in every faculty and profession is evidently growing. Additionally, in this globalizing world the amount of cross-border collaborations is growing, and this means that cultural diversity becomes common in both virtual and local teams. (Zakaria, 2017: 171, Earley & Peterson, 2004: 100, Alon, Boulanger, Meyers & Vas 2016: 78) Therefore, it is topical to see if cultural intelligence plays a role in multicultural teams' performance.

Surprisingly, it proved difficult to find academic articles which were especially focused on cultural intelligence in multicultural teams. However, 17 articles concerning this matter were found and the next chapter presents the process behind finding and including the most relevant ones for this research.

2.1 Systematic literature review as a method

Literature review is a collection of knowledge from a specific limited area and the data collected is then used as a base for answering a certain research problem. (Leino-Kilpi 2007: 2) Thus, in order to make a valid literature review, enough relevant studies must have been conducted on the subject. Literature review is a way to outline existing research data about a certain subject which helps picturing the amount of research information available, the nature of the content, and which methods are used. Three basic types of literature reviews are also the most commonly used: descriptive literature review, systematic literature review and meta-analysis. (Salminen 2011: 10)

Systematic literature review itself can be divided in to three phases: planning the review, doing the review (search, analyze, and synthesis) and reporting the review. In the planning phase a research plan and research question or questions are created and previously made studies about the subject are viewed. When the research question/s are selected it is time to choose the most suitable method for doing the review. While choosing a method search terms and databases are also determined. The data used for the review should be carefully selected which happens by setting strict criteria that only allows the most relevant data to be used. It is important to write down every step in the making of a literature review in order to assure that the most relevant studies were used and to assure that the review will be successfully completed. In the second phase of the systematic literature review the found

studies are selected and analyzed. In the last phase of the systematic literature review the results are reported, discussed and concluded. (Salminen, 2011: 10-11)

Systematic literature review was chosen as a method for this thesis, since it gives a broad view on the topic and shows what has been already studied and enables to identify areas that may not be yet investigated. Thus, this information is useful for future research on this subject and to those whose working life it affects. It is also interesting to see whether cultural intelligence is seen as a psychological skill which is connected to cognitive and thought processes or is it treated as a sociological skill that is affected by the place of the individual in society. Additionally, it is vital to acknowledge how the studies perspectives may have influenced the results. Therefore, only by doing a literature review one can have a good overview to a certain topic and see whether the studies are trustworthy.

2.2 Research questions

This study aims at clarifying how the role of cultural intelligence is seen in previous studies on multicultural teams. The focus is specially on what kind of methods and data is used, what is the theoretical background and what are the recommendations for future research in these studies.

The research questions (RQ) of this study are:

RQ1: What kind of methods are used for studying cultural intelligence in multicultural teams?

The first research question examines if these studies measure cultural intelligence and if so, which models have been used and what kind of research methods were chosen for conducting the studies. Additionally, have these articles studied cultural intelligence's impact on

something, or something's impact on cultural intelligence. By analysing this, it can be discussed whether these studies are comparable.

RQ2: What theories and data are used for studying cultural intelligence in multicultural teams?

The second research question examines what cultural intelligence means for the researchers by examining which sources have been used to define the terms. Additionally, by analysing the sample groups one can see from who's viewpoint the studies are made. This information can affect the reliability of the research results.

RQ3: What are the recommendations for future research on cultural intelligence in multicultural teams?

The third research question analyses the results these researchers have made and based on them clarifies which viewpoints and arrangements have not yet been studied. Additionally, what are the future recommendations that the researchers themselves recommend for the future studies on this subject. This gives vital information on the direction the research should move towards in the future.

3 SYSTEMATIC LITERATURE REVIEW

This thesis is a systematic literature review, which aims at reviewing and analysing research literature available on cultural intelligence in multicultural teams. By doing a systematic literature review on this subject one will get knowledge on how the phenomena connected to cultural intelligence in multicultural teams are studied and clarify the theoretical views, methods and research results. From this information one can gather the main trends in the research on cultural intelligence in multicultural teams and what is already known about the subject based on the research done. In addition to this, another important aspect is to gather information about which methods and viewpoints are not considered in the studies.

The first search was made in 20.1.2020. The search was made in four different Ebsco-databases: Communication & Mass Media Complete (CMMC), Academic Search Elite, Business Source Elite and PsycINFO. These databases were chosen since they are academically approved, and they offer data from various fields of academic publications. Furthermore, these databases were seen as the most essential ones, since cultural intelligence interest scholars especially in the areas of communication, business and psychology. The search was outlined to show only results which had full text available and were in English language. The data collection was not restricted to a specific period to ensure a board range of articles.

Boolean phrases are used when the wanted search results should include different terms and concepts. For example, AND is used when the search results should include both search terms. By using OR one can get results that include either one or more of the research terms and concepts. Additionally, by using NOT certain unwanted results can be outlined. To ensure the most substantial research articles the Boolean phrase used in these three databases was:

Intercultural intelligence OR cultural intelligence AND “multicultural team*” OR “cross-cultural team*” OR “multinational team*”

The result was altogether 245 articles - however, after browsing through the abstracts and key words only four research articles were found to be relevant for this study. Therefore, it was considered a necessity to add another database. Google Scholar was chosen since it does not outline certain fields of study and can therefore give results from even boarder area of sources. Thus, in 8.2.2020 another search was made in Google Scholar with the same Boolean phrase as stated above. This search showed 2760 results, and hence, only the first 200 articles were chosen to be included. The results were sorted by relevance and after 200 articles viewed the number of suitable articles decreased rapidly.

Search terms	Business Source Elite	CMMC	Academic Search Elite	PsycINFO	Google Scholar	
Intercultural intelligence OR cultural intelligence AND “multinational team*” OR “multicultural team*” OR “global team*” OR “cross-cultural team*”	124	16	65	40	200	
Total						445

After the results were outlined to the first 200 articles the systematic review on them begun by browsing through the abstracts and key words. The criteria of choosing an article to be used in this thesis were:

- The research focused especially on intercultural intelligence or cultural intelligence in multicultural teams or cross-cultural teams or multinational teams. These criteria excluded articles that studied other phenomena around cultural studies for instance intercultural competence or cultural competence studies.
- Articles were published in scientific sources.
- Articles were empirical research articles. This criterion excluded other literature reviews.

After going through the 445 articles' abstracts and keywords, 17 of them were selected as suitable for this study and these were analyzed more thoroughly in order to answer the research questions. These articles are listed in the next chapter.

4 FINDINGS

This chapter will introduce the findings made from the systematic literature review on 17 research articles on cultural intelligence in multicultural teams. The articles are listed in the appendix, and the next subchapters are outlined based on the main viewpoints that raised from the review.

4.1 Research methods

Cultural intelligence was studied in these seventeen articles mainly by mixed method of quantitative and qualitative research (11 articles). Three of the articles used only a qualitative research method and three used only a quantitative method. Eleven of the studies gathered data by surveys, questionnaires or both. Five of the studies used only surveys to gather information. These results show that the research is mostly focused on research that has gathered data by self-reporting methods. Additionally, most of the studies used surveys and/ or questionnaires, which means that there is not as much possibilities for the respondents to clarify their reasons for answering in a certain way.

Only two of the studies Cox (2019) and Dean (2007) used interviews and Cox (2019) analysed additionally social media posts and articles. These studies that used interviews, had the capability to gain more depth to the answers since they had the possibility to ask clarifying questions from the respondents. Especially, Cox's (2019) study that analysed both in person, open-ended interviews and social media posts and articles could give more specific clarification for the results. Cox presented her findings with a proposed new theory of CARE - model. However, her sample included only 15 individuals, which means that the results cannot be generalized into a larger population. Nevertheless, it gave promising results for further

research for using more interviews and analysing additional sources such as social media platforms as a method.

In one of the articles the researchers Crotty & Brett (2012) used a multilevel model test (MLM), which uses both individual-level and group-level data in generating results. By using this method, the differences and the relationship between variables can be detected. By this the researchers wanted to control the bias associated with self-reported research methods. (Crotty & Brett, 2012: 232-233) This seems as an effective way to respond to the criticism that studies which are based on self-report responses may receive.

Li & Skulason (2013) wanted to use a laboratory session in addition to questionnaires to make the results more reliable. In the laboratory session the participants were asked to do a writing task together in dyads. By supervising the participants, they could control the effects of other factors that could influence the results. (Li & Skulason, 2013: 241-242) Li, Rau, Li & Mädche (2017) analysed voice records and computer logs in addition to questionnaires. Also, Ng (2011) observed and analysed how the groups worked together in group tasks in addition to questionnaires. However, there is a question of authenticity in studies that are made in a laboratory environment when the participants know that they are being observed. Thus, the results may differ from how the participants would act in a real-life situation.

Approximately half of the studies were made by using a sample of people who did not have working experience from multicultural teams. Six were conducted by surveying people who currently work in multicultural teams or have experience from working in one. Additionally, two of the studies researched people who work as global team supervisors/leaders and Li & Skulason (2013) studied a group of people which consisted both of people who were students and non-students. Rest of the studies (eight) were made by using students as a test group. By using students as participants is a dividing opinion. Some see that students for instance, only represent only a certain socioeconomical status or age group. Therefore, the results that are

gathered from studies using students as sample are not a representative sample. Thus, when analysing cultural intelligence in multicultural teams in general it is vital to acknowledge that the results may differ comparing to results from working teams.

4.2 The concept of cultural intelligence

Sixteen of the seventeen research articles used Earley & Ang's (2003) *Cultural Intelligence: Individual Interactions across Cultures* as a main source when defining cultural intelligence. They originally defined cultural intelligence as "A person's capability for successful adaptation to new cultural settings, that is, for unfamiliar settings attributable to cultural context" (p. 9) and brought the term cultural intelligence to people's awareness. Thus, cultural intelligence was defined in all these sixteen articles as a skill, ability or a capability to adjust, behave and function effectively when placed into a culturally diverse situation or environment.

Based on Earley & Ang's (2003) dimensions Ang et al. later (2007) proposed a four-factor model of cultural intelligence and deepened the research on cultural intelligence further. Therefore, it seems logical that other main sources which were mainly in most of the sixteen articles were her other studies that she had done with several other researchers, such as Van Dyne & Ang (2005). *Cultural intelligence: An essential capability for individuals in contemporary organizations*, Ang, van Dyne & Koh (2006). *Personality correlates to the four-factor model of cultural intelligence*. Ang, Van Dyne, Koh, Ng., Templer, Tay & Chandrasekar (2007). *Cultural intelligence: Its measurement and effects on cultural judgment and decision making, cultural adaptation, and task performance*, Van Dyne, L., Ang, S., & Livermore, D. (2010). *Cultural intelligence: A pathway for leading in a rapidly globalizing world* and Ng, Van Dyne & Ang (2012). *Cultural intelligence: A review, reflections, and recommendations for future research*.

The one study that did not refer to Ang et al.'s study was Nolan & Kurthakoti's (2017) study *Experience Matters: The Differential Impact of Pedagogy Students' Cultural Intelligence – An Exploratory Study*. In the study the researchers tested whether two experiential approaches had differential impact on the development of student's cultural intelligence. Cultural intelligence was defined by combining Earley & Mosakowski's (2004) theory on Deardorff's intercultural competence (ICC) model (2006). However, Deardorff's model was made to measure intercultural competence not cultural intelligence. Therefore, it seems that the researchers are using cultural intelligence and intercultural competence as synonyms in this study. The research itself was made by using both Earley & Mosakowski's (2004) 12 item scale and Thomas et al.'s (2015) Short Form Cultural Intelligence Scale (SFCQ) to measure student's cultural intelligence. Thus, there is a question whether this study's results can be seen reliable, since even though the models used are valid, the theory background to which the research is based on is conflicting.

In addition, only four of these sixteen studies discussed the difference and relationship between cultural competence and cultural intelligence. This is interesting since these two concepts are supposed to explain and measure same phenomena, which is why and how some people are better adjusted in communicating in cross-cultural situations. Therefore, it would be essential to mention an alternative way this same subject has been studied. This would clarify how the writer has done a thorough literature review on this subject, which would make the research article more reliable.

Considering this, four of the seventeen studies stated conflicting information: Nolan & Kurthakoti (2017) by combining intercultural competence (ICC) and cultural intelligence models, Adair et al. (2013) defined cultural intelligence as a form of cultural competence and Presbitero & Toledano (2018) referred constantly to cultural intelligence as a part of intercultural competence and stated that CQS is a "multifactor measure for cross-cultural

competence” (83), even though there are own models for measuring ICC for instance the Integrated Model of Intercultural Communication (IMICC) by Arasaratnam (2009). However, scholars are not unanimous in whether cultural intelligence and ICC should be seen as different phenomena or if are they connected. Nevertheless, these terms should not be combined in a research article without a clarification of both theories.

4.3 The relationship of cultural intelligence and teamwork

Thirteen of the studies focused on finding out how cultural intelligence affects something in team-work situations. All the thirteen studies reported that cultural intelligence has a positive effect on multicultural teams’ performance. Twelve of these studies took the team member’s perspective and two the leaders’ perspective. Remaining four studies studied how cultural intelligence can be affected. Three of these studies were made from team members perspective and one from the leader’s perspective. The main findings in these studies are listed below and further analysed in the following discussion part.

How Cultural Intelligence affects from team members’ perspective

Adair et al. (2013) did a research on whether cultural intelligence has a distinctive effect on the development of shared values in heterogenous and homogenous teams. They discovered that behavioural and metacognitive cultural intelligence had a positive effect on shared values in culturally heterogenous teams. However, they found that motivational and metacognitive cultural intelligence may have negative effects on shared values in culturally homogenous teams. Ng’s (2011) study on cultural intelligence’s effect on collective efficacy in virtual team effectiveness found a similar result that cultural intelligence might only have positive influence on the diverse teams.

Shirish et al. (2015) studied whether cultural intelligence framework could be used for bridging the cultural discontinuities in global virtual teams. Based on their research “cultural intelligence is a malleable construct that can help bridge cultural discontinuities”. Crotty & Brett (2012) studied fusion teamwork and creativity in multicultural teams. Especially they wanted to see if cultural metacognition is an antecedent of fusion teamwork and creativity. Based on their multilevel model test, fusion teamwork and creativity were more plausible when team members were highly culturally metacognitive.

Duff et al. (2012) researched the interaction between cultural intelligence and openness on the perception of task performance. Based on their study on culturally diverse dyads, behavioural intelligence increased task performance and openness interacts with other dimensions of cultural intelligence. Li & Skulason’s (2013) research investigated virtual dyads to investigate the effects of cultural intelligence on cross-cultural virtual collaboration. Their results show that more positive reactions and attempted answers were made by the individuals who had higher cultural intelligence.

Scoll (2009) explored the relationship between cultural intelligence and the performance of multinational teams. He found that cultural intelligence has a vital positive relationship with team performance and it “provides a way to identify the capabilities of individuals in respect to cross-cultural”. A newer research by Henderson et al. (2018) studied how role clarity, communication norms, and interpersonal trust are moderated by cultural intelligence and whether it effects on global team members performance and satisfaction. Based on their survey, cultural intelligence motivation is in particular perceived to have an impact on individuals’ satisfaction and performance, since cultural intelligence motivation is a vital factor in communication norms and role clarity. Additionally, Li et al. (2017) examined the effects of cultural intelligence on virtual collaboration processes and outcomes. They found out that dyad’s level of cultural intelligence affects global virtual collaboration. Especially, the lower

cultural intelligence was shown to influence the frequency of collaborative behaviours, which influenced group satisfaction negatively.

Li et al.'s (2012) researched the effects of behavioural intelligence, language proficiency and technical skills on receptivity-based trust and satisfaction in cross-cultural virtual environment. Their results suggest that key members' behavioural cultural intelligence does have an impact on their remote partners' receptivity/trust. Presbitero & Toledano (2018) investigated improved cultural intelligence's effect on individual-level task performance in global team context. Based on their research cultural intelligence improved already after participation in cross-cultural training sessions, and therefore improved cultural intelligence is positively and significantly related to individual-level task performance. Thus, contact intensity is the factor that moderates the relationship between improved cultural intelligence and individual level task force.

How Cultural Intelligence affects from leaders' perspective

Cox (2019) wanted to explore the different techniques that leaders could use to motivate and inspire multicultural team members and therefore studied whether cultural intelligence has an impact. The participants of her case study had noted the following on their team leaders with cultural intelligence "...they drove innovation by instilling respect and including all members, such as inviting everyone to give their opinion and having consensus-driven goals." Additionally, the team members felt that it was more important that their individual cultures were respected than their individual needs.

Dean (2007) studied how cultural intelligence influences the leadership processes and cultural strategies that global leaders embrace in building global teams. He used in-depth interviews of leaders who had experience in working in culturally and nationally diverse teams in the leadership position. According to the interviewees cultural intelligence impacts the leadership processes and cultural strategic thinking, which both generate global leadership.

Over ten years later Presbitero & Teng-Calleja (2018) investigated how leaders' cultural intelligence influences team member's perception of appropriate behaviour in different cultural environment. Their research results show that "[...] perceived leader's CQ serves as a moderator in strengthening the relationship between perceived ethical leadership and individual member's display of ethical behaviour." (Presbitero & Teng-Calleja (1381)

How Cultural Intelligence can be affected from team members' perspective

Lee et al. (2018) studied how multiple cultural identities influence critical outcomes such as cultural intelligence and leadership perception in self-managed multicultural teams. Their study revealed that individuals who identified equally strong or weak to both home and host cultures demonstrated higher cultural intelligence and are more likely to be perceived as leader-like. Erez et al. (2019) tested how a virtual multicultural team project affect the development of cultural intelligence, global identity and local identity. In their four-year study they found that working in multicultural teams, where team members have positive and trustworthy relationships, personal global characteristics can be improved. Nolan & Kurthakoti (2017:103) studied which different pedagogies affected cultural intelligence. Their analysis indicated that "[...] lectures with intensive immersive experience generally result in higher cultural intelligence than a virtual experience approach on the knowledge and skills components, whereas a virtual experience approach has a better impact on the attitude component." This means that higher cultural intelligence can be achieved by experiential approaches.

How cultural intelligence can be affected from leaders' perspective

In Dean's (2007:200) research the focus is on if global leaders adopt culturally intelligent principles in the leadership processes. Based on his in-depth interviews with leaders he discovered that "Global leaders endorse and adopt culturally intelligent principles in applying the leadership processes and cultural strategies that influence culturally and nationally diverse teams"

4.4 Suggestions for future research

The suggestions for future research on cultural intelligence are divided into two main categories: *What should be studied* and *How cultural intelligence should be studied*. This chapter will tell the main suggestions relevant to future research on cultural intelligence.

What should be studied

Quantity

A larger sample for more reliable results is required (Scoll, 2009:124) and models should be tested with a diverse sample including a variety of different cultural backgrounds, which would allow generalizing the findings (Shirish et al., 2015:13). Additionally, the size of global teams and their intercultural composition theoretically should be examined (Presbitero & Teng-Calleja, 2008:1389).

The effect of cultural intelligence

More research is needed on how cultural intelligence affects self-efficacy, organizational citizenship behavioural and employee engagement (Presbitero & Toledano, 2018:2203). Relationships between different cultural intelligence factors and task performance warrants also further investigation, considering the influence of the role of cross-cultural sensitivity in the task itself. Additionally, it should be studied if high cultural identity team members perform differently in team tasks and are all the dimensions of cultural intelligence related to teamwork similarly (Duff et al., 2012:10, Crotty & Brett, 2012:227).

In addition, the relationships between cultural intelligence, collective efficacy, and communication on the diverse virtual team effectiveness (Ng, 2011:29) and factors on the relationships between cultural intelligence, processes, and outcomes in global virtual collaboration should be explored. In addition to that, more data is needed of whether team tenure, size

and task types have an influence on the results (Li et al., 2017:56). Also, Li et al. (2012:92-93) suggested that the interlinking relationships among technology, team and task structures should be considered in future studies. Since cultural intelligence is seen as a factor that enables teams to gain trust, other factors that influence team trust should be examined. (Erez et al., 2013:349)

What affects cultural intelligence

More individual specific factors that are known to influence cultural intelligence (such as extent of international experience, race/ethnicity, domestic/international student, et cetera) (Nolan & Kurthakoti, 2017:110) and the relationships on a team level, including input from peers, managers and subordinates that may have an influence on team members cultural intelligence, should be explored (Shcoll, 2009:124)

Models

There is a need for more detailed theoretical model to explain the inherent functioning mechanisms of cultural intelligence on the interaction processes (Li & Skulason, 2012:244). Additionally, more information on how one best operationalizes and measures cultural intelligence would be vital (Henderson et al., 2018:965). Future research has also been suggested to “test the mediation effects of processes on the relationship between cultural intelligence and outcomes use alternative aggregation models (e.g., dispersion model) to aggregate individual cultural intelligence to the team level.” (Li et al., 2017:56)

Leader perspective

For future research from the leader perspective there is a need to study whether those who identify strongly with all cultures and therefore intend to satisfy all cultural groups are perceived less leader-like (Lee et al., 2018:195-196). Additionally, more data from leaders who can make self-assessments of their level of cultural intelligence could provide interesting results. (Presbitero & Teng-Calleja, 2018:1389)

How cultural intelligence should be studied

Other means of measuring cultural intelligence should be explored. Some of these means are informant-based measures and performance-based measures. This way the reliability and validity of the studies could be increased. Additionally, other measures of contact intensity such as different modes of interaction (face-to-face vs. virtual) should be explored and more purposeful and organized way of collecting data (Presbitero & Toledano, 2018:1389) Thus, an integrated model to study cultural intelligence should be developed (Li et al., 2017:56). Additionally, all the models that were used in the studies should be tested again in different settings.

Future researchers should create a task for the teams where the members will be responsible for the outcomes of the task, such as utilizing a class assignment for the research. (Cox, 2019:86). The task should be created in a way that requires the members to spend a considerable amount of time with each other (Crotty & Brett, 2012: 227-228). In order to examine the effects of culturally intelligent team processes there should be a more culturally diverse group of participants, specific roles for each group members should be created, and the focus should be directly on the team processes. (Ng, 2011:29, Dean, 2007:253-254)

5 DISCUSSION

The purpose of this study was to look at how cultural intelligence has been studied in multicultural teams. To answer the research questions: *RQ1 What kind of methods are used for studying cultural intelligence in multicultural teams?* *RQ2 What theories and data are used for studying cultural intelligence in multicultural teams?* and *RQ3 What are the recommendations for future research on cultural intelligence in multicultural teams?* a systematic literature review was carried out on academic articles that had studied this subject. This chapter will open and analyse the results found from the analysed articles.

What has been studied about cultural intelligence in multicultural teams

The focus in these studies were whether cultural intelligence has a positive impact on multicultural teams' performance. Researchers had varying aspects to the subject, such as the impact of cultural intelligence on shared values, innovation, teamwork, creativity, satisfaction, ethics and cohesion, which eventually have an impact on team performance. Only four studies looked at how one can affect cultural intelligence itself. One of these studied how multiple cultural identities influence cultural intelligence, another tested how multicultural team projects affect the development of cultural intelligence, and one studied which of the different pedagogies impact cultural intelligence. The fourth study focused on leader perspective and studied whether global leaders adopt culturally intelligent principles in the leadership processes. All these four studies were made by using multicultural teams as sample groups.

Most (eleven) of the studies used a mixed method of quantitative and qualitative research and data was gathered mostly by using surveys, questionnaires or both. Approximately, half (eight) of the studies used students as a test group and in addition one was using students and non-students. The rest of the studies looked at a sample of people with

experience in multicultural teams either as a member or a leader. Most of the studies had chosen the team members viewpoint, focusing on how they reviewed themselves or other team members. Only three of the studies were written from the viewpoint of leaders of multicultural teams.

Almost all the studies used Earley & Ang's (2003) definition of Intercultural Intelligence as a base for their study. In addition to that, other commonly used sources were from Earley or Ang's research in collaboration with other authors. Only one of the studies (Nolan & Kurthakoti, 2017) did not refer to any of Ang or Earley's studies and was clearly confusing cultural intelligence with ICC. This raises a question of reliability when analysing this research's results.

Fourteen of the studies used Intercultural Intelligence Scale to measure cultural intelligence. Since, almost all the studies used the CQS by Ang et al. (2007) the demand for new ways of measuring cultural intelligence was mentioned in several of the studies and in 2015 Thomas et al. proposed the Short Form Cultural Intelligence Scale (SFCQ) as an alternative measuring tool. They claimed that the need for new scale was seen since, the CQS "...does not specify the relationship between the overall construct and each dimension" (Thomas et al., 2015: 1101). The SFCQ is a ten-item scale that comprises three sub scales: cultural knowledge, cultural skills and cultural metacognition. Two of the newer articles (Nolan & Kurthakoti, 2017 and Presbitero & Teng-Calleja, 2018) used Thomas et al.'s (2015) SFCQ to measure cultural intelligence in their studies.

One research (Cox, 2019) used a proposed theory of a CARE -model (community, aim, respect and empowerment). This study was also the only one to use in-depth interviews and to analyse social media posts and articles as a research method. Based on the interviews and language choices on social media posts, Cox (2019) categorised and analysed the respondent's mentions, similar concepts and theoretical terms and concluded them. Based on

the answers divided into these CARE-categories she concluded how cultural intelligence can impact innovation. However, the reliability of the results is also controversial, until this model is tested further in other settings.

How cultural intelligence was seen to impact on team development and performance

All of the researchers came to the same conclusion that cultural intelligence has a positive influence on multicultural team's performance and working in multicultural teams increases one's cultural intelligence. Furthermore, cultural intelligence seems to have an impact on how willing people are to participate in cross-cultural training sessions. Therefore, it is related to individual-level task performance (Presbitero & Toledano, 2018). Duff et al. (2012) stated that behavioural intelligence especially increases openness on the perception of task performance. The more person is communicating and working in a cross-cultural situations and environments the more their cultural intelligence improves (Erez et al., 2019).

Cultural intelligence was seen as a framework that could be used for bridging cultural discontinuities (Shirish et al., 2015). Especially behavioural and metacognitive cultural intelligence seem to have positive effect on forming shared values in multicultural teams (Adair et al., 2013), which helps the team to find a common ground to work on. In addition, cultural intelligence motivation was found out to be a key factor in forming communication norms and role clarity in multicultural teams (Henderson et al., 2018), furthermore, member's cultural intelligence has an impact on how trusting team members are towards each other (Li et al. 2012). This shows that cultural intelligence has an positive influence on how multicultural teams success in forming phase, where the group aims at finding the most suitable methods of working together by getting to know each other and finding out what which is the acceptable way to behave (Dufrene & Lehman, 2016: 16-17).

Low level of cultural intelligence may influence the groups satisfaction and collaborative behaviour negatively (Li et al., 2017), which impacts vividly in the storming phase, since the hierarchy in the team is ambiguous and they should begin to decide on time and task schedule. Team member's possible distinctive ways of working may cause conflicts. People with higher cultural intelligence are more likely to be perceived as leader-like in multicultural teams (Lee et al., 2018), and therefore it may help the team to arrange the hierarchy more naturally and help them to start working towards their goal as a team.

Furthermore, leaders who have high cultural intelligence more capable of in encouraging team members to openly suggest their own opinions and ideas and making sure that all members feel included (Cox, 2019), since leaders' cultural intelligence has an impact on their leadership processes and cultural strategic thinking (Dean, 2007). Additionally, leader's cultural intelligence moderates the way team members display ethical behaviour (Teng-Calleja, 2018), which helps team members to comprehend how to treat one another appropriately. High metacognitive cultural intelligence was seen to have positive influence on fusion teamwork and creativity (Crotty & Brett, 2012) and team members with higher cultural intelligence have more positive reactions and answers (Li & Skulason, 2013), which helps them to solve problems together.

Two of the articles pointed that they found out in their studies that cultural intelligence may have a positive influence only in culturally heterogenous teams, and that especially motivational and metacognitive cultural intelligence may have a negative effect on shared values in culturally homogenous teams (Adair et al., 2013). Additionally, Ng (2011) stated that based on her study, cultural intelligence can only have a positive influence on diverse team's collective efficacy and decision outcome satisfaction, and homogenous teams do not benefit from it.

Recommendations for future research

Since all of the suitable articles found for this review that studied cultural intelligence in multicultural teams were published between 2007-2019, it can be presumed that this is a relatively new area of research, and the main goal is to replicate the existing studies in new settings by using larger sample groups and including even more cultures. This would ensure the reliability of the findings, since at the moment the research around this topic has been accused of being too focused on Western cultures (Serpell, 2000: 493).

One major aspect arising from this review is that future research should focus on testing the new ways of measuring cultural intelligence further. Since, there has been some criticism towards the Cultural Intelligence Scale's way of relying on self-reported measures, a model for measuring assessment in action would give new important information (Somoye, 2016: 26). For instance, Cox (2019: 84) pointed out in her study that it was difficult to get the respondents to "express negative issues about the team's attributes". By creating a model that does not require self-assessment of the respondents, this kind of aspect that may skew the results could be excluded.

Alon et al. (2016) proposed a model for measuring cultural intelligence in business context (BCIQ), as they consider cultural intelligence a vital skill for global leaders but see the original CQS's dimensions being too general and irrelevant in the business context. Their model is made for measuring skills that could predict long-term success by combining the level of cultural intelligence to other predictors such as number of languages spoken and the degree of cultural distance. The BCIQ is especially made to respond for the need to have an alternative way to self-assessment and instead "...the items report how frequently and in what manner the respondents do something". The model consists of 18 self-reported questions and 20 knowledge-based questions (78, 90-92) However, before one can know whether this model is better than original CQS, more testing is required.

When discussing about testing and creating new ways to measure cultural intelligence it is vital to question whether it is even possible. Since there has been criticism towards the cultural intelligence theory itself and the ways to measure it. Blasco, Feldt & Jakobsen (2012) propose that a culturally intelligent person is too ideal to be possible and the parameters used to define cultural intelligence are not valid. They claim that since the cultural intelligence scale is based on self-reports it is more highly possible that participants report more inappropriate behaviour and appropriated behaviour goes unremarked. (Blasco, Feldt & Jakobsen, 2012:232-234)

6 CONCLUSION

All the studies reviewed in this paper gave positive results and confirmed that cultural intelligence has a positive impact on multicultural teams' performance. Since working in culturally diverse teams makes establishing goals, rules and roles more complex, cultural intelligence is proposed to be a factor that enables these kinds of teams to work more effectively (Earley & Peterson, 2004: 111-112.) Having cultural intelligence does not require having a lot of knowledge of other cultures in detail, instead individuals are capable of evaluating how they are supposed to behave in culturally diverse situations in general (Ciutiene, Deschange & Kiznyte, 2015: 12). By training a skill instead of hypothetical traits of certain cultures the stereotyping of people can be avoided (Earley & Peterson, 2004: 113).

Since approximately half of the studies were made by using students as a sample group in classroom exercises, there is a little doubt on whether these results are parallel to real working-life situations. For instance, different factors may have influence on the results such as age or working experience. Additionally, when using exchange students as a test group they may have already been acculturated and adjusted to the host culture. (Alon et al. 2016: 87-88). This should be considered when authors are presenting their research results, especially when these studies are used as a source for further research.

There was not as much data available as one could hope for, made finding reliable sources more difficult. Nevertheless, based on this systematic literature review on 17 articles about cultural intelligence in multicultural teams, the existing research on this subject is still remote and more research should be done especially from real working life environment, since majority of the studies were based on students as respondents. However, using students as sample groups may give valuable information from the academic viewpoint, for instance how cultural intelligence could be improved with multicultural teamwork during classroom

exercises. Additionally, this review showed that readers should pay close attention when reading studies made about cultural intelligence since it is easily been confused with intercultural competence. Lastly one need to question the way culture is defined in the studies, since the definition may be concentrated only on national differences.

In further research about how cultural intelligence is studied in multicultural teams, one could take a viewpoint of focusing especially on studies that claim to research intercultural competence and see whether those studies are also combining and or confusing these two terms. Another viewpoint could be to study how cultural intelligence's impact on multicultural virtual teams has been studied. Since remote working is becoming more popular. Until now, there seems to be a lack of research on the topic. However, it will be interesting to see how much the global pandemic in spring 2020 will increase the number of people working in global virtual teams. Which means hypothetically that there would be more global virtual teams, whose team development and performance could be used as a sample for new research on this subject.

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Appendix
A List of the Findings from the Articles Used in the Literature Review

Author/s	Title	Focus	Method	Measurement	Results	Future
Adair, Wendi, Hideg Ivona & Jeffrey R. Spence (2013)	The Culturally Intelligent Team: The Impact of Team Cultural Intelligence and Cultural Heterogeneity on Team Shared Values.	How the cultural heterogeneity of work teams moderates the way in which team cultural intelligence (CQ) affects the development of team shared values.	A mixed method of quantitative and qualitative	CQS	Behavioral and metacognitive CQ had a positive effect on shared values in culturally heterogeneous teams; however, motivational and metacognitive CQ had a negative effect on shared values in culturally homogeneous teams.	Examine the content of shared team values as predictors of goal attainment.
Cox, Kathryn (2019)	Integrating an Innovative Organizational Culture with Cultural Intelligence in Multicultural Teams: A Case Study of an International Student Team.	To understand the techniques that leaders can use to motivate and encourage innovation within multicultural teams.	Qualitative	CARE (community, aim, respect, and empowerment)	team members felt that it was more important that their individual cultures were respected in the team than their individual needs.	To test the model in other multicultural teams, in corporate and organizational settings
Crotty, Susan K. & Jeanne M. Brett (2012)	Fusing Creativity: Cultural Metacognition and Teamwork in Multicultural Teams.	To elaborate theoretically and empirically a model linking fusion teamwork to creativity in multicultural teams.	A mixed method of quantitative and qualitative	CQS	Across teams when team members were more highly culturally metacognitive, fusion teamwork and creativity were more likely.	Whether the other dimensions of cultural intelligence are related to fusion teamwork in the same way as cultural metacognition.
Dean, Benjamin (2007)	Cultural Intelligence in Global Leadership: A Model for Developing Culturally and Nationally Diverse Teams.	How global leaders use culturally intelligent principles in the leadership processes and cultural strategies of creating and developing culturally and nationally diverse teams.	Qualitative	CQS	Global leaders endorse and adopt culturally intelligent principles in applying the leadership processes and cultural strategies that influence culturally and nationally	Focus directly on team processes to examine the effects of culturally intelligent team processes on team

					diverse teams.	performance outcomes.
Duff, Angus, Tahbaz Ardeshir & Christopher Chan (2012)	The Interactive Effect of Cultural Intelligence and Openness of Task Performance.	Interactions between cultural intelligence and openness on the perception of task performance.	Qualitative	CQS	Behavioural intelligence increased task performance and that openness interacts with other dimensions of cultural intelligence	Study whether high cultural identity team members perform differently in team tasks
Erez, Miriam, Lisak Alon, Harush Ravesh, Glokeshon Ella, Nouri Rikki & Efrat Shokef (2013)	Going Global: Developing Management Students' Cultural Intelligence and Global Identity in Culturally Diverse Virtual Teams.	To test virtual multicultural team project's effect on the development of management students' cultural intelligence, global identity, and local identity	A mixed method of quantitative and qualitative	CQS	Global training programs, which consist not only of class material but also of hands-on experience in working in multicultural teams, can improve personal global characteristics.	Since cultural intelligence is seen as a factor that enables teams to gain trust other factors that also influence team trust should be examined
Henderson, Linda, Stackman Richard & Rikke Lindekild (2018)	Why Cultural Intelligence Matters on Global Project Teams.	How CQ moderates a model of three indirect effects – role clarity, communication norms, and interpersonal trust – on GPT members' performance and satisfaction.	A mixed method of quantitative and qualitative	CQS	CQmotivation significantly moderates GPT members' alignment of their communication norms and role clarity, thus indirectly impacting their project satisfaction and performance.	How does one best operationalize and measure CQ-knowledge and CQ-behavior in future studies of GPT members
Lee, Yih-Teen, Masuda Aline, Fu Xin & Sebastian Reiche (2018)	Navigating Between Home, Host and Global: Consequences of Multicultural Team Members' Identity Configurations.	How members' multiple cultural identities influence critical outcomes such as CQ and leadership perception in self-managed multicultural teams.	A mixed method of quantitative and qualitative	CQS	Individuals with balanced culture-specific identities demonstrate higher CQ and are more likely to be perceived as leader-like in multicultural teams.	Study whether those who identify strongly with all cultures and therefore intend to satisfy all cultural groups are perceived less leader-like
Li, Ye & Asgeir Skulason (2013)	Uncovering the Effects of Cultural Intelligence on Cross-Cultural	To investigate the effects of an individual capability, cultural intelligence, on cross-cultural	A mixed method of quantitative	CQS	Individuals with higher CQ demonstrated more positive reactions and	More detailed theoretical model can be

	Virtual Collaboration Processes.	virtual collaboration processes in a controlled experiment.	and qualitative		attempted answers in the cross-cultural virtual collaboration after controlling for foreign language proficiency.	established to explain the inherent functioning mechanisms of CQ on the interaction processes.
Li, Ye, Li Hui, Mädche Alexander & Pei-Luen Patrick Rau (2012)	“Are You a Trustworthy Partner in a Cross-Cultural Virtual Environment?” – Behavioral Cultural Intelligence and Receptivity-based Trust in Virtual Collaboration.	To examine three individuals capabilities (behavioral cultural intelligence, language proficiency and technical skills) and their effects on partners’ receptivity-based trust and satisfaction in a cross-cultural virtual environment.	A mixed method of quantitative and qualitative	CQS	Focal members’ behavioral cultural intelligence strongly influences their remote partners’ receptivity/trust.	Explore the power of EAST and be aware of the interlinking relationships among technology, team and task structures.
Li, Ye, Rau Pei-Luen Patrick, Li Hui & Alexander Mädche (2017)	Effects of a Dyad’s Cultural Intelligence on Global Virtual Collaboration.	To examine the effects of the cultural intelligence of a dyad on its global virtual collaboration processes and outcomes.	A mixed method of quantitative and qualitative	CQS	Dyad’s level of cultural intelligence effects on global virtual collaboration	Develop an integrated model and test the mediation effects of processes on the relationship between cultural intelligence and outcomes.
Ng, Pei See (2011)	Cultural Intelligence and Collective Efficacy in Virtual Team Effectiveness.	To examine the effect of CQ and collective efficacy in virtual team effectiveness.	A mixed method of quantitative and qualitative	CQS	Cultural intelligence may only have positive influence on diverse team’s collective efficacy and decision outcome satisfaction and homogenous teams do not benefit from it.	Re-examine the model of the current study with the following: (1) create a task for the teams that the members will be responsible for the outcomes of the task (2) create the task that requires the members to spend a considerable period of time with each other; (3)

						recruiting participants in two or more countries
Nolan, Margaret & Raghu Kurthakoti (2017)	Experience Matters: The Differential Impact of Pedagogy Students' Cultural Intelligence – An Exploratory Study.	To evaluate the effect of different pedagogies on students' cultural intelligence.	A mixed method of quantitative and qualitative	SFCQ	Higher cultural intelligence can be achieved by experiential approaches.	More individual specific factors that are known to influence cultural intelligence (such as extent of international experience, race/ethnicity, domestic/international student, etc should be explored.
Presbitero, Alfred & Mendiola Teng-Calleja (2018)	Ethical leadership, team leader's cultural intelligence and ethical behaviour of team members. Implications for managing human resources in global teams.	How leaders' cultural intelligence influence team members perception of how to act ethically in culturally different context	A mixed method of quantitative and qualitative	CQS	Perceived leader's cultural intelligence serves as a moderator in strengthening the relationship between ethical leadership and individual member's display of ethical behaviour	The size of global teams and their intercultural composition theoretically should be examined
Presbitero, Alfred & Lemuel S. Toledano (2018)	Global team members' performance and the roles of cross-cultural training, cultural intelligence, and contact intensity: the case of global teams in IT offshoring sector.	Improved cultural intelligence's effect on individual-level task performance in global team context	A mixed method of quantitative and qualitative	CQS	Improved cultural intelligence is positively and significantly related to individual-level task performance	How cultural intelligence effectively on other attitudinal and behavioural outcomes in global teams such as self-efficacy, organizational citizenship behavioural and employee engagement
Scoll, Dirk (2009).	The Relationship Between Cultural Intelligence and the Performance	The relationship between cultural intelligence and the	A mixed method of	CQS	Cultural intelligence has a vital positive relationship on	The relationships on team level, including

	of Multinational Teams.	performance of multinational teams	quantitative and qualitative		team performance and it “pro-vides a way to identify the capabilities of individuals in respect to cross-cultural”	input from peers, managers and subordinates that may have an influence on team members cultural intelligence should be explored
Shirish, Anuragini, Boughzala, Imed & Shirish Srivastava (2015).	Bridging Cultural Discontinuities in Global Virtual Teams: Role of Cultural Intelligence.	How to use cultural intelligence framework as the mechanism for the bridging the cultural discontinuities in global virtual teams.	A mixed method of quantitative and qualitative	CQS	Cultural intelligence is a malleable construct that can help bridge cultural discontinuities	Models need to be tested through diverse range of populations from different cultural backgrounds so the findings could be more generalized