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GLOBAL MINDSET ANTECEDENTS – AN EMPIRICAL STUDY

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ABSTRACT

The rapid growth pace of globalization resulted in changes in the business world dynamics and, as consequence, the importance of having a global mindset has been increasing. Global mindset has been considered a key attribute to successfully operate in a complex global business environment. The goal of this work project is to answer to what are the characteristics of a global leader with a global mindset. Focusing on the cultural diversity and cultural distance associated with the global marketplace, it is suggested that cultural intelligence and tolerance for ambiguity contribute to high levels of global mindset in global leaders. It is also proposed a positive relationship between tolerance for ambiguity and openness to new experiences, where high levels of the latter characteristic has a potential positive influence in the variance of tolerance for ambiguity. Regarding to cultural intelligence, it is suggested that its variance is positively influenced by high levels of learning agility, and that this is moderated by the level of cultural self-awareness. The hypothesis were tested in a population with different nationalities, where age, gender, international work experience and being global leaders or not were used as control variables. All the hypothesis were verified validating the relationships among the diverse variables were verified, with exception for the moderation effect.

Key Words: Global Mindset, Global Leader, Cultural Intelligence, Tolerance for Ambiguity, Openness to New Experiences, Learning Agility, Cultural Self-Awareness

TABLE OF CONTENTS

CHAPTER ONE: INTRODUCTION TO THE STUDY	1
CHAPTER TWO: LITERATURE REVIEW	4
2.1. Global Leader	4
2.2. Global Mindset	5
2.3. Empirical Studies	11
CHAPTER 3: PROPOSED ANTECEDENTS FOR GLOBAL MINDSET	14
3.1. Direct Antecedents	14
3.2. Additional Variables	20
3.3. Complete Model with Proposed Antecedents	24
CHAPTER 4: RESEARCH METHODOLOGY	26
4.1 Research Design	26
4.2 Participants	26
4.3 Measuring Instruments	27
CHAPTER FIVE: RESULTS	30
5.1 Reliabilities, Simple Statistics and Correlations	30
5.2 Regression Analysis	33
CHAPTER SIX: DISCUSSION	40
CHAPTER SEVEN: CONCLUSIONS	48
7.1 Summary	48
7.2 Limitations on the study	49
BIBLIOGRAPHY	51
APPENDIX A: Demographics of Participants	63

APPENDIX B: Measures	65
APPENDIX C: Regression Analysis Results for Hypothesis 1 to 5	71
APPENDIX D: Regression Analysis for the Model of Antecedents of Global Mindset	75
APPENDIX E: Extra Regression Analysis Results	76

LIST OF FIGURES

Figure 1 Hypothesized model.

Figure 2 Mediation model involving openness to experience, tolerance for ambiguity and global mindset.

Figure 3 Mediation model involving learning agility, cultural intelligence and global mindset

LIST OF TABLES

Table 1 Internal reliability coefficients for each variable

Table 2 Correlations of Studied Variables

Table 3 Hypothesis 1: Tolerance for ambiguity is positively related with global mindset

Table 4 Hypothesis 2: Cultural intelligence is positively related with global mindset

Table 5 Joint influence of tolerance for ambiguity and cultural intelligence on global mindset's variation

Table 6 Hypothesis 3: Openness to new experiences is positively related to tolerance for ambiguity

Table 7 Hypothesis 4: Learning agility is positively related to cultural intelligence.

Table 8 Hypothesis 5: Cultural Self-Awareness moderates the relationship between Learning Agility and Cultural Intelligence

CHAPTER ONE: INTRODUCTION TO THE STUDY

The effects of globalization have played a major role in sustaining the economic expansion of the global economy in the second half of the 20th century. The ongoing world economic, technological, social and political integration created a major environmental change that promoted the world becoming a global village and business becoming global in character. Due to trade barriers disintegration, lower communication and transport costs, organizations started to expand beyond national borders in the pursuit of business opportunities (Kumar, 2014). The internationalization provides scope, size and opportunities to expand, exploit advantages and grow, resulting in global production and services systems that are formed and managed by multinational companies. (Kumar, 2014; Nigam and Su, 2013). From a large scale perspective, it can be said that Western countries' companies are moving to Asian countries, but the opposite is also observed. For example, a large number of manufacturing assembly jobs have moved from the USA and Western Europe to countries like China, Thailand, Malaysia and India, and Indian IT, automobile industries and domestic hospital chains have expansion plans in markets such as the USA, UK and South-East Asia (Kumar, 2014) . In 2010, Asia (excluding Japan) accounted for about 15 percent of world GDP, while Western Europe accounted for more than 30 percent, and it is expected within the next 15 years that the two will nearly converge (Cohen, 2010). Moreover, this integration across markets in the past years have caused a growth of cross-border migration, from 150 million to 214 million in the last decade (Ernst and Young Ltd, 2011). In order to effectively conduct business in this increasingly flattened world it is required a more different kind of leader than even before. A leader that not only have to be effective in the traditional skills expected, but also with

additional knowledge, skills and, above all, an adequate mindset to operate through the complexities that arise when moving beyond the traditional borders (Cohen, 2010). This mindset is called global mindset.

Global mindset is a topic that has been extensively covered in literature and has been gaining increasing attention by academia and by the business world. With increasing cross-boundaries business, acquisitions and mergers, leaders must be prepared to think and act both locally and globally, and to understand that there are cultural differences between the different nations and cope with it (Cohen, 2010). The capacity to do so increases with higher levels of leaders' global mindset. Gupta and Govindarajan (2002) define global mindset as a combination of awareness and openness to the diversity of cultures and markets with an inclination and capability to integrate across the diversity. With this type of mindset, leaders know about cultures and political and economic systems in other countries and understand how their global industry works. They are also better prepared to manage and build trusting relationships with people with different cultural backgrounds (Javidan, 2010).

The importance of better understanding how can a global mindset be developed is major, since companies, more than ever, need to have a workforce, namely their leaders, equipped with this type of mindset. If global leaders are not able to operate in an increasingly open and diverse workplace, companies get in risk of failure in a global environment, even if they excel in developing their products and services at the origin. CEOs realize that even if in the past it was not necessary to reach out and adapt to other parts of the world, that reality has already changed and leaders need to have skills around

cultural dexterity and global mindset in order to leverage global opportunities and stay resilient in a competitive global market (Nikravan, 2014).

In this work project is suggested that the level of global mindset is directly influenced by the leader's cultural intelligence and tolerance for ambiguity. People with high cultural intelligence is better capable of successfully adapt to new cultural settings (Earley and Ang, 2003). In the case of global leaders, is important for them to understand cultural differences and adjust theirs styles, communications and learn about customs, economic and political systems. Associated with the current context, ruled by cross-cultural business and interactions, there is an increase of cultural and organizational complexity (Lane and Klenk, 2004).

One of the dimensions of complexity is ambiguity, which is something global leaders are exposed to in a daily basis (Lane et al, 2004; Mendenhall *et al*, 2012). It is then proposed that high tolerance for ambiguity enhances global mindset, since people with high levels of tolerance for ambiguity, among other characteristics, are more likely to manage the inherent stress of uncertain environments and to be more adaptive and receptive to change (Caligiuri and Tarique, 2012). For these people, ambiguous situations, common across the diversity of cultures and markets, are seen as interesting, desirable and challenging (Furnham and Marks, 2013) making global leaders more open to them.

By understanding what characteristics lead to higher levels of global mindset, companies can identify the best candidates for global positions, that may already possess this global mindset or the potential to develop it.

CHAPTER TWO: LITERATURE REVIEW

2.1. Global Leader

The increasing intensity and growth of the global business environment have been drawing attention not only to the way business need to be conducted in multinationals, but also to the leaders of these firms. Both academics and practitioners have become increasingly interested in conceptualize and develop models that can help multinational firms develop global management and leadership talent, namely focusing on cross-cultural competencies (Caligiuri and Tarique, 2012; Osland *et al*, 2014; Story, 2011; Vogelgesang *et al*, 2014). This stream of research, however, has brought different definitions of global leader, where the terms “global” and “leader” are given different meanings (Jokinen, 2005; Mendenhall *et al*, 2012).

The attribute “global” is mostly addressed from three different points of view. Some authors adopt the literal dictionary definition where “global” refers to something as part of the whole world, highlighting the notion of leadership in the world community. Others used it interchangeably with the term international, considering jobs with some international scope, and yet other authors associate the term global with the concept of globalization, which is connected to a constantly changing complex and ambiguous context (Mendenhall *et al*, 2012).

Definitions of leader vary depending on whether authors focus on the individual’s position in the organization or on their responsibilities and tasks. In some research works the global leaders have been identified as individuals who occupy positions of high

authority in the organizations, often focusing on the top executive level only, sometimes just CEOs (Jokinen, 2005). However, an increasing number of people farther down the organizational hierarchy, working in multinational firms, are engaged in global work, having also global responsibility over the business activity (Mendenhall *et al*, 2012). So, a definition only focusing on the formal position, disregarding the responsibilities, tasks and job scope, exclude all of those that are also functioning as global leaders, but not at an executive level. On the work of Caligiuri and Tarique (2009), it was developed a set of 10 global leadership activities. A population of global leaders provided a self-assessment of their effectiveness on each item. It included work with colleagues from other countries, interact with external and internal clients from other countries, supervise employees with different nationalities, develop a strategic business plan on a worldwide basis, manage a budget on a worldwide basis, and manage foreign suppliers or vendors among others.

In this study, a global leader refers to individuals that work in a multinational firm with key activities and characteristics: work with people located in other countries, conduct and manage business across borders, develop and implement strategies to maximize revenues across international markets and manage a multicultural team.

2.2. Global Mindset

With the world becoming a global village multinationals experience a greater integration across markets (Kumar, 2014). In order to create or maintain multinationals' competitiveness, the workforce must accompany the changes taking place in the global business environment by being capable of operating effectively in such an environment

(Story *et al*, 2013). Several studies have correlated the capacity of being an effective global leader with possessing a global mindset (Rhinesmith, 1992, 1993, 1995; Gupta and Govindarajan 2002; Bowen and Inkpen, 2009; Cohen, 2010; Lovvorn and Chen, 2011; Story, 2011; Conger, 2012; Ananthram and Nankervis, 2013). Having or constructing a global mindset has been considered a key factor to become a global leader prepared to operate effectively in a global environment, while being respectful of cultural diversity (Harris *et al*, 2004; Story, 2011).

Studies addressing this concept have taken place for a long period and continue to draw the attention of many scholars and the corporate world due to its importance. The first time the concept of global mindset started to be discussed was approximately in 1969 when Perlmutter described the three types of corporations according to their approaches to internationalization. The three types are ethnocentric (home country orientation), polycentric (host country orientation) and geocentric (world orientation), where the latter was the first description of global mindset. Perlmutter's work and his notion of geocentrism, and the urgency of overcoming nationally-entrenched perceptions and to focus on the entire world, were the starting point for further research focusing on a cultural perspective of global mindset.

Starting from Perlmutter (1969), many other authors approached the concept of global mindset at the organizational level and individual level. The studies that approach global mindset at the organizational level, relate global mindset with the company's position and its strategy towards the marketplace or approach it as an aggregation of individual mindsets, where the cognitive structures of the individuals combine to form an

organizational mindset (Kobrin, 1994; Paul, 2000; Jeannet, 2000; Gupta and Govindarajan, 2001, 2002; Begley and Boyd, 2003; Beechler *et al*, 2004; Steinbock, 2010; Kyvik *et al*, 2013; Gaffney *et al*, 2014). Global Mindset at the individual level was also described and analyzed over the years, receiving increasing attention by a growing number of authors. As Story (2011) emphasizes, “leadership is extremely important for organizational success in this globalized economy” and as more organizations understand the need to build its global leadership bench, the focus of attention as turned to the development of global leaders with a global mindset (Conger, 2012).

This work project focus at the individual level, with intent to understand what personality traits lead to higher levels of global mindset. It was chosen to analyze global mindset at the individual level rather than the organizational level, because the global leaders are the ones to set the company’s strategic direction and influence the globalization of their business and human resources (Dekker *et al*, 2005). The results can help to identify individuals with potential to develop a strong global mindset and to understand how to train and develop these people capable of effectively working in a global environment (Story *et al*, 2013).

Furthermore, the majority of global mindset literature conceptualize it considering the cultural diversity and strategic complexity associated with globalization (Story *et al*, 2013). Since these two features are two salient dimensions of the global business environment, most of the authors analyze global mindset using a cultural perspective, a strategic perspective or both (Levy *et al*, 2007). When a description of global mindset includes more than one perspective, it is called multidimensional. The multidimensional

perspective on global mindset mainly integrates both cultural and strategic perspectives, but may also comprehend additional dimensions, such as personal background, different experiences and characteristics (Levy *et al*, 2007).

The cultural dimension of the global mindset focuses on cultural diversity and cultural distance associated with worldwide operations and markets, as a result of globalization (Beechler, 2008). Studies approaching the global mindset on a cultural perspective emphasize the challenges faced by leaders on a culturally diverse environment (Levy *et al*, 2007; Beechler, 2008). Studies that approached global mindset from a cultural perspective focus on the knowledge and capabilities a global leader should have to overcome the challenges faced by a global leader in a context of increasing cultural diversity (Beechler *et al*, 2004; Maznevski and Lane, 2004; Clapp-Smith, 2009; Lovvorn and Chen, 2011; Story and Barbuto, 2011; Story *et al*, 2013; Choi, 2014).

A strategic perspective on global mindset moves away from the necessity to interact and accept diversity, and rather focuses on the organizational complexity created by globalization that makes firms integrate dispersed operations and markets (Levy *et al*, 2007). This dimension argues that the increased complexity of globalization, particularly when compared with domestic markets, must be reflected in the cognitive abilities of leaders in order for multinational corporations to succeed (Massingham, 2013). Thus, global mindset is approached from the point of view of enabling leaders to evaluate various market opportunities and understand different markets competition (Arora *et al*, 2004; Nummela *et al*, 2004; Taylor *et al*, 2008; Story and Barbuto, 2011; Massingham, 2013; Story *et al*, 2013).

In this work project the definition of global mindset by Gupta and Govindarajan (2002) is followed. The authors describe global mindset as a combination of awareness and openness to the diversity of cultures and markets with an inclination and capability to integrate across diversity. The conceptual framework includes integration and differentiation and persons with high levels of both variables have a global mindset. This means that they are open to diversity across cultures and markets and are unlikely to present a tunnel-like vision about the context surrounding them, being able to integrate this diversity. According to the authors, global mindset is driven by four factors: curiosity about the world and a commitment to becoming smarter about how the world works, an ability to articulate current mindsets, exposure to diversity and novelty, and a disciplined attempt to integrate knowledge and information about cultures and markets. The decision to follow this definition was made due to the double nature of it. It not only mentions a predisposition to accept the differences that one can encounter when doing business abroad or with someone from a different nationality and learn from it, but also a potential to deal with obstacles that can arise from those situations and be effective and productive when working in cross-cultural environments.

Several other authors have been studying the global mindset from multiple viewpoints, namely using a cultural perspective. In 2007, Beechler and Javidan described global mindset as the psychological characteristics, cognitive ability and knowledge of leaders, allowing them to lead in culturally diverse realities.

For Levy *et al* (2007), cosmopolitanism is one of the major conceptual dimensions of global mindset in a cultural approach. In the authors' framework, cosmopolitanism

represents a state of mind that is manifested as an orientation towards the others and which searches to reconcile the global with the local and mediate between the familiar and the foreign. The authors consider a cosmopolitan person as open, willing to explore and learn from alternative systems of meaning held by others.

In an important work for this field of study, Clapp-Smith (2009) approached the topic of global mindset development during cultural transitions. For the author, global mindset is a process of reframing a cognitive reference point, changing the leader's worldview. Leaders then develop a new paradigm of meaning or perspective-taking, and their capacity to better understand the nature of culture is increased. It also contributes to a more expansive understanding of the impact of global trends on local strategies.

Story and Barbuto (2011) defined global mindset from a cultural and also strategic perspective, constructing a multidimensional description. For the authors, global mindset is that of individuals who have a global business orientation and are adaptable to the local environment and culture. The higher global business orientation and cultural awareness a global leader has, the more the individual develops a global mindset, focusing on the global market, while being sensitive to the needs and characteristics of the local environment and culture.

In a work focused on leadership, Conger (2012) describes global mindset as a cognitive capability that includes the ability to be comfortable with cultural complexity and its contradictions; the ability to perceive opportunities in the uncertainty associated with global markets; the capacity to think systemically and an extended time perspective. In

this definition both cultural and strategic perspectives are used and indicate that global leaders with this mindset reconcile the broader picture perspective of country markets, economics and politics with the day-to-day tactical decisions.

For Lane *et al* (2012), global mindset is not consider just as an additional capability, but rather a different capability, and leaders today do not have to be just more capable than in the past, they also have to be differently capable. In the mentioned book, global mindset is described as the capacity to develop and interpret criteria for personal and business performance that are independent from the assumptions of a single context, and to implement those criteria appropriately in different contexts.

2.3. Empirical Studies

The importance of global mindset and related competencies have been received great attention as was previously explained. Academics and globalizing companies have studied global mindset to uncover the concept, its antecedents, its operationalization and how it relates to managerial behavior, but there is little research support (Dekker, 2013). The existing empirical studies vary on the level on which researchers conceptualize the construct, the perspectives and populations. In this sub-section a summary of empirical studies on global mindset is constructed.

At the individual level, Nummela *et al* (2004) operationalized global mindset as a global orientation attitude and international entrepreneurial behaviors, and performed a study with small Finnish information and communications technology companies. They observed that managers' international work experience correlates with global mindset and

global mindset is related to significantly more foreign customers and partners and larger percentage of revenues from foreign markets. In the same year, Arora *et al* (2004) tested some demographic and background characteristics as antecedents of global mindset, such as age, job experience in foreign country, foreign country living experience and training in international management, finding a relationship between these variables and global mindset. Clapp-Smith and Hughes (2007) tested other antecedents of global mindset including language skills and personal history. In 2009, Clapp-Smith produced a doctoral dissertation on the development of global mindset. The author presented a construction where cultural self-awareness, cognitive complexity and cognitive cultural intelligence contributed to global mindset development which resulted in a culturally appropriate behavior. In turn, Konyu-Fogel and Cole (2011) operationalized global mindset as the leader's intellectual and cultural intelligence and tested some demographic and organizational factors as its antecedents. The results shown that some significant predictors of global mindset including: number of countries worked in/conducted business with, number of foreign languages spoken, working for an organization with a high percentage of employees working overseas and with high percentage of revenue from foreign operations. Ananthram *et al* (2012) tested six antecedents for global mindset, namely knowledge and information, skills and abilities, risk tolerance, global identity, boundary spanning activities and international experience

More recently, Story *et al* (2013) proposed that global mindset have two key indicators, being cultural intelligence and global business orientation, and suggested some antecedents to a leader's global mindset. The results indicated that leaders with a more complex global role, higher psychological capital and more experience abroad have a

higher global mindset. Global mindset was also found to be indirectly predicted by the number of languages spoken. In the same year, Dekker (2013) examined and measured the concept of global mindset and its dimensions and explored the relationship with leadership effectiveness. The empirical results revealed that effective leadership behavior depends on a company's global organizational structure and corporate culture. For example, in companies with a strong focus on their native country, managers with global mindsets are perceived by their superiors as ineffective in contrast to their peers with local mindsets (Dekker, 2013).

There are also empirical studies relating global leaders' performance and global mindset. For example, Javidan *et al* (2010) work provides a preliminary evidence that individuals with a more developed global mindset can better identify and use the appropriate practices to influence all stakeholders to strive after achieving the organization's strategies and goals. Another example is Konyu-Fogel (2011) who performed a study to explore the effect of global mindset on leadership behavior of business leaders in global organizations, concluding that there is a direct link between global mindset and leadership behavior.

CHAPTER THREE: PROPOSED ANTECEDENTS FOR GLOBAL MINDSET

3.1 Direct Antecedents

A variety of attitudes, experiences, abilities and personality characteristics have been considered as antecedents of global mindset, even though only some scholars tested their theories (Story and Barbuto, 2011). In this work project, it is tested the relationship between having some personality characteristics and having a global mindset. The variables to be tested were chosen by going through the nature of experiences and contexts that global leaders are found when doing business in a global environment.

When compared with domestic markets, the complexity of business activities in global markets is striking. Higher capacity to handle increased complexity are the hallmarks of global leadership and in order to do so it is required a global mindset (Beechler *et al*, 2010; Cohen, 2010; Javidan and Walker, 2012). This complexity can be identified in the cultural dimension when leaders work and conduct business across borders. One of the conditions of complexity is ambiguity, which is associated with three variables that contribute to complexity: lack of information clarity, nonlinear relationships and equivocality (Lane *et al*, 2004; Mendenhall *et al*, 2012).

Information clarity means transparency of meaning, accuracy and reliability, which are the characteristics of the type of information that leaders prefer to base on when making decisions about future strategic actions (Lane *et al*, 2004). However, this is not always the case in multicultural contexts. Cultural differences are the root of misunderstandings in many occasions, presenting a great obstacle to productive cross-border collaborations.

These differences can be felt, for example, when the parties of a negotiation differ widely in how they communicate. For instance, German and Dutch have a deal-focused business culture, valuing direct, straightforward language, while Japanese, Chinese and Southeast Asian have a relationship-focused business culture. When people from two cultures expect different things from the communication process it can become confuse (Gesteland, 2012). Language barriers can also lead to miscommunication due to due lack of meaning transparency (Steers *et al*, 2010). Even in the case where people speak the same language, differences in semantics, accents, tone, pitch and dialects can be impediments. For example, whereas the term *table a motion* means to postpone discussion in the United States, in the United Kingdom it means to discuss the issue right away (Govindarajan and Gupta, 2001). Moreover, with such diversity in today's markets, the reports, statistics and other types of data can be unclear, making decision process really hard (Lane *et al*, 2004).

The second variable associated with ambiguity is non-linear relationships. Complexity is characterized by variables and events that relate with each other in a non-linear manner, meaning that when independent elements come together the effects may vary. Thus, the predictability of events in more complex environments is lower than in more limited and simple ones, making it more difficult to choose the right path that will guide to successful results over the long term (Lane *et al*, 2004).

Lastly, there is equivocality that boosts ambiguity, being a condition in which multiple interpretations of the same facts are possible (Lane *et al*, 2004). At a global scale, situations, intentions, corporate actions and individual behaviors may be interpreted

differently by people from different parts of the world. Because diverse parties can see things in different ways, uncertainty of responses to the scenarios where a leader may be found increases.

Along these lines, in order for a leader to integrate across diversity and work through new and complex situations it is essential to be tolerant of ambiguity.

The concept of tolerance of ambiguity was originally developed by Frenkel-Brunswik (1948). It was defined as an “emotional and perceptual personality variable” that generalizes to the various aspects of emotional and cognitive functioning of the individual, characterizing cognitive style, attitude systems, interpersonal and social functioning and problem solving behavior (Furnham and Marks, 2013). Some works have indicated that people with higher tolerance for ambiguity are more likely to effectively handle stress imposed by uncertain environments and to be more receptive and adaptive to change (Judge *et al*, 1999). Caligiuri and Tarique (2012) have shown that tolerance for ambiguity contributes to global leadership effectiveness, and it has commonly been found in literature to be an important competency to intercultural effective global leadership (Bird *et al*, 2010; Jokinen, 2005; Mendenhall and Osland, 2002a, b).

Due to the connection of diversity of cultures and markets in the global leader’s business environment (Gupta and Govindarajan, 2002) with the necessity of being able to address ambiguous, new and unpredictable situations to be able to integrate such diversity, it is proposed that tolerance for ambiguity is a direct antecedent of global mindset.

Hypothesis 1: Tolerance For Ambiguity is positively related with Global Mindset.

In order to develop a global mindset it is not only important to have the ability to cope with ambiguous, new situations and facts that arise from multicultural contexts, but it is also fundamental to have the capacity to react and behave properly in environments characterized by cultural diversity (Lane *et al*, 2012). An individual's capability to function effectively in situations characterized by cultural diversity is called cultural intelligence (Earley and Ang, 2003; Ang and Van Dyne, 2008).

Although there is a great focus on cultural knowledge – knowing how cultures differ in work norms, habits and behaviors-, cultural intelligence approach goes beyond this emphasis on knowledge (Ang and Van Dyne, 2008; Van Dyne *et al*, 2010). Cultural intelligence also embraces the importance of developing an overall repertoire of understanding, motivation and skills that enables an individual to move between a great number of different cultural contexts (Ang and Van Dyne, 2008; Van Dyne *et al*, 2010). According to Early and Ang (2003) there are four components of cultural intelligence – cognitive, motivational, behavioral and metacognitive.

The cognitive cultural intelligence is based on the knowledge of the norms, practices and conventions in different cultures, being considered the declarative or content component of cultural intelligence (Earley and Ang, 2003). It is related to the leader's level of understanding about culture and culture's role in shaping the way to do business and interact with others across cultural contexts (Van Dyne *et al*, 2010). It includes information about economic systems, for producing vital commodities and distributing

products and services; legal systems, where laws and documentation may vary from country to country; and social interaction norms, among others. A person with a high level of cognitive cultural intelligence is able to understand a context without being constrained by past experiences (Earley and Ang, 2003) and understand similarities and differences across cultures (Ng *et al*, 2012). Improving the knowledge of cultural differences in business can aid in building international competencies as well as gain competitive advantage (Birchley, 2014).

Motivational cultural intelligence involves a person's interest in experiencing other cultures and interacting with people from different nationalities, even if it goes outside the comfort zone. It is related with degree to which an individual derive enjoyment from culturally diverse experiences, the benefits gained from these experiences and the confidence that an individual will be effective in a cross-cultural encounter (Van Dyne *et al*, 2010). Individuals with high motivational cultural intelligence tend to initiate more interactions with people from different cultures, seek to learn from relevant experiences, as well as, process information about the cultural environment with a view to develop a strategic approach to success in that context (Earley, 2002; Ang *et al*, 2006; Earley *et al*, 2006). According to Van Dyne *et al* (2010) motivational cultural intelligence is strongly related with effectiveness level in new cultural contexts.

Metacognitive cultural intelligence is the dimension that refers to more active processing and control of the acquisition, and use of cultural knowledge. Metacognition implies that the individual actively processes information, as opposed to passively use past routines and norms to respond at a nonconscious level (Morell *et al*, 2013). It refers to the leader's

ability to strategize when crossing cultures (Van Dyne *et al*, 2010). Those with high metacognitive cultural intelligence are consciously aware of others' cultural preferences before and during interactions (Ang *et al*, 2007). They question cultural assumptions and select information from the culturally diverse environment to adapt to new interactions (Li *et al*, 2012) and monitor interactions to compare expectations with the actual experience, to understand if the plan was appropriate (Van Dyne *et al*, 2010). Thus, metacognitive cultural intelligence includes awareness, planning and checking.

Behavioral cultural intelligence reflects the ability to exhibit appropriate verbal and non-verbal actions when interacting with people from different cultures (Ang *et al*, 2007). It refers to the leader's capacity to act appropriately in a range of cross-cultural situations, which includes knowing when to adapt to another culture or not (Van Dyne *et al*, 2010). Those with high behavioral cultural intelligence learn which actions will and won't enhance effectiveness and show adequate behaviors based on their broad range of verbal and nonverbal capabilities, including culturally appropriate words, tone, gestures and facial expressions (Ang *et al*, 2007; Van Dyne *et al*, 2010). For example, people from different cultures may vary from being very expressive or more reserved. While in some countries, being more expressive is a way to be understood, in Thailand loud voice and animated facial expressions and gestures can be considered as too aggressive or rude (Gesteland, 2012). Adaptability of behaviors considerably helps leaders raise communication effectiveness, construct relationships with others from different nations and lead in a global context (Li *et al*, 2012).

In this work project it is proposed that individuals with the capacity to understand new environments and act in appropriate ways by acquiring behaviors on the new context (Story and Barbuto, 2013) are more likely to be aware of diversity of cultures and markets and capable to integrate across such diversity (Gupta and Govindarajan, 2002).

Hypothesis 2: Cultural Intelligence is positively related with Global Mindset.

3.2 Additional Variables

Retrieving the topic about tolerance of ambiguity, the trait is considered to have similarities with openness to experience, because both traits are related with novelty and the unknown (Bardi *et al*, 2009). However, these two traits are not the same. While tolerance for ambiguity describes an individual's ability to react to new and ambiguous situations and to be able to deal with it constructively (Caligiuri and Tarique, 2012), openness to experience refers to the extent to which a person has preference for variety, is curious and willing to take risks (Costa and McCrae, 1992).

Openness to experiences is one of the Big Five personality traits that are used to describe differences in cognitive, affective and social behavior. People with high openness to experience have broad interests, like novelty and like to play with theories (Costa and McCrae, 1992). Individuals with a greater openness are more likely to engage in international experiences and multicultural opportunities because of their natural curiosity and interest in novel experiences (Caligiuri and Tarique, 2012).

According to Caligiuri and Tarique (2012) it can be said that high contact cross cultural experiences - where leaders need to interpret complex ideas, interact and manage people from different nationalities, absorb the environment around them and cope with ambiguity – helps developing a tolerance for ambiguity. Thus, having a desire to get involved in new and unpredictable experiences, being curious, and craving adventure will more easily put individuals in situations as those mentioned before. As such, having a predisposition to engage in new experience may increase individual's tolerance towards ambiguous situations.

Hypothesis 3: Openness to new experiences is positively related to tolerance for ambiguity.

It has been proposed previously that to succeed in the volatile, complex and ambiguous multicultural business world a global leader must be tolerant to such ambiguity and by being open to experiences that process is facilitated. Moreover, in addition to the ability to cope with the nature of the global business environment, the capacity to be able to operate in situations characterized by cultural diversity, that is, having culture intelligence, was also mentioned. Like tolerance for ambiguity, the cultural intelligence level of an individual might be boosted by other traits.

Cultural intelligence involves the capacity to interpret a situation and make appropriate adjustments to how an individual understands, relates and leads in the context of a different culture (Van Dyne *et al*, 2010). The process of adjustment implicates flexibility and versatility by the global leader (De Meuse *et al*, 2010). In fact, there is a consensus

among scholars regarding what defines effective leadership, which includes a successful leader to be agile, versatile, flexible and adaptive (De Meuse *et al*, 2010). Altogether, these characteristics are connected to one trait – learning agility. These features may contribute to select and process information from the culturally diverse environment, leading to an effective adaptation to culturally diverse contexts.

Learning agility has been defined differently in literature, being approached from a perspective of learning from experience or of the speed and flexibility when learning. The definition by Lombardo and Eichinger (2000) is often used – “willingness and ability to learn new competencies in order to perform under first-time, tough, or different conditions”, emphasizing the dimension of learning from experience. According to this view, high learning agile individuals learn the “right lessons” from experience and apply those lessons to novel situations (De Meuse *et al*, 2010). On the other hand, DeRue *et al* (2012) definition focus more on the speed and flexibility when learning. It is based in the fact that agility implies that a person can quickly see patterns and is able to easily move between different interpretations or descriptions of those patterns without getting stuck in a particular point of view. From these approaches, it is possible to draw the profile of an agile learn.

A person with high levels of learning agility pursue development opportunities, have a strong desire to learn and not only quickly recognizes important patterns in a situation, but is also able to quickly see connections between experiences (De Meuse *et al*, 2010). The willingness and capability to learn from experiences leads to the development of

flexible and adaptive behaviors, so an agile learner leader is able to match his or her behavioral repertoire to the demands of a situation.

Hypothesis 4: Learning Agility is positively related to Cultural Intelligence.

Until now the focus of the different components of the theoretical model was related to the leader's position or knowledge regarding new situations and other cultures. However, being aware of his or her own culture and its impact on his or her ideas and behaviors is the beginning of intercultural effectiveness (Winkelman, 2005). The recognition of one's own cultural influences upon values, beliefs and judgments, as well as the influences derived from the professional's work culture is called cultural self-awareness (Winkelman, 2005).

Self-awareness enables the individual to identify the effects of his or her own culture on others and to understand that what have been taught his or her entire life as the norm might not be seen equally by someone with a different background (Adler and Gundersen, 2007). It is important for global leaders to unlearn automatic behavioral responses and stop making automatic judgments (Wernsing and Clapp-Smith, 2014). However, it is not easy to become self-aware since many cultural aspects are unconscious to us (Clapp-Smith, 2009). It happens when a person is exposed to new realities and contexts, revealing the limitations of old predefined ideas. When the assumptions used by an individual to make sense of the world are challenged and are no longer adequate this individual becomes aware of his or her own current mindset (Gupta and Govindarajan, 2004; Clapp-Smith, 2009).

Gaining aware of the effect of culture on ideas and behaviors is a process by which an individual gradually develops a non-judgmental attitude or a less defended self-referenced approach to relating with others. In turn, this results in being more open to learning through cultural differences (Wernsing and Clapp-Smith, 2014). Thus, cultural self-awareness and the process to develop it helps an individual to become more learning-oriented regarding cultural diversity, beginning with his or her own beliefs and values.

Hypothesis 5: Cultural Self-Awareness moderates the relationship between Learning Agility and Cultural Intelligence.

3.3 Complete Model with Proposed Antecedents

This study focuses on the individual level of analysis, approaching the global mindset from a cultural perspective, embracing Gupta and Govindarajan's (2002) definition of global mindset, which the authors view as a combination of awareness and openness to the diversity of cultures and markets with an inclination and capability to integrate across diversity.

This study suggests that global mindset is positively related with two major variables – tolerance for ambiguity and cultural intelligence - that in turn have are positively influenced by openness to experiences and learning agility, respectively. It is also suggested a moderation effect by cultural self-awareness in the relationship between learning agility and cultural intelligence. The complete hypothesized model is shown in Figure 1.

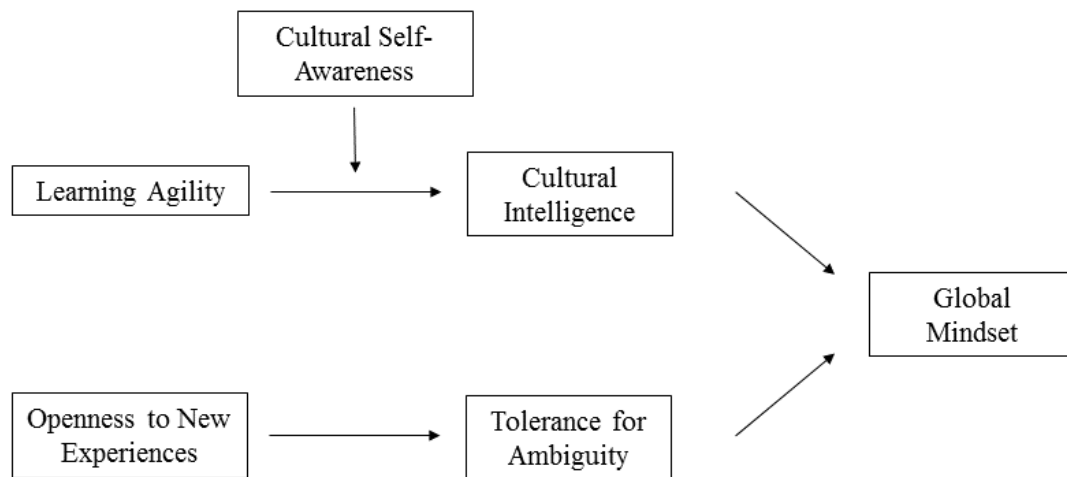


Figure 1. Hypothesized Model

A successful global leader is someone who can operate effectively across national boundaries and cultures, defining goals that will appear to a diverse set of people, whether individuals in their own company or external groups and organizations (Wernsing and Clapp-Smith, 2014). This work project focus on the right mindset for a global leader according to the demands of working in a global environment. A global mindset promoted by characteristics that set global leaders apart from domestic leaders. These competencies emphasise a leader's cross-cultural skill and intercultural understanding, whether dealing with multicultural teams, growing links with other business or starting a new venture in unknown territory.

CHAPTER 4: RESEARCH METHODOLOGY

4.1 Research Design

This chapter describes the methods used to test the hypothesized model, through testing the relationship between the chosen variables. A web-based e-survey was used for data collection and data analyses was performed by using the software SPSS. The following sections describe the sample, and the instruments used to measure the study variables.

4.2 Participants

The sample was alumni of European graduate schools of engineering that were members of an European student organization for technology students (BEST), who work at multinational companies and whose jobs include a multicultural component. From the complete population, global leaders were identified in this population as individuals that work with people located in other countries, conduct and manage business across borders, develop and implement strategies to maximize revenues across international markets and manage a multicultural team. The other respondents' profile didn't fit entirely the tasks and responsibilities of a global leader, indicated previously, and were not considered to be global leaders.

An email with the link for the Survey Monkey website along with a brief description of the study was sent to the European organization's alumni mailing list. The web-based survey included a set of questions to select those with a profile of a global leader from all the questionnaire respondents. Only the questionnaires fully completed were considered. From the 242 opened questionnaires, 168 were completed. From those respondents, 55

had the profile of a global leader. Regarding gender, 50.60% were female and 49.40% were male, with an average age of 29 years. Thirty four different nationalities were identified. All the demographic data can be seen in Appendix A.

4.3 Measuring Instruments

All the variables were measured on a 7-point Likert-type scale with 1 representing “strongly disagree” and 7 representing “strongly agree”, with the exception of the variable “Openness to experience” which was measured on a 5-point Likert-type scale with half of the items positively keyed and half negatively-keyed and the variable “Global Mindset” also measured on a 5-point Likert-type scale. The instruments can be found in Appendix B.

Openness to Experience was measured by a 10-item subscale of the revised NEO Personality Inventory NEO-PI-R available in Goldberg’s International Personality Item Pool (www.ipip.ori.org) (Goldberg *et al*, 2006), with a reported Cronbach’s alpha of 0.82. Each item was scored on a 5-point Likert-type scale ranging from “very inaccurate” to “very accurate”, and to minimize the potential distortion of a directional response set, half of the items are worded negatively and reverse scored.

To measure tolerance for ambiguity it was used Budner’s (1962) scale that measures a person’s ability to feel comfortable and accept situations where variables, alternatives or outcomes are poorly defined or unclear. It is constituted by 16 items using 7-point ratings, where half of the items are reverse-coded. The scores range from 1 referring to “strongly disagree” and 7 to “strongly agree”. Each item relate to one of three types of ambiguous

situations: novel, complex and insoluble. Although Budner's scale has been the most commonly used scale to measure this personality trait and often called Tolerance for Ambiguity Scale, it measures intolerance of ambiguity. Therefore, the results of the half of the items that originally have a reverse code are not reversed, and the other half of the items are reverse-scored. Based on this scoring scheme, the higher the average score obtained, the more tolerant is the person.

To measure the learning agility variable it was used the instrument created by Bedford (2011). The Learning Agility scale was developed from a careful review of the existing literature, including quantitative and qualitative research studies and theory articles written by experts in adult development and workplace psychology. It is a nine-item measure rated on a 7-point Likert-type scale with reported Cronbach's alpha of 0.929. Higher scores indicate stronger agreement with the items.

In order to measure cultural self-awareness it was used a five-item questionnaire constructed by Clapp-Smith (2009). The instrument was tested in order to provide a level of validation, and the coefficient of internal consistency, Cronbach's alpha, varied between 0.855 and 0.875. Each item was rated on a Likert-type scale, ranging from 1 to 7, where 1 represented "strongly disagree" and 7 "strongly agree".

To measure cultural intelligence it was used an instrument developed by Ang *et al* (2004) that was tested in terms of its relationship with personality (Ang *et al*, 2006). This instrument measures all four dimensions of cultural intelligence: cognitive, metacognitive, behavioral and motivational. The cognitive cultural intelligence is

measured with six items, with internal reliability of 0.84. To measure the metacognitive dimension there are four items, with an internal reliability coefficient of 0.76. Behavioral cultural intelligence is measured by five items, with internal reliability coefficient of 0.84. Five items measured the motivational cultural intelligence, with an internal reliability coefficient of 0.77. Each item was measured on a 7-point Likert-type scale ranging from “strongly disagree” to “strongly agree”.

To measure global mindset it was used one of the primary type of measures used at the individual level – self-report questionnaires. A six-item questionnaire constructed by Gupta and Govindarajan (2002) was presented to the participants that had to rate each item on a 5-point Likert-type scale ranging from “moderately disagree” to “moderately agree”.

CHAPTER FIVE: RESULTS

In this chapter, the results of the study are reported. The data was first exported from Survey Monkey into a basic Microsoft Excel spreadsheet and therefore analyzed using IBM SPSS Statistics version 22. In order to standardize the variables to the same scale it was performed a z-score transformation prior to the analysis tests.

5.1 Reliabilities, Simple Statistics and Correlations

Scale items were divided into subscale for each variable and their reliabilities were assessed through Cronbach's alpha. Its value determines the internal consistency or average correlation of items in a survey instrument to gauge its reliability. All variables showed acceptable Cronbach's alpha internal reliabilities, that is higher than 70% and are shown in Table 1. Variables means, standard deviations and correlations among the study variables are presented in Table 2.

Table 1. Internal reliability coefficients for each variable.

Learning Agility	Cultural Self-Awareness	Cognitive Cultural Intelligence	Metacognitive Cultural Intelligence	Motivational Cultural Intelligence
0.843	0.876	0.828	0.746	0.794
Behavioral Cultural Intelligence	Total Cultural Intelligence	Openness to New Experiences	Tolerance for Ambiguity	Global Mindset
0.821	0.897	0.701	0.769	0.721

Pearson's correlation coefficients were obtained to determine the direction and strength of the relationships between the variables in the study. As it can be seen in Table 2, most of the identifiable variables were correlated, at either moderate (around 0.300) or high

levels (around 0.500), and were found to be statistically significant, with a few exceptions for openness to experience and tolerance for ambiguity. Openness to experience shown a moderate correlation with learning agility ($r=0.411$), total cultural intelligence ($r=0.315$), with tolerance for ambiguity ($r=0.377$) and with motivational cultural intelligence ($r=0.365$). However, correlation with the other cultural intelligence components and cultural self-awareness were marginally below the value of 0.300, and the correlation with behavioral cultural intelligence showed no statistical significance. On the other hand, tolerance for ambiguity moderately correlated with openness to experiences ($r=0.377$) and less with the other variables. Global mindset approximately correlated at a moderate level the other variables, with an exception with cultural self-awareness ($r=0.500$) and openness to experiences ($r=0.295$).

These correlations, which can be considered as part of an exploratory study, give some support for the hypothesis summarized in the previous chapter. Although the results from this first analysis provide some evidence and are relevant, they only show how the variables are related, measuring the strength and direction of the linear relationship between each two variables.

Table 2. Correlations of Studied Variables

	Correlations										Mean	S.D
	LA	CSA	CCQ	MeCQ	MoCQ	BCQ	CQTotal	OE	TA	GM		
Learning Agility	1										6.40	0.54
Cultural Self-Awareness	.425**	1									5.88	0.84
Cognitive CQ	.322**	.324**	1								5.11	0.95
Metacognitive CQ	.461**	.419**	.492**	1							5.96	0.76
Motivational CQ	.557**	.489**	.421**	.507**	1						6.12	0.79
Behaviour CQ	.435**	.470**	.380**	.511**	.548**	1					5.48	0.95
CQ Total	.562**	.543**	.752**	.787**	.780**	.795**	1				5.67	0.67
Openness to Experience	.411**	.294**	.248**	.242**	.365**	0.147	.315**	1			4.07	0.60
Tolerance For Ambiguity	.272**	.287**	.189*	.260**	.284**	.171*	.284**	.377**	1		4.80	0.49
Global Mindset	.355**	.500**	.256**	.341**	.495**	.334**	.451**	.295**	.401**	1	3.97	0.83

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

5.2 Regression Analysis

To understand the extent to which a (dependent) variable is explained by a(n) (independent) variable, it should be performed a regression analysis. Accordingly, a set of regression analysis will follow so each hypothesis can be tested and the full hypothetical model validated.

To confirm hypothesis 1 to 4, linear regression analysis were performed (Table 3 to 6). Hypothesis 5 was tested in two phases. First, it was performed a linear regression with both variables learning agility and cultural self-awareness regressing on the independent variable cultural intelligence and then it was added the interaction term to observe if there were any changes and if the interaction would contribute to the model (Table 7). The regression analysis were run controlling for demographic variables, gender and age, as well as for international work experience for a minimum of 5 years and for the position of global leader or not. In Appendix C are shown the tables with the complete results that include in the first step the control variables as predictor of the dependent variable, followed by the second step where the independent variable is added. In none of the analysis the controlling variables shown to be predictors of the studied variables and to contribute to the model, including the working position variable – global leader or not global leader.

The first regression analysis was run to verify if tolerance for ambiguity predicted a global mindset. As so, a linear regression analysis was performed for global mindset as the dependent variable and tolerance for ambiguity as the independent variable, where the relevant results are summarized in Table 3. Data shows a statistically significant positive

relationship between both variables. From the ANOVA table, obtained in the results of the regression analysis using the SPSS, was obtained the p-value for the regression model F-test (Sig) with a significance score of 0.000, showing the model is highly significant. The unstandardized regression coefficient (B) of the independent variable “tolerance for ambiguity” is positive (0.679) and showed a strong relationship between independent and dependent variable. The adjusted R² statistics means that 16.7% of the variation of global mindset can be attributed to the characteristic tolerance for ambiguity, confirming hypothesis 1.

Table 3. Hypothesis 1: Tolerance for ambiguity is positively related with global mindset.

Model Summary		ANOVA	Model Coefficient	
R ²	Adjusted R ²	Sig	B	Sig
0.191	0.167	0.000	0.679	0.000

A linear regression was performed for total cultural intelligence, meaning that it includes all four dimensions, with global mindset as the dependent variable to test hypothesis 2. The results are reported in Table 4 and show a statistically significant relationship between cultural intelligence and global mindset. The values indicate that 20.3% of global mindset’s variance is explained by the level of cultural intelligence. Hypothesis 2 is then supported.

Table 4. Hypothesis 2: Cultural intelligence is positively related with global mindset.

Model Summary		ANOVA	Model Coefficient	
R ²	Adjusted R ²	Sig	B	Sig
0.227	0.203	0.000	0.565	0.000

Since tolerance for ambiguity and cultural intelligence are the two direct antecedents of global mindset, as proposed in the theoretical model, it is worth to analyse their contribution together to the variation of global mindset. Therefore, another linear regression was computed with both tolerance for ambiguity and cultural intelligence as independent variables, to understand if these independent variables together predict the values of the dependent variable differently when both are considered. The results can be observed in Table 5.

Table 5. Joint influence of tolerance for ambiguity and cultural intelligence on global mindset's variation.

	Model Summary		ANOVA	Model Coefficient	
	R ²	Adjusted R ²	Sig	B	Sig
	0.311	0.285	0.000		
Tolerance for Ambiguity				0.510	0.000
Cultural Intelligence				0.458	0.000

For both variables, the regression coefficient is positive, but smaller when compared with the results for each variable as the single independent variable in the regression model. This is the result of the multiple variable model documenting the effect of each variable after accounting for the other significant variables in the model. The Adjusted R² statistics means that 28.5% of the variation in the global mindset's level can be attributed to these two variables.

The following hypothesis, hypothesis 3, states that openness to experience would be positively related to tolerance for ambiguity. The results from the regression analysis testing this hypothesis are shown in Table 6, demonstrating a positive relationship

between the two variables. Hypothesis 3 is confirmed as the statistically significant value of the Adjusted R^2 indicates that 12.8% of the variation in tolerance for ambiguity is explained by openness to experiences' level.

Table 6. Hypothesis 3: Openness to new experiences is positively related to tolerance for ambiguity.

Model Summary		ANOVA	Model Coefficient	
R^2	Adjusted R^2	Sig F	B	Sig
0.154	0.128	0.000	0.306	0.000

Hypothesis 4 referred to the relationship between learning agility and cultural intelligence. Table 7 highlights the results from the linear regression analysis that was performed to test this hypothesis. The statistically significant value of the adjusted R^2 indicates that approximately 34% of cultural intelligence variance can be explained by learning agility variance and supports hypothesis 4.

Table 7. Hypothesis 4: Learning agility is positively related to cultural intelligence.

Model Summary		ANOVA	Model Coefficient	
R^2	Adjusted R^2	Sig F	B	Sig
0.357	0.337	0.000	0.679	0.000

The last hypothesis predicted that cultural self-awareness would moderate the relationship between learning agility and cultural intelligence. As shown in Table 8, a first model including cultural self-awareness and learning agility was first analyzed and in the second model the interaction term was added to understand if cultural self-awareness changes the relationship between learning agility and cultural intelligence. The first multiple

regression indicated that both learning agility and cultural self-awareness contributed to the model and together generated a statistically significant adjusted $R^2=0.444$, accounting for approximately 44% of the variance of cultural intelligence. When the interaction term was added, a meaningful change on the R^2 was not observed. Although cultural self-awareness and learning agility show a significant relationship with the dependent variable, the interaction is not statistically significant. Therefore, the hypothesis of a moderating effect was not confirmed.

Table 8. Hypothesis 5: Cultural Self-Awareness moderates the relationship between Learning Agility and Cultural Intelligence.

Model Summary		ANOVA	Model Coefficient	
R^2	Adjusted R^2	Sig F	B	Sig
0.464	0.444	0.000		
LA			0.483	0.000
CSA			0.290	0.000
0.430	0.419	0.000		
LA			0.488	0.000
CSA			0.297	0.000
Interaction			-0.012	0.848

In Appendix D it is possible to observe a scheme of the hypothesized model with the overall results of the regression analysis.

Although it is not hypothesized, the theoretical model may suggested a relationship between the variables learning agility and openness to experiences, and global mindset, mediated by cultural intelligence and tolerance for ambiguity, respectively. After the analysis it is possible to observe if this moderation effect does exist or not and if it is

partial or complete. For testing the mediating relationships the steps established by Barron and Kenny (1986) were followed.

For the first relationship openness to experience is considered the predictor variable, tolerance for ambiguity the mediator and global mindset the outcome variable, as showed in Figure 2.

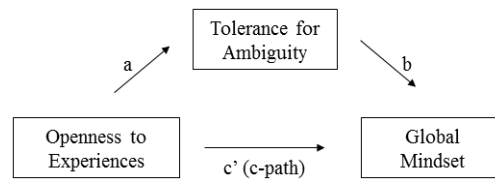
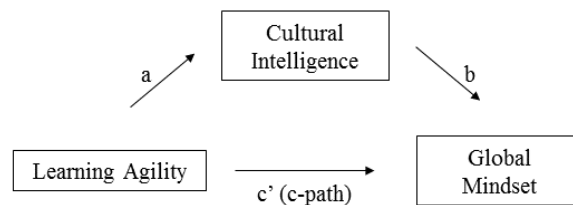


Figure 2. Mediation model involving openness to experience, tolerance for ambiguity and global mindset

The first step is to verify if openness to experience is a significant predictor of global mindset (c-path), using regression. It was found that openness to experience was positively associated with global mindset ($B=0.411$, $t(166)=3.984$, $p=0.0001$). Then, verify if openness to experience is a significant predictor of tolerance ambiguity (a-path), which was demonstrated when testing hypothesis 3 and now confirmed ($B=0.313$, $t(166)=5.25$, $p=0.0000$). Lastly verify if tolerance for ambiguity is a significant predictor of global mindset (b-path), that again, was previously demonstrated when testing hypothesis 1 and confirmed in this analysis ($B=0.567$, $t(166)=4.45$, $p=0.0000$). Because both a-path and b-path were significant, mediation analysis were tested using bootstrapping method with bias-corrected confidence estimates (MacKinnon *et al*, 2004; Preacher and Hayes, 2004). In the present study, the 95% confidence interval of the indirect effects was obtained with 5000 bootstrap resamples (Preacher and Hayes, 2008).

Results of the mediation analysis confirmed the mediating role of tolerance for ambiguity in the relation between openness to experience and global mindset ($B=0.177$; Confidence Interval (CI) between 0.09 to 0.30, meaning the indirect effect (B) is not significant once the value zero is not in the interval between the lower and upper values of the CI). In addition, results indicated that the direct effect of openness to experience on global mindset is significant ($B=0.234$, $t(166)=2.21$, $p=0.0282$, below 0.05) when controlling for tolerance for ambiguity. The results suggest only partial mediation – the relation between openness to experience and global mindset is only partially mediated by tolerance for ambiguity and openness to experience has some additional effect on global mindset that is not mediated by tolerance for ambiguity. Appendix E.1 shows the complete output of this analysis.

Figure 3. Mediation model involving learning agility, cultural intelligence and global mindset



The same process to verify the mediation character of cultural intelligence between learning agility and global mindset was used, which is illustrated in Figure 3. The first step is to verify if learning agility is a significant predictor of global mindset (c-path). It was found that learning agility was positively associated with global mindset ($B=0.539$, $t(166)=4.89$, $p=0.0000$). Then, verify if learning agility is a significant predictor of cultural intelligence (a-path), which was demonstrated when testing hypothesis 4 and know confirmed ($B=0.691$, $t(166)=8.76$, $p=0.0000$). Lastly verify if cultural intelligence is a significant predictor of global mindset (b-path), that again, was previously

demonstrated when testing hypothesis 2 and confirmed in this analysis ($B=0.454$, $t(166)=4.41$, $p=0.0000$). Because both a-path and b-path were significant, again, mediation analysis was tested using bootstrapping method with bias-corrected confidence estimates (MacKinnon et al, 2004; Preacher and Hayes, 2004). As previously, the 95% confidence interval of the indirect effects was obtained with 5000 bootstrap resamples (Preacher and Hayes, 2008). Results of the mediation analysis confirmed the mediating role of cultural intelligence in the relation between learning agility and global mindset ($B=0.317$; $CI= 0.18$ to 0.48). In addition, results indicated that the direct effect of learning agility on global mindset became non-significant ($B=0.225$, $t(166)=1.78$, $p=0.0768$) when controlling for cultural intelligence, thus suggesting full mediation by cultural intelligence and no direct influence from learning agility on global mindset. Appendix E.2 shows all the output of this analysis.

CHAPTER SIX: DISCUSSION

The research question of this study was “What are the antecedents of global mindset approaching it from a cultural perspective?”. There were five hypothesis regarding the relationship of several variables – tolerance for ambiguity, cultural intelligence, openness to experiences, cultural self-awareness and learning agility - that would, directly or indirectly, be positively related with a high level of global mindset. By understanding which variables are relevant to the development of the required mindset for a leader, companies may have a more clear idea on how to choose or train its global leaders.

The first point to be discussed should be the role of the control variable of global leader. The regression analysis to test the hypothesis were controlled by a variable that distinguished those who have a profile of global leaders from those who don't have that profile. Contrary to what would be predicted, being a global leader or not didn't influence the results of the regression analysis. This indicates that the relationship between each two variables is independent of an individual's profile in what regards to his or her position or responsibilities. It could also mean that, despite of not being considered a global leader by not fitting in the selected profile, individuals may have the potential and the traits to be a global leader. Other possible explanation is that the characteristics used to identify global leaders are not the most adequate.

The first hypothesis proposed a positive relationship between tolerance for ambiguity and global mindset. The hypothesis was supported with a statistical significant value obtained from the regression analysis, after a first observation of a moderate correlation between

both variables. This result is in line with theoretical works, such as Lovvorn and Chen (2011), which consider tolerance for ambiguity as a common characteristic of individuals with a global mindset. Having a high ambiguity tolerance means that a leader is capable of work effectively in moments of high ambiguity, which, as was seen in the literature review, is an inherent characteristic to complex environments where different nationalities, cultures, institutions and authorities come together in the business world.

Since nowadays leaders who can effectively work in ambiguous and dynamic environments and who can lead and motivate individuals from different cultural backgrounds are short in supply (Caligiuri and Tarique, 2014), it is critical for companies to identify these individuals or to know how to train people with potential. As a cross-cultural competency, the development of tolerance for ambiguity can be more challenging and more complicated than developing technical competencies in leaders (Caligiuri and Tarique, 2014). Research has found that tolerance for ambiguity is a relatively immutable personality characteristic (Caligiuri and Tarique, 2009; Caligiuri and Tarique, 2014). So when the topic is developing cross-competencies in leaders, not only training and development should be considered, but also individual differences – variation from one person to another in the way in which people behave or think - in the context of what the individual leader has experienced or will experience (Caligiuri and Tarique, 2014). Although some studies start to show a positive relation between cross-competencies and certain skills, such as Tarique and Weisbord (2013) that indicate that language diversity positively predict tolerance for ambiguity, it is believed that experience situations of ambiguity is how someone becomes more tolerant (Gratton, 2011). In alternative or as complement to developmental programs for cross-competencies, to which the mutability

character is not fully discovered, organizations can assess and select individuals who show tolerance for ambiguity, for example, through questionnaires that measure tolerance for ambiguity (Budner, 1962; Phillips and Gully, 2011) or international experiences where it is possible to identify the individuals that show to be comfortable in ambiguous environments and those that don't.

Openness to experience is another example of a trait that is more difficult to build through theory or classroom lessons, rather than through experience. The data analysis performed before indicate that this personality trait predicts high levels of tolerance for ambiguity, but is also partially directly related to global mindset. This means that openness to experience can be seen as a predictor of tolerance for ambiguity and people showing to be open to experience are more likely to be tolerant to ambiguity than those who are not open, but also that the trait contributes to a mindset with which global leaders are able to make sense of a diverse and complex world and effectively operate in it. Global leaders with greater openness to experience have fewer rigid views of right and wrong (Caligiuri and Tarique, 2014) indicating they are less stressed in ambiguous situations and more comfortable with ambiguity comparing with close individuals. Moreover, the relation between openness to experience and global mindset can be explained by the fact that individuals with high openness to experience seek a lot of information and feedback about how they are doing and to build relationships (Carpenter *et al*, 2009). This, allied with the fact that these individuals are more likely to be accepting of diverse cultures and are flexible, makes it easier and more natural for them to easily integrate across diversity. The inherent curiosity of someone with this trait and the willingness to experience and enjoy new and unfamiliar environments makes it more likely for them to be more

knowledgeable about specifics aspects of other cultures, which is part of what global mindset is for Gupta and Govindarajan (2002). In addition to what was proposed in this work project, openness to experience has been identified as an accelerator of global leadership development from cross-cultural training (Caligiuri and Tarique, 2014), gaining additional relevance for this area of study.

Openness to experience is one of the five dimensions of personality that in literature is considered to be enduring and unlikely to change substantially in one's adult life (Simmering, 2014). However, recently there have been some indications that it can be changed through cognitive interventions (Jackson *et al*, 2012). Despite the fact the population in this study was old (average age of 73 years), the inductive reasoning training process, showed to increase openness, leading to greater and more sustained engagement in mentally stimulating activities.

Since knowing how to increase openness to experience's trait in an individual is still not fully understood, companies may identify the people that are open through personality tests. Personality tests are already utilized by companies in the employment selection process to identify people who have more than just the knowledge and skills necessary to be successful in their jobs (Baez, 2013). The results of this work project helps companies to understand some characteristics that they can look for in order to select the most promising individuals to plan and conduct global operations and manage multicultural teams.

Like tolerance for ambiguity, cultural intelligence was verified to have a positive relation to global mindset. The relationship between cultural intelligence and global mindset has been broadly discussed in literature (Clapp-Smith, 2009; Lovvorn and Chen, 2011; Story and Barbuto, 2011). This study provides an empirical evidence that the suggested link between both variables is accurate by supporting hypothesis 2. In contrast to the previous discussed variables, cultural intelligence is a dynamic end-state result rather than a born trait (Earley and Ang, 2003). Therefore, there is room for a person to shape and refine his or her cultural intelligence, especially through learning from experience with different cultures, which was supported in this work project with confirmation of hypothesis 4 (Early *et al*, 2006; Thomas and Inkson, 2007).

Given the importance for companies to have individuals with a global mindset as leaders in order to maintain competitive advantage in global environment, the investment in developing cultural intelligence among business leaders is strategically important (Earley and Peterson, 2004; Ang and Inkpen, 2008). This can be accomplished through formal education and cross-cultural training, but also through experiential learning. Cultural intelligence comprises four different dimensions that correspond to different abilities of skill, so a mix of different methods can be used to its development.

Cross-cultural training involves courses, orientations, coaching or online tools, with the primary goal of increase the knowledge base of the global leaders (Caligiuri and Tarique, 2014). It is designed to transmit information regarding cultural differences between nations or regions, help global leaders interpret behaviors of others in a different cultural context and learn to respond quickly (Caligiuri and Tarique, 2014). Experiential learning

can happen in a controlled developmental situation, such as immersion programs or intensive workshops, or in in-country situations like overseas work experience (Li *et al*, 2012; Caligiuri and Tarique, 2014). The longer one is immersed in a different culture, the higher the level of cultural intelligence one may develop (Ng, 2011; Li *et al*, 2012).

The hypothesis relating cultural intelligence and learning agility was also solidly supported. If learning agility is considered as a complex set of competencies that enables a person to learn from new situations and apply that knowledge in a completely different situation, an agile learner will more easily improve the capacity to function effectively in multicultural environments. In fact, not everyone effectively succeed on learning from international experiences, for example, and fail on the process of acquiring a higher cultural intelligence (Li *et al*, 2012).

The results indicate that agile learners will more easily acquire cultural intelligence, so it is important for companies to identify these individuals or to promote learning agility. There are several methods to measure learning agility, including psychometric tests and critical incident-based interview which focuses on how the individuals learn and adapt their approach to different situations. At the same time, there are some ways in which learning agility could be encouraged and developed, such as a culture and climate for learning inside companies and training programs (DeRue *et al*, 2012).

The moderation effect of cultural self-awareness on the relationship between learning agility and cultural intelligence was not verified. However, when analyzing the moderation effect, the first model showed that together both the cultural self-awareness

and learning agility variables contributed to a great fraction of variation in cultural intelligence. The theoretical development of this hypothesis suggested that being aware of our own culture and how it influences the assumptions would facilitate understanding different cultures and how to integrate across-diversity. This would happen after experience that different environment and quickly identify how that experience would translate in the future. This particular relationship was not verified, but the contribution of cultural self-awareness to the model may indicate that self-aware individuals regarding their culture will acquire cultural intelligence easier than those who are not.

CHAPTER SEVEN: CONCLUSIONS

7.1. Summary

This study provides additional insight for the field of study on global mindset. By understanding which characteristics promote a global mindset, both individuals and organizations may take action to create ways to develop these characteristics, leading to an enhancement of global mindsets. The results of this work project indicate that the studied antecedents lead to the development of global leaders' global mindset. Developing new HR practices to identify, foster and maintain high levels of the significant skill-sets seemingly related to a global mindset can be essential to raise a workforce capable of dealing with the challenges inherent to a multinational company operating across-boarders. However, further studies on how to develop these variables should be performed.

In summary, this work project support the idea of how important cultural intelligence and tolerance for ambiguity are for the construction of a global mindset. The capacity to learn more and the ability to apply the knowledge about a culture that are different from our own is as important as being able to embrace the unknown and cope with situations far from being clear or complete. By bringing together cultural intelligence and tolerance for ambiguity, create and deal with business conditions and strategies at a global level are seen as a more interesting challenge to overcome rather than intimidating. Moreover, by showing that other characteristics, such as openness to experience and learning agility promote, respectively, tolerance for ambiguity and cultural intelligence this study gives

some hints on how to develop such characteristics and identify the persons with potential to develop a global mindset and succeed as global leaders.

By approaching global mindset from a cultural perspective and investigate how it is constructed, a further step is taken to understand how can it be developed to improve the leaders' performance in cross-cultural environments. This perspective also leverages the strategic skills, because by developing a mindset focused on cultural diversity and knowledge of the operational differences, a leader can easily and efficiently outline strategic plans in line with the context and the stakeholders.

The strength of the results observed in this study should be tested. Test different antecedents for the variables, different relationships, as well as, moderation effects, should bring more information regarding the nature and development of global mindset. Adopting a mixed method approach would also be beneficial for this kind of studies, because they have a complementary nature and contribute for the results in different ways. Using both measurements scales and qualitative analysis would provide rigor and subtle insights into the research problem.

7.2. Limitations of the study

This work project has a limitation regarding the sample population related with its educational background. The sample represents individuals with an engineering background which may lead to results that may vary from other type of population, as different educational backgrounds imply a different type of thinking, strengths and weaknesses. This is a reason to not generalize the results from this study.

The measurement tools used in this study may also present a limitation. While some measures were tested multiple times, with big populations, like cultural intelligence, tolerance for ambiguity and openness to new experiences, others did not received that level of analysis. Learning agility and cultural self-awareness were created and tested specifically for doctoral dissertations and were no further used in other research studies. Global mindset questionnaire was constructed by Gupta and Govindarajan (2002) based on their definition of global mindset, seen from a cultural perspective. There is the possibility that scores of this variable may not truly represent a global leader's global mindset.

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APPENDIX A: Demographics of Participants

Table A.1.: Gender Distribution

	Frequency	Percentage
Female	85	50.60%
Male	83	49.40%

Table A.2.: Age Distribution

	Frequency	Percentage
21-25	48	28.6%
26-30	74	44.0%
31-35	31	18.5%
36-40	9	5.4%
41-45	4	2.4%
46-50	2	1.2%

Table A.3.: Nationality distribution

	Frequency	Percentage
Austrian	6	3.6%
Belgian	6	3.6%
Bolivian	1	0.6%
Bulgarian	3	1.8%
Croatian	5	3.0%
Czech	1	0.6%
Dual German/Canadian	1	0.6%
Dual Italian/British	1	0.6%
Dutch	1	0.6%
Ecuadorian	1	0.6%
Estonian	1	0.6%
Finnish	1	0.6%
French	9	5.4%
Greek	5	3.0%
Hungarian	1	0.6%
Indian	1	0.6%
Italian	14	8.3%
Latvian	2	1.2%
Lithuanian	1	0.6%
Moldavian	2	1.2%
Mozambican	1	0.6%
Norwegian	1	0.6%
Polish	5	3%
Portuguese	41	24.4%
Romanian	14	8.3%
Russian	5	3%
Serbian	6	3.6%
Slovak	4	2.4%
Slovene	3	1.8%
South African	1	0.6%
Spanish	15	8.9%
Swedish	2	1.2%
Turkish	6	3.6%

APPENDIX B: Measures

Openness to New Experiences

Directions: Please, rate how accurately each statement describes you. (1=Very Inaccurate; 2=Moderately Inaccurate; 3= Neither Inaccurate nor Accurate; 4= Moderately Accurate; 5= Very Accurate)

1. Believe in the importance of art.
2. Have a vivid imagination.
3. Tend to vote for liberal political candidates.
4. Carry the conversation to a higher level.
5. Enjoy hearing new ideas.
6. I am not interested in abstract ideas.*
7. I do not like art.*
8. I avoid philosophical discussions.*
9. Do not enjoy going to art museums.*
10. Tend to vote for conservative political candidates.*

For the items marked with *, the responses are reverse-coded.

Goldberg, L. R., Johnson, J. A., Eber, H. W., Hogan, R., Ashton, M. C., Cloninger, C. R., & Gough, H. C. (2006). The International Personality Item Pool and the future of public-domain personality measures. *Journal of Research in Personality*, 40, 84-96.

Tolerance for Ambiguity

Directions: Please, select the answer that best describes you as you really are. (1=Strongly disagree; 2=Moderately disagree; 3=Slightly disagree; 4=Neither agree nor disagree; 5=Slightly agree; 6=Moderately agree; 7=Strongly agree)

1. An expert who doesn't come up with a definite answer probably doesn't know much.*
2. I would like to live in a foreign country for a while.
3. There is really no such thing as a problem that can't be solved.*
4. People who fit their lives to a schedule probably miss most of the joy of living.
5. A good job is one where what is to be done and how it is to be done are always clear.*
6. It is more fun to tackle a complicated problem than to solve a simple one.
7. In the long run it is possible to get more done by tackling small, simple problems rather than large and complicated ones.*
8. Often the most interesting and stimulating people are those who don't mind being different and original.
9. What we are used to is always preferable to what is unfamiliar.*
10. People who insist upon a yes or no answer just don't know how complicated things really are.
11. A person who leads an even, regular life in which few surprises or unexpected happenings arise really has a lot to be grateful for.*
12. Many of our most important decisions are based upon insufficient information.
13. I like more the parties where I know most of the people more than the parties where all or most of the people are complete strangers.*
14. Teachers and supervisors who hand out vague assignments give one a chance to show initiative and originality
15. The sooner we all acquire similar values and ideals the better*
16. A good teacher is one who makes you wonder about your way of looking at things.

For the items marked with *, the responses are reverse-coded.

Budner, S. (1962). Intolerance of ambiguity as a personality variable. *Journal of Personality*, 30(1), 29-50

Learning Ability

Directions: Please, select the answer that best describes you as you really are. (1=Strongly disagree; 2=Moderately disagree; 3=Slightly disagree; 4=Neither agree nor disagree; 5=Slightly agree; 6=Moderately agree; 7=Strongly agree)

1. I actively pursue personal growth and improvement.
2. I accept and act on feedback from others.
3. I am self-aware, know my own strengths and limitations.
4. I am open-minded and receptive to change and new ideas.
5. I reflect on and learn from mistakes.
6. I display a desire to gain new knowledge and skills.
7. I am flexible, adjust my approach when something doesn't work.
8. I seek out challenges and new experiences.
9. I am curious and inquisitive.

Bedford, C. L. (2011). The role of learning agility in workplace performance and career advancement (Doctoral dissertation, UNIVERSITY OF MINNESOTA).

Cultural Self-Awareness

Directions: Please, select the answer that best describes you as you really are. (1=Strongly disagree; 2=Moderately disagree; 3=Slightly disagree; 4=Neither agree nor disagree; 5=Slightly agree; 6=Moderately agree; 7=Strongly agree)

1. I am conscious of the influence of my culture in the way I see the world.
2. I am conscious of how my culture influences my understanding of normal behavior.
3. I am conscious of the social cues that exist in my own culture.
4. I understand how culture influences the expectations I have of others.
5. I think about how culturally different others may perceive my behavior.

Clapp-Smith, R. (2009). Global mindset development during cultural transitions (Doctoral dissertation, THE UNIVERSITY OF NEBRASKA-LINCOLN)

Cultural Intelligence

Directions: Please, select the answer that best describes you as you really are. (1=Strongly disagree; 2=Moderately disagree; 3=Slightly disagree; 4=Neither agree nor disagree; 5=Slightly agree; 6=Moderately agree; 7=Strongly agree)

Cognitive Cultural Intelligence

1. I know the legal and economic systems of other cultures.
2. I know the rules (e.g., vocabulary, grammar) of other languages.
3. I know the cultural values and religious beliefs of other cultures.
4. I know the marriage systems of other cultures.
5. I know the arts and crafts of other cultures.
6. I know the rules for expressing nonverbal behaviors in other cultures.

Metacognitive Cultural Intelligence

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

Motivational Cultural Intelligence

1. I enjoy interacting with people from different cultures.
2. I am confident that I can socialize with locals in a culture that is unfamiliar to me.
3. I am sure I can deal with the stresses of adjusting to a culture that is new to me.
4. I enjoy living in cultures that are unfamiliar to me.
5. I am confident that I can get accustomed to the shopping conditions in a different culture.

Behavioral Cultural Intelligence

1. I change my verbal behavior (e.g., accent, tone) when a cross-cultural interaction requires it.
2. I use pause and silence differently to suit different cross-cultural situations.
3. I vary the rate of my speaking when a cross-cultural situation requires it.
4. I change my nonverbal behavior when a cross-cultural situation requires it.
5. I alter my facial expressions when a cross-cultural interaction requires it.

Ang, S., Van Dyne, L., Koh, C., & Ng, K. Y. (2004). The measurement of cultural intelligence. Paper presented at the Academy of Management Conference, Symposium on Cultural Intelligence, New Orleans.

Global Mindset

Directions: Please, select the option that according to you better answer each question.
(1=Moderately disagree; 2=Slightly disagree; 3= Neither agree nor disagree; 4=Slightly Agree; 5= Moderately agree)

1. Does finding yourself in a new cultural setting cause more excitement than fear and anxiety?
2. In interacting with others, does national origin have an impact on whether or not you assign equal status to them?*
3. Do you consider yourself as equally open to ideas from other countries and cultures as you are to ideas from your own country and culture of origin?
4. Do you regard your values to be a hybrid of values acquired from multiple cultures as opposed to just one culture?
5. When visiting or living in another culture, are you sensitive to the cultural differences without becoming a prisoner of these differences?
6. When you interact with people from other cultures, you view them as individuals rather as representatives of their national cultures?

For the items marked with *, the responses are reverse-coded.

Gupta, A. K., Govindarajan, V. (2002) Cultivating a global mindset. *The Academy of Management Executive*, 16 (1), 116-126

APPENDIX C:
Regression Analysis Results for Hypothesis 1 to 5

Table C.1.: Hypothesis 1: Tolerance for ambiguity is positively related with global mindset.

	Model Summary		ANOVA	Model Coefficient	
	R ²	Adjusted R ²	Sig F	B	Sig
	0.031	0.007	0.271		
Global Leader				0.245	0.265
Gender				0.225	0.082
Age				-0.132	0.303
International Experience				0.088	0.695
	0.191	0.167	0.000		
Global Leader				0.262	0.194
Gender				0.225	0.058
Age				-0.116	0.322
International Experience				-0.075	0.718
Tolerance for Ambiguity				0.679	0.000

Table C.2.: Hypothesis 2: Cultural Intelligence is positively related to Global Mindset.

	Model Summary		ANOVA	Model Coefficient	
	R ²	Adjusted R ²	Sig F	B	Sig
	0.031	0.007	0.271		
Global Leader				0.245	0.265
Gender				0.225	0.082
Age				-0.132	0.303
International Experience				0.088	0.695
	0.227	0.203	0.000		
Global Leader				0.075	0.703
Gender				0.139	0.235
Age				-0.179	0.121
International Experience				-0.061	0.762
Cultural Intelligence				0.565	0.000

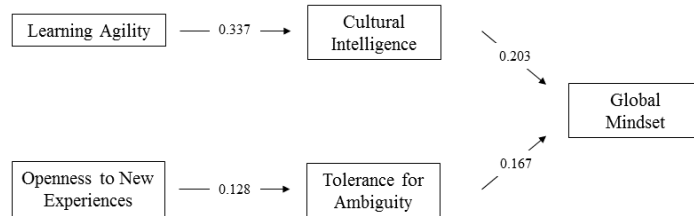
Table C.3.:Hypothesis 3: Openness to experience is positively related with tolerance for ambiguity.

	Model Summary		ANOVA	Model Coefficient	
	R ²	Adjusted R ²	Sig F	B	Sig
	0.020	-0.004	0.518		
Global Leader				-0.025	0.848
Gender				0.001	0.994
Age				-0.023	0.762
International Experience				0.241	0.076
	0.154	0.128	0.000		
Global Leader				-0.020	0.868
Gender				-0.021	0.770
Age				-0.013	0.854
International Experience				0.181	0.153
Openness to experience				0.306	0.000

Table C.4.: Hypothesis 4: Learning agility is positively related to cultural intelligence.

	Model Summary		ANOVA	Model Coefficient	
	R ²	Adjusted R ²	Sig F	B	Sig
	0.062	0.039	0.033		
Global Leader				0.299	0.087
Gender				0.154	0.136
Age				0.083	0.418
International Experience				0.265	0.141
	0.357	0.337	0.000		
Global Leader				0.132	0.368
Gender				0.117	0.173
Age				0.159	0.063
International Experience				0.172	0.250
Cultural Intelligence				0.679	0.000

APPENDIX D:
Regression Analysis for the Model of Antecedents of Global Mindset



APPENDIX E: Mediation Analysis

E.1. Output of mediation analysis with tolerance for ambiguity, openness to experience and global mindset

Dependent, Independent, and Proposed Mediator Variables:

DV = Global Mindset (GM)

IV = Openness to Experience (OE)

MEDS = Tolerance for Ambiguity (TA)

Sample size

168

IV to Mediators (a paths)

	Coeff	se	t	p
TA	.3126	.0595	5.2497	.0000

Direct Effects of Mediators on DV (b paths)

	Coeff	se	t	p
TA	.5664	.1273	4.4493	.0000

Total Effect of IV on DV (c path)

	Coeff	se	t	p
OE	.4105	.1031	3.9836	.0001

Direct Effect of IV on DV (c' path)

	Coeff	se	t	p
OE	.2335	.1055	2.2135	.0282

Model Summary for DV Model

R-sq	Adj R-sq	F	df1	df2	p
.1850	.1752	18.7310	2.0000	165.0000	.0000

BOOTSTRAP RESULTS FOR INDIRECT EFFECTS

Indirect Effects of IV on DV through Proposed Mediators (ab paths)

	Data	Boot	Bias	SE
TOTAL	.1771	.1772	.0001	.0524
TA	.1771	.1772	.0001	.0524

Bias Corrected Confidence Intervals

	Lower	Upper
TOTAL	.0913	.3004
TA	.0913	.3004

Level of Confidence for Confidence Intervals:

95

Number of Bootstrap Resamples:

5000

E.2. Output of mediation analysis with cultural intelligence, learning agility and global mindset

Dependent, Independent, and Proposed Mediator Variables:

DV = Global Mindset (GM)

IV = Learning Agility (LA)

MEDS = Cultural Intelligence (CQ)

Sample size

168

IV to Mediators (a paths)

	Coeff	se	t	p
CQ	.6912	.0789	8.7644	.0000

Direct Effects of Mediators on DV (b paths)

	Coeff	se	t	p
CQ	.4542	.1029	4.4123	.0000

Total Effect of IV on DV (c path)

	Coeff	se	t	p
LA	.5392	.1103	4.8900	.0000

Direct Effect of IV on DV (c' path)

	Coeff	se	t	p
LA	.2252	.1265	1.7805	.0768

Model Summary for DV Model

R-sq	Adj R-sq	F	df1	df2	p
.2182	.2087	23.0204	2.0000	165.0000	.0000

BOOTSTRAP RESULTS FOR INDIRECT EFFECTS

Indirect Effects of IV on DV through Proposed Mediators (ab paths)

	Data	Boot	Bias	SE
TOTAL	.3139	.3168	.0029	.0740
CQ	.3139	.3168	.0029	.0740

Bias Corrected Confidence Intervals

	Lower	Upper
TOTAL	.1857	.4780
CQ	.1857	.4780

Level of Confidence for Confidence Intervals:

95

Number of Bootstrap Resamples:

5000