THE MODERATING ROLE OF ORGANIZATIONAL CULTURE ON THE RELATIONSHIP BETWEEN EMOTIONAL INTELLIGENCE AND TRANSFORMATIONAL LEADERSHIP

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ABSTRACT

The purpose of this empirical research is to examine the interrelated influences among emotional intelligence, organizational culture, and transformational leadership. In particular, the current study investigated the effect of emotional intelligence as a predictor of transformational leadership. The potential moderating effects of organizational culture on the relationships between the dimensions of emotional intelligence and transformational leadership were also examined. Data was collected from a sample of 333 academic leaders in 18 public universities in peninsular Malaysia. Transformational leadership was measured by using the Multifactor Leadership Questionnaire (MLQ-5x Short), emotional intelligence, using the Wong and Law Emotional Intelligence Scale (WLEIS), and organizational culture, using the Organizational Culture Assessment Instrument (OCAI). Structural equation modeling by means of partial least square bootstrapping resampling was used for hypotheses testing. Methodological improvements were made to overcome some of the challenges identified by past research that examined emotional intelligence and leadership. These concerns included common method variance, smaller sample sizes, relatively lower construct reliability, and researching sole organizations. The statistical results revealed a significantly positive relationship between transformational leadership and three of the independent variables, namely, self-emotion appraisal, others emotional appraisal, and use of emotion. The study of organizational culture as a moderator between the dimensions of emotional intelligence and transformational leadership was also unprecedented. Generally, organizational culture played an important role in moderating this relationship. However, the moderating effect of organizational culture as a whole construct, and clan and hierarchy type cultures were found significant only on the relationship between regulation of emotion and transformational leadership while adhocracy type culture negatively moderated the relationship between others emotional appraisal and transformational leadership. The results of this study contribute to the present pool of knowledge about the interrelationships of emotional intelligence, organizational culture and transformational leadership, showing that the power of leaders' emotional intelligence on transformational leadership is expressed through a third moderating variable, organizational culture. Theoretically, the study is hopeful to further understandings of the predictive power of emotional intelligence dimensions on transformational leadership, as well as contribute insights as to the conditional effect of organizational culture on the relationship. The findings of the study will also help practitioners improve the selection and development of leaders.

Keywords: Transformational Leadership, Emotional Intelligence, Organizational Culture, Higher Education

ABSTRAK

Tujuan kajian empirikal ini ialah untuk meneliti pengaruh yang saling mengait di antara kecerdasan emosi, budaya organisasi dan kepimpinan transformasi. Khususnya kajian ini meneliti kesan pengukuran kecerdasan emosi sebagai peramal kepada kepimpinan transformasi. Potensi kesan-kesan pengantara budaya organisasi ke atas hubungan di antara dimensi-dimensi kecerdasan emosi dengan kepimpinan transformasi juga telah diteliti. Data telah dipungut daripada sampel 333 pemimpin akademik di 18 universiti awam di Semenanjung Malaysia. Kepimpinan transformasi telah diukur menggunakan Multifactor Leadership Questionnaire (MLQ-5x Short), kecerdasan emosi menggunakan Wong and Law Emotional Intelligence Scale (WLEIS), dan budaya organisasi menggunakan Organizational Culture Assessment Instrument (OCAI). Kuasa Dua Terkecil Separa-permodelan Persamaan Struktur persampelan semula telah digunakan untuk menguji hipotesis-hipotesis. Penambahbaikan metodologi telah dilakukan untuk mengatasi beberapa cabaran yang dikenalpasti oleh pengkaji-pengkaji lepas apabila meneliti kecerdasan emosi dan kepimpinan. Keperihatinan itu termasuk kaedah biasa varians, saiz sampel yang kecil, kebolehpercayaan dan kontruk yang relatifnya kecil, dan menyelidiki organisasi tunggal. Dapatan statistik menunjukkan hubungan signifikan positif antara kepimpinan transformasi dengan tiga daripada pembolehubah-pembolehubah bebas iaitu penilai emosi diri, penilai emosi lain dan penggunaan emosi. Penggunaan budaya organisasi sebagai penyederhana di antara dimensi kecerdasan emosi dan kepimpinan transformasi juga tidak pernah dilakukan sebelum ini. Umumnya budaya organisasi telah memainkan peranan penting dalam menyederhana hubungan ini. Bagaimanapun kesan penyederhanaan budaya organisasi sebagai kontruk keseluruhan, dan jenis budaya puak dan hierarkaki hanya signifikan ke atas hubungan antara peraturan emosi dengan kepimpinan transformasi manakala jenis budaya adokrasi menyederhana secara negatif hubungan antara penilaian emosi lain dengan kepimpinan transformasi. Dapatan kajian ini menyumbang kepada pengetahuan semasa mengenai perhubungan kecerdasan emosi, budaya organisasi dan kepimpinan transformasi, dengan menunjukkan bahawa kuasa kecerdasan emosi pemimpin-pemimpin ke atas kepimpinan transformasi dinyatakan melalui variabel penyederhana ketiga, budaya organisasi. Secara teorinya, kajian ini diharap akan meningkatkan kefahaman kuasa peramal dimensi kecerdasan emosi ke atas kepimpinan transformasi di samping menyumbang pandangan kepada kesan bersyarat budaya organisasi ke atas hubungan tersebut. Dapatan kajian ini juga akan membantu pengamal-pengamal dalam meningkatkan lagi pemilihan dan pembangunan pemimpin-pemimpin.

Kata Kunci: Kepimpinan transformasional, kecerdasan emosi, budaya organisasi, pendidikan tinggi

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AKEPT	Akademik Kepimpinan Pengajian Tinggi
ECI	Emotional Competency Inventory
EI	Emotional Intelligence
EQ	Emotional Quotient
EQ-I	Bar-On Emotional Quotient Inventory
HEIs	Higher Education Institutions
HTMT	Heterotrait-monotrait
IQ	Intelligence Quotient
JTP	Jabatan Pendidikan Tinggi
KMO	Kaiser-Meyer-Olkin
LPI	Leadership Practices Inventory
MEIS	Multifactor Emotional Intelligence Scale
MLQ	Multifactors Leadership Questionnaire
MoHE	Ministry of Higher Education
MSCEIT	Mayor-Salovey-Caruso Emotional Intelligence Test
OC	Organizational Culture
SmartPLS	Partial Least Squares software
SPSS	Statistical Package for Social Science
TVET	Technical and Vocational Education and Training
TL	Transformational leadership

CHAPTER ONE

INTRODUCTION

1.1 Background

The goal of becoming a highly developed nation with highly educated skilled work force is the reason why the Malaysian government encourages greater contribution from the service sector to the economy. It is seen as a move that is in line with more developed countries where the service sector forms a major structural component of its economy (Cheen, 2015). Evidently, Malaysia's service sector contribution to GDP has markedly gone up in the past few years, climbing from 40.1% (1998) to 55.4% (2014). The service sector is now targeted to contribute as much as 66.5% to GDP by they year 2020 (Malaysia, 2010). As an important part of the service sector, higher education has seen many changes in the last few years to overcome challenges pertaining to competition from internationalization, limited research funding, higher tuition, and increased accountability to government (Khurana, 2010). Today, universities are expected to produce more highly skilled graduates and quality research to meet the demands of the 'knowledge economy' created by the recent and very fast technological advances (Deem, Hillyard, & Reed, 2007; Thorp & Goldstein, 2013). Education has long been the single biggest spending item for the government of Malaysia in order to achieve its declared national plan for 2020 and beyond to advance higher education institutions (HEIs) and transform Malaysia into an education hub.

The recent 2014 budget allocated 54.6 RM billion to education alone, roughly 21% of total spending up from 6.6 RM billion which was 17.3% of the national budget in 1991(Abdul Razak, 2015). The budget for 2016 saw the services sector projected to grow 5.4 % and increase its lion's share to 54 % of GDP from 53.8 % with all sub-sectors continuing to expand until GDP from services reaches RM191 billion in 2020 as forecasted (Figure 1.1) (Trading Economics, 2016). To this end, higher education will continue to offer scholarships in the amounts of RM1.65 billion, RM288 million, RM250 million, and RM258 million, through the Public Service Department, the Ministry of Education, the Ministry of Higher Education, and the Ministry of Health, respectively (Abdul Razak, 2016). Moreover, Malaysia made the biggest higher education expenditure as percentage of annual national budget among its peers in the region and even some developed nations (Figure1.2). Though, an efficiency gap is apparent when comparing inputs to outputs in Figure 1.3 (U21 2015 report). In other words, Malaysia ranked 12th out of 50 countries in terms of inputs such as government expenditure and annual expenditure per student, but ranked 44th in outputs that measure unemployment rates, research quality, and quantity of publications.

Figure 1.1
Malaysia GDP from Services
Source: Trading Economics, retrieved (2016)

An overview of the Malaysian higher education sector told of its importance as demonstrated by sheer size; there are currently 672 higher education institutions with over 1.2 million enrolments. There are only 20 public universities, however, that account for over 600,000 enrolments and cost over 10 billion Ringgits per year (Ministry of Higher Education, 2015). Furthermore, an initiative that confirmed the Government's interest in higher education has been the introduction of MyBrain15 Program. The program is targeted to graduate 60,000 PhD holders by 2023. Nevertheless, so far, there were 34,525 post-graduates that cost the government over RM386 million with a planned increase of RM112 million as of 2015 (Abdul Razak, 2015). The plan intends to convert Malaysia into a world-class higher education hub by reaching the highest levels of quality education (Ministry of Higher Education, 2007).

Figure 1.2
Higher education expenditure as a percentage of annual national budget
Source: Ministry of Higher Education, retrieved (2016)

Higher education institutions around the world continue to have the main challenge of internationalization of education (Arambewela & Hall, 2009). International movements of higher education resources such as, funding, ideas, students, and staff, have resulted in global pressures forcing universities to reconsider their missions (Salmi, 2009). The resulting growth in demand for education and drop in government funding has resulted in tremendous competition between HEIs (Lonnqvist & Kagaari, 2011). To highlight this point, the world Economic Forum issued a Global Competitive Report in 2012, which disclosed mixed signs of progress, however. First, investment in education has been yielding some promising results, namely, Malaysia's higher education sector was classified 14th out of 142 countries. At the same time, in a comparative analysis, the Global Competitive Index (GCI) revealed that Singapore's education system quality ranked number 1 for 2011 and second in the region for 2014, whereas, Malaysia ranked 23rd in 2011 and 19th in 2014. The important role played by higher education as a source of high quality research and training seems to be slow moving as evident by Singapore's fast progress in ranking 19th in 2011 and then 14th in 2014, while Malaysia only ranked 25th in 2011 but up to 20th in 2014 (World Economic Forum, 2014). On a more positive note, however, foreign universities opening branches in Malaysia can be considered not only as toughening competition for Malaysia's local universities and colleges, but also as a challenge that serves to motivate local universities in order to compete and improve quality on a world scale (Teo, 2013).

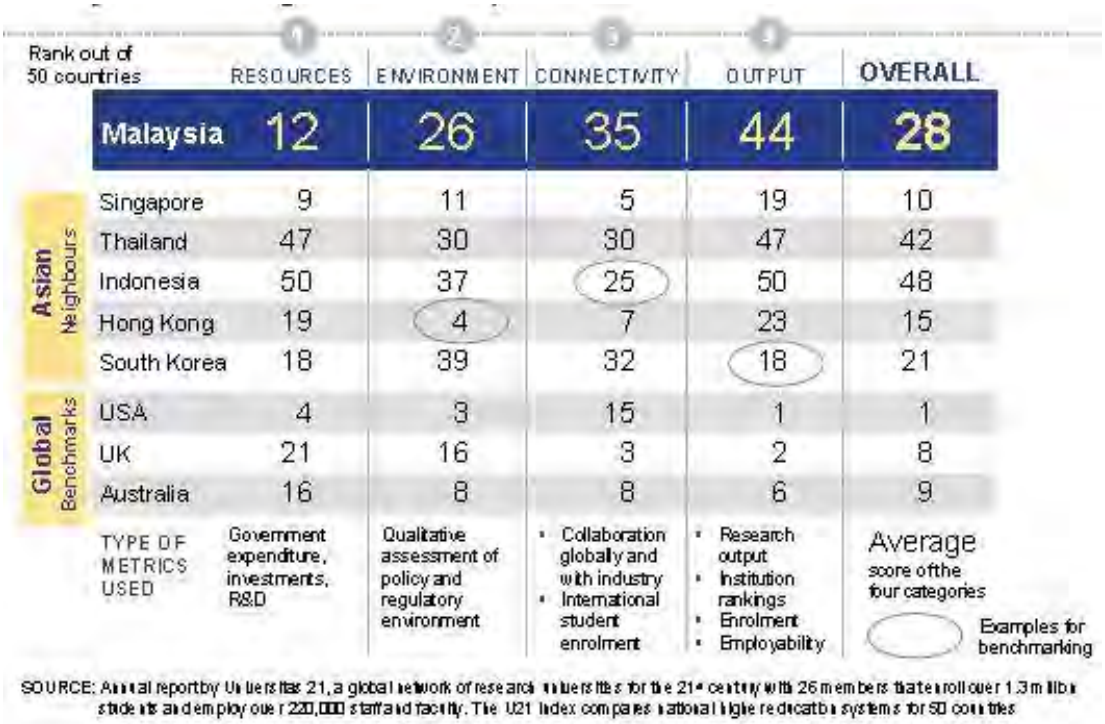

Figure 1.3
Malaysia's ranking in the U21 report
Source: Ministry of Higher Education, retrieved (2016)

For universities to improve quality continually is a challenge recognized by international standards set by the Organization for Economic Development (State of Higher Education OECD, 2014). The constant change surrounding the sector and the tireless efforts made to transform universities has led to the recognition of leadership as a force for movement and a catalyst for change (Schein, 2004). Thus, an important performance indicator and a proxy to quality has been universities' ranking services, which have made big strides toward becoming more transparent and consistent (Huang, 2011; Khosrowjerdi, 2013). Some Malaysian public universities have shown tremendous advances in ranking but still behind some of their Asian counterparts. For instance, the top ranking Malaysian university, Universiti Malaya, ranked 29th by QS Asia was ranked 146th in the 2015 QS World ranking in comparison to 207 in 2007. Further, National University of Singapore

(NUS) ranked first in Asia for 2015 and 12th, for the same year, in the QS World ranking in comparison to 33rd in 2007 according to QS University Rankings (2015). After all, NUS was allocated $757 million in 2015, still, its leading performance was testament to Singapore's efficient use of abundant resources (NUS Annual Report, 2015). Another recognised factor in the enhancement of performance in higher education is academic talent including leadership and favorable governance. With that respect, the Malaysian government created the Higher Education Leadership Academy (AKEPT) to help in the development of leadership in universities and colleges (Ministry of Higher Education, 2007). Still, critics claim that Malaysian public universities lack the application of best practices when it comes to leader recruitment and selection, which typically entail a very aggressive and exacting search process (Sirat, Ahmad, & Azman, 2012).

An obvious gap exists between the expectation and the reality of Malaysia's higher education sector. The Malaysian government put a comprehensive plan in 2007 that intended to transform Malaysian higher education system beyond 2020 into an education hub. However, universities are complex organizations and in Malaysia they are accountable to the government and have less autonomy than most of its peers (U21 2015 report). So the government stepped in with important initiatives intended to provide quality English-language schooling to help reverse the trend of brain drain that results from students studying abroad are Educity in Iskandar Malaysia and Kuala Lumpur Education City (KLEC) (Ministry of Higher Education, 2007). In the same way, universities are confronted by increased pressure to produce employable skilled graduates equipped to deal with increased international competition. This is evident from the AEC 2015 (ASEAN Economic

Community) that aim to have a regional economic integration of south-eastern Asian countries, but indications (Abidin, Mooi, and Aziz, 2015) revealed that private service sector professionals were not ready to position themselves well with the AEC 2015 greater liberalization.

On the reality end, however, there seems to be a skills mismatch problem quite evident in relatively high unemployment rates for graduates who appear to lack the multiple skills required by an ever demanding and increasingly changing labor market (World Economic Forum, 2014). According to the Ministry of Education, in 2013, unemployment rates were 25% for public university graduates compared to 9% of community college graduates and 18% for technical and vocational education and training (TVET) graduates (Ministry of Education Malaysia, 2013) with the latter receiving recent increased attention from the government (Ministry of Higher Education, 2015). Currently, however, graduate employability rates hover around 75% with the goal of reaching 80% by 2025. All the same, the government has put in place programs to enhance the competencies of tertiary-school graduates to address the gap between academic education and industry requirements, i.e. “industry attachment programs”, and the Knowledge Transfer Partnership (KTP) program that assist joint research and development activities between industry and academic institutions (Gurria, 2012). This is a great example of the workings of a much-needed collaborative and creative leadership among the important departments in government, universities, and industry.

The motivation to study leadership and its development arose from the increased pressure on universities to deal with change and to perform competitively. Experts

agree that organizational and individual performance as well as the management of change are all strongly associated with great leadership (State of Higher Education OECD, 2014; Bolden et al., 2012; MOHE, 2007). Salmi (2009) has even prescribed it as one of the most important factors at play in the world's top universities, i.e. a high concentration of talent (academic leaders, faculty and students), abundant resources, and favorable governance. Big change manifests itself in the paradigm shift requiring universities to maintain a difficult balance between corporate and academic interests (Altbach, 2004; Altbach, Salmi, 2011; Bess & Dee, 2008; Bolden et at., 2012). Examples of performance complications are the dispersion of talent (high quality students, academic staff, and academic leaders) from globalization. Another, is the current content-heavy leadership training programs that have become "outdated and redundant" (Petrie, 2011) in meeting one of industries' top priorities and the number one concern as stated by more than 500 executives (Gurdijan, Halbeisen, & Lane, 2014). Moreover, in recognition of leaders' influence and their access to resources that direct organizations to higher goals, efficiencies, and performance, the Malaysian government set up the Higher Education Leadership Academy (AKEPT). Nevertheless, leadership development programs struggle to keep up with industry needs (Pelster, 2016) and current horizontal leadership development need to yield to vertical leadership development thinkers (McGuire & Rhodes, 2008). Therefore, concerned practitioners, continue to rebut and criticise the current state of leadership development programs, most likely welcome studies that aim to demystify the leadership development process.

To sum, the main practical motivation for studying leadership in Malaysian public universities is its importance in contributing to the economy as per Malaysian

government's 2020 vision plan and for the large investments committed to transform Malaysia into an education hub. Evidence of this can be seen in Malaysia's expenditure on higher education as the highest among its peers (Ministry of Higher Education, 2015). However, universities are complex organizations and running them is a formidable endeavour. Even though Malaysia's expenditure on higher education is the highest among its peers, in Malaysia, they are accountable to government and have less autonomy than most. They face numerous challenges from every area, including, less efficient use of resources that was reflected in the gap between inputs and outputs, global competition effects seen in the stagnant proxies to quality such as university ranking, and the threat of academic talent dispersion. At the same time, there are great expectations from universities like, financial independence, graduate employability and the sine qua non of more skilled workers, as well as the aspiration of turning Malaysia into an education hub by 2020.

In conclusion, a 2015 report revealed a leadership gap across all Malaysian Higher Education Institutions and since then, the Ministry of higher education has given, in the 2015-2025 plan, leadership development more prominence by strengthening career pathways to keep and develop academic leadership talents. The recognition of leadership development as a collective responsibility has also been give priority. Consequently, it is important to carry out the current study to learn about leadership further as a variable that plays an important role in managing change while driving performance by shifting mindsets and behaviors. The study is also pivotal to academics, practitioners, and policy makers who can use the findings in leader selection and training program. In particular, the current study focuses on

transformational leadership (TL) style because of the attention it as received in literature for higher education (Cameron & Ulrich, 1986; Eckel & Kezar, 2003), and the recently specified interest by the Ministry of Higher Education (2015) in TL as the crucial means to overcoming challenges and driving performance. Which is not surprising, considering the vast recognition TL has accumulated as the way to raise awareness levels and to inspire followers to transcend beyond self-interests (Bass, 1985) and convert followers into leaders and leaders into agents for change (Northouse, 2012).

1.2 Problem Statement

In light of the many challenges and expectations of universities, and the gap identified in leadership of Malaysian higher education institutions, the present study focused on leadership development in Malaysian public universities. Studying leadership is critical because it is a recognized way for changing and transforming people (Bass, 1985) as well as the most talked about topic in higher education is change (Buller, 2013) which is desperately needed for universities' survival (Cameron & Quinn, 2011).

Universities are now focusing on leadership development and running universities like a business because the old ways of academics managing universities hesitantly has been described as unjustifiable. At the same time, academic leadership faces the challenge of attracting and winning the best academics who have considerable influence in universities and the academic community (Bolden et al., 2012). To this effect, exploring past research for answers to the relationship between leadership and performance has revealed a plethora of studies which revealed that effective leadership is a major contributor to performance. These studies related to

performance at the individual or organizational levels and at the job or managerial levels (Bass & Avolio, 1994; Bass, Avolio, Jung, & Berson, 2003; Dvir, Eden, Avolio, & Shamir, 2002; Masi & Cooke, 2000; Yammarino, Spangler, & Bass, 1993; Yukl, 1989). Leaders who exhibit transformational style were also found more effective with better performance across hierarchical levels in private and public organizations (Lowe, Kroeck, & Sivasubramaniam, 1996; Bakar & Mahmood, 2014).

Specific to higher education, transformational leadership (TL) has prevailed and was found related to follower satisfaction and effectiveness that resulted in improved overall follower performance (Kirby, Paradise, & King, 1992). Again, García-Morales, Jiménez-Barrionuevo, and Gutiérrez-Gutiérrez (2012) discovered that TL impacted organizational performance through learning and innovation. Yet another study found a connection between leadership and the successful implementation of administrative reform (Moynihan, Pandey, & Wright, 2012). Finally, TL was also connected to task performance (Liao & Chuang, 2007; MacKenzie, Podsakoff, & Rich, 2001), creative performance (Gong, Huang, & Farh, 2009; Jung, 2001; Jung, Chow, & Wu, 2003; Shin & Zhou, 2007), and contextual performance, namely, extra role performance and organizational citizenship behavior (Harrison, Newman, & Roth, 2006; Sosik, 2005; Van Knippenberg & Van Knippenberg, 2005).

TL received considerable attention in literature for higher education (Cameron & Ulrich, 1986; Eckel & Kezar, 2003). It is relevant in the higher education sector as it is in industry that many studies show emotional intelligence (EI) was linked to

higher performance (Goleman, 1998; Mayer, & Salovey, 1997) and scholars have contended that of its own accord EI undoubtedly is not an antecedent of job performance as much as providing the bedrock for competencies that are, such as leadership. Research has shown that leadership is effected by many factors including emotions, leader's attribute and demographics, cultures, and business models (Barbuto & Burbach, 2006; Barling, Slater, & Kelloway, 2000; Hur, 2008; Judeh, 2010; Radhakrishnan & UdayaSuriyan, 2010; Schafer, 2010; Voon, Lo, Ngui, & Peter, 2009; Wright & Pandey, 2009; Zagorsek, Jaklic, & Stough, 2004). EI was selected for the current study because of its strong but sometimes inconsistent relationship with leadership as demonstrated by numerous studies (Barling et al., 2000; Côté, Lopes, Salovey, & Miners, 2010; Higgs & Aitken, 2003; Kellett, Humphrey, & Sleeth, 2006; Leban & Zulauf, 2004; Lopez-Zafra, Garcia-Retamero, & Martos, 2012; Rosete & Ciarrochi, 2005; Wang & Huang, 2009). Similarly, several recent studies have shown that EI and leadership are not always correlated (Antonakis, 2003; Antonakis, Ashkanasy, & Dasborough, 2009; Brown, Bryant, & Reilly, 2006; Cavazotte, Moreno, & Hickmann, 2012; Lam & O'Higgins, 2012; Lindebaum & Cartwright, 2010; Matthews, Zeidner, & Roberts, 2012; Weinberger, 2009).

Many studies revealed that EI and transformational leadership are positively related (Jordan, Ashkanasy, Hartel,2002; Beshears, 2004; Burbach, 2004; Dabke, 2012; Foster and Roche 2014; Hartsfield, 2006; Hebert, 2010; Hur, van den Berg, & Wilderom, 2011; Lam, & O'Higgins, 2012; Leban, & Zulauf, 2004; Shapiro, 2008; Thomas, 2011; Wang, & Huang, 2009). At the same time negative or partially supported relationship between EI and TL have also been documented (Clarke,

2010; Weinberger, 2009; Lindebaum & Cartwright, 2010; Cavazotte, Moreno, &Hickmann, 2012; D'Alessio, 2006). Specifically, studies of the 4 elements of EI abilities as they relate to transformational leadership have also shown inconsistent association (Burbach, 2004; Foster & Roche 2014; Hebert, 2010; Leban, & Zulauf, 2004; Thomas, 2011). However, those that are supported slightly outweighed the ones not supported (Clarke, 2010; Weinberger, 2009; Lindebaum & Cartwright, 2010), and this has been afflicted by methodology issues, such as common method variance (CMV) (Lindebaum & Cartwright, 2010) and small sample size.

In the current study, each of the EI dimensions were examined as independent variables to confirm which branches of EI are more important as antecedents to transformational leadership. Out of the eleven most relevant studies focusing on EI abilities, 3 found that the self-emotion appraisal ability was related to TL, namely, Burbach (2004), Hur, van den Berg, and Wilderom (2011), and Thomas (2011). Others emotional appraisal association with TL was supported by 5 studies, namely, Clarke (2010), Weinberger (2009) Burbach (2004), Hur van den Berg, and Wilderom (2011), and Thomas (2011). There were 4 studies that found support for the use of emotion and TL relationship, namely, Burbach (2004) Herbert (2010), Hur, van den Berg, and Wilderom (2011), Thomas (2010), and Leban (2004). Finally, three studies, namely, Burbach (2004), Herbert (2010), Hur, van den Berg, and Wilderom (2011), and Thomas (2010) supported regulation of emotion and TL association.

The frequent research investigating the relationship between EI and TL but yielding mixed results motivated the present study. Baron ad Kenny (1986) had

recommended the use of a viable moderator as a possible solution to such cases of inconsistent results. Therefore, the examining of a contextual factor, such as organizational culture (OC) was primary and reasonable choice as it was suggested by many scholars (Harms & Crede, 2010; Hofstede, 2001; Sadri, Weber, & Gentry, 2011). Otherwise, many studies found that OC influenced both TL (Berglund, 2014; Gharibvand, 2012; Zagorśek et al., 2004) and EI (Danaeefard et al., 2012; Daus et al., 2012; Haddy, 2005; Litvin, 2000; Mishra, 2012; Subramanian & Yen, 2013; Van Maanen and Kunda, 1989). In addition to using OC as moderator in the current study between EI dimensions and TL, methodological improvements were implemented to overcome problems that past similar studies ran into. As it was cited by quite a few meta-analysis studies that produced results showing a positive relationship between EI and leadership (Harms, & Crede, 2010; Hunt, & Fitzgerald, 2013; Martin, 2008), but, methodological issues were held responsible for the inconsistent results. In particular, questions about common method variance, small sample sizes and same-source data sets, as well as the lack of a "gold standard" instrument designed to effectively measure EI.

In this present study, it is expected that EI abilities will relate with TL in the presence of OC so as to facilitate the interaction. It is pertinent here to point out that several scholars have argued about the importance of OC in the development of leadership, namely, Schlesinger and Kotter (1992),Bass and Avolio (1994) Boyatzis and McKee (2004), and Schein (2004). According to Schein (1993), leaders of organizations were confronted by many problems confronted that materialize due to the leaders' inability to analyze and evaluate the culture of their organization, "The bottom line for leaders is that if they do not become conscious of the cultures

in which they are embedded, those cultures will manage them" (Schein, 2004, p.23). More specifically, in his dissertation, Foster (2000) explored servant leadership and found that for servant leaders to be effective they need to be supported by organizational culture. Other studies have uncovered a positive relationship between cross-culture and leadership (Mansor, 2000; Zagorsek et al., 2004). Lastly, Beyer and Nino (2001) established how culture was closely and mutually linked to emotional views.

There is a dual opportunity in the current study to test organizational culture as a moderator between the emotional intelligence dimensions and transformational leadership link, and as a novelty in a different cultural setting outside of the typical western one. Research exploring organizational culture as a moderator on the relationship between emotional intelligence and TL is nearly non-existent even though it has been suggested by many researchers, yet often overlooked (Harms & Credé, 2010; Hofstede, 2001; Sadri, Weber, & Gentry, 2011; Walter, Cole, and Humphrey, 2011). But, there has been some research exploring the moderating role of organizational culture between personality and performance (Chuttipattana & Shamsudin, 2011; Miron, Erez, & Naveh, 2004; Navaresse, 2008), organizational citizenship (Schnake & Dumler, 2003), career outcomes (Erdogan & Bauer, 2005), and work behavior (Tett & Burnett, 2003). Other studies pertained to OC as a moderator between leadership and justice perception (Erdogan, Liden, & Kraimer, 2006), knowledge management (Nam Nguyen & Mohamed, 2011), commitment and job satisfaction and performance (Huey & Ahmad, 2009; Zahari & Shurbagi, 2012), and team proactivity (Erkutlu, 2012).

It is anticipated in the current research that EI is an antecedent to transformational leadership particular in contextual circumstances, such as when organizational culture (OC) is present, which results in favorable emotional expression and transformational leadership process. Past studies have found that Organizational culture influenced both TL (e.g., Berglund, 2014; Gharibvand, 2012; Zagorśek et al., 2004) and is influenced by leader behavior and cultural norms set how leadership is defined (Berglund, 2014; Gharibvand, 2012; Schein, 2010; Zagorśek *et al*., 2004). Also, Culture fulfills an emotional need and functions as a regulatory tool for emotions (Danaeefard et al., 2012; Daus et al., 2012; Haddy, 2005; Litvin, 2000; Mishra, 2012; Subramanian & Yen, 2013; Van Maanen and Kunda, 1989). Moreover, it is generally believed that OC effects perceptions, behavior, and effectiveness (Mintu-Wimsatt, 2002; Miron et al., 2004; Page, Wilson, Meyer, & Inkson, 2003; Reigle, 2001). Likewise, recent studies showed a reciprocal relationship between emotional intelligence and culture (Danaeefard et al., 2012; Daus et al., 2012; Haddy, 2005; Litvin, 2000; Mishra, 2012; Subramanian & Yen, 2013; Van Maanen and Kunda, 1989), and between culture and leadership (De Hoogh, Den Hartog, & Koopman, 2005; Simosi & Xenikou, 2010; Zagorśek et al., 2004). Still, little is known about the moderating role of OC on the relationship between EI and TL, even though it has been suggested by many scholars (Harms & Crede, 2010; Hofstede, 2001; Sadri, Weber, & Gentry, 2011).

In conclusion, transformational leaders (TL) influence others to drive performance. These type of leaders need emotional intelligence (EI) abilities and the support of an organizational culture (OC) that enable them to by inspire motivation, intellectually stimulate others, as well as carefully listen to the needs of followers

while communicating a vision that strives to meet expectations and overcoming challenges. Incidentally, past studies have found that OC influenced TL (Berglund, 2014; Gharibvand, 2012; Zagorsek et al., 2004) and EI (Carmeli, 2003; Mesmer-Magnus, et al., 2008). However, due to the many studies that rendered the EI-TL association inconsistent and the little known about the moderating role of OC on the relationship, even though suggested by many scholars, this has resulted in that effective TL development remains mired. If this continues, universities' role to serve society and industry is put into question and thus fall out of favor as a means for producing employable graduates and quality research. Therefore, it was proposed in the current study to investigate the EI-TL relationship and the role of OC as a moderator among academic leaders in public universities. The research was conducted through questionnaires to learn about these inter-relationships for the end benefit and the implications on theory and the practice of transformational leadership development.

1.3 Research Questions

Based on the above reasoning, this study aspired to answer the following three central research questions put forth in terms of the survey participants, namely, academic leaders of the Malaysian public universities:

i) What is the level of transformational leadership among leaders in Malaysian public universities?

ii) What is the relationship between emotional intelligence and transformational leadership among Malaysian public universities' leaders?

iii) Does organizational culture moderate the relationship between emotional intelligence and transformational leadership among Malaysian public universities' leaders?

1.4 Research Objectives

To coincide with the sustained research questions above, the current study sought to reach the following objectives:

1) To investigate the level of transformational leadership among leaders in Malaysian public universities.
2) To evaluate the relationship between emotional intelligence and transformational leadership among Malaysian public universities' leaders.

a) To evaluate the relationship between self-emotion appraisal and transformational leadership among Malaysian public universities' leaders.
b) To evaluate the relationship between emotion appraisal of others and transformational leadership among Malaysian public universities' leaders.
c) To evaluate the relationship between use of emotion and transformational leadership among Malaysian public universities' leaders.
d) To evaluate the relationship between regulation of emotion and transformational leadership among Malaysian public universities' leaders.

3) To determine the role of organizational culture as a moderator in the relationship between emotional intelligence and transformational leadership among Malaysian public universities' leaders.

a) To determine the role of organizational culture as a moderator in the relationship between self-emotion appraisal and transformational leadership among Malaysian public universities' leaders.

b) To determine the role of organizational culture as a moderator in the relationship between emotion appraisal of others and transformational leadership among Malaysian public universities' leaders.

c) To determine the role of organizational culture as a moderator in the relationship between use of emotion and transformational leadership among Malaysian public universities' leaders.

d) To determine the role of organizational culture as a moderator in the relationship between regulation of emotion and transformational leadership among Malaysian public universities' leaders.

1.5 Scope of Study

The current study centers on investigating the relationship between self-emotion appraisal, others emotional appraisal, use of emotion, and regulation of emotion on transformational leadership with the moderating effect of organizational culture. The unit of analysis of the study were academic leaders in Malaysian public universities in peninsular Malaysia. These respondents included deans, deputy deans, directors, deputy directors, heads of departments, and managers, i.e., only those with primarily core academic leadership roles. These respondents met the study's scope since they occupied the most suited leadership positions to achieve the sought after research objectives.

1.6 Significance of Study

The current research considers the examination of leadership and its development in public universities as very crucial. Malaysia is committed to becoming a highly developed nation with a highly educated skilled work force and hence the government's biggest expenditure on higher education as a percentage of GDP.

Universities face internal, global, and leadership challenges and are pressured by constituents to meet expectations at once. In order for universities to adapt and deal with the constant change surrounding the sector and be able to close the gap between challenges and expectations, they must address the overall and perplexing means of leadership development and organizational configuration.

One of the most substantial challenges facing universities is the efficiency gap between inputs, such as government spending, and outputs, such as graduate employment, which need to be addressed earnestly (Ministry of Higher Education, 2015). Attracting and retaining academic talent as well as proxies to quality like university rankings have posed daunting expectations on a global scale. Therefore, academics and practitioners in the leadership development area should find the leadership questions tackled in the current study of applicable significance. By exploring the interrelated influences of transformational leadership, organizational culture, and emotional intelligence, the study aims to pave a path in the human capital development.

Furthermore, the study's long term significance is on leadership development, which is the increase of a group's capability to give direction, alliance, and commitment, namely, social capital. Conversely, leader development is just one aspect of leadership development and involves the increase of a person's ability to take on leadership roles and processes, that is, human capital (McCauley et al., 2010). And since the link between human and social capital occurs when leaders develop their emotional intelligence (Day, & Zacarro, 2004), therefore, this improved EI can translate into better relationship-management skills for building

high-quality exchanges with followers. Along these lines, human capital development offers the raw material used in developing social capital. Ultimately then, social capital can create human capital when a leader connects otherwise unconnected networks (Day, & Zacarro, 2004), which in turn provides resources to develop human capital.

As for the short term view, the current study is useful in selection, training, and promotion of leaders and their emotional intelligence and endorsement of appropriate organizational culture for the process. Similarly, leaders can benefit from the development of skills to influence and so their efforts will have a bigger impact as well as augment their already available access to resources in directing organizations to greater efficiencies and performances. Consequently, the current research will be of significance mostly to academics and practitioners in the leadership development field and policy makers in the Ministry of higher education and, specifically, as an extension work to the government's efforts to boost higher education leadership through the set up leadership academy (AKEPT).

1.7 Definition of Terms

Transformational Leadership (TL): influencing and inspiring followers to perform beyond expectations and intellectually stimulate and give individualized consideration to transcend their own self-interest for a higher collective purpose (Bass, 1985).

Emotional Intelligence (EI): "involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge, and

the ability to regulate emotions to promote emotional and intellectual growth" (Mayer & Salovey, 1997, p.10). The following EI abilities are measured in the current study:

- Self-emotion appraisal (SEA): The ability to perceive emotions in oneself and others correctly.
- Others emotional appraisal (OEA): The ability to use emotions to facilitate thinking.
- Use of emotion (UOE): The ability to understand emotions, emotional language, and the signals carried by emotions.
- Regulation of emotion (ROE): The ability to manage emotions to reach precise goals.

Organizational Culture (OC): an enduring and implicit set of values, beliefs, and assumptions that characterize organizations and their members and categorized into four types: Clan, Adhocracy, Market, and Hierarchy (Cameron & Quinn, 2011).

1.8 Organization of the Thesis

The thesis is organized into five chapters. First, an introduction was presented in Chapter 1that stated the Malaysian higher education sector issues in the background, the theoretical gap in the problem statement, research questions and objectives, significance of the study, and scope of the study followed. Next, in chapter two addressed previous empirical literature relating to the study's three main constructs, namely, transformational leadership, emotional intelligence, and organizational culture. This was followed by the research hypotheses proposed and the three theories that were used to link the relationships of the proposed research

model, namely, the social systems theory (Berrien, 1968), the social cognitive theory (Bandura, 1986) and the self-directed learning theory (Goleman, Boyatzis, & McKee, 2002). Chapter three detailed the specifics of the methodology used in the study, including research design, data collection procedures, sampling method, and techniques of data analysis, among others. This was succeeded by chapter 4 which described the research's data analysis and findings. Finally, the results of the data analysis were discussed in Chapter five as well as practical and theoretical implications were offered with a close of limitations, future research suggestions, and a conclusion.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

In this chapter the main constructs, relationships between constructs, underpinning theory, and theoretical framework were discussed including a review of most relevant research and literature on transformational leadership as the dependent variable, emotional intelligence and its dimensions as independent variables, included was a discussion of organizational culture and its proposed moderating role on the relationship. Subsequently, empirical studies that described the relationships between criterion, moderator and predictor variables were reviewed toward the development of the research model and hypotheses. This was followed by a discussion of the study's underpinning theories and conceptual framework.

2.2 Concept of Transformational Leadership

Leadership is a highly appreciated but complex phenomenon that has many definitions but all seem to agree that it is a process of influencing people toward goal realization (Northouse, 2012). A generally recognized way of transforming universities to greater performance is effective leadership because leaders are at a place of influence and have access to and so can use resources towards organizational success (Bakar & Mahmood, 2014; Bento, 2011; Gappa, Austin, & Trice, 2007; Yukl & Mahsud, 2010). It is not, therefore, surprising that the leadership area of study has produced more than 15,000 published books and articles (Fulmer & Conger, 2004).

One of the earliest definitions of leadership was by Moore (1927, p.124), "the ability to impress the will of the leader on those led and induce obedience, respect, loyalty, and cooperation". An important definition of leadership and most relevant to the present study was by Burns (1978, p.425), "Leadership is the reciprocal process of mobilizing persons with certain motives and values, various economic, political, and other resources, in a context of competition and conflict, in order to realize goals independently or mutually held by both leaders and followers".

A review of leadership theories made it clear that leadership theories had started with the trait theory from early 20th century till the First World War era (Ayman, Chemers, and Fiedler, 1995). It was then followed by the behavioral perspective, which lasted, to the late 1960s. Then came contingency-oriented leadership theories, which took place in the period after that until the emergence of more contemporary theories. These early stages of leadership were important to briefly go over in order to appreciate the origins of transformational leadership; the focus of the current study.

Trait theory recognized that traits are critical to a leader's success including traits like high energy, social skills and adaptability, among others (Stogdill, 1974). After many studies, Stogdill discovered that traits alone cannot account for what leadership is all about and so anticipated other personal and situational factors for a more complete understanding of leadership could take place. A big development took place when traits theory included the Big 5 personality framework, namely, extraversion, agreeableness, conscientiousness, emotional stability, openness to experience (Judge, Bono, Ilies, & Gerhardt, 2002) including the discovery that

effective leaders' most important trait was extraversion. However, traits leadership turned out to be better at predicting leadership than differentiating between leaders who were effective or ineffective (Lord, De Vader, & Alliger, 1986; Smith & Foti, 1998). Another important trait linked to effective leadership was emotional intelligence (EI) (Antonakis *et al*., 2009; George, 2000; Humphrey, 2002; Wong & Law, 2002). It is undecided that if without emotional intelligence one can still have excellent training, extremely logical thoughts, a captivating vision, and an infinite stock of awesome ideas but still not be the greatest leader.

In contrast to trait research, which implied selection of the right leader, behavioral theory focused on training people to be leaders. Leaders' actions were studied and three styles resulted: autocratic, democratic, and laissez-faire (Lewin, Lippitt, & White, 1939). In the 1960s, however, research (Yukl, 1989) narrowed down the behavioral styles to two: 1) the leader-follower relationship and concern for goals and structure, and 2) effective patterns of communication called consideration. In other words, behavioral theories emphasised a leader's orientation to either task or people.

Traits and behaviors may help in identifying effective leaders but that does not necessarily mean success since context matters as well. That's where the situational approach came in with the premise that different circumstances call for different kinds of leadership (Blanchard, Zigarmi, & Nelson, 1993). Another closely related theory was Fiedler's contingency model. The contingency theory's basic assumptions state that leadership attracts traits and behavioral styles that are more suitable to address certain situations or followers (Chemers, 2014). Studies further

explored how certain traits and behaviors were favorable to an environment, to the complexity of task and knowledge of the followers, to relationships between leaders and followers, and the influence that the behavior of a leader can have on a follower's motivation and satisfaction (Chemers, 2014; Glynn & DeJordy, 2010). Still, contingency orientation seems to ignore characteristics of the followers (Chemers, 2014), as Glynn and DeJordy (2010) found from their extensive research that the application of contingency models can be quite difficult and it remains unclear how the leadership processes may be contingent on the broader perspectives of organizational environments. Another contingency model is the path-goal theory advanced by House (1971) that refers to how leaders explain to followers the path to their work goals and how they lessen the obstacles in their course. In this theory, the choices the leader made, whether directive or supportive or another behavior will depend on the situation.

Another approach to leadership is taken by the Leader-Member Exchange (LMX) which conceptualizes leaders as creating trust with small groups that have been found to have higher performance, citizenship, satisfaction (Eisenberger, et al., 2010), and commitment (Graen & Uhl-Bien, 1995). There is also evidence that in-group members share similarities with leaders such as demographic, attitude, personality characteristics and gender (Vecchio & Brazil, 2007).

The twenty first century has seen the emergence of various approaches of leadership including authentic leadership. Authentic leadership evolved from social need for honest leadership that is alert to people's needs (Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008).The practical approach to this theory

prescribes how to be authentic by defining real concerns and what the right thing to do about them. The theoretical approach describes what is authentic leadership and its attributes that are cultivated over a lifespan and influenced by critical life events (Avolio, Walumbwa, & Weber, 2009).

A different leadership approach that is enjoying strong interest is the servant leadership which originated by Greenleaf (1970). Servant leaders act as "servants" who concentrate on their followers' needs. The model contains situations that are antecedent to the leader's behavior and their consequences. Serving as the name suggests is what the leader does to all those around him or her. The leader's behavior is effected by surrounding culture and the leader's qualities and how open followers are to the leader. Research showed that outcomes are improved when servant leadership is practiced (Liden, Wayne, Zhao, & Henderson, 2008).

A very widely studied approach to leadership is transformational approach which was coined by Downton (1973) as transformational leadership (TL), and was popularized by Burns (1978) when he used the transactional and TL concept to describe the differences between the behaviors of political leaders. TL gives more consideration to charismatic and emotional features of leadership and most likely popular due to emphasis on intrinsic motivation and follower growth and improvement, concepts in high demand in present day teams who are looking for ways to be motivated and empowered to succeed in times of uncertainty (Northouse, 2012). Burns (1978) defined TL as "a process where leaders and followers engage in a mutual process of 'raising one another to higher levels of morality and motivation". His work emphasized leader-follower interactions that

are necessary for purposes of pursuing a common goal. Burn's (1978) early studies viewed those interactions as either transactional, using rewards or punishment to motivate followers or transformational, inspiring and exciting followers to increase performance and ethics through a strong vision. In addition, Bass (1985) states that transactional and transformational leadership complement one another are not necessarily opposites.

There are 2 other lines of research added to the understanding of transformational leadership are Kouzes and Posner's (2006) andBennis & Nanus (1985). Overall, the Kouzes and Posner's leadership practices emphasized five ways that enable leaders to influence in order to reach goals, namely, set a personal example, visualize positive outcomes and communicate them, innovate, grow and improve, build trust and collaboration, and reward others. Bennis and Nanus's model, on the other hand, established strategies used by leaders: a clear vision, they were social architects, formed trust, and used creative deployment of the self. Even though, Burns (1978) and Bass's (1985) work on TL has contributed much to the understanding of how leaders can influence significant changes in organizations, Barbuto and Burbach (2006) argued that the antecedents of TL are less known than their outcomes. They add that in order to advance the TL field and the dispositional and situational antecedents of TL were essential and must be explored further. Moreover, in their meta-analysis of emotional intelligence relationship with leadership, Walter, Cole, and Huphrey (2011) stated that studies have put together knowledge that can help educators, trainers, and management professionals in utilizing emotional intelligence as part of their leadership development efforts.

Table 2.1
Personality, Behaviors, and Effects on Charismatic Leadership

Personality Characteristics	**Behaviors**	**Effects on Followers**
Dominant	Sets strong role model	Trust in leader's ideology
Desire to influence	Shows competence	Belief similarity between leader and follower
Self-confident	Articulates goals	Unquestioning acceptance
Strong moral values	Communicates high expectations	Affection toward leader
	Expresses confidence	Obedience
	Arouses motives	Identification with leader
		Emotional involvement
		Heightened goals
		Increased confidence

Source: Northouse (2012)

The transformational leadership process often incorporates charismatic and visionary leadership (Northouse, 2012). Charisma was first defined by Weber (1947) as a distinct personality uniqueness that gives brilliant powers and is possessed by a few, is of godly beginning, and the outcome of being considered a leader. Later, House (1971) published a theory of charismatic leadership that included behavior as well as personality characteristics as seen on Table 2.1. Bass stretched House's work by giving more focus to the emotional side of charisma and by saying that charisma is crucial yet not enough for TL (Day & Antonakis, 2012; Yammarino, Spangler, & Bass, 1993).

Bass (1985) expanded the transformational leadership concept and the importance of the difference between transactional leadership and TL by explaining that transformational leaders inspire and excite followers to great performance through vision, whereas, transactional leaders, motivate by managing and manipulating

rewards. Transformational leaders motivate by increasing followers' awareness of the significance of high goals, having them look out for the organization above their own interests, and helping shift followers focus to concentrate on more superior needs (Antonakis, Avolio, & Sivasubramaniam, 2003; Bass, 1985; Bass & Avolio, 1994). Figure 2.1 shows Bass and Avolio's (1994) model, which involves a dynamic continuum of a full range leadership and the 4 main factors that transformational leaders use to achieve superior results. Bass stated that leaders can be transactional sometimes but in other times motivate followers to reach higher goals past their personal ones (Bass, 1985).

Bass's transformational leadership characteristics stated their importance in bringing about higher performance as asserted by this effective leadership style that may be developed. For example, a study of bank managers discovered that branches that underwent TL training performed better than ones that did not (Barling, Weber, & Kelloway, 1996; Dvir, Eden, Avolio, & Shamir, 2002). Also, results of a Meta-Analytic review by Wang, Oh, Courtright, and Colbert (2011) of 117 researches that examined transformational leadership, showed it to be linked to higher performance. The first characteristic of TL, namely, idealized influence, was supported by Kirkpatrick and Locke (1996), in a study that demonstrated idealized influence was more critical than communication in explaining success. Another study showed that transformational leaders were able to gain more trust, which, in turn, can reduce stress in followers (Liu, Siu, & Shi, 2010). Finally, a study by Katou (2015) that involved 133 public and private organizations in Greece from 1250 employees at three hierarchical positions found that TL behavior had a

positive impact on organisational growth when mediated by justice, trust, and commitment.

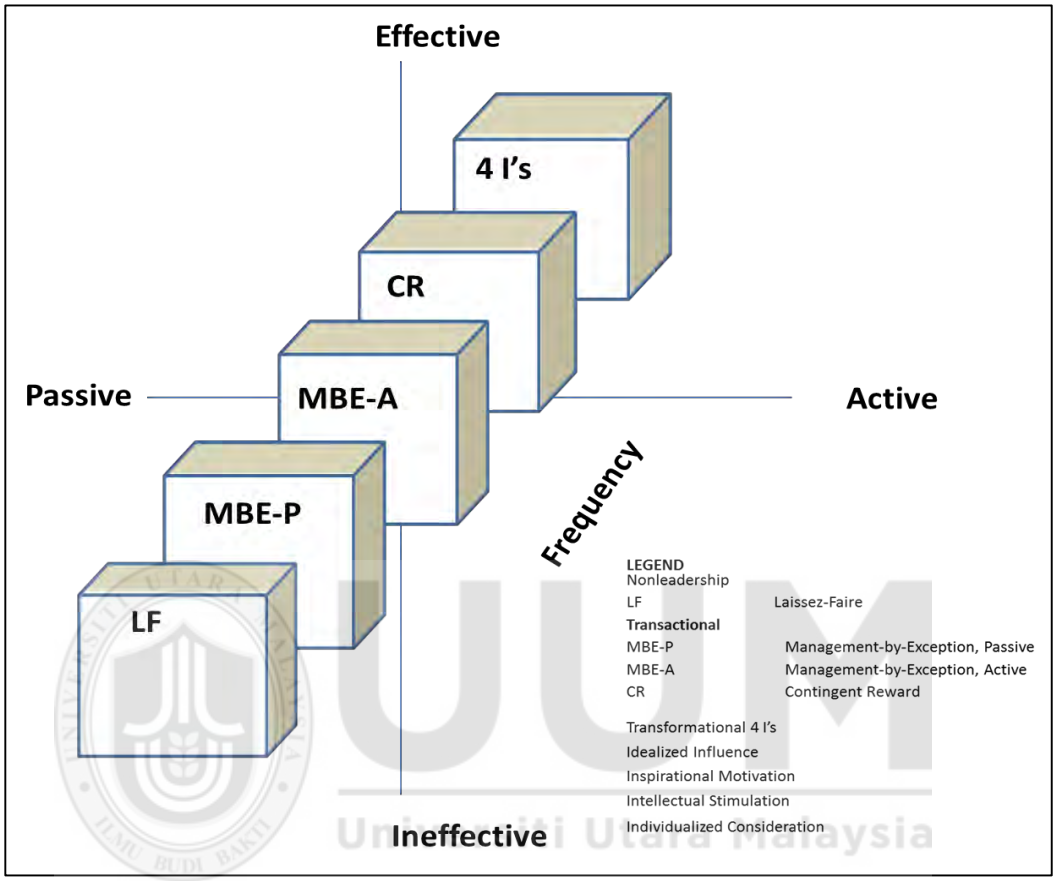

Figure2.1
Full Range of Leadership Model
Source: Bass, and Avolio (1994)

The second characteristic of transformational leadership, inspirational motivation, was supported by Walumbwa, Avolio, and Zhu (2008) who found that transformational leadership increased follower self-efficacy and motivated the group. Similarly, researchers (Berson & Avolio, 2004; Bono,& Judge, 2003; Schaubroeck, Lam, & Cha, 2007) found that TL followers go for higher goals, approve strategic goals, and believe in their goals. Moreover, recently, Ahmad, Abbas, Latif, and Rasheed (2014) found a positive relationship between TL and motivation.

Lowe et al. (1996) discovered that for lower-level leaders in organizations to exhibit intellectual stimulation and individualized consideration can be particularly valuable. Also, Barling *et al*., 2002 discovered that the 4 factors of TL work in combination to enhance safety performance. Similarly, a study by Nemanich and Keller (2007) revealed that TL behaviors such as intellectual stimulation were positively related to acquisition acceptance, job satisfaction, and performance.

The creative side of transformational leadership has been a source for TL's effectiveness (Eisenbeiss, van Knippenberg, & Boerner, 2008; García-Morales, Lloréns-Montes, & Verdú-Jover, 2008; Gong et al., 2009; Shin & Zhou, 2003) since they inspired those who followed them to be creative also. A study by Zhang and Bartol (2010) found that transformational leaders' empowering, led to personal control which increased creativity. On the creativity note, a recent study by Cheng (2014) found that innovation was a mediator between TL and performance in colleges and universities. Finally, the individualized consideration characteristic of TL, which called for listening to the follower needs and their empowerment ultimately raised their performance (Wang & Howell, 2010).

2.2.1 Leadership in Higher Education

Universities are different from other organizations in that they have distinct objectives and outcomes as destination of learning and change and have dual identity – part church, part business (Hatch & Schultz, 2004). This partly explains the appeal of transformational leadership in higher education. Transformational leaders motivate followers to develop and grow by aspiring to higher goals beyond their self interest (Bass & Riggio, 2006). Some important factors such as changes to university funding amplified the attention given to leadership. As universities

start to acknowledge their business side, they are reacting by investing more in the development of management and leadership to cope with the challenges such as funding and accountability to stakeholders in a competitive market (Bolden *et al*, 2012). The pressure for effective leadership in universities is increasing and drawing more attention away from formal management to academic leadership because belief that excellence needs to be in every area is prevailing. This attention is causing tension between the business and academic forces at play. Bolden et al. (2012) argued that a necessary part of leadership is to identify with different groups as per the social identity approach.

Much can be learned from looking back at the different educational leadership phases that took place at the British universities. The relevance is mainly due to the similarities and the long history between British and Malaysian education systems as outlines in Altbach and Selvaratnam (1989). Since the mid 80's universities have moved away from 'collegial': "academic staff making decisions with little or no management expertise or training and implemented by a corps of professional administrators who had limited input into the decision making process" (Bolden *et al*, 2012, p.8). After that, universities started experiencing a steady movement towards a 'corporate' approach to leadership, which was followed by the current growth in hybrid academic-administrative roles. The conflict between managerialism and academic autonomy can be overcome by the social identity theory (Hogg, 2001). In this viewpoint, a leader emerges when he or she attunes with the identity of a group. As group's prototype develops and a person is seen to have similarities with the prototype, he or she are accepted as leaders who now possess influence with the group.

Even though the quality of university education is defined by scholarly and not financial performance, leaders need to maintain a balance between business and academic concerns. This can be explained by a clear conceptualization, see Figure 2.4, of university leadership made by The Leadership Foundation's recent study that gave rise to three areas of leadership in universities namely, direction, alignment and commitment in social groups. Accordingly, Academic management like Deans are mostly worried about alignment, academic leadership like PhD supervisors are mostly busy with commitment, and direction is taken care of by a process of self-leadership which might appear when a leader becomes a role model for an aspiring academic (Bolden *et al*, 2012).

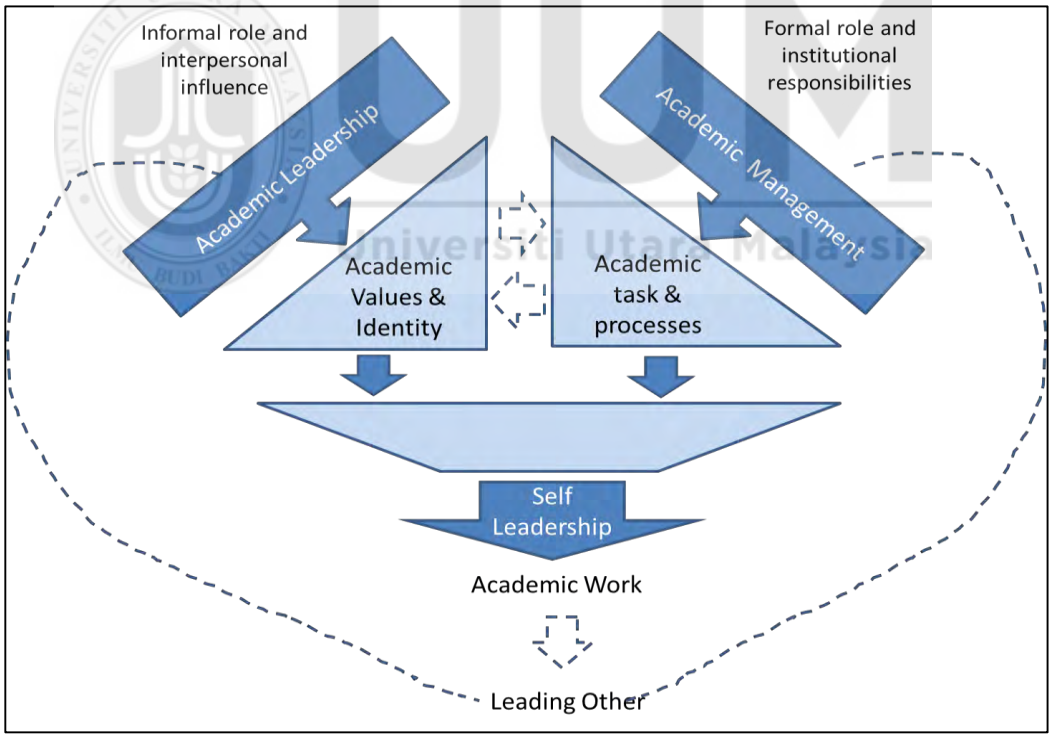

Figure2.2
Academic leadership, academic management and self-leadership
Source: Bolden *et al* (2012)

In educational settings transformational leadership appears most effective as Leithwood and Poplin (1992) found when they contrasted transformational leadership with instructional and transactional leadership modes. Their results showed that transformational leadership helped in teacher development, better problem solving, have more collaboration with other teachers and found strong relationship between TL and attitude to improve the school and instruction. Likewise, a study by Valentine and Prater (2011), revealed that in schools principal's TL, as measured by the Principal Leadership Questionnaire (PLQ) adapted from Jantzi and Leithwood (1996), had clearer vision and set a suitable example which correlated highly with student achievement. Hence, in the current study's focus on transformational leadership and leader development in Malaysian public universities, since its relevance was very apparent from the mentioned studies and examples.

Leadership assessment measures included in this review are The Leadership Practices Inventory (LPI) (Kouzes & Posner, 1993), and the popular the Multifactor Leadership Questionnaire (MLQ-5X) (Avolio, Bass, & Jung, 1999). Bass (1985) designed the MLQ instrument and included nine dimensions namely five scales of transformational leadership, three scales of transactional leadership, and one scale for laissez-faire leadership styles. The new version of MLQ-5X instrument comprises 45-item with three extra scales specifically strong effort, effectiveness, and followers satisfaction with the leader (Bass & Avolio, 1994). This is the most popular scale used in behavioral leadership study (Brown et al., 2006; Gardner & Stough, 2002; Walumbwa, Avolio, Gardner, et al., 2008; Weinberger, 2009; Wu, Liu, Song, & Liu, 2006). Bass constructed the MLQ from follower' perception of

leaders and researchers continue to refine it. For example, Hinkin and Schriesheim (2008) who found many ways to make its reliability and validity stronger. Antonakis, Avolio, and Sivasubramaniam (2003) found robust support for the MLQ's validity after they measured its psychometric properties with a sample of over 3,000 raters. They argued that other researchers found inconsistencies in the validity of the instrument due to the homogeneity of samples and research settings. However, MLQ5x Cronbach's alpha reliability extended from .63 to .92 (Bass & Avolio, 2000) which makes the instrument quite reliable.

The Leadership Practices Inventory (LPI) (Posner & Kouzes, 1993) assesses exemplary leadership from leaders, peers, subordinates and superiors' perspectives and comprised of 30 questions that are loosely based on transformational leadership and hence extensively used in research (Alston, Dastoor, & Sosa-Fey, 2010; Fields & Herold, 1997; Morley, Cerdin, Vivian Tang, Yin, & Nelson, 2010; Radhakrishnan & UdayaSuriyan, 2010; Zagorsek *et al.*, 2004). Fields and Herold (1997) examined the psychometric characteristics of LPI and found that its measures are related to transactional and transformational leadership. In addition, Bass and Riggio (2006) asserted that the LPI elements were definitely related to transformational leadership and was valid for assessing leadership in universities as well as a tool for leadership training. Moreover, many leadership development and training programs are employing LPI (Northouse, 2012). Likewise, Zagorśek *et al*., (2006) found that LPI demonstrated high degree of structural equivalence and this suggested the scale is suitable instrument for cross cultural leadership research. At the same time, Morley et al. (2010) maintained the assertion that the scales had good psychometric properties in different cultures.

In conclusion, literature review of leadership confirmed the importance of the topic in many fields including higher education and the body of theory continues to grow at a very fast rate (Chan & Chan, 2005; Gatfield, 2005; Stout-Stewart, 2005; Taylor, Martin, Hutchinson, & Jinks, 2007). There are many definitions and models of leadership being researched as well as several leadership assessment measures used in empirical studies. More attention was given to transformational leadership, and in the current study, because of its broader view that supplements other leadership models, lots of evidence for its effectiveness (Yukl, Gary, & Mahsud, Rubina, 2010; Yukl, 1989), very strong intuitive appeal, and widely used approach (Northouse, 2012). Leadership assessment measures included in this review were LPI (Kouzes & Posner, 1993), and the popular MLQ measure (Brown *et al*., 2006; Gardner & Stough, 2002; Walumbwa, Wang, Lawler, & Shi, 2004; Weinberger, 2009; Schriesheim, 2009). Even though leadership has been studied in various organizations including universities, research on its relationship with emotional intelligence and organizational culture as independent and moderator variables, respectively, has been very limited in Malaysian public universities. As for the purpose of the current study, the definition of Transformational Leadership (TL) is influencing and inspiring followers to perform beyond expectations and intellectually stimulate and give individualized consideration to transcend their own self-interest for a higher collective purpose (Bass, 1985).

2.3 Concept of Emotional Intelligence (EI)

Effective leaders depend on emotional charms to help carry their communications (George, 2000). And since "you can't divorce emotions from the workplace because you can't divorce emotions from people" (Nelton, 1996, p. 32), therefore,

it is very natural to include emotional intelligence (EI) in a study about leadership. Emotional intelligence (EI) might have started as part of non-cognitive intelligence with the introduction of social intelligence by Robert Thorndike in the 1930's (Fatt & Howe, 2003; Grewal & Salovey, 2005; Tischler, Biberman, & McKeage, 2002). Then, later, in the 1980's Howard Gardner introduced multiple intelligences, which suggested emotional intelligence followed by the concept phrase "Emotional Quotient" made up by Reuven Bar-On in 1988. Next, in 1990, Mayer and Salovey who actually uncovered the term emotional intelligence (EI) in their article "Imagination, Cognition and Personality" (Mayer, Salovey, & Caruso, 2002; Mayer, Salovey, & Caruso, 2004). Now, however, there are many models of EI, but the following four remain dominate in the field. See summary EI Models in Table 2.2.

Table 2.2
Summary of EI Models and their Dimensions

Mayer & Salovey (1997)	Bar-On (1997)	Goleman (1998)	Petrides & Furnham (2001)
Perception, appraisal, and expression of emotion	Intapersonal – Emotional self-awareness	Self-awareness -Emotional self-awareness -Accurate self-assessment -Self-confidence	-Adaptability
Emotional facilitation of thinking	-Assertiveness -Self-regard -Self-actualization -Independence	Self-regulation -Self-control -Trust worthiness -Conscientiousness -Initiative -Optimism	-Assertiveness
Understanding and analyzing emotions; employing emotional knowledge	Interpersonal -Empathy -Interpersonal relationship -Social responsibility	Empathy -Empathy -Organizational awareness -Service orientation -Developing other -Leveraging diversity	-Emotion appraisal (self & others)
Reflective regulation of emotions to promote emotional and intellectual growth	Adaptation -Problem solving -Reality testing -Flexibility	Social Skills -Leadership -Communication -Influence -Change catalyst -Conflict management -Building bonds -Collaboration and cooperation -Team capabilities	-Emotion expression
	Stress Management -Stress tolerance -Impulse control		-Emotion management (others)
	General mood -Happiness -Optimism		-Emotion regulation -Impulsiveness (low) -Relationship skills -Self-esteem -Self-motivation -Social-competence -Stress-management -Trait empathy -Trait happiness -Trait optimism

Source:Pérez, Petrides, and Furnham (2005)

The main motivation for Bar-On was to unearth traits of adapting to the demands of life that were social and emotional in nature (Bar-On, 2006). He defined EI as emotional and social competencies that facilitate understanding, expression, and handling for everyday demands (Bar-On, 2006). His model consists of five dimensions, which are subdivided into 15 sub dimensions, as displayed in Figure 2.3, as follows:

1) Self-Perception: Self-Regard, Self-Actualization, Emotional Self Awareness,
2) Interpersonal: Interpersonal Relationships, Empathy, Social Responsibility
3) Decision Making: Problem Solving, Reality Testing, Impulse Control
4) Self-Expression: Emotional Expression, Assertiveness, Independence
5) Stress Management: Flexibility, Stress Tolerance, Optimism

Bar-On's EQ – I, is the most used instrument in research (Bar-On, 1997). The EQ – I includes many emotional and social competencies (Bar-On & Parker, 2000), which is why many think of it as a mixed model of EI (J. Mayer, Salovey, & Caruso, 2000).

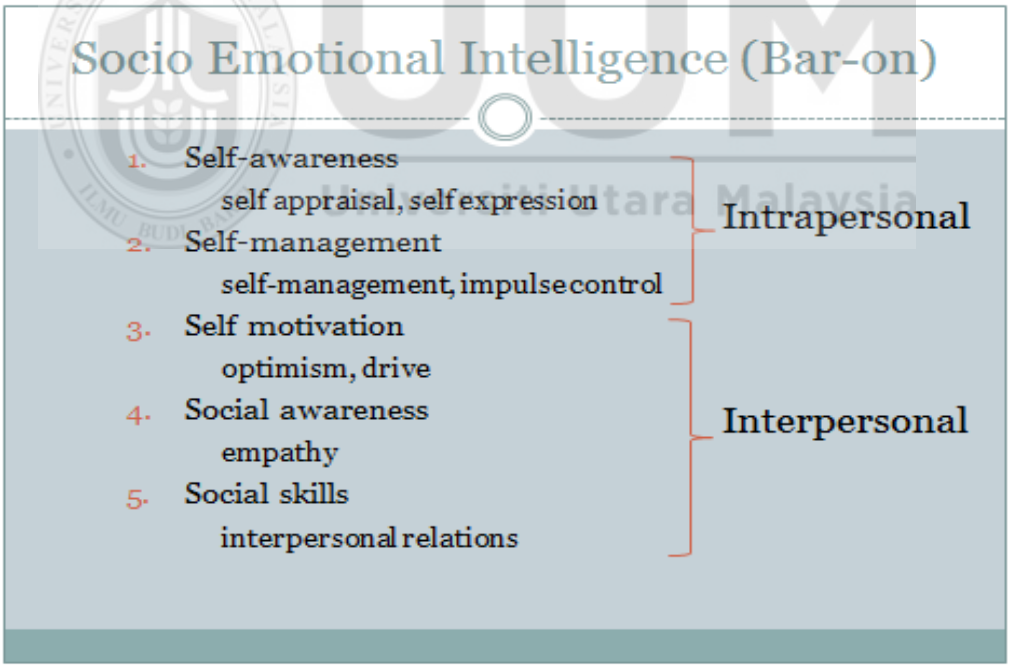

Figure 2.3
Bar-On's emotional-social intelligence model
(Source: Bar-On, 2006)

The instrument used to measure EQ-i, assesses the potential to do well instead of doing well (Bar-On, 1997). Reliability and validity research of the instrument was

done in many countries over a 17-year period (Bar-on, 1997). The Bar-On's model is different from the ability-based model in that it blends mental abilities with other personality characteristics (Berrocal & Pacheco, 2006; Fernández-Berrocal & Extremera, 2006). The emotional-social intelligence model suggests the concept as interrelated cross-sectional competencies that truly influence human smart behavior based on emotion and social skills (Fernàndez-Berrocal & Extremera, 2006). In this model, it is presumed that the individual with higher emotional-social intelligence is more successful and that EI increases with age and can be enhanced with training (Bar-On, 2006).

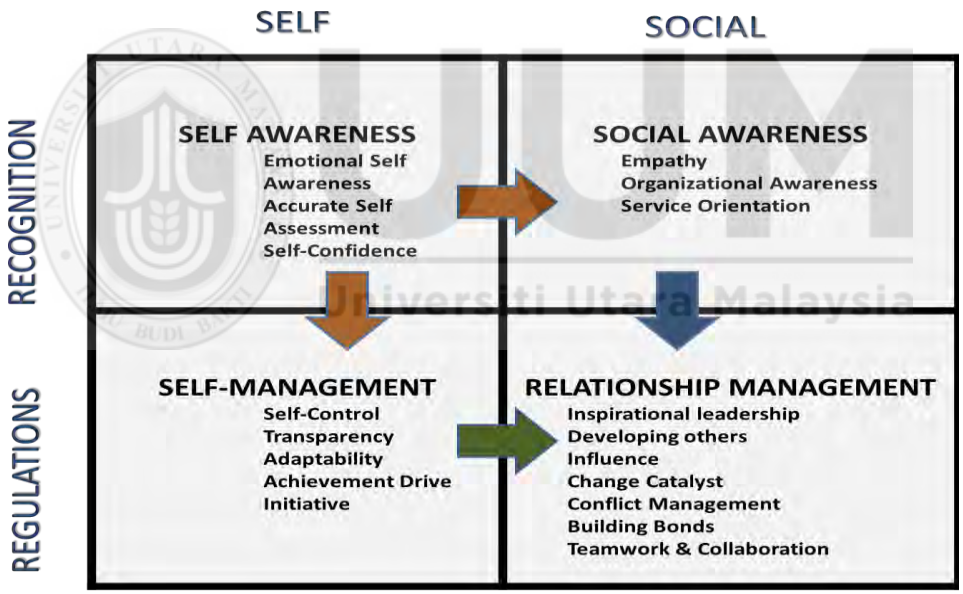

Figure2.4
Goleman's Framework of Emotional Competencies
Source: Goleman (1998)

Another emotional intelligence model is defined by Goleman as the expression of feelings to manage emotions so that people can work together smoothly (Goleman, 1998). For Goleman, EI is a learned competence that can bring about superior work performance (Cherniss & Goleman, 2001). In this model, evaluation of social and

emotional competencies in an organization is done using a 360º measure based on external raters using *Emotional Competence Inventory 2.0* (ECI 2.0)(Boyatzis, Goleman, & Rhee, 2000). ECI demonstrated high validity and reliability as it compares follower perception with peers and leaders (Boyatzis *et al*.,2000). Even though the evaluation used is comprised of two ways, self-reported and external rater, there is less empirical support for the model. This model consists of four competencies as shown in Figure 2.4.

Table 2.3
The Domain of Trait Emotional Intelligence

No	Dimension	Facets	High Scorers view themselves as
1	**Well-Being Factor**	Happiness	Cheerful and satisfies with their lives
		Optimism	Confident and likely to "look on the bright side" of life
		Self-Esteem	Successful and self confident
2	**Self-Control Factor**	Emotion Regulation	Capable of controlling their emotion
		Impulse Control	Reflective and less likely to give in to their urge
		Stress Management	Capable of withstanding pressure and regulating stress
3	**Emotionality Factor**	Empathy	Capable of taking someone else's perspective
		Emotional Perception (self and others)	Clear about their own and other people's feelings
		Emotions Expression	Capable of communicating their feelings to other
		Relationships	Capable of maintaining fulfilling personal relationship
4	**Sociability factor**	Emotion Management Assertiveness,	Capable of influencing other people's feeling
		Social Awareness	Accomplished networkers with superior social skills
5	**Independent facets**	Adaptability,	Flexible and willing to new conditions
		Self-Motivation	Driven and unlikely to give up in the face of adversity

Source: Pérez, Petrides, and Furnham (2005)

The third EI model is the Trait EI model, which contains of four main dimensions: well-being, sociability, self-control, and emotionality as shown in Table 2.3 (Petrides *et al*., 2007). The trait emotional intelligence questionnaire is a self-report instrument that is used to measure this model (TEIQue) (Petrides, 2010).

The fourth EI model is the ability-based model of EI. Mayer, Salovey, and Caruso, (1997, & 2004) described EI as an ability used to observe emotions in order to use that information to direct thinking. This model is a mental ability approach that correlates more with cognitive ability tests and consists of four abilities (Table 2.4). It generated the most research published in peer review journals probably due to several reasons, namely, the model has a justified theoretical base, novelty of measurement, and systematic evaluation and support by empirical data (Matthews, Zeidner, & Roberts, 2004). Mayer and Salovey's ability-based model has also been prevalently adapted in numerous studies of emotional intelligence in various industries so far (Antonakis et al., 2009; Carmeli, 2003; Groves, McEnrue, & Shen, 2008; Page et al., 2003). The authors' biggest effort resulted in the development of their EI extensive measurement instrument, the Mayer-Salovey-Caruso Emotional Intelligence Test (Mayer, Salovey and Caruso, 2002).

Table 2.4
Aspects of Emotional Intelligence

Appraisal and expression of emotion	**Use of emotions to enhance cognitive processes and decision making**	**Knowledge about emotions**	**Management of emotions**
Aware of own emotions	Emotions direct attention and signal focus of attention	Knowing the causes of emotions	Meta-regulation of mood (reflection on the causes, appropriateness, and changeability of emotions)
Can accurately express own emotions	Emotions facilitate making choices	Knowing the causes of emotions	Positive mood maintenance
Aware of others' emotions	Use of specific emotions to enhance certain kinds of cognitive processes	Knowing the consequences of emotions	Negative mood repair or improvement
Can accurately express others' emotions	Use of shifts in emotions to promote flexibility	Knowing how emotions progress over time	Management of others' emotions

Source: George, 2000 based on work by Mayer and Salovey, and colleagues (1997)

Mayer and Salovey model is developmental of EI and each of the branches has another set of sub-groups as in Table 2.4 and Figure 2.5. The model's branches move from the lowest level dealing with basic abilities of childhood to the highest ones and to the right, which deal with more advanced and mature abilities, found in adulthood. Each branch has four abilities that appear early in development on the left and later developed abilities on the right. Advanced abilities on the right appear in a more integrated adult personality whereas people with higher scores of EI are likely to grow their abilities quicker as well as excel in more of the spectrum of abilities.

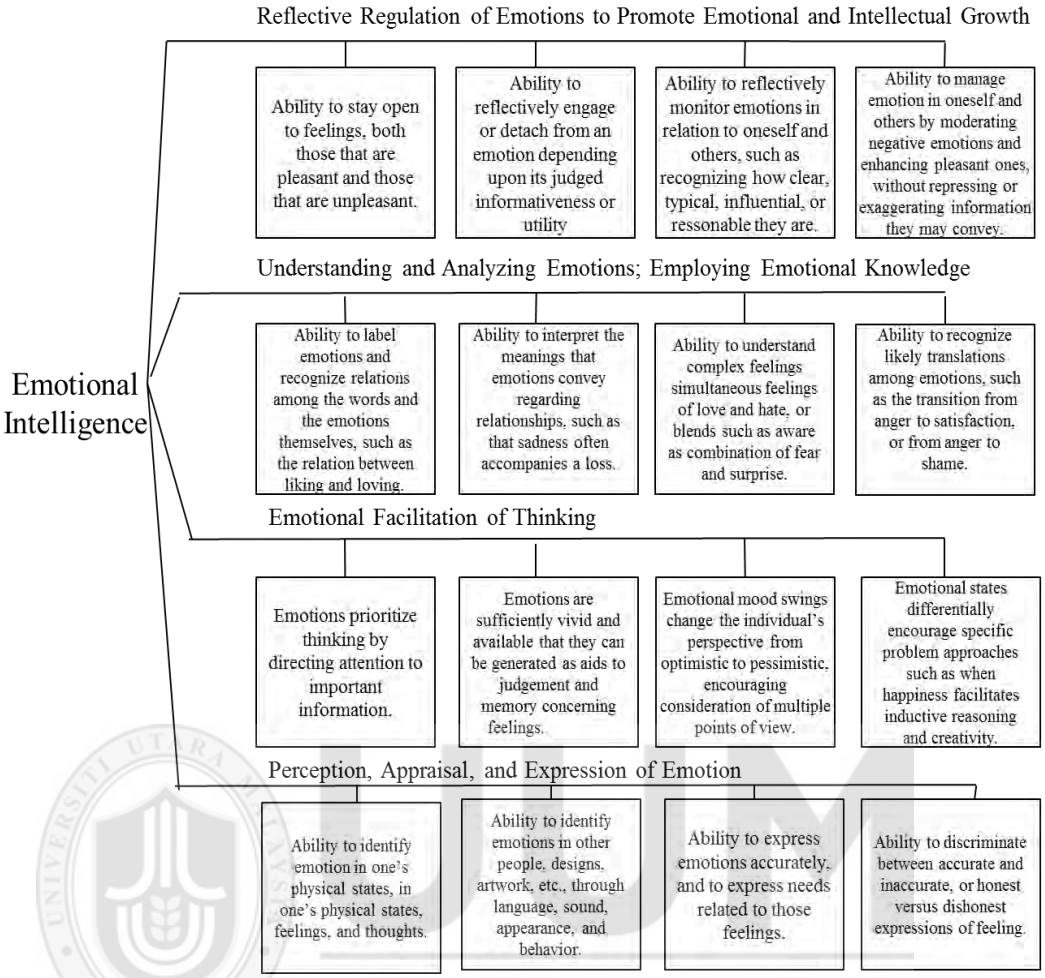

Figure 2.5
Ability emotional intelligence skills
(Source: Mayer & Salovey, 1997)

Self-emotion appraisal, as the name suggests, is concerned with identifying emotions in ourselves and in others. It is the ability to express feelings and to discern real and fake ones in others. Others emotional appraisal, on the other hand, is the ability to use emotions to facilitate thinking and describes how emotional events promote intellectual processing. Others emotion appraisal is essentially an alerting system that signals changes in the person or the environment. Emotions direct our attention to important changes around us that require thoughts or action. Therefore, this ability enables the generation of emotions to understand them better.

At a more advanced level to the right of Figure 2.5, shifting moods allow the planning of different scenarios and a variety of forms of thinking.

The third ability in the model is the use of emotion, which is the ability to comprehend emotions, emotional language, and the hints carried by emotions and connecting them with situations. With emotional maturity comes understanding of complex contradictions of emotions and thought about the advancement of feelings in interactions with people and relationships.

The last ability is regulation of emotion, which constitutes the ability to manage emotions to reach precise goals. In order to improve emotional and intellectual progression a person learns to be open in his or her feelings. This involves control of emotions by separating them from behavior. An interesting example of the regulation of emotion is the ability to control anger when at its peak and elicit it in opposition to injustice. At a more advanced level understanding emotions takes place by improving bad mood, dampening a good one, or leaving mood alone, but without exaggerating or minimizing the importance of emotions.

There are almost as many models as there are measures of emotional intelligence. A point worth mentioning here is the reason put forward by Pérez, Petrides, and Furnham (2005) for the existence of alternative measures of trait emotional intelligence without progress is that, there is not enough reference to underpinning fundamental theory when designing new questionnaires. The four models of EI mentioned above are measured using different tests. Bar-On's model and Trait EI are measured mainly using self-report tests. Whereas Mayer and Salovey's model uses ability tests, Boyatzis and Goleman rely on a multi-rater instrument that

incorporates related traits and not just abilities. Still, a distinction can be made between theoretical models and measurement strategies, e.g. some instruments like Wong and Law Emotional Intelligence Scale (WLEIS) and Schutte's were developed and are grounded on Mayer-Salovey-Caruso's model (Law, Wong, & Song, 2004; Schutte *et al*., 1998) while others such as Bar-On's EQ-I also have a multirater version (EQ-360) (Ashkanasy & Daus, 2005).

i) Emotional Quotient Inventory (EQ-i)

EQ-I is extensively used in research to assesses the Bar-On model of EI (Bar-On, 2006). It contains 133 items and can score EI as a whole as well as individual scales and sub-scales. The five scales are, intrapersonal EQ, interpersonal EQ, stress management EQ, adaptability EQ, and general mood EQ (Bar-On*et al*., 2000).

ii) Mayer-Salovey-Caruso Emotional Intelligence Test (MSCEIT)

MSCEIT measure takes less than 45 minutes to complete and consists of 141 items (Mayer et al., 2002). Some criticism surrounds the instrument regarding its contradiction to the cognitive ability test and acknowledged that its accuracy is dependent on the individual's accurate knowledge of how they behave. Still, many researchers strongly recommend the use of the MSCEIT in EI research (Barbuto & Burbach, 2006; Herbst & Maree, 2008; Kerr, Garvin, Heaton, & Boyle, 2006; Weinberger, 2009; Zagorsek, Stough, & Jaklic, 2006).

iii) Emotional Competence Inventory (ECI)

Boyatzis *et al.* (2000) developed the ECI measure which is a four cluster model. It contains, self-awareness, self-management, social awareness, and relationship management (Boyatzis *et al*., 2000). The ECI is associated with several other

assessments having similar constructs and strong construct validity (Boyatzis *et al*., 2000).

iv) Trait Emotional Intelligence Questionnaire (TEIQue) Petrides and Furnham (2001)

The TEIQue is used to assess Petrides and Furnham's trait model of emotional intelligence. The long form of the TEIQue contains 153 items, and gives scores on 15 subscales, four factors, and the over-all trait EI. Many empirical studies were done with various TEIQue versions (Petrides *et al*. 2001) and is available in a short form questionnaire (30 items). Advantages of TEIQue over other measures of EI is that TEIQue is grounded in a psychological theory and offers complete reporting of 15 aspects of the trait EI including very good psychometric properties (Cooper, Petrides, 2010).

v) Wong & Law Emotional Intelligence Scale (WLEIS) (Wong & Law, 2002)

WLEIS was developed for leadership and management research and is a practically short EI measure. In their development of WLEIS, Wong and Law (2002) built it on Mayer and Salovey's (1997) definition by employing ability-based tests to use self-assessments or other-reports of emotional abilities and emotionally intelligent behavior. They created a short version (16 items) measure of EI abilities using a Likert scale of 7 points: "self-emotion appraisal", "emotion appraisal of others", "use of emotion", and "regulation of emotion" (Cherniss, 2010; Walter, Cole, and Humphrey 2011; Wong and Law, 2002). A study by Libbrecht et al. (2010) revealed that WLEIS items showed configured and metric invariance. This meant

that self and other raters used the same frame of reference in the scale, they did not show difference between intrapersonal and interpersonal dimensions, and that both groups calibrated the scale similarly showing no difference in the scaling units. Consequently, it has been chosen to assess EI in the current study, mainly because of its high validity and short time required and ease of use.

In conclusion, there has been growing research suggesting that emotional intelligence plays a critical part in work-related processes and that there is a relationship between emotional and social competence (ESC) and performance (Cherniss, 2010). This section discussed the four most prominent and widely researched emotional intelligence models and their measures. A commonly accepted definition of EI is "the ability to perceive and express emotion, assimilate emotion in thought, understand and reason with emotion, and regulate emotion in the self and others" (Mayer& Salovey, 1997). Cherniss (2010) recommended that the abilities EI model by Mayer–Salovey–Caruso represented emotional intelligence since it is pure EI abilities while the other three models contain emotional and social competencies. Similarly, Petrides and Furnham (2003) suggested distinguishing between trait and ability emotional intelligence and that Trait EI is measured through self-report questionnaires, whereas ability EI is assessed using maximal performance. However, ability emotional intelligence remains the most widely researched EI, has been shown by many studies to theoretically and empirically relate to TL and higher performance, met all requirements tapping the criteria of intelligence, and most narrowly defined emotional intelligence. The area of maximal and typical performance has not been given enough attention in EI measurement (Hofstee, 2001). This is very important

because when hypothesizing new concept, the objectivity of traits and abilities need to be looked after. So far, the four main measures of EI were also discussed as well as the fact that some researchers developed measures that can be used for self-report which draw on the Mayer–Salovey–Caruso model namely, Schutte Self-Report Emotional Intelligence Test (SEIS) and Wong's Emotional Intelligence Scale (WLEIS) and others developed versions that are multi-rater namely, Bar-On's EQ – 360. As for the purpose of the current study, the definition of emotional intelligence (EI) is "involves the ability to perceive accurately, appraise, and express emotion; the ability to access and/or generate feelings when they facilitate thought; the ability to understand emotion and emotional knowledge, and the ability to regulate emotions to promote emotional and intellectual growth" (Mayer & Salovey, 1997, p.10).

2.4 Concept of Organizational Culture (OC)

The most often given reason for failing organizations was disregard of organizational cultures (OC), i.e. failing to alter the organization's culture wrecked other kinds of changes started (Caldwell, 1994; CSC Index, 1992; Goss *et al*., 1993; Heskett & Kotter, 1992). Mintzberg (1973) says that an organization's soul is its culture that gives it life energy. An early definition of OC is by Pettigrew (1979), "the system of publicly and collectively accepted meanings operating for a given group at a given time. This system of terms, forms, categories, and images interprets a peoples own situation to themselves". Some researchers assert that leadership and organizational culture are integral concepts and studying one cannot be done without studying the other (Schein, 2004; Sergiovanni & Corbally, 1986). Another description of organizational culture was provided by Cameron & Quinn

(2011, p.17) where "OC is reflected by what is valued, the dominant leadership styles, the language and symbols, the procedures and routines, and the definitions of success that make an organisation unique".

An additionally important way for studying organizational culture has been through the various frameworks or classifications. Schein's (2004) conceptual framework (Table 2.5) of OC offers a three level model for analyzing OC. At the surface level of organizational culture are the artifacts such as architecture of the physical environment, written and spoken language, technology and products, myths and stories, ceremonies, and symbols, and the overt behavior of members (Schein, 2004). In the subsequent order of culture lies the embraced values. Values mirror deep feelings toward things and people. Values are not easily observable, but must be deduced from analyzing artifacts. Accordingly, as values become established as belief they start to reflect the shared values of the whole organization and its members (Bess & Dee, 2008). With time, these beliefs and values slowly change into assumptions that are backed up by an array of norms, which contain beliefs and perceptions (Schein, 2004).

Table 2.5
Scheins's Organizational Culture Framework

Artifacts	Values	Assumptions
• Physical Environment • Social Environment • Technology • Language • Overt Behavior • Symbols	• Institutional as beliefs	• Relations to Environment • Nature of Reality • Nature of Human Nature • Nature of Human Activity and Relationships

Source: Bess and Dee (2008)

O'Reilly, Chatman, and Caldwell's (1991) research described relationships of seven characteristics that form the heart of an organization's culture as shown in Figure 2.6 and Figure 2.8. These factors form employee perception, which, in turn, affects their performance and satisfaction. These overall perceptions become the organization's culture or personality with stronger cultures exerting the biggest impact on employees.

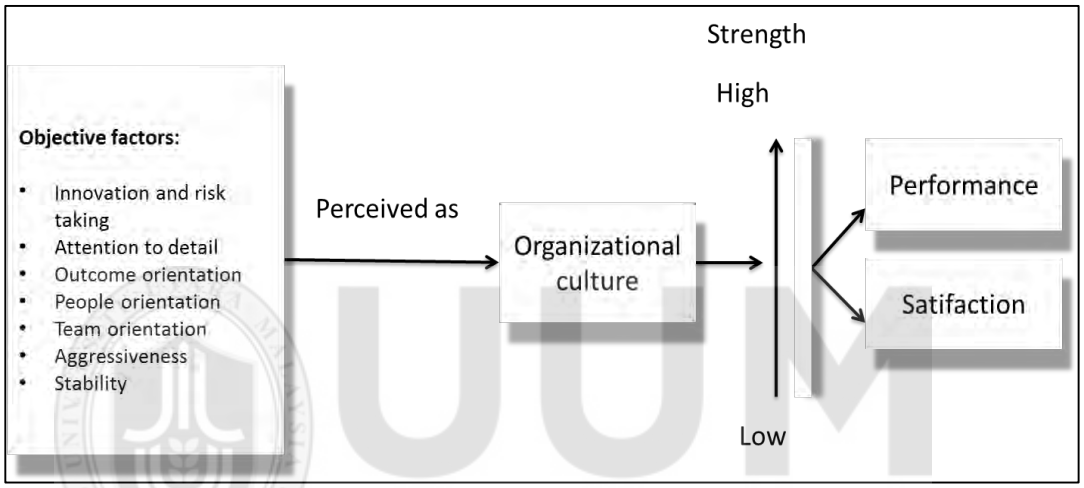

Figure2.6.
Organizational Cultures Impact on Performance and Satisfaction
Source: O'Reilly et al. (1991)

Another important OC framework was provided by Tierney (2008), as in Table 2.6, used to analyze culture in higher education institutions including elements such as beliefs, norms, rules, and understandings inside and outside an organization. How the mission is defined and how it guides decision-making are important elements of organizational culture. According to Tierney (2008), culture decides how new employees find their roles in an organization, what they must accomplish in order to succeed, how to socialized, and how to survive in organizations. In researching culture in higher education, information is treated as precious as well as the person puts it together, possesses it, and distributes it. Other essentials to organizational

culture are expectations of formal and informal leaders, as well as, who actually makes the decisions and the rewards and sanctions involved in making those decisions. Tierney (2008) stressed that OC elements occur in different settings and how they take place, the shape they take, and their importance differ among organizations.

Table 2.6
Elements of Organizational Culture in Higher Education

. Environment	. Information
. Mission	. Strategy
. Socialization	. Leadership

Source: Tierney (2008)

In 1991, House, Chhokar, and Brodbeck (Chhokar, Brodbeck, & House, 2013) started the GLOBE (Global Leadership and Organizational Behavior Effectiveness Research) project which classified Malaysia in the Southern Asia culture along with seven other countries, namely, India, Bangladesh, Indonesia, Thailand, Iran, Philippines, and Turkey. The Southern Asia group scored high on being humane and collectivism. While charismatic and team oriented leadership where among the highest out of all groups. One of the apparent characteristics of this group is the integration of other cultures, resulting in people of different beliefs that exist together (Chhokar et al., 2013). This understanding of regional culture can help in the appreciation of the relationships and influence of EI, leadership, and cultural strength and impact on all factors.

Cameron and Quinn (2011) stated that leaders tend to be more successful when their strengths are congruent with the culture of the organizations they lead. Related to this was a study in Malaysia of Higher Education Institutions (Maheran, Isa, Norezam, & Abdul, 2009) that confirmed the link between OC and leadership style and decision making quality. The study found that hierarchal culture favored transactional leaders who in turn opted for hierarchal decision making styles which further stressed the importance of matching leadership with culture. It follows to say, that Cameron and Quinn (2011) suggested that organizational culture could be categorized into content dimensions which express cues in scenarios that help to recognize values. The other suggestion is pattern dimensions, which classifies based on an organizational culture assessment instrument. Finally, OC originates from the philosophy of the organization's founders and strongly influences employee selection criteria as shown in Figure 2.7. Subsequently, what the leader does actually determines the overall tolerable behavior and what cannot be tolerated. Employees go through a process of adapting (socializing) to the culture, which depends on the success of matching employee values with that of the organization's especially during hiring phase, and on management's partiality for the socialization approach. Nevertheless, according to Schein (2004), the culture delineates leadership especially at times when an assumption change, the leader has to make changes himself in order to adapt to the new culture.

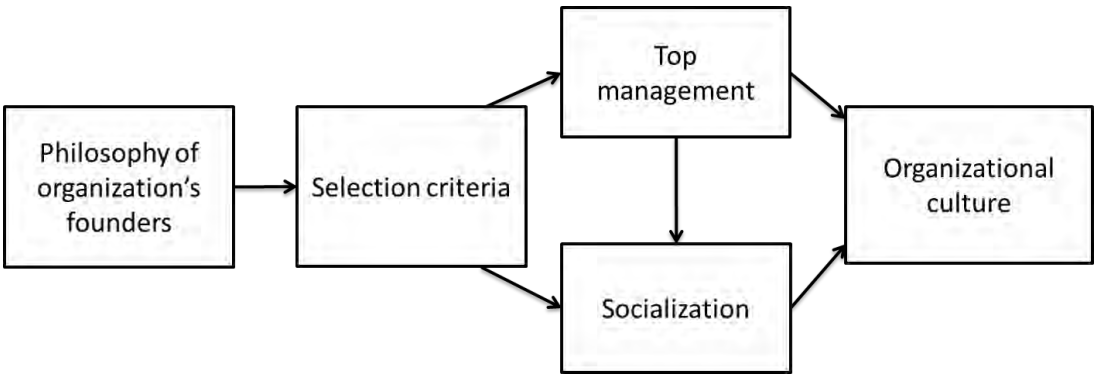

Figure2.7
How Organizational Cultures Form
Source: Schein (2004)

Referring to Cameron and Quinn's (2011) model, overall culture profiles consist of Clan, Adhocracy, Market, and Hierarchy. They can be grouped into six attributes, which are Organizational Characteristics, Organizational Leader, Management of Employees, Organizational Glue, Strategic Emphasis, and Criteria of Success. Moreover, culture can then be interpreted from different perspectives using six comparison standards, namely, i) dominant type, ii) discrepancies between current and future culture, iii) strength of type, iv) congruence of profile on attributes by individuals, v) comparison of the profile with average profiles, and vi) trends of culture. Alternatively, several scholars have also contended that (Sathe, 1983; Schein, 1984; Kotter & Heskett, 1992) cultural strength and congruence are the two main cultural dimensions. Cultural congruence happens when people are deeply similar at cognitive levels and cultural strength depends on how much it affects values, attitudes and behaviors of individuals. The Organizational Culture Assessment Instrument (OCAI), therefore, allows the analysis and determination of the dominant organizational culture type as well as its strength and congruence (Cameron & Quinn, 2011).

Figure2.8
Dimensions of Organizational Culture Profile
Source: O'Reilly *et al*. (1991)

A debate exists on which measurement is best used for organizational culture assessment (Cameron & Quinn, 2011). Supporters of a qualitative approach over extended time are in favour of this approach because organizational culture is often contended as constituting underlying assumptions, values, and artefacts, which are arguably vague and left unchallenged. However, a quantitative method has the advantage of using those items that generate organization-wide consensus allowing for ease of comparison and observation of surface culture manifestations.

i) The Organizational Culture Profile (OCP)

Past scholarly work developed the Organizational Culture Profile (OCP) to investigate person-culture fit (O'Reilly, Chatman, & Caldwell, 1991). Every respondent was provided with a set of value statements; they were then instructed to attach these values to the most representative dimension. See Figure 2.8.

However, other researchers such as Sarros, Gray, Densten, and Cooper (2005) modified it by developing a Likert-type scale that does not require a facilitator to help respondents complete the questionnaire. This instrument is comprised of value statements that measure an organization's values and an individual's first choice for those values. The calculation for culture fit is done by associating the organizational values with the individual's choice.

The OCP comprises of 54 statements about the values of the person and the organization. This was done by asking respondents to match with what they thought typical of the organization. As for people's preferences, they were requested to match their choices with their best organization of choice. This process allows separate groups to assess an organization's culture as well as give scores of preferences. The level of uniformity common between respondents and an organization can be assessed by means of correlations among respondents (Nunnally, 1978).

ii) The Competing Values Framework (CVF)

The Financial Times identified The Competing Values Framework (CVF) as one of the 40 most valuable models in the history of business. CVF originated from a study to find out items and dimensions of organizational effectiveness (Quinn & Rohrbaugh, 1983) by asking respondents to allocate ten to one hundred points among a set of statements (Cameron & Quinn, 2011). Effectiveness definition is continually debated and so Campbell, Bownas, Peterson, and Dunnette (1974) identified 30 criteria of effectiveness which reflected personal values. Quinn and Rohrbaugh (1983) was able to narrow down these criteria to two dimensions,

namely, internal-external and control-flexibility to set up the CVF, as shown in Figure 2.9. OCP and CVF look at employee perceptions and organizational climate, but CVF explores values and beliefs further (Scott et al., 2003). The CVF measures "how things are" instead of how people feel about things in the organization. The CVF was designed for educational institutions and the Organizational Culture Assessment Instrument (OCAI) is based on it.

iii) The Organizational Culture Assessment Instrument (OCAI)

The identification of cultural type, strength, and congruence is the main use for the organizational Culture Assessment Instrument (OCAI) (Cameron & Quinn, 2011). The OCAI is a quantitative instrument, which measures how much of each culture type an organization mirrors. The OCAI identifies four types of cultures, namely, Clan, Adhocracy, Market, and Hierarchy. A Hierarchy culture is formal and tightly organized workplace. A Market is a goal-driven culture, where leaders are perceived as energetic creators and rivals who stress winning. A Clan culture is a pleasant workplace for people to share about themselves similar to a family. An Adhocracy is a lively, business, and original workplace. By using the OCAI, it is possible to measure how leaders in Malaysian public universities mirror the cultural value types can then spot if there is certain prevailing culture present and whether OC moderates the relationship between emotional intelligence and TL. The number of points allotted to a particular culture type (Cameron & Quinn, 2011) can measure OC strength; Figure 2.9 presents the four quadrants of the OCAI/CVF.

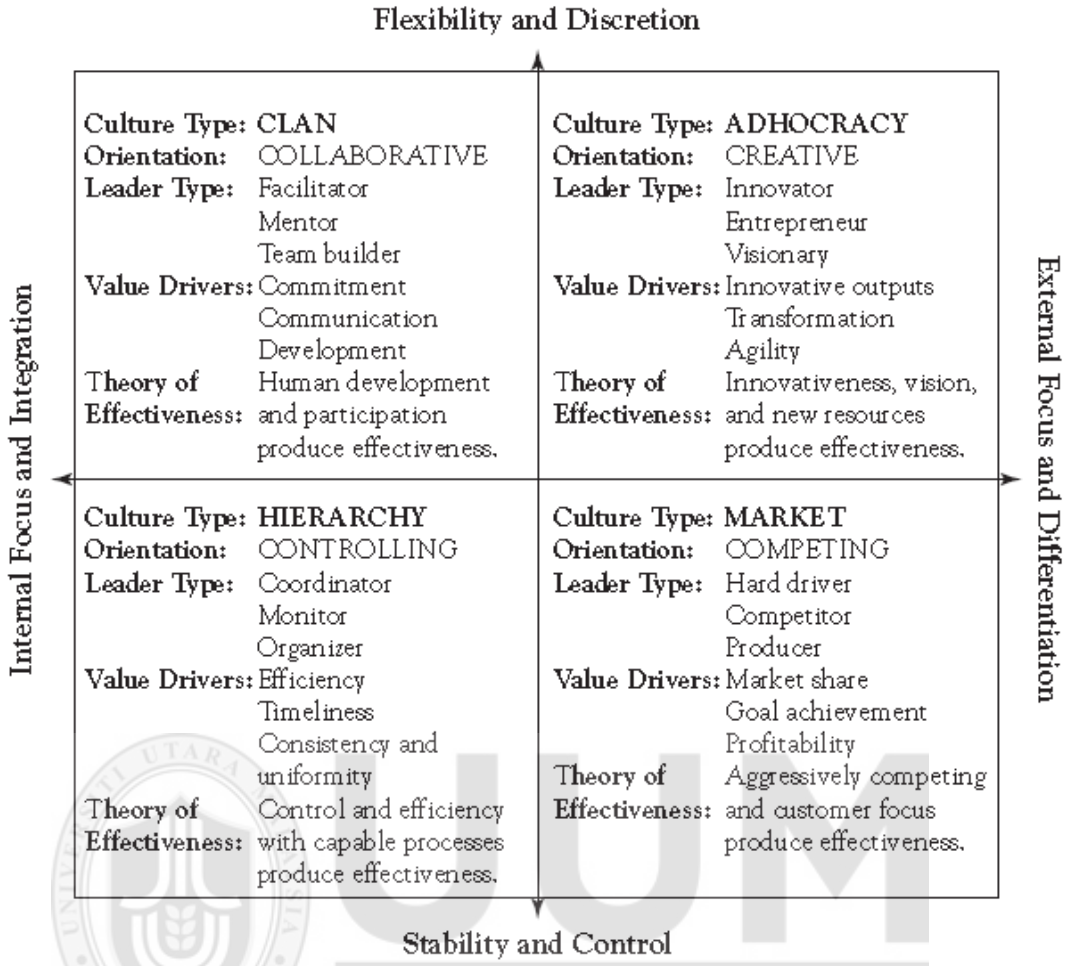

Figure2.9
Competing Values and Organizational Theory (OCAI/CVF)
Source: Cameron and Quinn (2011)

Granting, OCAI's strength at measuring culture's multiple dimensions can be utilized in giving details about organizational culture. At the end of the day, a higher level perspective benefits us from a bird's–eye view of OC, which is really made up of content dimensions that serve to reflect cultural values and assumptions.

Further, OC theory provides that if culture to a group is what personality is to a person, then we can see behavior, but often times cannot see the forces behind it (Cameron & Quinn, 2011). That is to say, personality can be viewed as the

accumulation of cultural learning that an individual experienced in an organization. And even though OCAI assesses content dimensions, these dimensions serve the important purpose of reflecting fundamental cultural values and implicit assumptions about "how things are" in the organization. Therefore, as an overarching construct, high or low OC was proposed to moderate the relationship between EI dimensions and TL, regardless of culture type, congruence, or strength. Further, it was more appropriate for the research goal focus to test theories with respect to the interactive relationships of OC and not to identify specific dimensional drivers.

That being said, a recent study by Heritage et al., (2014) did not find good fit for OC unidimensional solution, with indicators loading onto a single factor. Still, the potential relationships in the current study's proposed model were reduced and thus made more parsimonious and easier to grasp by using PLS-SEM approach. This allowed the research to make the most out of SmartPLS's second order feature, which allows the investigation of a more general constructs as part of the structural model, while still having access to and the option of further data analysis on sub-dimensions.

Accordingly, the overall perspective of organizational culture as an aggregate construct and how it interacts with the EI dimensions and TL can be conceptualized from the standpoint of how organizations have not just one culture type but a variety existing simultaneously and often times with one or two dominant ones as well as subcultures. If that is so, then it is possible to measure OC in its totality as well as dimensions by combining OCAI with second order capabilities.

In conclusion, there are many organizational culture definitions but only a few major ones have been covered in this literature review and some relevant OC classifications. It was important to note how organizational culture is formed by the founders' philosophy and influenced by leaders and vice versa. An essential way of reviewing culture is through the lens of various classifications attempted by researchers, that is to say, Schein's framework of culture identified three pillars: artifacts, value, and assumptions. Likewise, an important measure of OC, the Organizational Culture Profile (OCP) stemmed from O'Reilly *et al*. (1991) characteristics of culture. Another key framework that focuses on higher education was the one by Tierney (2008) that consisted of six main elements. A relevant study by Ramachandran, Chong, and Ismail (2011) found that public HEIs in Malaysia had the highest mean in clan culture, followed by hierarchical culture. Their study also revealed that HEIs have moderate organizational culture, which is consistent with Cameron's (1986) optimum culture for successful institutions. Finally, the three most important measures of OC where highlighted: OCP as originally developed by O'Reilly *et al*. (1991) to measure cultural fit, while CVF developed by Quinn and Rohrbaugh (1983) had evolved into the OCAI (Cameron & Quinn, 2011) and allows analysis and identification of culture types, strength, and congruence. OCAI has been chosen by the current study because it is a quantified image of overall culture, measures the six key dimensions that make a difference, widely used and validated framework, and follows a step-by-step and easy to use method (Schein, 2004). As for the purpose of the current study, the definition of organizational culture (OC) is an enduring and implicit set of values, beliefs, and

assumptions that characterize organizations and their members and categorized into four types: Clan, Adhocracy, Market, and Hierarchy (Cameron & Quinn, 2011).

2.5 Underpinning Theory

Many theories have explained the developmental changes that people undergo over the course of their lives. The current study examines human capital skills that develop as explained by relevant theories, namely, the social systems theory (SST) (Berrien, 1968), the social cognitive theory (SCT) (Bandura, 1986) and the self-directed learning theory (SDLT) (Goleman, Boyatzis, & McKee, 2002).

The framework of the present research was developed based on the wide-ranging social systems theory (Figure 2.10). In SST, behavior is explained by the interaction of two forces, namely, the external environment (organization, roles, expectations, and culture) and components of an individual's internal subsystems (personality, individual beliefs, need disposition, and emotions). The current study examines TL, OC, and EI dimensions as the external and individual sides that interact to produce TL behavior (Stogdill, 1948, 1974; Mumford, Zaccaro, Harding, Jacobs, & Fleishman, 2000; Stogdill, 1948).

Given the different ways that leadership can be conceptualized, in the current study, it is assumed a process that can be observed in leader behaviors (Jago, 1982), and that can be learned. The skills and traits components, which include EI dimensions and TL, make up individual parts that interact with the external part, namely, OC, to explain transformational leadership behavior. SST, therefore, identifies that observed behavior (OB) is a function (f) of the relations of the inputs from the individual's external social environment (E) and personal characteristics (P).

Symbolically depicted by the following formula: OB = f (E, P). The external side includes interrelated parts such as organization, roles, expectations, and organizational culture that have impact on behavior. The individual side includes personality, individual beliefs, need disposition, and emotions. By identifying the nature and strength of external side expectations and internal side needs, it is possible to understand, predict, and intervene in the ways a person behaves.

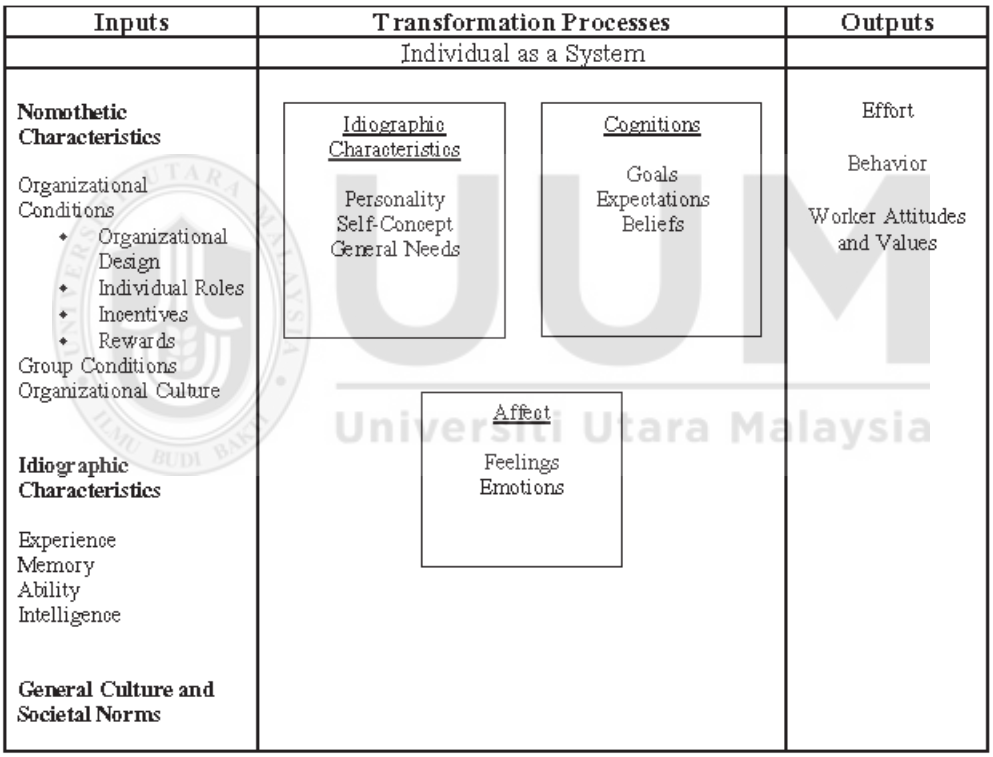

Figure 2.10
Social Systems Theory and the Individual
Source: Bess & Dee (2008)

Social cognitive theory supports the use of SST by asserting that social systems cultivate competencies, create opportunity structures, provide resources, and allow room for self-directedness to increase the chances that people will realize what they wish to become (Bandura, 1986). According to SCT, individuals learn behaviour

from work environments through modelling and that internal mental events (EI and TL), external environmental events (OC), and plain behavior (TL) all influence one another. SCT recognises that human thought, emotion, and behavior are influenced by observation as well as by direct experience and that we often behave differently in different situations with expected outcomes (Figure 2.11). For example, if a leader believes that her vision and aspirations are worthwhile and result in meaningful outcomes, then she will strive diligently to inspire followers to reach those higher goals beyond their self interest. The most relevant aspect of the theory is reciprocal determinism which sets forth that behavior (TL), personal factors (EI dimensions, and TL), and the social environment (OC) all operate as interacting determinants that influence each other.

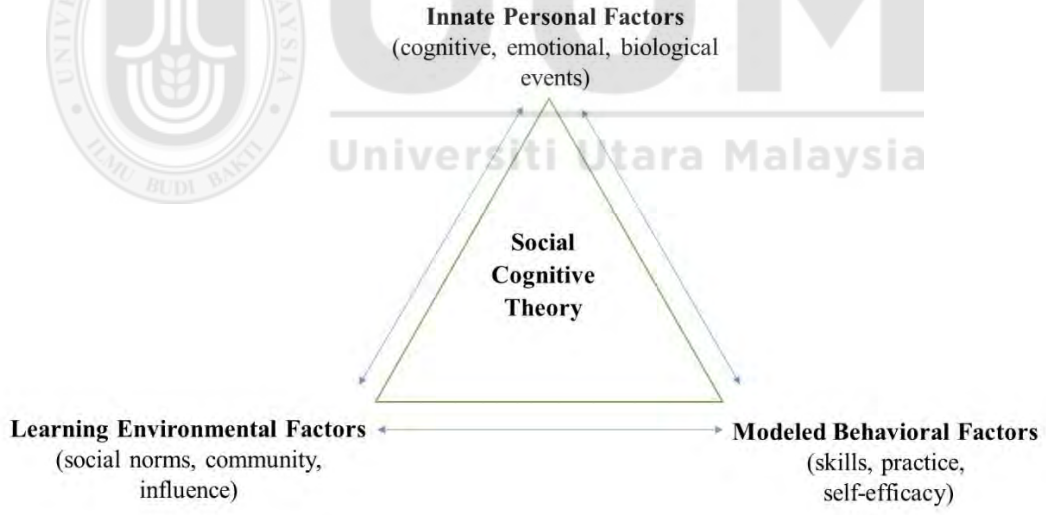

Figure 2.11
Schematization of the Social Cognitive Theory
Source: Bandura (1986)

To understand transformational leadership behaviors development, Zacharatos et al. (2000) invoked social cognitive theory to explain the influence that parental modeling can have on the development of adolescents' leadership. A sample of 112

high school students who had perceptions that their parents demonstrated transformational leadership behaviors were found to be associated with a likelihood that these adolescents exhibited similar leadership behaviors. They were also rated as more satisfying, effective, and effort-evoking leaders by their peers and coaches. This study suggests that transformational leadership development can start in adolescents and is likely shaped, in part, by parental modeling. Given the relative support of the social cognitive theory and its underlying principle that individuals learn behaviour from their work-based referent others or models via observation and imitation, SCT is offered as a supporting theory to the current research model for the interaction between emotional intelligence and transformational leadership and the moderating role of organizational culture on the relationship.

Other related previous studies for behavioral training through modeling exercises have shown increased individual ability in exhibiting charismatic leadership qualities (Howell & Frost, 1989). However, other findings show that selection of leaders for training implementation skills such as transformational leadership and emotional intelligence are likely to be successful with high self-monitors who tend to be flexible at changing their behavior (Day, et. al., 2002; Robbins & Judge, 2013).

The self-directed learning theory (Goleman, Boyatzis, & McKee, 2002) offers itself as a supporting theory that explains the likely relationship between emotional intelligence dimensions and transformational leadership in the presence of organizational culture as a moderator all of which require understanding the process of change. According to SDLT, behavioral change is intentional and

involves a continuous cycle of discoveries that lead to transformations. Through existing skills (EI and TL), supporting environment (OC), and experimentation with behaviour (TL), a leader can acquire new skills until they become part of his/her real self. SDLT draws on complexity theory which states that many processes are abrupt changes rather than smooth transitions. An earthquake, for example, happens suddenly even though it was built over a long time. Similarly, in developing leadership, sudden discoveries have different effects on people. Some react by escaping and some by denial, however, others decide to transform self-defeating habits into strengths. Leaders are the latter and they know how to trigger this in others (Goleman et al., 2013). Therefore, behavioral change is intentional (Figure 2.12) and involves a continuous cycle process of discovery that leads to transformations by behavior experimentation and forging of necessary skills. By practicing new habits, emotional intelligence abilities, and leadership skills, in a supportive environment of appropriate organizational culture, a leader can learn with each step until these skills become a part of her or his new real self.

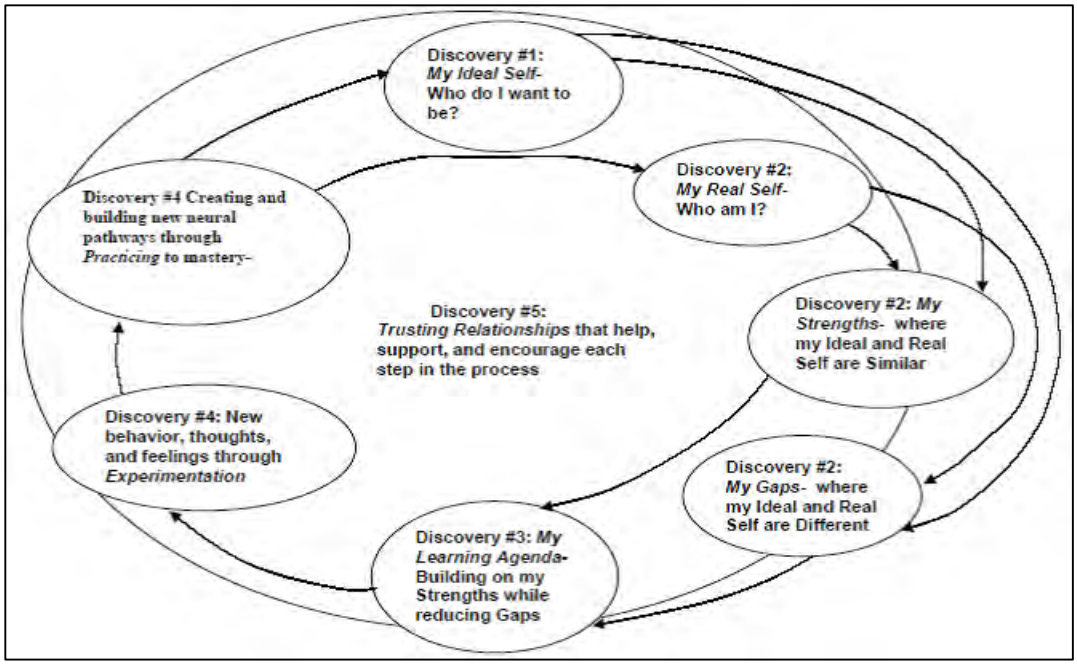

Figure 2.12
Boyatzis' Theory of Self-Directed Learning
Source: Boyatzis (2002)

In conclusion, the present study examines human capital skills and factors in the development of leaders as they are underpinned by the grand social systems theory, and supported by the social cognitive theory, and the self-directed learning theory. To sum, the social systems theory described external and individual sides to social systems that can help explain behavior and its development. Another pertinent theory was the social cognitive theory, which postulated that individuals learn behaviour from work environments through observation, imitation, and modelling. The main concept in SCT is reciprocal determinism, which proposes that internal mental events (EI and TL abilities and traits), external environmental events (OC), and plain behavior (TL) all influence one another. Finally, the self-directed learning theory elaborated on the intentional behavioral change that an individual goes through in cycles of discoveries that lead to transformations that involve the

interaction of EI and TL skills, OC environment, and experimentation with TL behavior.

2.6 Emotional Intelligence and Leadership

Among the many factors identified and studied showing direct influence on the development of effective leadership are emotional skills, integrity, knowledge, leader's demographic attributes, culture, and organizational business model (Barbuto & Burbach, 2006; Hur, 2008; Judeh, 2010; Parrish 2015; Radhakrishnan & UdayaSuriyan, 2010; Schafer, 2010; Wright & Pandey, 2009). In the present study, emotions are of utmost interest because as George (2000, p.1046) puts it, "The special relevance to leadership revolves around the fact that leadership is an emotion-laden process, both from a leader and a follower perspective". In particular, recent years have seen emotional intelligence (EI) gain considerable attention in literature because of its strong link to performance as numerous studies have shown using various EI measures throughout the years and in different settings (Bar-On, 1997, 2000, 2006; Bar-On, Handley & Fund, 2006; Handley, 1997; Bachman *et al*., 2000; Hays, 1999; Cherniss 1999; Spencer, 2001; Goleman, 1998). In the earliest known study that is worth noting, EQ-I was used by the U.S. Air Force to recruit and found a high correlation between EI dimensions and success of officers (Bar-On, Handley, & Fund, 2006; Handley, 1997). Similarly, Fullan (2002) found that in order for educational leaders to have a more profound and permanent influence on organizations, they need to have a more comprehensive leadership through self-awareness and supportive relationships which, in turn, resulted in positive student achievements.

In the current study's conceptual framework shown in Figure 2.13, a relationship between the four elements of emotional intelligence built on EI abilities as proposed in the model by Mayer et al. (2002) and Bass's (1985) transformational leadership theory was proposed. While there were many studies that revealed positive EI – TL association, many found no relationship and thus made the association inconsistent, which motivated the present research. The model proposes to test if the abilities EI dimensions are related to transformational leadership, namely, self-emotion appraisal, others-emotion appraisal, use of emotions, and the management of emotions. Many prior studies offered empirical evidence that emotional intelligence has a positive effect on leadership behavior and effectiveness (Brown, Bryant, and Reilly, 2006; Coetzee & Schaap, 2004; Cote, Lopez, Salovey, and Miners, 2010; Hopkins, and Bilimoria, 2008; Jin, Seo, & Shapiro, 2008; Kerr, Garvin, Heaton, & Boyle, 2006; Stubbs Koman & Wolff, 2008; Leban & Zulauf, 2004; Parrish 2015; Radhakrishnan & UdayaSuriyan, 2010; RaesIi, et. al., 2016; Srivastava & Sibia, and Misra 2008; Sy, Tram, and O'Hara, 2006; Tang, Yin, & Nelson, 2010; Wong & Law, 2002; Young, & Dulewicz, 2007; Barling, Slater & Kelloway, 2000; Sivanathan & Fekken, 2002; Wang& Huang 2009; Lopez-Zafra, Garcia-Retamero, & Martos, 2012). Especially, there were three informative studies that examined Bar-On's version of EI, referred to as Emotional-Social Intelligence (ESI) (Bar-On, 2006), and leadership were carried out by the Center for Creative Leadership (CCL). In their studies, recruits completed the EQ-I test and each individual's leadership ability was rated by an average of seven to eight co-workers using a benchmark developed by CCL. Their finding revealed that there was a moderate to high relationship between ESI and

leadership as indicated by the coefficients of .39 (n = 536), .49 (n = 940) and .82 (n = 236).

Similarly, the diversity of the employees increasingly proves the cost-effectiveness of an organization's capability to recognize and foster diverse effective leaders. This was marked in a study by Corona (2010) that examined three issues. Scores on emotional intelligence and TL for Hispanic Americans were identified along with TL performance and whether demographic variables, such as, gender, educational, and professional experience demonstrated corresponding differences in emotional intelligence. A sample of 103 Hispanic Americans from business organizations participated. Corona's findings revealed strong correlation between EI and TL but no significant difference in demographics with emotional intelligence.

On the other hand, numerous studies found that no relationship between EI and leadership (Follesdal, & Hagtvet, 2013; Harms & Crede, 2010; Lindebaum & Cartwright, 2010; Matthews, Zeidner & Roberts, 2012; Schulte, Ree, & Carretta, 2004; Weinberger, 2009). Follesdal and Hagtvet (2013), for example, assessed if ability EI predicted TL from 104 Norwegian executives while controlling for personality using general mental ability (GMA) by utilizing Monte Carlo studies. Neither the 4 branch scores, nor EI score from MSCEIT predicted transformational leadership. Another study by Harms and Crede (2010) that involved 62 studies in a meta-analysis examined the EI-TL relationship and found a moderate connection when scores were given by the same raters. Moreover, when ratings of the constructs were derived from different sources (self, subordinates, peers, or

superiors), validity estimate were lower. However, when different sources where used to measure trait EI, results showed higher validities than ability EI. Further, agreement in ratings among different sources was small for TL and EI (.14 and .16, respectively).

In a study by Lindebaum and Cartwright (2010), they used Alimo-Metcalfe and Alban-Metcalfe (2001) TLQ-Public and WLEIS on a sample comprised of 55 managers and 110 team members and 62 line managers in a multi-source data finding. They used such a robust method, that the study rendered a weak connection between EI and TL. The researchers held common method variance issues from lack of different data sources as responsible for any significance found in the EI-TL relationship. One of the limitations cited in their study was related to the WLEIS instrument, which they asserted did not allow respondents to judge their own emotions accurately. They held that biased response from social desirability was present, especially for EI as an ability, which made it difficult to measure with a Likert scale as self-reporting may have resulted in biased response tendencies. Lindebaum and Cartwright (2010) insisted that common method variance (CMV) was responsible for the weak association found between EI and TL since the relationship was examined using same source data, a conclusion reached by other researchers (Barbuto & Burbach, 2006; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Another area that seemed to plague researching EI and TL was the correlation that could exist between the two variables' dimensions. To find out the extent of this issue, Cavazotte et al. (2012) conducted a study that found no significant relationship between EI and TL when they controlled for ability and personality.

Literature reviewed in this section showed that investigations done on the relationship between EI and TL continue to produce inconsistent associations. Distinct pointers by numerous researchers were made to strengthen research in the area in order to get better results, including suggestions to examine the relationships in different contextual settings, and that there was a need to make a clear distinction when examining ability EI conceptions and trait-based emotional intelligence. In addition, to eliminate CMV, procedural and statistical steps must be taken if multi-source data sets were not possible. Lastly, recommendations were made that more studies would benefit from using larger samples to allow for generalization of findings.

In the current study's conceptual framework shown in Figure 2.13, a relationship between EI and TL was proposed in higher education context. The dimensions of emotional intelligence and their hypothesized relationship with transformational leadership were covered in the following section. Studies that specifically correlated Mayer's EI dimensions with TL (as measured by either MSCEIT or WLEIS and MLQ - which measured EI abilities and Bass's TL, respectively) showed inconsistent results and so motivated this research. To begin with, a relevant case-study research investigation by Parrish (2015) sought to identify the relevance of emotional intelligence for effective higher education academic leadership in Australia. He conducted semi-structured interviews that found EI as a recognised and highly relevant and an important requirement for academic leadership in higher education.

Many studies (Table 2.8) testing ability emotional intelligence and transformational leadership have found positive correlation (Ashkanasy, & Daus, 2002; Beshears, 2004; Burbach, 2004; Foster, & Roche, 2014; Lam, & O'Higgins, 2013; Hartsfield, 2006; Dabke, 2012; Lam, & O'Higgins, 2012; Hebert, 2010; Shapiro, 2008; Thomas, 2011; Leban, & Zulauf, 2004; Wang, & Huang, 2009). At the same time negative or partially supported relationship between EI and TL have also been documented (Clarke, 2010; Weinberger, 2009; Lindebaum & Cartwright, 2010; Cavazotte, Moreno, & Hickmann, 2012; D'Alessio, 2006; Schulte, et al., 2004). Specifically, studies of the four elements of EI abilities as they relate to TL have also shown inconsistent results even within supporting studies (Burbach, 2004; Foster & Roche 2014; Hebert, 2011; Leban, & Zulauf, 2004; Thomas, 2011) as well as studies that did not support the association (Clarke, 2010; Cavazotte, Moreno, & Hickmann, 2012; Follesdal, & Hagtvet, 2013; Hur, van den Berg, & Wilderom, 2011; Lindebaum & Cartwright, 2010; Weinberger, 2009;). First, Clark (2010) studied 67 managers and found that ability EI related positively with competences as well as some TL behavioral dimensions but only after controlling for cognitive ability and personality. The study used MLQ to measure leadership and MSCEIT to measure EI. Using emotions to facilitate thinking was found to account for a further 4% in variation of both idealized influence, and individualized consideration. This presented a partial lack of backing for a connection between EI and TL, which was not expected. Besides the small sample size of 67 respondents, the researcher attributed CMV for the results, as well as the relatively low reliability for regulation of emotion (.55), inspirational motivation (.52), and individualized consideration (.55). Then, Follesdal and Hagtvet (2013) investigated ability EI

prediction of TL from 104 Norwegian executives while controlling for personality using general mental ability (GMA) by utilizing Monte Carlo studies. Neither the 4 branch scores, nor EI score from MSCEIT predicted transformational leadership.

Equally, upon examining the EI-TL relationship, Cavazotte and Hickmann (2012) found the association to be not significant. They collected data from 134 midlevel managers in a large Brazilian company in the energy sector. Their findings showed that while emotional intelligence (measured using WLEIS) seemed to be statistically related to transformational leadership (measured using MLQ) if considered in isolation, after controlling for ability and personality, the effect was not significant.

Yet another study that used robust methodology was carried out by Lindebaum and Cartwright (2010) who found no relationship between any of the four EI dimensions and transformational leadership. They used raters from peers, superiors, and subordinates (N = 227) to counter CMV problems and simultaneously checked if it was still there by different responses from other sources' ratings. Their reported limitations included small respondents sample size of only 55 managers, and lack of control for related factors such as personality. Limitations related to the WLEIS instrument were also cited which included that some respondents may not be able to judge their own emotions accurately, biased response that stems from social desirability, and the use of a Likert type scale to measure EI ability seems counter intuitive since it is an ability and with a self reporting, it may result in positive response tendencies.

Weinberger (2009) carried out a study that did not support the EI-TL relationship. The study examined emotional intelligence as it relates to leadership style and effectiveness. The surveyed sample of 151 managers and their followers using the MSCEIT and MLQ5x on followers' perception of managers' leadership. Findings revealed no relation between EI and leadership and the perceived effectiveness. The only significance was found between the EI's facilitating thought and the idealized behavior dimension of TL at a correlation coefficient of $r = .157$ ($p < .05$). The researchers reported reasons for such findings could be due to the use of a single organization researched and a limited size of 151 managers.

On the other hand, Burbach (2004) found a statistically significant positive correlation between emotional intelligence and transformational leadership (correlation coefficient $r = .33$; $p < 0.01$). He examined data collected from a sample of 146 leaders and 649 observers who rated their leaders. Cognitive style added variance to the relationship between emotional intelligence and transformational leadership and outcomes of leadership from the leaders' perceptions. Results showed that all EI branches shared a significant positive correlation with TL dimensions. Identified limitations in his study included only respondents who were social service professionals with normally very high EI levels, and the leadership scales had below .70 Cronbach alpha.

By the same token, Foster and Roche (2014) used a sample of 208 supervisor-subordinate dyads from three organisations in Ireland involving fast-moving consumer goods (FMCG), banking and financial Services. They examined the moderating role by follower's trait EI between follower's ability EI and TL. After

controlling for the effects of personality, moderated hierarchical regression showed that follower ability EI significantly predicted transformational leadership ratings and that this relationship was positively moderated by follower trait EI.

Moreover, Hebert (2010) found a significant relationship between emotional intelligence and transformational leadership in her study that was comprised of a sample of thirty school principals in the United States, and five to seven teachers who worked with each principal. Nevertheless, there was no correlation between TL and ROE branch of emotional intelligence as in the current study. Limitations of the study were the small sample size of 30 principals and there was no mention of steps to remedy CMV.

Hur, van den Berg, & Wilderom, (2011) conducted a study in which his sample was 859 workers in fifty-five groups in South Korean where findings were analyzed at group level. Same-source bias was controlled by arbitrarily dividing the sample into three groups. Findings showed EI significantly related to TL. Self-emotion appraisal was mostly related to idealized influence attribute (correlation coefficient r = .36), while other-emotional appraisal was mostly related to inspirational motivation (r = .46). Similarly, use of emotion was mostly related to idealized influence attribute and inspirational motivation (r = .46). Relatively speaking, the highest correlations were between regulation of emotion (ROE) and all dimensions of transformational leadership (with correlation coefficients at the significance level: idealized influence r = .6, inspirational motivation r = .47, intellectual stimulation r = .55, individualized consideration r = .57). The main limitation of

this research was the use of LMX measure, which can influence workers' perception of leaders (Wang, et. al., 2005).

In a doctoral thesis, Thomas (2011) surveyed 69 U.S. Navy HR officers who took the MSCEIT and MLQ and found that only perceived emotions were not related to TL. The other EI branches significantly and positively related to three of the TL dimensions, namely, facilitating thought, understanding emotions, and the ability to manage emotions. Limitations of the study were a small sample size of 69 officers and a limited survey time of two weeks.

Leban and Zulauf (2004) conducted another important study that targeted 24 managers in different industries. Findings showed that transformational leadership was significantly related to performance and emotional intelligence. EI correlated with all TL components but negatively correlated with passive management by exception component of transactional and laissez-faire. Limitations in their study were mainly small sample size of a self-report MSCEIT (n = 24) and an unspecified sample size of the subordinates reporting.

Examining each of the EI dimensions helps identify which of the dimensions is mostly related to transformational leadership and the level of the role played by organizational culture in relation to each of the emotional intelligence dimensions. The current study provides further support for or refute of past research findings, which showed inconsistent association between emotional intelligence dimensions and transformational leadership as summarized in Table 2.8. The table shows that five out of the eleven studies found overall lack of support of the relationship, while specifically Thomas's (2011) study found that SEA did not relate to TL, and Hebert

(2010) found that UOE and ROE did not relate to TL. Likewise, five of the eleven most pertinent studies found that OEA related to transformational leadership followed by four studies that found a relationship. Further research exploring the relationship of EI dimensions can allow leadership practitioners and scholars to pay closer attention to those emotional intelligence abilities that warrant development in the pursuit of the much sought after effective TL qualities.

Table 2.7
Summary of Selected Literature

	Author	Title	Main Findings
1	Burbach (2004)	Testing the relationship between emotional intelligence and full-range leadership as moderated by cognitive style and self-concept (Doctoral dissertation). The University of Nebraska-Lincoln. Retrieved March 18, 2008	EI, full range leadership. there are statistically significant positive correlations between EI and TL (r = .33; p < 0.01)
Self-emotion appraisal		Perceiving Emotions shared a significant positive correlation with Transformational leadership, r = .23; p < 0.01; Idealized Influence behavior, r = .17; p < 0.05; Inspirational Motivation, r = .23; p < 0.01; Intellectual Stimulation, r = .24; p < 0.01; and Individual Consideration, r = .17; p < 0.05.	
Others emotional appraisal		Facilitating Thought shared a significant positive correlation with TL (r = .27; p < 0.01) and all TL subscales from leaders' perceptions (Idealized Influence-attributed, r = .19; p < 0.05; Idealized Influence behavior, r = .21; p < 0.01; Inspirational Motivation, r = .21 \ p < 0.01; Intellectual Stimulation, r = .26; p < 0.01; Individual Consideration, r = .18; p < 0.05).	
Use of emotion		Understanding Emotions shared a significant positive correlation with TL, r = .20; p < 0.01; Idealized Influence-behavior, r = .20; p < 0.05 and Intellectual Stimulation, r = .19; p < 0.05.	
Regulation of emotion		Managing Emotions shared a significant positive correlation with TL, r = .23, p < 0.01; Idealized Influence-attributed, r= .17, p < 0.05; Inspirational Motivation, r = .17, p < 0.05; Intellectual Stimulation, r = .27, p < 0.01; Individual Consideration, r = .25, p < 0.01).	
2	Leban, W., & Zulauf, C. (2004)	Linking emotional intelligence abilities and transformational leadership styles. The Leadership & Organization Development Journal, 25(7), 554-564.	EI correlates with all TL components and specifically inspirational motivation and idealized influence and individual consideration
Self-emotion appraisal			
Others emotional appraisal			
Use of emotion		UOE and overall EI were found to relate significantly with the inspirational motivation (provide challenge and a mutual understanding correlates significantly with the full range leadership, particularly with the individualized consideration of TL, the passive Management-by-exception and laissez-faire leader behavior).	
Regulation of emotion		ROE significantly related to individualized consideration (r=.35, p=.05)	

Table 2.8 (continued)

	Author	Title	Main Findings
3	Weinberger, L. A. (2009)	Emotional intelligence, leadership style, and perceived leadership effectiveness. *Advances in Developing Human Resources*	EI, Leadership style, Leadership. The study did not support the relationship between EI and leadership.
Self-emotion appraisal Others emotional appraisal Use of emotion Regulation of emotion		Significant result of EI facilitating thought and TL idealized influence at an r = .16 ($p < .05$)	
4	Clarke, N. (2010)	Emotional intelligence and its relationship to transformational leadership and key project manager competences. *Project Management Journal*, *41*(2), 5-20.	EI, TL, key manager competence. EI explained TL's idealized influence and individualized consideration. Lack of backing for a link between EI and TL
Self-emotion appraisal Others emotional appraisal Use of emotion Regulation of emotion		Using emotions to facilitate accounted for a further 4% in variation of both idealized influence and individualized consideration after first controlling for personality	
5	Hebert, E. B. (2011)	The relationship between emotional intelligence, transformational leadership, and effectiveness in school principals. (Unpublished doctoral dissertation). Georgia State University, Georgia.	EI, TL, effectiveness school principal. There's a positive relationship between EI and TL
Self-emotion appraisal Others emotional appraisal			
Use of emotion		There is no correlation between transformational leadership and the use of emotional intelligence branches	
Regulation of emotion		There is no correlation between transformational leadership and the management of emotional intelligence branches	

Table 2.8 (continued)

	Author	Title	Main Findings
6	Lindebaum and Cartwright (2010)	A critical examination of the relationship between emotional intelligence and transformational leadership. Journal of Management Studies	TL and ability EI. found no relationship between EI and TFL when using a strong methodological design
Self-emotion appraisal		Perceiving Emotions shared a significant positive correlation with Transformational leadership, r = .23; p < 0.01; Idealized Influence behavior, r = .17; p < 0.05; Inspirational Motivation, r = .23; p < 0.01; Intellectual Stimulation, r = .24; p < 0.01; and Individual Consideration, r = .17; p < 0.05.	
Others emotional appraisal		Facilitating Thought shared a significant positive correlation with TL (r = .27; p < 0.01) and all TL subscales from leaders' perceptions (Idealized Influence-attributed, r = .19; p < 0.05; Idealized Influence behavior, r = .21; p < 0.01; Inspirational Motivation, r = .21 \ p < 0.01; Intellectual Stimulation, r = .26; p < 0.01; Individual Consideration, r = .18; p < 0.05).	
Use of emotion		Understanding Emotions shared a significant positive correlation with TL, r = .20; p < 0.01; Idealized Influence-behavior, r = .20; p < 0.05 and Intellectual Stimulation, r = .19; p < 0.05.	
Regulation of emotion		Managing Emotions shared a significant positive correlation with TL, r = .23, p < 0.01; Idealized Influence-attributed, r= .17, p < 0.05; Inspirational Motivation, r = .17, p < 0.05; Intellectual Stimulation, r = .27, p < 0.01; Individual Consideration, r = .25, p < 0.01).	
7	Hur, van den Berg, & Wilderom (2011)	TL as a mediator between EI and team outcomes. The Leadership Quarterly	TL, EI, leader effectiveness, service climate, team effectiveness. EI was positively related to TL (r=.46, p<.001), where N=55.
Self-emotion appraisal		SEA is mostly related to idealized influence attribute (r=.36)	
Others emotional appraisal		OEA is mostly related to Inspirational Motivation (r=.46)	
Use of emotion		UOE is mostly related to Idealized influence attribute and Inspirational Motivation (r=.46)	
Regulation of emotion		Relatively the highest correlations between Regulation of Emotion (ROE) and the dimensions of TL (idealized influence r=.6, inspirational motivation r=.47, intellectual stimulation r=.55, individualized consideration r=.57)	
8	Thomas, D. (2011)	*Examining the relationship between emotional intelligence and leadership effectiveness of navy human resource officers*. Northcentral University.	The 4 emotional intelligence branch scores revealed a positive and significant relationship between 3 of 4 branch scores of TL r (67) = 0.22, p = .04
Self-emotion appraisal		r (67) = -0.01, p = .54 perceiving emotions not related to TL	
Others emotional appraisal		Facilitating thought related to TL (r (67) = 0.24, p = .02).	
Use of emotion		Understanding emotions related to TL (r (67) = 0.26, p = .02.),	
Regulation of emotion		Ability to manage emotions related to TL (r (67) = 0.23, p = .03)	

Table 2.8 (continued)

	Author	Title	Main Findings
9	Cavazotte & Hickmann, (2012)	Effects of leader intelligence, personality and emotional intelligence on transformational leadership and managerial performance, *The Leadership Quarterly*	Investigation of the EI-TL association was found non-significant after controlling for ability and personality – the instruments used were WLEIS and MLQ.
Self-emotion appraisal Others emotional appraisal Use of emotion Regulation of emotion			
10	Follesdal, & Hagtvet, 2013	Does emotional intelligence as ability predict transformational leadership? A multilevel approach. *The Leadership Quarterly*	TL and ability EI. found no relationship between EI and TFL when using a strong methodological design
Self-emotion appraisal Others emotional appraisal Use of emotion Regulation of emotion			
11	Foster & Roche, (2014)	Integrating trait and ability EI in predicting transformational leadership. *Leadership & Organization Development Journal*	After controlling for the effects of personality, follower ability EI significantly predicted transformational leadership ratings and that this relationship was positively moderated by follower trait EI.
Self-emotion appraisal Others emotional appraisal Use of emotion Regulation of emotion			

2.7 Organizational Culture as a Moderator

Sekaran and Bougie (2010), described a moderating variable as one that has a strong conditional influence on the variables' relationships with each other. That is to say, the presence of the moderating variable changes the initial association between the independent variables and dependent variables. Furthermore, Baron and Kenny (1986) suggested that it modifies how strong the connection and which way the connection is between the variables especially when inconsistent relationships were present.

Studies on the relationship between emotional intelligence and transformational leadership have consistently yielded mixed results (Harms & Crede, 2010; Hunt & Fitzgerald, 2013; Matthews, Zeidner & Roberts, 2012). It is presumed in the current study that when organizational culture (OC) is in the picture as a moderator, the relationship between emotional intelligence and transformational leadership will be effected. This is most likely because organizational culture was found to be positively related to both EI and transformational leadership. Further, it can be proposed that OC will act as a moderator between EI and TL because it is generally recognized that organizational culture can affect how people behave and their effectiveness (Mintu-Wimsatt, 2002; Miron *et al*., 2004; Page *et al*., 2003; Reigle, 2001). Specifically, Mintu-Wimsatt (2002) and Chatman and Barsade (1995) studies revealed that culture was a moderator between personality and behavior in management.

In a relevant study, Chuttipattana and Shamsudin (2011) examined the moderating effect of organizational culture on the relationship between the personality and

managerial competencies of 358 primary care managers in Thailand. The study findings revealed significant moderating effects set by organizational culture on the relationship between some personality traits and managerial competencies. Their findings emphasized the importance of developing an organizational culture that can foster the managerial competencies and so managers can demonstrate the management competencies outcome required.

Baron and Kenny (1986) recommended that when the relationship between a predictor and a criterion variable was found unexpectedly weak or inconsistent, a moderating variable should be introduced and that it could modify the strength of the connection. Studies that examine organizational culture as a moderator to the emotional intelligence and transformational leadership relationship are almost non-existent. However, some research showed OC as a moderator between personality and performance (Chuttipattana & Shamsudin, 2011; Miron, Erez, & Naveh, 2004; Navaresse, 2008), organizational citizenship (Schnake & Dumler, 2003), career outcomes (Erdogan & Bauer, 2005), and work behavior (Tett & Burnett, 2003). There are also findings that back the idea that people like to work in culture similar to their personality (Judge & Cable, 1997), which motivates better performance. This could most likely mean that in certain conducive organizational culture conditions, people possibly learn, and use effective management talents and capabilities. People who use the social and emotional competency empathy to understand an organization's culture can be leaders within the organization. That is because people who can manage culture well are able to use self-awareness, self-management, and empathy to bridge differences (Keyton, 2010; Mckee, 2012). Previous studies examined the relationship between emotional intelligence and

leadership, which showed an inconsistent relationship, as mentioned in the previous section. Some studies examined the relationship between emotional intelligence and culture (Danaeefard et al., 2012; Daus et al., 2012; Haddy, 2005; Litvin, 2000; Mishra, 2012; Subramanian & Yen, 2013; Van Maanen and Kunda, 1989), some others between culture and leadership (Gharibvand, 2012; House *et al*., 2004; Zagoršek *et al*., 2004), and between culture and servant leadership, which revealed that to be effective, servant leadership should be supported by the organizational culture (Foster, 2000). Moreover, prior studies established that organizational culture and leadership were also related (Giberson *et al*., 2009; Jaskyte, 2004; Masood, Dani, Burns, & Backhouse, 2006; Simosi & Xenikou, 2010). At the same time, a few studies also support a mutual relationship between OC and leadership (Berglund, 2014; De Hoogh, Den Hartog, & Koopman, 2005; Tipu, Ryan, & Fantazy, 2012).

In conclusion, besides the already established positive connexion between OC and EI and OC and leadership from past studies, researchers suggested using forms of culture as a moderator in the EI-leadership relationship. That is, Walter, Cole, and Humphrey (2011) suggested considering specific cultural dimensions from Hofstede (2001) for instance, power distance, individualism, or masculinity. Others suggested that emotional intelligence validity can be tested with linked variables in different cultures to confirm its comprehensiveness and other likely cultural moderators being studied (Harms & Credé, 2010; Sadri, Weber, & Gentry, 2011). Therefore, there is an excellent opportunity in the current study to examine organizational culture both as a moderator, and in a different cultural setting outside western setting.

2.8 Hypotheses Development

Consistent with the already mentioned empirical studies and theoretical justifications (Berrien, 1968; Bandura, 1986; Danaeefard et al., 2012; Daus et al., 2012; Foster & Roche 2014; Hur, 2008; Goleman, Boyatzis, & McKee, 2002; Haddy, 2005; Litvin, 2000; Mishra, 2012; Radhakrishnan & UdayaSuriyan, 2010; Zagorśek et al., 2004; Subramanian & Yen, 2013; Van Maanen and Kunda, 1989), the current research presented eight hypotheses to be tested and validated. The six constructs in the present study constitute the emotional intelligence dimensions, namely, self-emotion appraisal, others emotional appraisal, use of emotion, and regulation of emotion, as the independent variables, organizational culture as the moderating variable, and transformational leadership as the dependent variable. Consequently, the development of the eight hypotheses involved the pertinent relationships among the study variables as discussed in the following sub-sections.

2.8.1 Self-Emotion Appraisal and Transformational Leadership

The model in the current study proposed that a leader needs to perceive emotions accurately in order to diagnose whether or not employees actually appreciate and value their work. Someone skilled in assessing when emotional intervention was needed must maintain these perceptions. By this, the leader can inspire and fill followers with higher values and appreciation for work leading to the building of commitment and the transformation of the organization. This corresponds to the idealized influence dimension of transformational leadership. The ability to identify emotion in others and one's physical states, feelings, and thoughts is indispensable when listening to the individual needs of followers. Thus, leaders are

able to treat each follower individually and advise him or her accordingly, which is part of the individual consideration component of transformational leadership.

Past studies that explored this dimension of emotional intelligence are rare. Some research, however, explored relevant emotions in children. For instance, emotionally adjusted children were better able to differentiate thoughts from emotional states (Gotterbam, 1989). Maltreated children had significant and comparable impairments in interpersonal perceptions/behaviors when compared to non-maltreated children (Talbott, 2000). In a study of abused and non-abused children, During and McMahon (1991) found abused children were less accurate in their identification of emotional expression and were less orderly and systematic in their structuring of emotions. Likewise, in a study by Sosik and Megerian (1999), both superiors and subordinates rated managers who maintained self-awareness as being more effective than those who were not self-aware. McCauley and Lombardo (1990) findings showed that managers who had a decent amount of self-awareness and a wish to progress were able to achieve higher levels of advancement than managers who lacked in these areas. Furthermore, Howard and Bray (1988) found that self-objectivity and general personal adjustment predicted advancement 20 years later in a longitudinal study at AT&T.

More recently, however, only two of the most relevant studies, presented in the previous section and Table 2.8, found the relationship between self-emotion appraisal (SEA) and transformational leadership to be significantly positive. Namely, Burbach's (2004) findings illustrated significance with a correlation coefficient of $r = .23$ at $p < .01$. Hur et al.'s (2011) research findings also revealed

significance between EI and TL relation at r = .46, p < .001. They reported EI dimensions that correlated with TL dimensions. Namely, SEA related to idealized influence attribute at a correlation coefficient r = .36, p < .01, SEA correlated with idealized influence behavior at r = .27 and p < .05, SEA correlated with inspirational motivation at r = .35 and p < .01, SEA correlated with intellectual stimulation at r = .31 and p < .05, and SEA correlated with individualized consideration at r = .32, and p < .05.

Perceiving emotions and then regulating those results in inspiring leadership, which demands attuning both to an inner emotional reality and to those we seek to inspire (Goleman, 2013). Accurate assessment of their own emotions is the foundation for leaders' confidence by remaining calm during uncertainty and thus able to assure others and instill idealized influence. Equally, the ability to perceive and use emotions to facilitate thinking can come in handy for maintaining positive emotions when times are tough and to encourage creative problem solving which is a characteristic of the intellectual stimulation part of leadership. From the discussion above, this hypothesis was formulated:

H1: Self-emotion appraisal has a positive relationship with transformational leadership among leaders of Malaysian public universities.

2.8.2 Others Emotional Appraisal and Transformational Leadership

The ability to use emotions to help in the thought process can be valuable to a leader who is interested in encouraging creative ideas to solve problems – intellectual stimulation component of transformational leadership. Emotional facilitation of thinking describes emotional states that encourage problem solving tactics. This

ability can be very handy when leaders intend to be supportive by listening to individual needs of followers, which is related to the individualized consideration of leadership. In this way, leaders generate emotions as aids to judgement and thus able to act as coaches that can help followers grow.

Out of the eleven studies reviewed, five found that others emotional appraisal (OEA) was significantly related to TL as displayed in Table 2.8. That is to say, Burbach (2004) results showed significance demonstrated in a correlation coefficient of $r = .27$ at $p < .01$. Hur et al. (2011) found OEA related to an idealized influence attribute with a coefficient of $r = .45$, $p < .01$, with idealized influence behavior at $r = .36$ and $p < .01$, with inspirational motivation at $r = .46$ and $p < .01$, with intellectual stimulation at $r = .39$ and $p < .01$, and with individualized consideration at $r = .4$, and $p < .01$. Likewise, Clarke's (2010) results showed using emotions to facilitate thought (this ability relates to both others emotional appraisal and use of emotion) accounted for a further 4% in variation of both idealized influence and individualized consideration after first controlling for personality. The results in that study showed significance of EI in facilitating thought and TL's idealized influence at a correlation coefficient of $r = .16$ ($p < .05$). In addition, Thomas (2011) found that facilitating thought related to TL ($r (67) = 0.24$, $p > .02$), and so did Weinberger (2009) who found OEA correlated with TL at an $r = .16$ and $p < .05$.

Further, while people with superior systems understanding are organizational assets, they are not necessarily effective leaders if they lack the requisite emotional intelligence such as empathy (which overlaps with self-emotion appraisal and

others emotion appraisal. Emotional intelligence is defined as sensing others' emotions, understanding their perspective, and taking active interest in their concerns) and the sensitivity to social context that comes along with it (Goleman, 2013). Leaders possessing the skill of utilizing their emotions for the purpose of increased rational process can be generally assumed skillful at rousing people mentally. They encourage creative problem solving and challenging of status quo values. Moreover, because leaders are attuned to their own and other peoples' emotions, they are, therefore, able to meet relationships' needs and kept it on the right track (Goleman, et al., 2013). Transformational leaders need to understand how followers feel, especially after the followers go through negative experiences as well as be able to inspire and stir emotions. In this way, the components of transformational leadership are tangled with the emotional intelligence concept. Consequently, and based on the above mentioned logic and the research structure, the following hypothesis was formulated:

H2: Others emotional appraisal has a positive relationship with transformational leadership among leaders in Malaysian public universities.

2.8.3 Use of Emotion and Transformational Leadership

A leader's ability to use and understand emotions, emotional language, and the signals conveyed by emotions can increase inspirational motivation. The ability to stay positive is the leader's biggest asset in motivating by expressing inspirational visions that lift when down and keep everyone reaching for their best in good times. This understanding of emotions in different people will display in the ability to give

personal attention and advice as needed i.e. individual consideration dimension of transformational leadership.

Past relevant studies, such as Salovey, et al (2002), concluded that both attention to mood and the ability to distinguish among moods might lead to healthier responses to stress. Resilient women who suffered from anxiety due to stress as kids frequently develop extremely advanced emotional intelligence levels (LePage-Lees, 1997). Likewise, anxious children showed poorer understandings of hiding emotions and changing emotions compared to non-anxious children (Southam-Gerow & Kendall, 2000). Southam and Kendall (2000) found a relationship between children's social knowledge and emotional understanding.

More recently and pertinent to leadership, four studies found that use of emotion (UOE) was positively and significantly correlated to transformational leadership. Specifically, Burbach (2004) results showed a correlation coefficient and significance of $r = .2$ at $p < .01$. Hur et al. (2011) found UOE related to idealized influence attribute $r = .43$, $p < .01$, UOE correlated with idealized influence behavior at $r = .34$ and $p < .05$, UOE correlated with inspirational motivation at $r = .43$ and $p < .01$, UOE correlated with intellectual stimulation at $r = .4$, $p < .01$, and UOE correlated with individualized consideration at $r = .39$, $p < .01$. Thomas (2011) found $r (67) = .26$, $p < .02$, and Leban (2004) results showed a correlation between UOE and only individualized consideration dimension of TL ($r = .35$, $p < .05$).

Similarly, a leader high in use of emotion and self-emotional appraisal is aware of how her feelings influences her and others. They are in harmony with their

surroundings and able to express themselves persuasively about their vision. Their accurate self-assessment allows them to seek help or improvement. This strong sense of vision and ability to read emotions is what inspires others to believe in them and thus they are able to create the idealized influence dimension of transformational leadership. Idealized influence is considered the emotional element of transformational leadership (Antonakis, 2012), which leaders use to grow respect and trust among followers. They do this by primarily using their self and others' emotional perception in order to understand and employ this emotional knowledge to act as role models for followers, which is the definition of idealized influence. Thus, the following hypothesized relationship between use of emotion and transformational leadership was put forth:

H3: Use of emotion has a positive relationship with transformational leadership among leaders in Malaysian public universities.

2.8.4 Regulation of Emotion and Transformational Leadership

The ability to manage emotions to attain specific goals is the strongest and most complex of all the emotions since it is the most advanced and highest in the order of emotional skill. It requires the skill of regulating emotion in ourselves and in other people by curbing bad feelings and increasing good ones, without limiting or overstating information that they may carry (Mayer et al. 2002) and so connects with all transformational leadership dimensions: idealized influence, inspirational motivation, intellectual stimulation, and individualized consideration.

Prior studies pertinent to the regulation of emotion found that people who can manage emotion cope more effectively with stressful situations and can help others

do the same. Coping techniques that involve avoiding situations usually work against people who use them (Zeidner & Saklofske, 1996). Nevertheless, while cognitive avoidance can be a useful way to avoid short-term stress (Suls & Fletcher, 1985; Carver et al., 1993), what works best in the end is active emotional engagement in more personal situations (Pearlin and Schooler, 1978). Yet another study by Fox and Spector (2000) found that empathy, self-regulation of mood, and self-presentation related to job interview performance.

More recent and relevant to the present research were three studies that found a positive relationship between regulation of emotion and transformational leadership. Burbach (2004) findings showed a correlation coefficient and significance of $r = .23$ at $p < .01$. At the same time, Hur et al. (2011) found ROE related to idealized influence attribute $r = .6$, $p < .01$, and idealized influence behavior at $r = .47$, $p < .01$. They also found that ROE correlated with inspirational motivation at $r = .55$ and $p < .011$, with intellectual stimulation at $r = .55$ at $p < .01$, and ROE correlated with individualized consideration at $r = .57$, and $p < .01$. While Thomas's (2011) results showed a correlation of $r\ (n=67) = .23$ at $p < .03$.

What is more, since transformational leaders communicate expectations and inspire motivation to commit to a shared vision, they needed symbols and emotional appeals in the form of pep talks sometimes to focus efforts to a given direction. These characteristics were almost identical to regulation of emotion, which is the ability to manage emotions to reach precise goals. The ability to stay positive is the leader's biggest asset in motivating by expressing inspirational visions that lift when down and keep everyone reaching for their best in good times. This means

that leaders must be able to recover fast from undesirable emotions and the ability to manage worries sensibly are all the domain of regulation of emotion (Wong & Law, 2002). A good example is when a leader is faced with a tough incident but has to disguise feelings of insecurity so as to give a confident image to his followers; an important ingredient to all dimensions of transformational leadership. Based on these arguments and the above discussion, the current study sought to hypothesize the following relationship between ROE and TL:

H4: Regulation of emotion has a positive relationship with transformational leadership among leaders in Malaysian public universities.

2.8.5 Organizational culture moderating self-emotion appraisal and transformational leadership

Transformational leadership is a process by which people create a connection that raises motivation and morality in both leader and follower. For this to take place, an organizational culture needs to be conducive and supportive of leader development, so that emotional intelligence abilities can be fired up to play their role in the process. The ability to identify emotion in others and one's physical states, feelings, and thoughts is essential when leaders act as coaches and advisers while trying to assist followers in becoming fully actualized. On the one hand, a clan culture that is a friendly place to work where people share about themselves analogous to a family would most likely encourage and increase the impact of the relation concerning self-emotional appraisal and the individualized consideration dimension of transformational leadership. On the other hand, there are instances where a hierarchy culture encourages a leader to give specific directives with high degree of structure. In these two examples, organizational culture acts as a

moderator to the relationship between self-emotion appraisal and transformational leadership initiatives.

Organizational culture helps determine affective events and therefore it influences how people interpret and respond to these events. In other words, culture moderates the extent to which a leader perceives emotions in self and others in order to make sense of emotional events. Leaders learn to know how they feel about events. Consequently, culture in this sense provides guidance in order to understand and derive meaning. Next, the following coping strategies will depend on established cultural norms, individual motivations and the different abilities of emotional intelligence.

Consequently, as suggested by Sekaran *et al*. (2010), a directional hypothesis should be formulated if the relationship has been explored before or if there were bases to postulate the direction. Consequently, given that past studies had revealed a positive relationship between organizational culture and both leadership and emotional intelligence, and based on the above arguments, the current study proposed the following hypothesis:

H5: Organizational Culture positively moderates the relationship between self-emotion appraisal and TL among Malaysian public universities' leaders.

2.8.6 Organizational culture moderating others emotional appraisal and transformational leadership

How organizational culture moderates the relationship between others emotional appraisal and transformational leadership is best appreciated from the perspective of emotional learning experience and affective learning theory. Since

organizational culture influences how people interpret and respond to affective events, so culture is an important factor in moderating the relation between the ability to utilize emotions to assist in the thought process for intellectual stimulation (Hartel, 2008). For instance, emotional facilitation of thinking is valuable to a leader who is interested in motivating followers to a higher level of creative problem solving. In this context, an organizational culture with characteristics of a dynamic, entrepreneurial, and creative workplace, for instance, would most likely encourage and increase the impact of the relationship between others emotion appraisal and transformational leadership behavior. Based on these arguments, the current study sought to propose the following hypothesis:

H6: Organizational Culture positively moderates the relationship between emotion appraisal of others and TL among Malaysian public universities' leaders.

2.8.7 Organizational culture moderating use of emotion and transformational leadership

Organizational culture plays a role in determining affective events and emotional learning that takes place when people need to understand affective events which in turn depends on proper understanding of established emotional features of a culture. The more the cultural norms are in line with the emotional signals being understood by the leader in order to build a role model and vision for the followers, the more impact the culture will have on the relationship.

In other words, the ability to understand emotions, emotional language, and the signals carried by emotions can be valuable to a leader who acts as a strong role model and provides vision and sense of mission to his followers. In this context, a hierarchy culture, for instance, that was regarded as a formal and structured

workplace offers the trust and support necessary to increase the impact of the use of emotion on transformational leadership. Based on these arguments, the current study sought to put forward the following hypothesis:

H7: Organizational Culture positively moderates the relationship between use of emotion and TL among Malaysian public universities' leaders.

2.8.8 Organizational culture moderating regulation of emotion and transformational leadership

For a leader to display emotions in an effective way, that will depend on many factors. One of the important factors proposed by the current study is emotional intelligence. However, organizational culture is also proposed as a contextual determinant of a leader's effective display of her emotions. For instance, regulation of emotion may have important consequences in tough situations than in easy ones because of the nature of behaviors expected in difficulties. In the same way, some organizational cultures have clear standards that are clear for measuring appropriate behavior.

The ability to manage emotions to reach precise goals can be valuable to a leader who is interested in communicating high expectations while inspiring commitment to a shared vision. In this context, for example, in a market type OC that is characterized by a goal-driven culture, where leaders are perceived as energetic creators and competitors with emphasis on winning would most likely benefit and increase the impact of the relationship between regulation of emotion, which means the ability to manage emotions to reach precise goals, and transformational leadership, which means influencing and inspiring to perform beyond expectations. Therefore, in view of the above, the following hypothesis was advanced:

H8: Organizational Culture positively moderates the relationship between regulation of emotion and TL among Malaysian public universities' leaders.

2.9 The Research Framework

The research framework shown in Figure 2.13 represents the constructs of the study investigated, namely, the four emotional intelligence dimensions as independent variables, transformational leadership as the dependent variable, and organizational culture as the moderating variable the eight hypotheses to be tested. The conceptual framework illustrates the relationships of leadership development constructs that were bolstered by the afore mentioned social systems theory, social cognitive theory, and self-directed learning theory in an earlier section of the current chapter.

Table 2.8
Comparison of Transformational Leadership with Emotional Intelligence

Essential Element of Emotional Intelligence Models				
Transformational Component	**Bar-On (2006)**	**Dulewick and Higgs (2000)**	**Mayer and Salovey (1997)**	**Goleman et al., (2002)**
Idealized influence	Interpersonal	Conscientiousness		Self-Management
Inspirational motivation	General Mood	Motivation	Managing emotion	Relationship Management
Intellectual stimulation	Adaptability	Intuitiveness	Facilitating thought	
Individualized consideration	Interpersonal	Interpersonal sensitivity	Perceiving emotion	Social Awareness
	Stress Management	Emotional Resilience	Understanding emotions	Self-Awareness
		Self-Awareness		

Source: Mills (2009)

All branches of emotional intelligence and supporting studies (Table 2.8 and Table 2.9) point to the antecedent nature of emotional intelligence. As such, transformational leaders need to understand how followers feel, especially after the

followers go through negative experiences as well as be able to inspire and stir emotions. In this way, the components of transformational leadership and emotional intelligence are tangled. Many of the skills found in the emotional intelligence framework like identifying and relating emotionally to others, acknowledging the needs, wishes, and feelings of subordinate individuals in an organization, or arousing emotions to foster change and commitment have been shown in transformational leadership research (Mills, 2009).

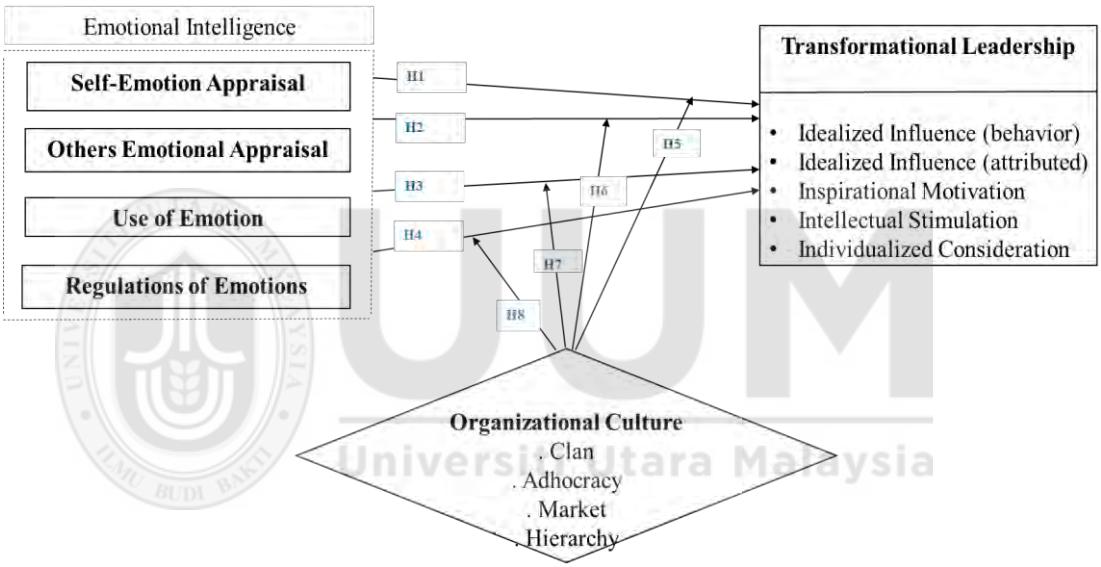

Figure 2.13
Conceptual Research Framework

Organizational culture provides an emotional need (Halloran, 2007) for belonging and defines one's purpose for existing. Secondly, it serves as a regulatory tool of emotions by influencing the management of emotions and by creating harmony and certainty among individuals in their understanding and answer to emotional stimulations (Hartel, 2008). The understanding of cultural norms leads to an amount of emotional learning by referring to the established emotional features of a culture for guidance in order to understand and derive meaning. Further, coping

strategies depend on established cultural norms, individual motivations and emotional intelligence (Hartel, 2008). This results in a behavior feed back into organizational culture, reshaping it. In sum, based on the preceding empirical evidences and theoretical gaps identified in the previous sections, the conceptual framework for the present study was developed illustrating the effect of emotional intelligence dimensions on transformational leadership and the role of organizational culture as a moderator on the relationship.

2.10 Chapter Summary

In this chapter critical literature review of leadership theory, emotional intelligence, and organizational culture relating to the research's questions and objectives were covered. Significant number of studies were presented that illustrated the importance of understanding and studying further the relationship between emotional intelligence and transformational leadership in Malaysian public universities. However, the results of these studies were far from conclusive, which suggested the need for introducing a moderator variable on the relationship. Thus, organizational culture was proposed as a potential moderator to determine whether it will change or strengthen the relationships.

CHAPTER THREE

METHODOLOGY

3.1 Introduction

This chapter discusses the research methodology used to examine the relationship between emotional intelligence and transformational leadership when organizational culture is investigated as a moderating variable. For ease of section navigation, research design was presented first, followed by sampling design and the data collection procedures. After that, the chapter presented an argument of how the research variables were measured by means of adopting previously developed research instruments which were based on previous studies. Subsequently, the chapter ended with an examination of content validity and instrument reliability and discussion of the final data analysis procedures used in the consequent stage.

3.2 Research Design

In the current study, the positivism research paradigm was assumed, which has been most widely practiced in social sciences (Neuman, 2011). Positivism supports value-free science, seeks precise quantitative measures, tests causal theories with statistics, and believes in the importance of replicating studies. It also employs deductive inquiry (Tashakkori & Teddlie, 1998), which aims to draw generalizable conclusions that are based on empirical evidence and theories that can be revised (Bryman & Bell, 2007; Deshpande, 1983).

The aim of the current study was to test a hypothesized structural model. The model theorized that organizational culture has a significant moderating effect on the relationship between emotional intelligence dimensions and transformational

leadership. The focused of the research was on theory testing and verification rather than developing a new theory. Therefore, the research used the deductive research approach to draw on three main research objectives that resulted in the formulation of eight hypotheses to be tested, accordingly.

In designing the research, the necessary data can be gathered and analyzed to arrive at a solution. This field study was developed to examine the relationship between emotional intelligence as the independent variable, organizational culture as the moderating variable, and transformational leadership as the dependent variable among leaders in Malaysian public universities. The purpose of the study was hypothesis testing (analytical and predictive) and the unit of analysis were individual university leaders: deans, deputy deans, academic department directors and managers. The sampling design used in the present study was proportionate stratified random sampling. According to Sekaran and Bougie (2009), probability sampling is used when representativeness is of importance in the interests of wider generalizability. Once the population has been stratified into university groups, a sample of members from each stratum/university was drawn using simple random sampling.

In past research, as well as in the current study, there has been extensive use of cross-sectional methods to study emotional intelligence and leadership styles (Barbuto & Barbuch, 2006; Brown *et al*., 2006; Herbst & Maree, 2008). A quantitative research approach, generally gathered through structured questions, is used in the current study because of its suitability in conducting research in social sciences and education research (Berry, 2006), and its effective scientific

examination of hypothesis statements rather than understanding human behaviors and their environment (Bell, & Waters, 2014). The quantitative research approach used was also suitable because it is applied to a large size sample survey, and employing structured questions that were readily available from previously tested and verified instruments. What was most appealing about this method was its economical aspect and the ease with which data can be compiled from the standardized answers retrieved.

Permission to carry out the study was requested from the management of the universities before survey questionnaires were distributed in person to the academic leaders for data collection purposes, and then analyzed accordingly. The questionnaires used were survey instruments that were recommended by many theorists (Hair, Money, Samouel, & Page, 2007) because of their flexibility, practicality with large samples, and good reliability. In this case, it was certain that the respondents were able to understand all items in the questionnaires as they held academic leadership positions, had at least post secondary education if not higher. Proportionate stratified random sampling design was used in the present study with the targeted population at the 18 Malaysian public universities.

3.3 Population and Sampling

The targeted population was academic leaders at public universities in Malaysia. The total number of respondents, which was the unit of analysis for the current study, were individual academic leaders identified as the deans, deputy deans, heads of departments, managers and directors of academic departments was identified. The estimated population of leaders in peninsular Malaysia at the 18 public universities (Jabatan Pendidikan Tinggi, 2011; Bakar, 2014) was 2076. A

sampling list was used to obtain staff profiles, which were available from listings on universities' websites. The minimum sample size needed was 325 leaders as determined by Krejcie and Morgan (1970) sampling table and equation. Still, sample size was doubled to minimize sampling error and to heed the low response rate issue (Hair, Wolfinbarger, & Ortinall 2008). Thus, the total number of questionnaires administered was 650.

It is critical to determine an appropriate sample size in order to minimize the total cost of sampling error. Therefore, the sample size was calculated using Kriejcie and Morgan's (1970) table (n=325) and confirmed with a priori G*Power analysis (versus posteriori) (Bruin, 2006). A priori G*Power analysis (versus posteriori) which was computed based on the desired level of power, desired alpha level (error rate), desired effect size, and the known number of parameters, which was necessary for later analysis using PLS-SEM as per Hair et al. (2014). The power analysis revealed that the minimum sample size was 92 required to detect an effect size of .15 with .80 power at the alpha level of .05 as demonstrated by Figure 3.1 (McCrum-Gardner, 2010).

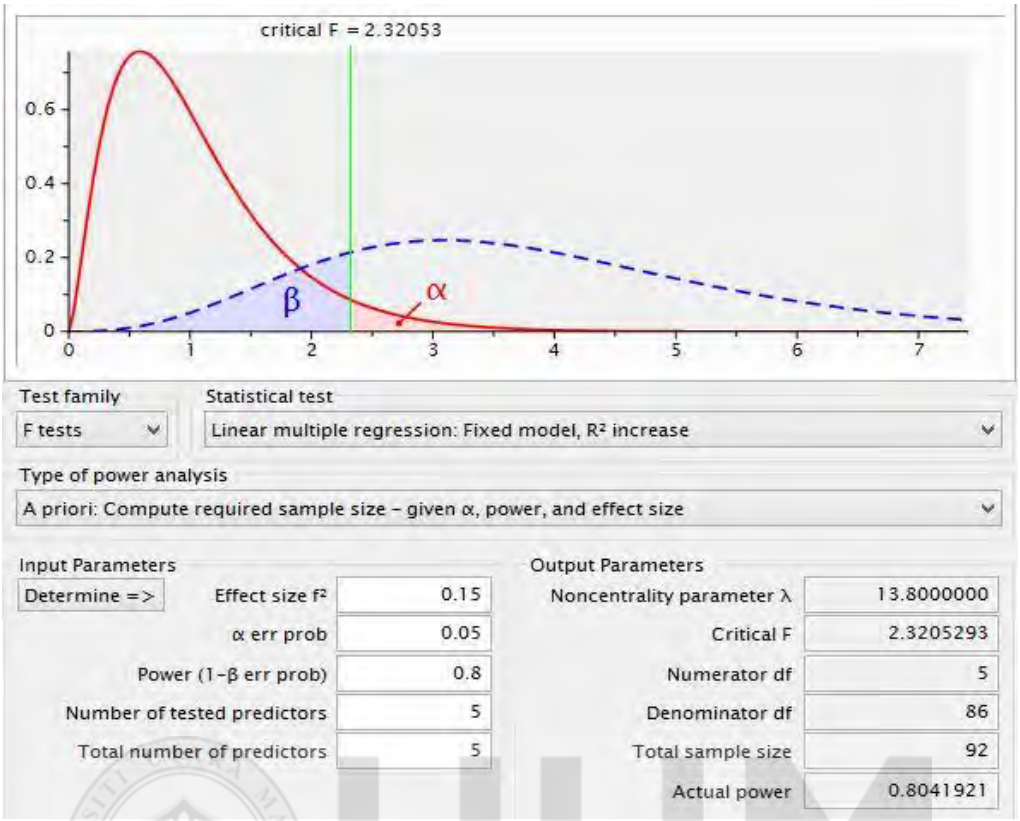

Figure 3.1
A-priori power analysis for minimum sample size estimation

Proportionate stratified random sampling design was used in the present study. According to Sekaran and Bougie (2009), probability sampling is used when representativeness is of importance in the interests of wider generalizability. In addition, proportionate random sampling is considered most efficient and is a good choice when differentiated information is desired about various strata within the population from data provided by different academic leaders' positions in the 18 public universities in peninsular Malaysia included in the study. The detailed statistics of the population frame and desired sample size is summarized in Table 3.1. To calculate the sample size from each stratum the proportionate number was calculated by dividing the total sample size required (325) by the population size (2076) and multiplying that by the academic leaders' population in each university

to arrive at the sample size in each university as in Table 3.1 right hand column (e.g. UM at 142).

From this point, the sample was randomly chosen from each university's respective proportionate sample count identified. A number of 650 (from doubling the 325 sample size calculated) and questionnaires were administered personally, which produced a 53.40 percent response rate (347/650 * 100) over a 4-month period between mid-August and mid-December of 2015. After eliminating for unusable responses, 347 returned questionnaires were accepted and coded, and were subject to further analysis. Another 14 responses were further excluded from the analysis due to excessive missing data. According to Hair et al. (2010), removing such responses is sometimes necessary because they do not represent the sample.

Table 3.1
Population Frame and Desired sample size in Malaysian Public Universities

	University	Total academic leaders (Population)	Sample Size
1	University Malaya (UM)	142	22
2	Universiti Sains Malaysia (USM)	253	40
3	Universiti Kebangsaan Malaysia (UKM)	125	20
4	Universiti Putra Malaysia (UPM)	165	26
5	University Teknologi Malaysia (UTM)	168	26
6	Universiti Utara Malaysia (UUM)	171	27
7	International Islamic University Malaysia (IIUM)	141	22
8	Universiti Pendidikan Sultan Idris (UPSI)	80	13
9	Universiti Teknologi MARA (UiTM)	263	41
10	Universiti Sultan Zainal Abidin (UniSZA)	58	9
11	Universiti Sains Islam Malaysia (USIM)	70	11
12	Universiti Malaysia Terengganu (UMT)	55	9
13	Universiti Tun Hussin Onn Malaysia (UTHM)	125	20
14	Universiti Teknikal Malaysia (Utem)	50	8
15	Univerisiti Malaysia Pahang (UMP)	61	10
16	Universiti Malaysia Perlis ((UNIMAP)	59	9
17	Universiti Malaysia Kelantan (UMK)	40	6
18	Universiti Pertahanan Nasional Malaysia (UPNM)	50	8
	Total	2076	325

Source: Individual public universities and Malim Sarjana websites (Retrieved as at August 2012) as cited by Bakar (2014)

The most important consideration to ensure an instrument is able to capture the desired data are the process of questionnaire development, the validity of the instrument, and how the questionnaire was administered (Hair *et al*., 2007). This current study used the Multifactor Leadership Questionnaire (MLQ-5X Short) (Avolio, Bass, & Jung, 1999) to measure transformational leadership, Wong and Law Emotional Intelligence Scale (WLEIS) (Wong et al., 2002) to measure emotional intelligence, and the Organizational Culture Assessment Instrument (OCAI) by Cameron & Quinn (2011) to measure organizational culture. Demographic data was also collected. Even though Mayer et al. (2002, 2004) suggested that demographic variables may influence levels of emotional

intelligence and leadership (Mayer *et al*., 2002, 2004), they were not addressed in this present study since Corona's (2010) findings showed no statistically significant differences in emotional intelligence by age, gender, educational experience, or level of professional practice. These included age, employment position, educational level, gender, and ethnicity. However, descriptive analysis was produced of the demographics especially as relate to dependent variable, transformational leadership.

Table 3.2
Contents of the Questionnaire

Section	Variable	Number of items
A	Demographic details	5 (1-5)
B	Transformational leadership	20 (6-25)
C	Emotional intelligence	16 (26-41)
D	Organizational culture	24 (42-65)

Source: Bass & Avolio (2000), Wong, C., & Law, K. (2002), Cameron & Quinn (2011)

The instruments used were designed on purpose for an individual level unit of analysis. A cover letter was put on the first page of the instrument letting the respondent know that the survey was for academic purposes and that all the answers were to be treated with strict and professional confidentiality as indicated in Appendix A. As shown in Table 3.2, Section A contained five items that collected demographic data from the respondents namely, education level, age and employment position, gender. Moreover, Section B consisted of transformational leadership 20 items. While Section C contained 16 items measuring emotional intelligence, followed by Section D, which measured organizational culture using 24 items. These added up to a manageable total number of 65 items to be completed by selected academic leaders, and took approximately 25 minutes to complete.

3.4 Measurement

3.4.1 Transformational Leadership Measurement

Transformational leadership (TL) focuses on intrinsic motivation and follower development and involves an exceptional form of influence that moves followers to accomplish more than what is usually expected of them (Bass & Riggio, 2006). The instrument used in this research to measure the dependent variable, TL is the MLQ5x. Bass and Avolio (2000) developed the MLQ5x, and as reported by them takes about 15 minutes for the respondents to answer all of its 45 questions. Only 20 transformational leadership items where adopted in this study and were scored using a 5-point Likert- scale that ranged from 1 (*not at all*) to 5 (*Frequently, if not always*). The TL measure is made up of 5 dimensions: i) a) idealized influence (behavioral), i) b) idealized influence (attributed), ii) inspirational motivation, iii) intellectual stimulation, and iv) individualized consideration (Table 3.3).

i) Idealized Influence items:

a) IIA – Attributed:

5 – I treat others as individuals rather than just as a member of the group

9 – I suggest new ways of looking at how to complete assignments

11 – I act in ways that build other's respect for me

13 – I display a sense of power and confident

b) IIB – Behavioral:

2 – I talk about my most important values and beliefs

7 – I specify the importance of having strong sense of purpose

12 – I consider the moral and ethical consequences of decision

19 – I emphasize the importance of having a collective sense of mission

ii) Inspirational Motivation items – IM:

4 – I talk optimistically about the future

6 – I talk enthusiastically about what needs to be accomplished

14 – I articulate a compelling vision of the future

20 – I express confidence that goal will be achieved

iii) Intellectual Stimulation items –IS:

1 – I re-examine the critical assumption to question whether they are appropriate

3 – I seek differing perspectives when solving problems

16 – I get others to look at problems from many different angels

18 – I suggest new ways of looking at how to complete assignments

iv) Individualized Consideration items – IC:

8 – I spend time teaching and coaching

10 – I treat others as individuals rather than just as members of the group

15 – I consider an individual as having different needs, abilities and aspirations from others

17 – I help others develop their strengths

Table 3.3
Operational Definition of Transformational Leadership Study Construct

Variable	Dimensions	Definition	Instrument	Validity & Reliability
Transformational Leadership		Transformational leadership, which is measured using MLQ5x, is defined as influencing and inspiring followers to perform beyond expectations and intellectually stimulating intellectually stimulating and giving individualized consideration to followers to transcend their own self-interest for a higher collective purpose (Bass, 1995).	MLQ5x: The Multifactor Leadership Questionnaire (Bass & Avolio, 2000)	Cronbach's alpha produced .86, (Muenjohn & Armstrong, 2008)

3.4.2 Emotional Intelligence Measurement

Emotional intelligence (EI) was measured in the current study using Wong and Law's Emotional Intelligence Scale (WLEIS) (Wong et al., 2002), which is based on the four ability dimensions described in the domain of ability EI:

(1) Self-emotion appraisal (SEA)

1. I have a good sense of why I have certain feelings most of the time
2. I have good understanding of my own emotions
3. I really understand what I feel
4. I always know whether or not I am happy

(2) Others-emotions appraisal (OEA)

1. I always know my friends' emotions

2. I am a good observer of others' emotions
3. I am sensitive to the feelings and emotions of others
4. I have good understanding of the emotions of people around me

(3) Use of emotion (UOE)

1. I always set goals for myself and then try my best to achieve them
2. I always tell myself I am a competent person
3. I am a self-motivating person
4. I would always encourage myself to try my best

(4) Regulation of emotion (ROE)

1. I am able to control my temper so that I can handle difficulties rationally
2. I am quite capable of controlling my own emotions
3. I can always calm down quickly when I am very angry
4. I have good control of my own emotions

The WLEIS was used in the current study because it offered the shortest administration time (16 items), had a clear construct structure of emotional intelligence and was effectively used by other leadership studies Amram (2009), and Kautzman (2011), and was developed for Chinese respondent, and so deemed appropriate for the current study's Malaysian respondents. The WLEIS was more practical to administer than Mayer-Salovey-Caruso Emotional Intelligence Scale (MSCEIT) by Mayer *et al*. (2002) would have been since the latter has 141 items requiring much longer time to complete even though it allowed 360-degree measurement. The WLEIS instrument used a 5-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree) (Table 3.4).

Table 3.4
Operational Definition of Study Emotional Intelligence Construct

Variable	Dimensions	Definition	Instrument	Validity & Reliability
Emotional Intelligence			WLEIS: Wong and Law Emotional Intelligence Scale (Wong & Law, 2002)	Overall Cronbach alpha .97 and the for th e 4 dimensions were SEA (.94), OEA (.92), UOE (.82), and ROE (.97) (Hur, van den Berg, & Wilderom, 2 011)
	a) Self-emotion appraisal	The ability to perceive and express emotions in oneself correctly	Items # 1, 2, 3, 4 (as per WLEIS item order)	
	b) Others emotional appraisal	The ability to perceive emotion in others	Items # 13, 14, 15, 16 (as per WLEIS item order)	
	c) Use of emotion	The ability to under stand and use emotions, emotional language, and the signals carried by emotions	Items # 9, 10, 11, 12 (as per WLEIS item order)	
	d) Regulatio n of emotion	The ability to manage emotions so as to reach precise goals such as rapid recovery from psychological distress	Items # 5, 6, 7, 8 (as per WLEIS item order)	

3.4.3 Organizational Culture Measurement

Organizational culture for the purpose of the current study was defined according to the Organizational Culture Assessment Instrument (OCAI), which has the following dimensions: clan, adhocracy, market, or hierarchy (Cameron & Quinn, 2011). This is a 4-category Typology based on two dimensions as in Figure 2.9. An internally focused flexible organization is a clan, while an internally focused stable organization is a hierarchy. At the same time, an externally focused flexible

organization is thought of as an adhocracy, and an externally focused stable organization is a market (Table 3.5).

The Organizational Culture Assessment Instrument classifies organizational culture into four types identified by the CVF: clan, adhocracy, market, and hierarchy. The OCAI was employed in the current study to find out leaders' perceptions of the culture at their universities (Cameron & Quinn, 2011). The instrument contains six dimensions each including four items each, resulting in 24 items. Each of the four items are descriptive statements which address the four quadrants of the CVF; hierarchy, market, clan and adhocracy type cultures. The instrument utilises a 5 point Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree). The number of points awarded to a specific culture type, where the higher the score the stronger or more dominant is that particular culture, and determines the strength of organizational culture, according to Cameron and Quinn (2011). Within each OC type there are six content dimensions that reflect cultural values and assumptions about the way an organization functions:

1. The *dominant characteristics* of what the overall organization is like
2. The *leadership style* and approach that pervade the organization
3. The *management of employees* or how they are treated and conditions of work environment
4. The *organizational glue* that stick the organization together
5. The *strategic emphases* that define areas of importance to drive strategy
6. The *criteria of success* to decide on victory and what deserves celebration and reward

The OCAI culture types and dimensions are:

A: Clan, B: Adhocracy, C: Hierarchy, and D: Market.

1) Dominant Characteristics

The organization is a very:

A. Personal place. It is like an extended family. People seem to share a lot of personal information and features.

B. Dynamic entrepreneurial place. People are willing to stick out their necks and take risks.

C. Results-oriented. A major concern is getting the job done. People are very competitive and achievement-oriented.

D. Controlled and structured place. Formal procedures generally govern what people do.

2) Organizational Leadership

The leadership in the organization is generally considered to exemplify:

A. Mentoring, facilitating, or nurturing.

B. Entrepreneurship, innovation, or risk taking.

C. A no-nonsense, aggressive, results-oriented focus.

D. Coordinating, organizing, or smooth-running efficiency.

3) Management of Employees

The management style in the organization is characterized by:

A. Teamwork, consensus, and participation.

B. Individual risk taking, innovation, freedom, and uniqueness.

C. Hard-driving competitiveness, high demands, and achievement.

D. Security of employment, conformity, predictability, and stability in relationships.

4) Organization Glue

The glue that holds the organization together is:

A. Loyalty and mutual trust. Commitment to this organization runs high.

B. Commitment to innovation and development. There is an emphasis on being on the cutting edge.

C. An emphasis on achievement and goal accomplishment.

D. Formal rules and policies. Maintaining a smooth-running organization is important.

5) Strategic Emphasis

The organisation emphasizes:

A. Human development. High trust, openness, and participation persist.

B. Acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.

C. Competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.

D. Permanence and stability. Efficiency, control, and smooth operations are important.

6) Success Criteria

The organisation defines success on the basis of:

A. The development of human resources, teamwork, employee commitment, and concern for people.

B. Having the most unique or newest products. It is a product leader and innovator.

C. Winning in the marketplace and outpacing the competition.

Competitive market leadership is key.

D. Efficiency. Dependable delivery, smooth scheduling, and low-cost production are critical.

Table 3.5
Operational Definition of Organizational Culture Study Construct

Variable	Dimensions	Definition	Instrument	Validity & Reliability
Organizational Culture		OC is an enduring and implicit set of values, beliefs, and assumptions that characterize organizations and their members and its 4 types of categories: Hierarchy, Clan, Adhocracy , and Market are measured for dominance using the OCAI Cameron & Quinn, 2006)	OCAI: Organizational Culture Assessment Instrument (Cameron & Quinn, 2011)	Reliability ranged from .76 to .80 for Cronbach's alpha coefficients (Cameron & Quinn , 2011)

3.5 Validity and Reliability

In the following section, the three instruments' prior validity and reliability were discussed before actually confirming them in the next stage of the research.

3.5.1 Transformational Leadership

The MLQ5x has a robust concept validity, confirmed by correlations carried out with personality tests (Ashkanasy & Daus, 2005). MLQ5x Cronbach's alpha internal consistency coefficient ranged from .63 to .92 (Bass & Avolio, 2000). Due to the relatively high inter-correlations among the subscales in transformational leadership, some authors have combined them and considered transformational leadership as one 20-item scale instead of 5 separate 4-item scales (Atwater & Yammarino, 1992; Dubinsky, Yammarino, & Jolson, 1995). The average inter-

correlation was r = .83, and it was r = .71 for the 5 transformational leadership scales with ratings of contingent reward leadership.

A more recent study found MLQ's Cronbach alpha to be .86 (Muenjohn & Armstrong, 2008). The study examined construct validity using confirmatory factor analysis performed with AMOS Modification Indices (MI) and provided by AMOS (Analysis of Moment Structures: Arbuckle, & Wothke, 1999) which suggested that the fit of the tested models could be improved by correlating selected parameters within the models. This process improved the model, which progressed from a one-factor model to a 9-factor model. The overall chi-square of the nine factor model was statistically significant (x^2 = 540.18; df = 474; $p < .01$), the ratio of the chi-square to the degrees of freedom (x^2/df) was 1.14, the root mean square error of approximation was 0.03, the goodness of fit index was .84, and the adjusted goodness of fit index was .78. Therefore, by considering all the fit indices, the 9-factor model could be regarded as a "reasonable fit" to the data in the study (Muenjohn & Armstrong, 2008).

3.5.2 Emotional Intelligence

The instrument used in the current study to measure emotional intelligence was Wong and Law Emotional Intelligence Scale (WLEIS), which was based on four dimensions similar to the four subscales used in the Mayer-Salovey (1997) model and was first developed by surveying 189 students in Hong Kong. The authors conducted several validation studies and included different samples. One study examined a different sample of 72 and 146 students and showed good validity properties. In another validation study, the authors sampled 110 undergraduate business students and 116 employees from a Hong Kong university and the study

again revealed convergent, discriminate and incremental validity (Wong & Law, 2002). In further studies, Law, *et al*. (2004) sampled a composite 634 undergraduate students and 889 response sets from students and parents and factory workers and their supervisors to establish predictive and construct validity of the WLEIS tool. They found moderate predictive validity of peer rating of EI as a predictor of individual task performance and of an individual's interpersonal facilitation and job description with beta values of .42 and .50, respectively. They found moderate construct validity of the WLEIS instrument as measured by correlations between self-ratings and observer-ratings on WLEIS, which had reliability coefficients that ranged from .28 to .38.

Internal consistency reliability for each of the four factors of the WLEIS in Wong and Law's (2002) original sample ranged from .83-.90. The four factors of EI showed mild correlations (from r = .13 to -.42) suggesting that while not identical factors they are related dimensions of emotional intelligence. Hur, van den Berg, and Wilderom (2011) found that WLEIS's overall Cronbach's alpha of emotional intelligence was .97 and the alphas for the four dimensions were SEA (.94), OEA (.92), UOE (.82), and ROE (.97), which were similar to the reliability reported by Wong and Law (2002).

3.5.3 Organizational Culture

Cameron *et al*. (2011) Organizational Culture Assessment Instrument (OCAI) is a validated and extensively used measure of organizational culture (Cameron *et al*., 2011; Fralinger & Olson, 2007; Hartnell, Ou, & Kinicki, 2011; Kalliath, Bluedorn, & Gillespie, 1999; Obenchain, Johnson, & Dion, 2004; Schein, 2004). Cameron and Freeman (1991) reported the validity of OCAI instrument after surveying 334

HEIs for effectiveness and identifying them by the type of decision-making, structure, and strategy employed. Their findings revealed validity of the instrument since it was consistent with the values and attributes distinctive of each culture type in the OCAI (Cameron *et al*., 2011). Quinn and Spreitzer (1991) conducted a study in which they surveyed 796 executives rated organizational culture by using OCAI and the Cronbach alpha results were above .70 for all four culture types. Many other studies cited reliabilities of consistent pattern, which shows satisfactory proof about the confidence of OCAI's reliability.

3.6 Pilot Test

Pilot testing refers to a trial run of a particular instrument on a small scale. At first, it would be necessary to carry out a pilot test on the questionnaire to make sure the instruments are good and the respondents do in fact understand the items. Thus, to find out the reliability of the instruments, pilot testing took place on all questionnaire items. Reliability refers to how well an experiment or any measuring method obtains the same results on repeated trials. The pilot study was conducted using the proportionate stratified random sampling design, which is also used in the data collection in the present study but the pilot sample was only 30 university academic leaders from Universiti Utara Malaysia and University Malaysia Perlis. The results of the pilot study showed acceptable internal reliability values for the variables: EI, OC, and TL. One of the prevalent standards for selection of the instruments was based on internal consistency of the scales by using Cronbach's alpha reliability coefficients (Zikmund, Babin, Carr, & Griffin, 2010). The reliability confirmed that the questionnaires were reliable as recommended by

Nunnally (1978) with resulting coefficient Cronbach's alpha values of 0.70 as a minimum point of reliability (Sekaran & Bougie, 2010) as shown in Table 3.6.

Table 3.6
Reliability of Constructs for Pilot Test (n = 30)

Variables	Number of items	Cronbach's Alpha
Emotional Intelligence (EI)	16	0.86
Self-emotional appraisal (SEA)	4	0.70
Others emotion appraisal (OEA)	4	0.88
Use of emotion (UOE)	4	0.82
Regulation of emotion (ROE)	4	0.88
Transformational leadership (TL)	20	0.88
Organizational culture (OC)	24	0.95

3.7 Data Collection Procedures

Data was collected from all leaders at Malaysian public universities using questionnaires with minimum interference (Sekaran *et al*., 2010). The sampling design used in the present study was proportionate stratified random sampling with self-administered questionnaire survey dropped off in person and respondents were given reasonable time to complete the questionnaires before follow up (Sekaran et al., 2010).

Self-administered questionnaires were the preferred survey method even though it proved costly compared to, for instance, postal or online surveys. The preference was made based on the researcher's increased chance of collecting entire completed questionnaires within reasonable period. In addition, the researcher was able to give extra clarification on items that needed explanation to the respondents. Further, the researcher was able to make a point to appeal to the very busy respondents to take part in the survey and grant their sincere inputs (Sekaran & Bougie, 2010) for its

greater good and scholarly purpose. The normal response rate in Malaysia is between 15 to 25 percent (Othman, Abdul-Ghani, & Arshad, 2001) depending on method used. However, a study by Romle and Shamsudin (2006) from HEIs got nearly a 70 percent response rate. Babbie (2013) recommend was followed for including an introductory letter in the first page of the survey questionnaire which could prevent unnecessary work and delay. Detailed contact phone and email address of the researcher was included with the questionnaires for further clarification or inquiries concerning the research.

3.8 Data Analysis Techniques and Tools

In this research data was analyzed using the SPSS (Statistical Package for Social Sciences) version 2.0 and SmartPLS 3 (Partial Least Squares-Structural Equation Modeling) for windows and these are respected and commonly applied statistical software packages by the research community worldwide.

SmartPLS was used in the current study because PLS had the advantage of estimating construct relationships (structural model) and relationships between indicators and their corresponding latent constructs (measurement model) at the same time (Chin, Marcolin, & Newsted, 2003). Secondly, if research was prediction-oriented or an extension of an existing theory, PLS path modelling should be employed (Hair, et. al., 2010). Accordingly, the current study was a correlational study where prediction was reasoned more vital than parameter estimation, i.e., EI dimensions predicted TL and OC was examined as a moderator on the relationship (Hair et al., 2010 & 2014; Henseler, Ringle, & Sinkovics, 2009; Hulland, 1999).

Thirdly, additional improvements made to SmartPLS in recent years have contributed to the wide spread use of it lately (Hair, Ringle, & Sarstedt, 2014; Hair, Sarstedt, Ringle, & Mena, 2012). PLS has the confirmed ability in analysing data under the conditions of non-normality and in testing moderating effects. It was, therefore, reckoned sensibly cautious to use PLS since in a later stage of the study, EI dimensions displayed less than ideal normality graphs (Appendix B).

Fourthly, SmartPLS strength at examining complex models was exploited since the current study was considered complex with more than 10 dimensions (13 dimensions including second order), there were over 50 items (57 items), and the examination of OC as a moderator between four EI dimensions with TL (Chin, 2010, and Hair, et. al., 2010). Consequently, using PLS was advantageous owing to the fact that larger models with 50 or more items tend to run into difficulties using CBSEM. Difficulties include the algorithmic nature that calls for the inverting of matrices, an increased chance of poor model fit, and memory limitations of most current computers that result in long run time if not at all (Chin, 2010).

Fifthly, in PLS modeling first and second order constructs are easily accomplished and latent variable scores obtained, which are essential for predictive relevance when building higher-order constructs (Chin, 2010). On the other hand, with CB-SEM this process can prove difficult and typically uncertain.

Finally, while choosing among the strengths and weaknesses of SPSS and SmartPLS in different research requirements, neither of these techniques was found superior to the other and so neither of them is appropriate for all situations (Hair et

al., 2014) or mutually exclusive and thus both have been employed in the current study as considered suitable.

The first step in data analysis was started by analyzing survey responses and respondents' profiles. This was followed by data screening which involved dealing with issues such as response bias, missing data, outliers (Mahalanobis distance), normality, linearity, and multicollinearity using SPSS version 2.0. Next, the measurement model was evaluated using individual item reliabilities, internal consistency reliabilities, convergent validity and discriminant validity which were calculated using SmartPLS 3 (Hair et al., 2014). Finally, bootstrapping was used to assess the path coefficients' significance. The minimum number of bootstrap samples must be at least larger than the number of valid observations in the original data set were used, namely 500, and the number of cases were equal to the number of observations in the original sample, namely 333 (Garson, 2016; Hair et al., 2014 p132). After that, the relationships results were analysed using critical t-values for a 1-tailed test of 1.65 at a level of significance of 0.10, 1.96 at a level of significance of 0.05, and 2.58 at a level of significance of 0.01, as recommended by Hair et al. (2014).

A non-response bias serves to examine the similarities of respondents characteristics and total population (Chang & Lee, 2007) and to make sure the assignment of the respondents who respond (Yousef, 2001). Sometimes, it appears that early respondents' characteristics are different from non-responders. To overcome this problem, Armstrong and Overton (1977) suggested classifying the

respondents into 2 periods; early (within the designated 4 weeks period) and late respondents.

Lastly, an issue that has plagued previous similar research examining EI and TL relationship was common method variance (CMV) (Barbuto & Burbach, 2006; Clarke 2010; Hebert, 2010) and so discussed below and addressed accordingly and as early as possible in the study. CMV was defined as "Variance that is attributable to the measurement method rather than to the construct of interest" (Bagozzi and Yi, & Phillips, 1991, p. 426), "an exaggeration and oversimplification of the true state of affairs." (Spector, 2006, p. 230). The difference between CMV and CMB is that CMV suggests that difference in scores is most likely due to the influence of the methods; CMB refers to the degree of expansion of results because of the effect of the methods. However, a substantial outcome of CMV may not cause problems if the bias in the relationships among measures is small. Therefore, the issue that researchers must watch out for is not that CMV causes large variance in scores, but if CMB is big (Williams, L. J., & Brown, B. K., 1994; Podsakoff et al., 2003).

An important first step to minimize common method variance (CMV) was recommended by Podsakoff et al. (2003) to carry out studies with multi-rater scales, i.e. by obtaining independent and dependent measures from separate sources – In most cases, however, this can prove to be very difficult, and so other available recommendations were:

1) Procedural techniques:
    a. The feasible procedural ones are by using different media (computer based vs. paper and pencil vs face-to-face interviews)

b. Locations (different rooms or sites) for the measurement of the predictor and criterion variables
c. Protecting anonymity and reducing evaluation apprehension (allow respondents' answers to be anonymous and assure respondents that there is no right or wrong answer and that they should answer as honestly as possible (Podsakoff et al., 2003).

2) Statistical techniques: (some statistical strategies are promising, all have significant drawbacks and some have shown poor empirical results (Conway & Lance, 2010):
   a. Single-method-factor approaches
   b. Harman's single factor test (using exploratory factor analysis (EFA) or confirmatory factor analysis (CFA))
   c. Correlated/CFA marker variable technique correlational marker technique (Williams, 2010)

In the current study, procedural remedies to minimize CMV were used, namely, by protecting anonymity of respondents and reducing evaluation apprehension and improved understanding of items. As for a statistical remedy, Harman's single factor test was used, thereby lessening common method variance and CMB as per recommendations by Podsakoff, MacKenzie, & Podsakoff (2003).

3.9 Chapter Summary

In this chapter, the research methodology used in the current study was charted in order to facilitate the study of variable relationships presented in the current study's conceptual framework, i.e. the relationship between emotional intelligence and transformational leadership practices and organizational culture. The chapter

specified the research design, and explained the instruments used based on relevant literature, it discussed the population and sample, variables (independent, moderating, and dependent) and measures, data collection and analysis techniques were discussed followed by this summary which recapped the chapter. Next, discussion of the findings and data analysis was presented.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.1 Introduction

This chapter puts forward the results of data analysed using PLS path modelling. Discussion of the data analysis and findings starts with data collection and treatment followed by coverage of non-response bias and data cleaning concerns such as missing values and outliers. Descriptive and inferential statistical results were acquired by means of SPSS (Statistical Package for Social Sciences) version 2.0 and SmartPLS 3 (Partial Least Squares-Structural Equation Modeling) software. Afterward, results of evaluating the measurement and structural models were reported. This included construct, convergent and discriminant validity, reliability analysis, predictive relevance of the model, and effect size. Finally, the results of the hypothesis testing procedures were reported, based on the direct relationship between emotional intelligence dimensions and transformational leadership variables followed by the moderating effect of organizational culture on the relationships.

4.2 Preparing the Data

Data screening and editing was done prior to the examination of the basic descriptive statistics and frequency distributions of the data. This, in turn, enabled the detection of values that were out of range or improperly coded as recommended by Hair *et al*. (2010). In the following section, the checking and treatment of missing data and outliers were discussed as part of measurement error reduction methods.

4.2.1 Missing Data

To deal with the important issue of missing data, the researcher took precautionary measures during the data collection phase to lessen the chances of missing data. This was done immediately at the time of receipt of questionnaires, the researcher and his assistant quickly checked to ensure that every question was answered and if not, respondents were right away asked to complete the missed items. If missed data exceeded four items and respondents were unavailable to fill them out, then the questionnaires were removed, however, this occurred for not more than 12 occasions. The effect of missing data can be decreased by checking for errors in all the variables that fell outside the range at the time of data collection. After sorting through and numbering methodically, the questionnaires, which were distributed in person, that had missing answers, were dropped as observed by Tabachnick and Fidell (2007) especially that there were sufficient samples for a complete analysis. Besides the few incidents of missing data found, there were a negligible number of missing data recorded in the rest of the study. Tabachnick and Fidell (2007) suggested that mean substitution would be the easiest way for replacing missing values if the total percentage of missing data was 5% or less. Therefore, out of every collected questionnaire that had four or less items missing (5% of 65 items), the substitution mean was input in place of the missing data using the designated SPSS function. This was followed by ensuring that the data was "clean" by using frequency descriptive statistics, which confirmed there were no further missing data.

An important issue that must not be overlooked in quantitative research is measurement error. Measurement error is the difference between the true value of

a variable and the value obtained by a measurement. There are many sources of measurement error, including poorly worded questions on a survey, misunderstanding of the scaling approach, and incorrect application of a statistical method. Some errors have random source (e.g. respondent's mood), which threatens reliability, or a systematic source (e.g. loud traffic), which threatens validity. In the current study a number of steps were taken to reduce measurement errors. This included a pilot test of the instruments which was conducted earlier on to get feedback regarding ease of the measure and testing environment. The second way used in the current study to reduce measurement error was being available to explain the questionnaires to respondents as much as practically possible. A third way was to double-check the data thoroughly after collection and during data entry for analysis. Lastly, SPSS missing data feature was used to verify any overlooked data that was missing (Trochim, 2001). In PLS measurement error effect can be reduced by accepting latent variables that explained a substantial part of each indicator's variance, usually 50%. In the present study this was confirmed by ensuring that all indicators' outer loadings were above 0.708, which resulted in this number squared equaling 0.50 or 50% (Tables 4.11, 4.12, and 4.13).

4.3 Analysis of Survey Response

The next section explores the demographic profiles of respondents, response rate, checking for the existence of any non-response bias, outliers, normality, multicollinearity, homoscedasticity, common method variance, and descriptive analysis of data using SPSS and Microsoft Excel software.

4.3.1 Demographic Profile of the Respondents

According to the Malaysian Department of Higher Education (Jabatan Pendidikan Tinggi, 2011; Bakar, 2014) there were 2076 academic leaders in the 18 public universities in peninsular Malaysia, which constituted the population frame of the current study. The sampling design chosen for the current study was the proportionate stratified random sampling and the sample size as per Kriejcie and Morgan (1970) formula for sample size determination produced a minimum sample size of 325 academic leaders.

During the data collection phase, it was necessary to make follow up phone calls and visits in person to the particularly very busy academic leaders. In addition, research assistants were valuable especially in the retrieval of questionnaires distributed to part of the sample as well as in the follow up stage and phone calls. A sufficient response rate is suitable for a survey if it falls between five to ten times the number of study variables for regression analysis to be carried out as per Hair *et al.* (2010). Moreover, since the current study's variables were six; a sample size between 30 and 60 would have been considered adequate for data analysis. However, there were 333 useable responses, which were considered satisfactory for conducting multiple regression analysis. Accordingly, SPSS version 2.0 and SmartPLS 3 for windows were used to analyze the data obtained.

Table 4.1
Demographic Profile

Demographic Variable	Category	Frequency	Percent
Education	Doctorate	282	84.7
	Masters and others	51	15.3
Gender	Female	126	37.8
	Male	207	62.2
Age group	Under 40	104	31.2
	Over 40	229	68.8
Ethnicity	Malay	304	91.3
	Chinese	11	3.3
	Indian	13	3.9
	Other	5	1.5
Position	Dean	30	9.0
	Deputy Dean	46	13.8
	Head of Department	241	72.4
	Director	10	3.0
	Assistant Director	6	1.8

The demographic profile of respondents is shown in Table 4.1, which included demographics collected, namely, gender, position, ethnicity, age, and educational qualification. The sample indicated that male respondents represented a majority of the percentage of total sample (62.2%) when compared to the female respondents (37.8%). The majority of the respondents possessed PhD degrees (84.7%), while 15.3% had a Master degree and other educational qualifications. The majority of the respondents (68.8%) were over 40 years of age and were of Malay ethnicity (91.3%).

4.3.2 Non-Response Bias

Non-response bias takes place as soon as answers of responders vary from possible responses of people who have not responded yet (Mittal, 2015). To measure if this

was an issue in the study, comparison of responses of an early and a late group of responders was tested as suggested by Armstrong and Overton (1977). According to Pearl and Fairly (1985), there is always a possibility of bias, which needs to be investigated even with a very small non-response. In order to address non-response bias and minimize error in sampling as suggested by Hair, Wolfinbarger and Ortinal (2008), the sample size was doubled to 650 questionnaires for distribution to academic leaders in all 18 public universities. At this point, there were 333 useable responses ready to test for non-response bias.

Table 4.2
T-test of Non-Response Bias

Measure	Timeline		T-value	P-value	Effect Size (Cohen's d)
	Early respondents mean (n=116)	Late respondents mean (n=217)			
Self-emotion appraisal	4.20	4.22	-0.25	.80	0.000
Others emotional appraisal	3.80	3.89	1.12	.14	0.004
Use of emotion	4.16	4.29	1.84	.07	0.010
Regulation of emotion	4.01	4.03	0.19	.85	0.000
Transformational Leadership	3.99	4.10	2.06	.63	0.013
Organizational Culture	3.55	3.65	1.28	.41	0.005

Table 4.3
Cohen's d Effect Size Statistic

Size	Eta squared (% of variance explained)	Cohen's d (standard deviation units)
Small	.01 or 1%	0.20
Medium	.06 or 6%	0.50
Large	.138 or 13.8%	0.80

Early respondents were classified as ones received within the first four weeks, as recommended by Armstrong and Overton (1977), of the survey while the second group were ones any time after that until the end of the data collection period. There were 116 early respondents, which represented respondents to the early batch of questionnaires administered. Next, there was the second group of respondents, which constituted 217 late respondents. (Lindner, Murphy, & Briers, 2001; Oppenheim, 1966). The t-test analysis in SPSS was used to compare all variables between early and late respondent results as suggested by Chang and Lee (2007).

An independent samples t-test was conducted to compare the emotional intelligence dimensions, transformational leadership and organizational culture variables. No significant difference between early and late responders were found from the t-test results as shown in Table 4.2 with all p values above .05 (Pallant, 2013). Therefore, it may be certain that the sample collected is definitely representative without non-response bias in the population. The magnitude of the difference in the means, often reported as the effect size statistic, were considered to have no effect since they were below the 0.20 cut-off classification as per Cohen's d (1988) guideline in Table 4.3.

4.3.3 Outliers

Outliers are defined as extreme values within the interval or ratio data (Hair, 2008) and those cases whose scores are significantly dissimilar from all the others in a given set of data (Byrne, 2010). A frequently employed technique for detecting outliers is the Mahalanobis distance (Hair et al., 2010) which measures the interval between observations from the mean. Tabachnick and Fidell (2007) suggest that outliers are any cases exceeding a critical chi-squared value listed using the number

of items and sample size, in this case sample size for chi-squared was 333 and the probability Q level of .001 was used to identify cut off chi-squared value. Mahalanobis output from SPSS using all of the research's 60 items produced a range between 9.33 and 161.9, with none of the cases exceeding the identified critical chi-square value of 418.5. As all values were below the cut off as per Tabachnick and Fidell (2007), therefore this confirmed the non-existence of outlier observations as shown in Appendix B.

4.3.4 Normality

Normality is used to describe a symmetrical, bell-shaped curve to check how proportioned scores are (Pallant, 2013). Lack of normality is less severe with PLS, but should still be examined when distributions deviate substantially from normal (Hair et al., 2014). As follows, normality was checked and confirmed by employing numerical and graphical methods.

Tests for normality of the dependent variable, transformational leadership (TL) as illustrated in the plotted histogram, Q-Q plots, and detrended Q-Q plots are shown in Figure 4.1, Figure 4.2 and Figure 4.3. The Q-Q plot was very close to a straight line as well as the histogram was a bell shape (Figure 4.1). The de-trended normal Q-Q graphical approach also established normality as per Pallant (2007), the graph showed no gathering of points, with the majority accumulating near the zero (Figure 4.2). This graphical process was run for all other study variables and dimensions as illustrated in Appendix B.

Another way to check for normality is by skewness and Kurtosis values. Absolute skewness and kurtosis values were inspected and skewness was acceptable within

the tolerable range of ±1 and ±2 as per Garson (2012). High skewness or kurtosis data can inflate the bootstrapped standard error estimates, which consequently, underestimate the statistical significance of the path coefficients (Hair, 2014). Further, according to Garison (2012), if kurtosis standardized values were greater than 2.96, it is indicative of highly non-normal data and data is not considered normal. In the case of all study constructs (Table 4.4), Kurtosis values were below the cut off except for indicators (Appendix B) SEA2 at 4.51 and ROE2 at 4.04 but were still not considered as serious departures from acceptable ranges of ±7 as per Curran, West and Finch (1996). Generally speaking, however, although normality can be tested by evaluating skewness and kurtosis values, these tests proved too sensitive when large samples (200+ cases) were involved, according to Tabachnick and Fidell (2007) who suggest checking distribution shapes such as the histogram, instead.

Table 4.4
Construct Skewness and Kurtosis Statistics (n=333)
Std. error of skewness: .134
Std. error of kurtosis: .266

	Min.	Max.	Mean	Std. Deviation	Skewness	Kurtosis
Transformational Leadership (TL)	1	5	4.06	.45	-.39	-.09
Self Emotion Appraisal (SEA)	1	5	4.21	.56	-.53	.77
Others Emotion Appraisal (OEA)	1	5	3.86	.68	-.66	2.22
Use of Emotion (UOE)	1	5	4.25	.56	-.40	-.03
Regulation of Emotion (ROE)	1	5	4.02	.69	-.89	1.98
Organizational Culture (OC)	1	5	3.61	.67	-.60	.48

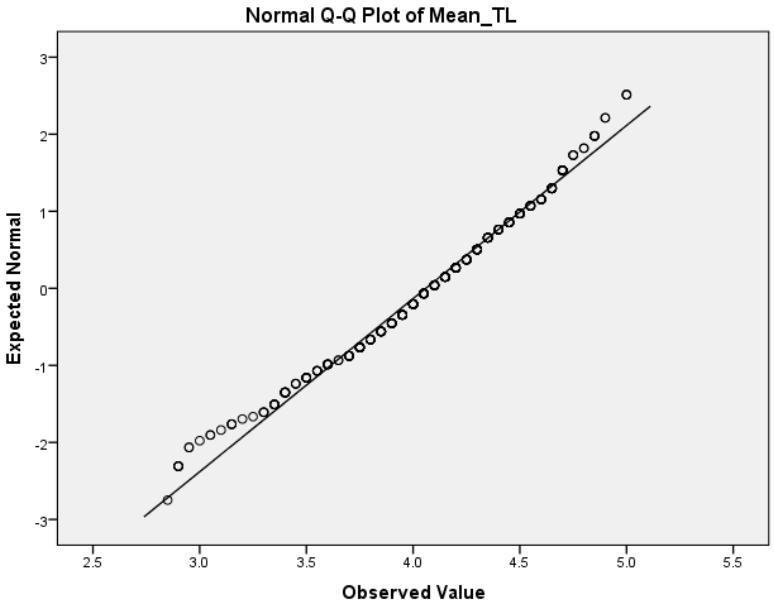

Figure 4.1
Normality Testing Using Q-Q Plot

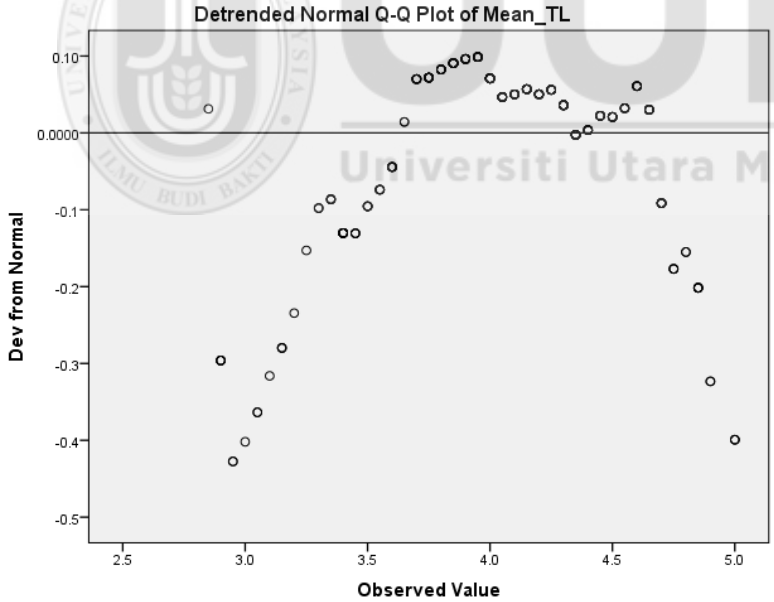

Figure 4.2
Normality Testing Using De-trended Normal Q-Q Plot

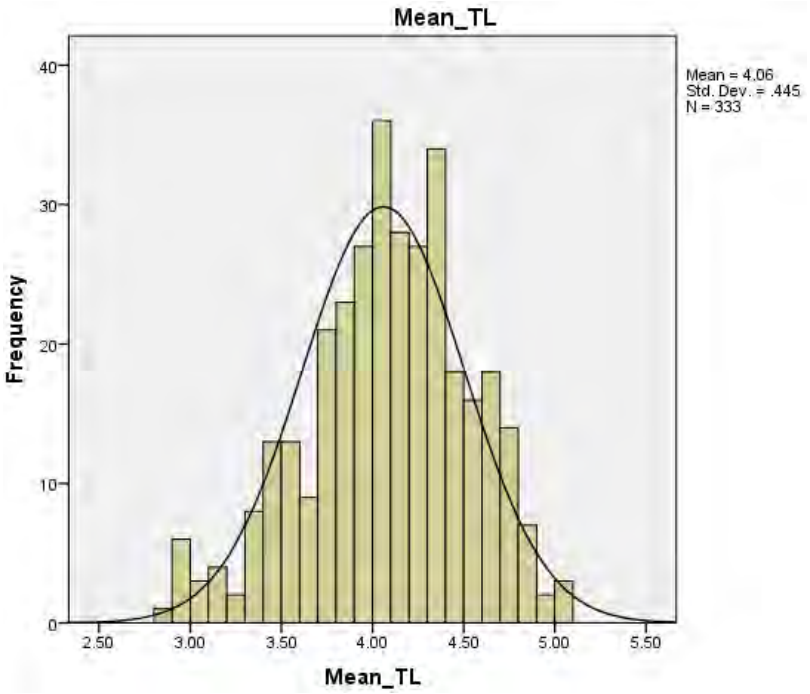

Figure 4.3
Histogram and Normal Probability Plots

4.3.5 Multicollinearity

Multicollinearity is detected when independent variables are highly correlated (Hair et al, 2014). It can be discovered by checking the correlation matrix of the independent variables. Problems typically arise when the independent variables are correlated at a level of .70 or higher (Pallant, 2013). In the current study, multicollinearity was checked by carrying out a Pearson's correlation. This correlation revealed (Appendix B) no multicollinearity problems, and showed that the highest correlation of .60 was between SEAT (self-emotion appraisal) and ROET (regulation of emotions), still less than the .70 cut-off; therefore, all variables were retained (Table 4.5 and Table 4.6). Additionally, as displayed in Table 4.6, VIF (variance-inflated factor) was below 5, and tolerance values above

.20, which according to Hair et al. (2014) confirmed that multicollinearity issues were not present (Appendix B).

Table 4.5
Pearson's Correlation Coefficients Matrix

	SEA	OEA	UOE	ROE	TL	OC
SEA	1					
OEA	.598	1				
UOE	.529	.334	1			
ROE	.403	.374	.481	1		
TL	.384	.304	.496	.316	1	
OC	.241	.237	.245	.263	.266	1

Table 4.6
Collinearity Statistic

Constructs	Tolerance level	VIF
Self-emotion appraisal (SEA)	.55	1.836
Others emotion appraisal (OEA)	.79	1.271
Use of emotion (UOE)	.662	1.510
Regulating of emotion (R0E)	.584	1.711
Organizational Culture (OC)	.895	1.117

4.3.6 Homoscedasticity

Homoscedasticity, normality, independence of error, and linearity are issues that should be addressed for each application of a multivariate technique and application of regression analysis (Hair et al., 2014). The variability in scores for each of the variables should be similar at all values of the dependent variable. This can be done by checking the scatterplot and is confirmed if they show fairly even cigar shape along its length. The assumption of homoscedasticity was assessed

using regression in SPSS. An examination of residual plots for all the independent variables also showed that the assumption of homoscedasticity was not violated as in the scatter plots in Appendix B.

4.3.7 Common Method Variance Test

The present study adopted several procedural remedies to minimize the effects of common method variance (CMV) (Podsakoff, MacKenzie, & Podsakoff, 2003; MacKenzie, & Podsakoff, 2012). This was done, firstly, by protecting anonymity of respondents and reducing evaluation apprehension. Respondents were assured that there were no right or wrong answers and that they should answer as honestly as possible and that their answers would remain confidential. Secondly, improved understanding of items and reduced method biases were achieved by being available to explain questionnaire items further to overcome any vagueness in the study items and by providing examples, when asked and further clarifications when necessary.

The most common statistical remedy (Craighead, Ketchen, Dunn, & Hult, 2011) and used in the current study to overcome CMV was Harman's single factor test proposed by Podsakoff and Organ (1986). In this procedure, all variables were subjected to factor analysis using principal component analysis and results checked for either a single factor that emerged, or one general factor that accounted for most of the covariance in the predictor and criterion variables. Results of the analysis produced thirteen factors, explaining a cumulative of 64.9% of the variance; with the first (largest) factor explaining 23.2% of the total variance, which is below the 50%, as recommended by MacKenzie et al. (2012). Therefore, these results (Appendix B) provided strong indication that no single factor accounted for the

majority of covariance in the predictor and criterion variables (MacKenzieet al., 2012). Hence, this safeguarded against common method bias and thus not a major concern and threat that could potentially inflate relationships between variables measured.

4.3.8 Descriptive Analysis

Descriptive analysis of the sample and variables was provided to describe and summarize the main characteristics of the data set and variables from the respondents' perspective. Respondents profile was described in section 4.2.1; however, this section will focus on the variables of the study. As mentioned, all independent, moderating, and dependent variables (self-emotion appraisal, others emotional appraisal, use of emotion, regulation of emotion, organizational culture, and transformational leadership) were measured on 5-point Likert scales. Table 4.8 shows all the means of the variables quite high, ranging from 3.61 to 4.25, which suggest that self-emotion appraisal, others emotional appraisal, use of emotion, regulation of emotion, organizational culture and transformational leadership were at high levels of importance. At the same time, statistics also demonstrated standard deviation ranging from .45 to .69, which implied data variability since it was lower than 1 (Sekaran et al., 2010).

Table 4.7
Mean Scores of Transformational Leadership by Demographics

	IIA	IIB	IM	IS	IC	TL
Female	3.91	4.17	4.17	4.08	4.12	4.09
Male	3.84	4.12	4.13	4.07	4.05	4.04
Less than 30	3.69	3.88	3.31	4.00	3.38	3.65
Between 30-40	3.77	3.95	4.04	3.98	3.97	3.94
Over 40	3.91	4.22	4.20	4.11	3.97	4.08
Other	3.67	3.92	3.98	4.11	3.83	3.90
Master degree	3.87	4.04	4.11	3.85	3.83	3.94
PhD degree	3.88	4.16	4.15	4.07	3.83	4.02

Insight can be made by learning about the level of transformational leadership specifically, and the area of leadership, generally. Results in Table 4.7 showed that female respondents have higher transformational leadership than male respondents. These results were different from a study by Brandt and Laiho (2013) who found no difference between the two genders, but similar to results from many other studies (Bass, 1985b; Begum, Jan, & Khan, 2013; Jago & Vroom, 1982). Moreover, respondent over the age of 40 had higher TL than all the other age groups and leaders who had a PhD qualification showed more TL than other qualifications. Further, TL levels can be used to pinpoint specific areas of strength and weaknesses and the extent of TL development required. Transformational leadership was measured using the "not at all" as the lowest on the scale at 1 and "frequently" was rated 5. With this in mind, levels of TL refer to the frequency at which a leader felt the expressed questionnaire items fit his style of leadership. Therefore, the more frequently he/she felt a statement fit him, the higher the interpretation of a particular indicator would be as a gauge of the level of transformational leadership development need.

Table 4.8
Descriptive Statistics of Constructs (n = 333)

Construct	Number of items	Min.	Max.	Statistical Mean	Std. Deviation
Emotional intelligence (EI)	16	1	5	4.08	0.48
Self-emotion appraisal (SEA)	4	1	5	4.21	0.56
Others emotional appraisal (OEA)	4	1	5	3.86	0.68
Use of emotion (UOE)	4	2	5	4.25	0.56
Regulation of emotion (ROE)	4	1	5	4.02	0.69
Transformational leadership (TL)	20	1	5	4.06	0.45
Organizational culture (OC)	24	1	5	3.62	0.67

Still, a closer look at the statistics revealed more about transformational leadership regarding its level among the respondent academic leaders. As pointed out in the leadership study by Shamsudin (2012), the level of importance of leadership can be ranked according to the variable and items mean values. The four ranges were 2.59 and below being less important, 2.60 to 3.40 indicating moderate importance, 3.41 to 4.2 of high importance, and 4.21 and above of great importance. Table 4.9 displays transformational leadership items' means, and shows the overall mean of high importance at 4.06, with the highest indicator being IIB3 (idealized influence (behaviour) referring to the item "I consider the moral and ethical consequences of decisions") at 4.42. At the same time, the item IC2 demonstrated the lowest mean, 3.72 (individualized consideration which referred to the item "I treat others as individuals rather than just as a member of the group"), and so did the item IIA1 also at 3.72 (idealized influence (behavioural) which referred to "I instill pride in others for being associated with me") which were yet high means.

Table 4.9
Descriptive Statistics of Transformational Leadership

Item count	Item number	Actual item	Mean	Std. Deviation
1	IIA1	I instill pride in others for being associated with me	3.72	1.04
2	IIA2	I go beyond self-interest for the good of the group	4.15	0.92
3	IIA3	I act in ways that build other's respect for me	3.74	1.04
4	IIA4	I display a sense of power and confident	3.86	0.85
5	IIB1	I talk about my most important values and beliefs	3.77	0.98
6	IIB2	I specify the importance of having strong sense of purpose	4.21	0.74
7	IIB3	I consider the moral and ethical consequences of decision	4.42	0.70
8	IIB4	I emphasize the importance of having a collective sense of mission	4.16	0.74
9	IM1	I talk optimistically about the future	4.13	0.74
10	IM2	I talk enthusiastically about what needs to be accomplished	4.17	0.74
11	IM3	I articulate a compelling vision of the future	4.01	0.76
12	IM4	I express confidence that goal will be achieved	4.26	0.66
13	IS1	I re-examine the critical assumption to question whether they are appropriate	3.95	0.77
14	IS2	I seek differing perspectives when solving problems	4.02	0.80
15	IS3	I get others to look at problems from many different angels	4.14	0.74
16	IS4	I suggest new ways of looking at how to complete assignments	4.17	0.69
17	IC1	I spend time teaching and coaching	4.11	0.73
18	IC2	I treat others as individuals rather than just as a member of the group	3.72	1.09
19	IC3	I consider an individual as having different needs, abilities and aspirations from others	4.21	0.82
20	IC4	I help other to develop their strength	4.28	0.68
	TL Mean		4.06	0.445

Descriptive statistics of the data pertaining to organizational culture revealed some interesting results. The average of each group of statements plotted into Cameron

and Quinn's (2006) Competing Values Framework (CVF) diagram, to depict the current type of organizational culture. The quadrant in which scores are the highest indicates the culture type that is most dominant in Malaysian public universities Figure 4.4. The leaders viewed their current strongest organizational culture as a Clan (A) type, with the average value of 3.78, followed by Hierarchy (D) with a mean of 3.65, which was similar to findings by Ramachandran, Chong, and Ismail (2011) carried out in Malaysian universities. Meanwhile, in the present study, the two weakest culture types were found in Market (C) at 3.55 and Adhocracy (B) at 3.48.

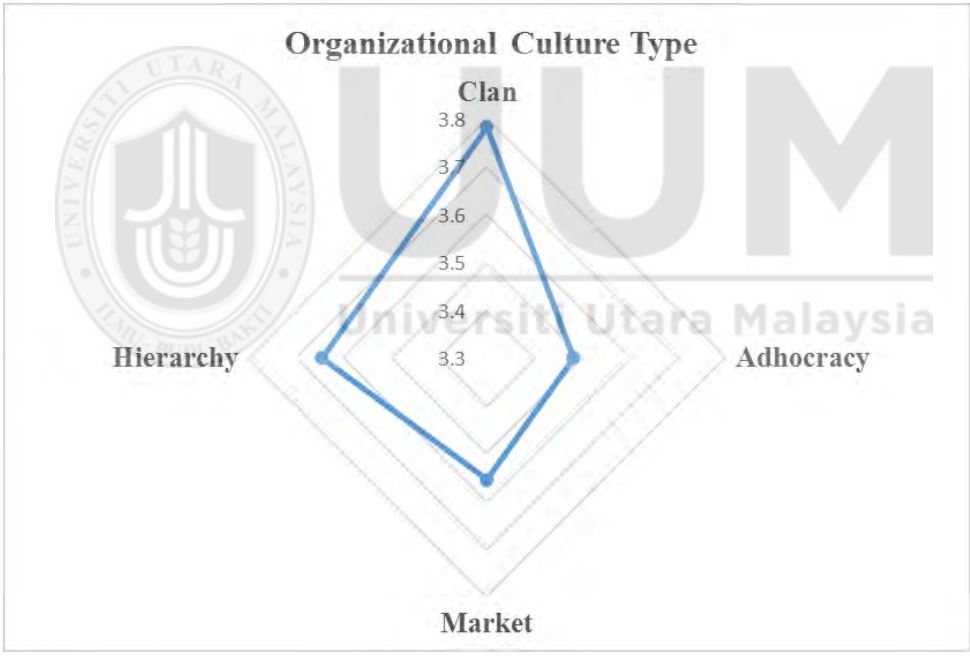

Figure 4.4
Dominant Organizational Culture Profile

By individually plotting each item under the six cultural dimensions of the OCAI, Figure 4.5 presented the results of the dominant culture type for each cultural dimension. The Market (C) type culture was most dominant in the dimension of Dominant Characteristics (3.61), and Clan (A) culture was dominant for the

remaining five dimensions of Organizational Leadership (3.81), Management of Employees (3.92), Organization Glue (3.82), Strategic Emphasis (3.76) and Criteria of Success (3.91).

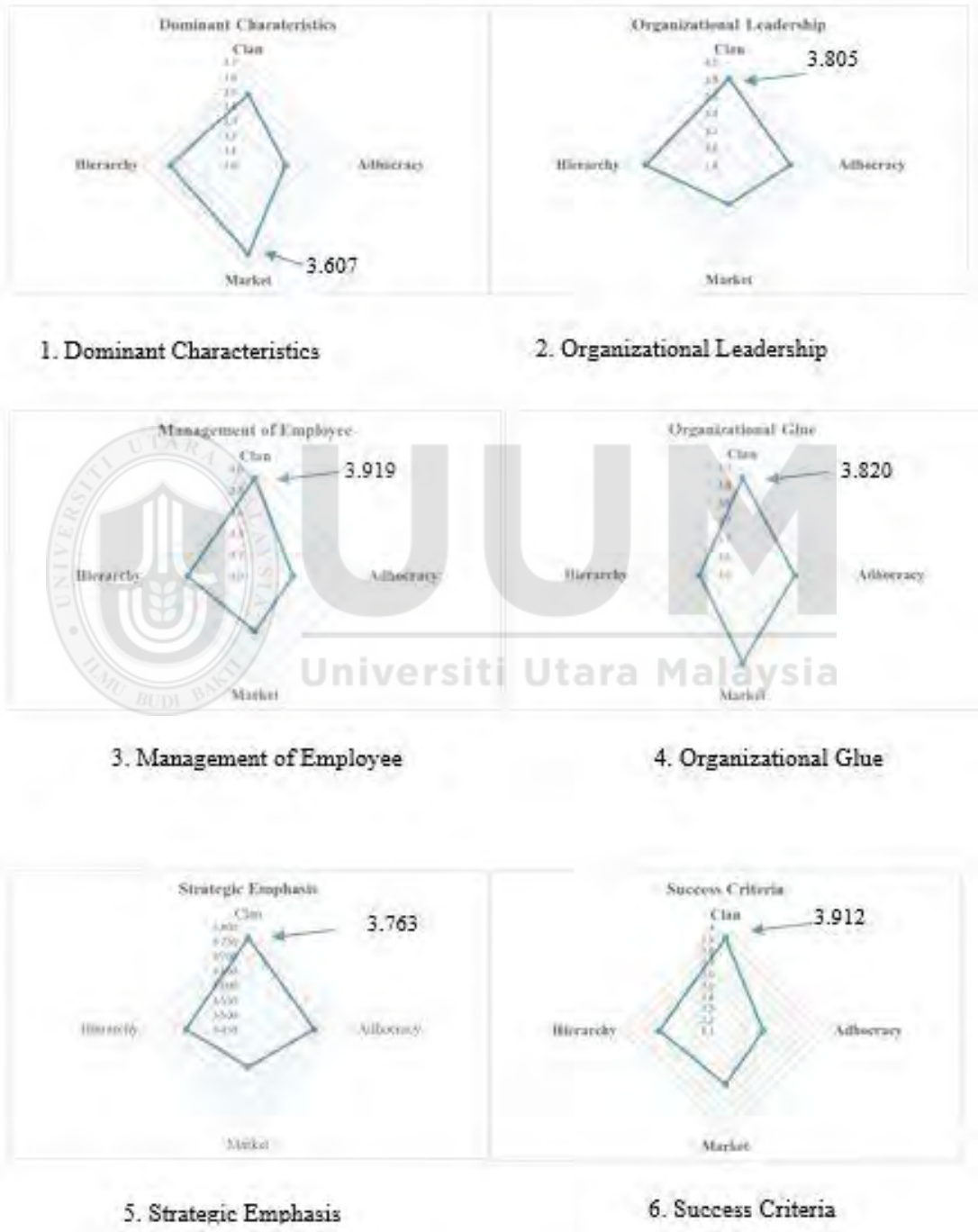

Figure 4.5
Mapping of Cultural Dimensions and Types

Generally, clan type culture was the most emphasized in the four cultural profiles. Respondents perceived that the dominant characteristics of the core values of their universities were mostly represented by the market culture (56%); this was the only dimension that was not consistent with the overall result of dominant clan culture type possessed by the majority of public universities in Malaysia. The core values of market type in this first dimension is a results-oriented organization and people who are out to get the job done. In reference to the style of organizational leadership, most universities were found to be clan oriented (71%), with leadership considered to exemplify mentoring, facilitating, or nurturing. The style of employee management had the highest percentage out of all dimensions for clan culture (77%), which is characterized by teamwork, consensus, and participation. What held universities together was a clan type culture that emphasized loyalty, mutual trust and high commitment. Further, the strategic emphasis of universities was clan type culture (68%), emphasizing human development and participation. Finally, universities ran high on clan culture type (75%) for the success criteria dimension that lied in the development of human resources, teamwork, commitment, and concern for people (Table 4.10).

Table 4.10
Dominant Cultural Types of Six Cultural Dimensions

Cultural Profiles		CLAN		ADHOCRACY		MARKET		HIERARCHY	
		N	%	N	%	N	%	n	%
1st	Dominant Characteristics DC	67	20%	25	8%	188	56%	53	16%
2nd	Organizational Leadership OL	236	71%	20	6%	22	7%	55	17%
3rd	Management of Employees ME	255	77%	13	4%	25	8%	40	12%
4th	Organizational Glue OG	224	67%	19	6%	59	18%	31	9%
5th	Strategic Emphasis SE	225	68%	43	13%	24	7%	41	12%
6th	Success Criteria SC	249	75%	12	4%	30	9%	42	13%
	Average	209	63%	22	7%	58	17%	44	13%

Grey shaded cells highlight most prevalent culture types in each cultural dimension

4.4 Evaluation of Measurement Model

At this stage of the analysis, the focus turned to the quality of the results, which was accomplished by evaluating the measurement model through two important tests, validity and reliability. Hair et al. (2014) defined a measure as reliable when it produces consistent outcomes under consistent conditions, and validity as the extent to which a construct's indicators jointly measure what they are supposed to measure. To be more specific, construct validity, convergent and discriminant validity were assessed followed by reliability analysis to arrive at satisfactory outcomes for the measurement model before proceeding to the evaluation of relationships in the structural model phase. But first, the important decision of whether the constructs were to be measured as formative or reflective had to be made.

Measurement identifies how constructs are measured using two approaches, reflective and formative measurement. The decision to choose between reflective

or formative is not straightforward and is a debated question in many disciplines and still not resolved. In a reflective construct, the model is setup with the direction of the arrows from the construct to the indicators, representing the assumption that the construct causes the indicator which must be correlated – the measures are treated as the effect. In a formative model, the arrows are setup from the indicator to the construct, representing the assumption that indicators cause the construct and so indicators are not correlated (Hair, et al., 2014). In the current study, the reflective measurement approach was applied to all constructs since all indicators for each of the constructs were correlated as shown in Appendix B. In addition, it was more appropriate for the research goal to test theories with respect to the relationships between constructs and not to identify important drivers of a construct where a formative approach would have been more suitable (Bollen, 2011; Hulland, & Richard Ivey School of Business; Hair et al., 2014).

4.4.1 The Construct Validity

Construct validity refers to the extent to which measurement items actually measure the presence of those constructs the researcher intended them to measure (Saunders et al., 2009) which was found by carrying out three key tests for content validity, convergent validity and discriminant validity as outlined by Hair *et al.* (2014).

4.4.2 Internal Consistency Reliability

Certain criteria for reliability has to be first met before establishing validity. Firstly, internal consistency reliability can be accomplished by composite reliability and/or Cronbach's alpha coefficient tests. Composite reliability is considered more suitable for PLS because it does not assume equal indicator loadings (Hair et al.,

2014). While Cronbach's alpha assumes equal indicator loadings, both tests exceeded 0.70 for all six of the study's constructs, namely, Tl, SEA, OEA, UOE, ROE, and OC. This meant that the model provided excellent reliability as shown in the summary Tables 4.11, Table 4.12, and Table 4.13.

Table 4.11
Measurement Model Results Summary: Transformational Leadership

(A) First-order construct

Constructs	Items	Standardized Loadings	AVE	Composite Reliability	Cronbach's Alpha
Idealized Influence (attribute) IIA	IIA2	.72	.52	.76	.53
	IIA3	.72			
	IIA4	.72			
Idealized Influence (behavior) IIB	IIB1	.56	.51	.81	.68
	IIB2	.81			
	IIB3	.70			
	IIB4	.76			
Inspirational Motivation IM	IM1	.66	.58	.85	.76
	IM2	.80			
	IM3	.80			
	IM4	.77			
Intellectual Stimulation IS	IS2	.67	.60	.81	.66
	IS3	.81			
	IS4	.83			
Individualized Consideration IC	IC1	.52	.52	.76	.52
	IC3	.72			
	IC4	.87			

(B) Second-order construct

Constructs	Items	Standardized Loadings	AVE	Composite Reliability	Cronbach's Alpha
Transformational Leadership	IIA	.72	.65	.91	.89
	IIB	.85			
	IM	.89			
	IS	.81			
	IC	.79			

Table 4.12
Measurement Model Results Summary: Emotional Intelligence

Constructs	Items	Standardized Loadings	AVE	Composite Reliability	Cronbach's Alpha
Self-emotion appraisal SEA	SEA1	.74	.65	.88	.82
	SEA2	.83			
	SEA3	.84			
	SEA4	.80			
Others emotional appraisal OEA	OEA1	.79	.75	.92	.89
	OEA2	.89			
	OEA3	.87			
	OEA4	.91			
Use of emotion UOE	UOE1	.81	.68	.90	.84
	UOE2	.79			
	UOE3	.86			
	UOE4	.84			
Regulation of emotion ROE	ROE1	.87	.75	.92	.89
	ROE2	.88			
	ROE3	.85			
	ROE4	.86			

Table 4.13
Measurement Model Results Summary: Organizational Culture

(A) First-order construct					
Constructs	**Items**	**Standardized Loadings**	**AVE**	**Composite Reliability**	**Cronbach's Alpha**
Clan	DC1	.40	.61	.90	.86
	ME1	.86			
	OG1	.82			
	OL1	.81			
	SC1	.84			
	SE1	.86			
Adhocracy	DC2	.59	0.56	.88	.84
	ME2	.69			
	OG2	.76			
	OL2	.80			
	SC2	.77			
	SE2	.81			
Market	DC3	.62	.53	.87	.82
	ME3	.82			
	OG3	.78			
	OL3	.58			
	SC3	.73			
	SE3	.82			
Hierarchy	DC4	.56	.57	.89	.84
	ME4	.77			
	OG4	.74			
	OL4	.78			
	SC4	.80			
	SE4	.84			
(B) Second-order construct					
Constructs	**Items**	**Standardized Loadings**	**AVE**	**Composite Reliability**	**Cronbach's Alpha**
Organizational Culture	Clan	.87	.77	.95	.94
	Adhocracy	.86			
	Market	.88			
	Hierarchy	.90			

4.4.3 Indicator reliability

Indicator reliability represents how much of the variation in an item is explained by the construct and is referred to as the variance extracted from the item and is an essential requirement in the evaluation of the measurement model. As recommended by Hair et al. (2014), the indicator's outer loadings should be higher than .708. As seen in Table 4.11, most indicators' standardized outer loadings were above .708 but some loadings included were between .40 and .70. Hulland (1999) mentioned that researchers frequently observe weaker outer loadings in social science studies but that those loadings favoured for elimination exclusively if the elimination lead to a rise in composite reliability. Further, items with small outer loadings (< .40) must be immediately removed as suggested by Hair et al. (2014). Consequently, there were three items eliminated from transformational leadership construct (IIA1, IS1, and IC2) but none from EI dimensions and organizational culture. This process resulted in 17 TL items available for further analysis, and items for EI dimensions and organizational culture were all kept at their initial item count of 16 and 24, respectively. As for average variance extracted (AVE), they were all above the suggested threshold value of .50 (Hair et al., 2014) and thus indicator reliability was established as per the suggested rule of thumb value (Table 4.11 4.12, and 4.13).

4.4.4 Convergent Validity:

Convergent Validity occurs when positive correlation of measure happens with another measure of the same variable (Hair, et. al., 2014). The average variance extracted (AVE) was again used but this time to examine convergent validity and the level of explaining a latent construct can be done by the variance of its

indicators. To establish convergent validity, AVE should be higher than .50. As shown in Table 4.11, Table 4.12, and Table 4.13, AVE values for all constructs in this research's model were above .50, and so, convergent validity was established.

4.4.5 Discriminant Validity

Discriminant validity occurs when a construct is established empirically to be distinct from other constructs (Hair et al., 2014). The first method to establish discriminant validity was the examination of the cross loadings of the items. In this case, an item's loading on a construct must be greater than all of its cross loadings with other variables. Appendix B revealed that the above criteria were met and therefore discriminant validity was established.

Table 4.14
Fornell-Larcker Criterion

	OC	**OEA**	**ROE**	**SEA**	**TL**	**UOE**
OC	0.879					
OEA	0.229	0.865				
ROE	0.260	0.370	0.867			
SEA	0.244	0.410	0.591	0.806		
TL	0.301	0.307	0.344	0.408	0.808	
UOE	0.250	0.332	0.480	0.529	0.526	0.825

A second more conservative method used to establish discriminant validity was Fornell–Larcker's criterion (Hair et al., 2014). Fornell-Larcker's criterion states that the square root of each construct's AVE should be greater than its highest correlation with any other construct. As shown in Table 4.14, Fornell-Larcker's criterion was established providing evidence for the constructs' discriminant

validity, which compares and ensures that the variables' square root is greater than all latent variable correlations.

The third method employed to evaluate discriminant validity and considered much more conservative and accurate than the Fornell-Larcker criterion or the cross-loadings methods is the heterotrait-monotrait ratio (HTMT) (Henseler, Ringle, & Sarstedt, 2014). The HTMT criterion is an estimate of each variable's correlation with one another and is considered more superior to other methods because it has a very high sensitivity rate. After running bootstrapping with SmartPLS 3, HTMT report was generated as in Table 4.15 and Table 4.16 which illustrated how discriminant validity was established for this model with the highest estimated ratio being .69 for ROET with SEAT, and between Adhocracy and Hierarchy at .89. Discriminant validity problems usually begin to occur when the estimated HTMT values are above the .85 threshold (Clark and Watson 1995; Kline 2011), or .90 (Gold, & Arvind Malhotra, Segars, 2001; Teo et al. 2008).

Table 4.15
HTMT Main Results

	SEA	ROE	UOE	OEA	OC	TL
SEA	1					
ROE	.69	1				
UOE	.63	.56	1			
OEA	.46	.42	.37	1		
OC	.31	.30	.30	.28	1	
TL	.46	.38	.59	.35	.38	1

Table 4.16
HTMT OC Dimensions Results

	SEA	ROE	UOE	OEA	CLAN	ADHOC.	MKT.	HIERA.	TL
SEA	1								
ROE	0.41	1							
UOE	0.64	0.54	1						
OEA	0.47	0.41	0.38	1					
CLAN	0.25	0.28	0.26	0.25	1				
ADHOC.	0.27	0.31	0.27	0.22	0.73	1			
MKT.	0.26	0.26	0.29	0.28	0.71	0.89	1		
HIERA.	0.25	0.25	0.22	0.24	0.86	0.74	0.87	1	
TL	0.44	0.37	0.60	0.35	0.31	0.27	0.32	0.27	1

4.5 Evaluation of the Structural Model (Inner Model) and Hypotheses Testing

Evaluating the structural model consists of assessing for collinearity issues, significance and relevance of the relationships, the level of R^2, the effect sizes f^2, and the predictive relevance Q^2 and the q^2 effect sizes (Hair et al., 2014). Assessment of collinearity issues was made in a previous section (4.3.5), which showed that the independent variables correlated at a levels below .70 and that all predictor constructs, SEA, OEA, UOE, ROE, and the interacting construct OC, had tolerance levels below .20 and VIF above 5, indicative that there were no collinearity issues as was illustrated in Table 4.7 and Pearson correlations in Appendix B.

4.5.1 Coefficient of Determination - R Squared (R^2)

The coefficient of determination - R Squared (R^2) measures dependent variable's variance in relation to the independent variable's change. While the acceptable level of R squared value depends on the research context (Hair et al., 2010), Falk and Miller (1992) suggested .10 as a minimum acceptable value, but in human

behaviour fields, it is expected that R^2 values will be low (Hair et al., 2014). Typically, researchers consider models good if they explain data with high R^2 values and at the same time have fewer exogenous constructs. As such, in the current study, as shown in Appendix B, the R^2 value for the EI dimensions as independent variables was .31 (R^2 Adjusted was .30), but was slightly higher for the model when OC was included as a moderator R^2 was .37 (R^2 Adjusted was .35) as in Figure 4.6, Figure 4.7, and Appendix B and R^2 was .40 when OC dimensions were being examined as moderators to EI dimensions (Appendix B). These were considered moderately significant (Chin, 1998) since the constructs are predominantly behavioral.

4.5.2 Size and significance of path coefficients

Path coefficients are relationships between the latent variables in a structural model. This relationship estimation was done using SmartPLS algorithm. The path coefficients have standardized values between -1 and +1 with coefficients closer to zero considered weakest. SmartPLS algorithm results in Table 4.20 showed path coefficients and the relative importance of the different exogenous driver constructs in relation to transformational leadership (TL). Clearly, the most important construct in the relationship was use of emotion (UOE), with a path coefficient value of .41 having the most bearing out of all the constructs on transformational leadership (Figure 4.6).

Further analysis can consider the exogenous construct's indicator weights, and identify which specific element of each of the constructs needs to be addressed the most. For instance, looking at the standardized loading in Table 4.12 and Figure 4.6 reveals that UOE3 (Use of Emotions 3) has the highest outer loading of .86.

This item relates to the survey question "I am a self-motivating person." On the one hand, this means that leaders can enhance their ability to understand emotional cues by improving self-motivation, which will have the most impact on their transformational leadership. This requires employment of emotional knowledge, which can be done at a basic level of being able to label emotions. It can also be at a more sophisticated level by using the ability of recognition of likely shifts amongst emotions, for instance the transition from rage to happiness, or from anger to shame (Mayer et al., 1997). Self-directed learning theory explained how its five discoveries were used as tools to make changes to develop emotionally intelligent leaders. During discovery stages gaps were realized between real self and ideal self and so the need to prepare for changing leadership style helps in the realization of the necessity to improve the ability to self-motivate by employing emotional knowledge which was found most related to leadership (UOE3). On the other hand, the lowest outer loading (ROE path coefficient .03) was for ROE's (regulation of emotion - ROE3 .85) item which asks respondents, "I can always calm down quickly when I am very angry". This meant that a leader's ability to manage emotions for a specific goal has the least effect on his/her transformational leadership behaviour. Again, this ability can be as simple as a basic emotional control strategy or as sophisticated as the ability to manage emotions in oneself as well as in others by controlling bad emotions and increasing good ones, without inhibiting or overstating information carried by them. Even though this points to an important aspect of promoting emotional and intellectual growth, and that is by staying open to pleasant and unpleasant feelings, these findings just meant that this specific item carries the lowest relative weight in the model.

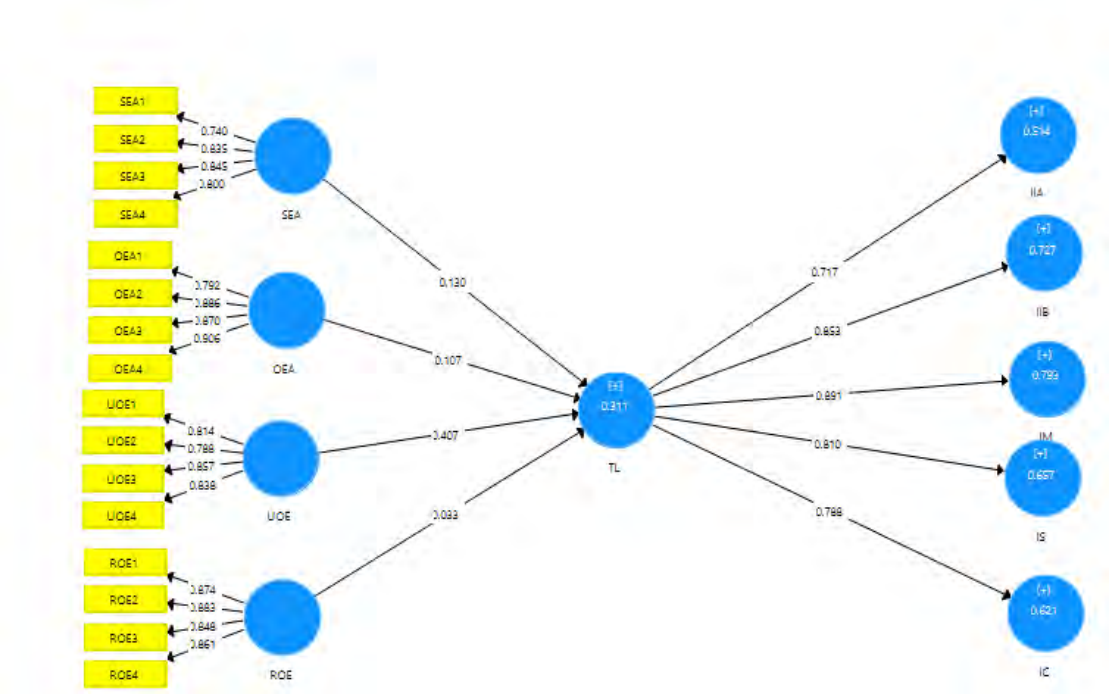

Figure 4.6.
SmartPLS Study Model Path Coefficients and Outer Weights

4.5.3 Effect Sizes (f^2)

The third step in the evaluation of the structural model is the f^2 effect size. The f^2 assesses the comparative influence of a predictor variable on an independent variable (Hair et al., 2014). This can be done by calculating the alteration in R squared value when a stated independent variable is removed from the model in order to check if the removed variable had a big effect on the dependent constructs. The f^2 values range from .02, .15 and .35, correspondingly, are used as a rules of thumb for small, medium and large effect sizes (Cohen, 1988). The results showed for the current study that the highest f squared value was .16 (UOE), which correspond to a medium effect size for the predictive variable.

The remaining constructs were considered to have no effect on the endogenous latent variable transformational leadership (TL) since the f^2 values were all below

the cut-off of .02 (Hair et al., 2014). The effect size of the OC construct as an exogenous variable (.03) and as moderator (.05) on the endogenous latent variable TL was considered small, as in Table 4.18 and Table 4.19.

Table 4.17
Effect Size, f^2, for Transformational Leadership Construct

Construct	R^2 included	R^2 excluded	R^2 included - R^2 excluded	1-R^2 included	f^2	Category of effect size
Self-emotion appraisal (SEA)	.31	.30	.009	.69	.01	No Effect
Others emotional appraisal (OEA)	.31	.30	.009	.69	.01	No Effect
Use of emotion (UOE)	.31	.20	.110	.69	.16	Medium
Regulation of Emotion (ROE)	.31	.31	.001	.69	.00	No Effect
Organizational culture (OC) - as independent variable	.33	.31	.020	.67	.03	Small
Organizational culture (OC) - as moderator	.37	.33	.034	.64	.05	Small

Table 4.18
Effect Size, f^2, for Transformational Leadership (including OC dimensions)

Construct	R^2 included	f^2	Effect Size
SEA	0.40	0.01	No effect
OEA	0.40	0.01	No effect
UOE	0.40	0.14	Small
ROE	0.40	0.00	No effect
CLAN	0.40	0.01	No effect
ADHOCRACY	0.40	0.00	No effect
MARKET	0.40	0.01	No effect
HIERARCHY	0.40	0.00	No effect

4.5.4 Effect Sizes (Q^2)

The predictive relevance of a model is its ability to predict accurately the items' data of the dependent variables (Hair et. al., 2014). Typically, this is done by the use of Q^2 effect size, which is when Q^2 value is larger than zero for a variable, points to the path model's predictive significance for this variable. In SmartPLS, the quality of the model can be assessed using the blindfolding procedure to obtain Q^2 = 1-SSE/SSO from the construct cross-validated redundancy report. If Q^2 is positive, the model has predictive validity; if it is negative, the model does not have predictive validity (Hair et al., 2014). Table 4.20 provides the model's Q^2 value Q^2=1-SSE/SSO of .12 for the direct relationships model and .13 for the full model, and .12 for OC dimensions as moderator model, which were all above zero (omission distance D=7), and therefore considered to have a small predictive relevance Q^2. According to Hair et al. (2014) the values of 0.02, 0.15, and 0.35 show that an exogenous construct has a small, medium, or large predictive relevance for an endogenous construct.

Table 4.19
Predictive Relevance of the Model

Total	**SSO**	**SSE**	**1-SSE/SSO**
Transformational leadership (EI dimensions – TL)	5661.00	4995.32	.12
Transformational leadership (OC moderation)	5661.00	4938.59	.13
Transformational leadership (OC dimensions moderation)	5661.00	4975.95	.12

4.5.5 Hypotheses Testing - Bootstrapping

The last step in data analysis used SmartPLS to test the hypothesized relationships by assessing the path coefficients' significance by means of bootstrapping computations. The bootstrapping process obtains the significance of path coefficients by calculating empirical t values, which if larger than the critical value (t distribution values), then the coefficient is considered significant at a particular probability of error. The most commonly employed critical values for single tailed tests are 1 .65 (significance level= 10%), 1.96 (significance level = 5%), and 2.57 (significance level = 1 %) (Hair et al., 2014). Hair et al. (2014 p132) also stated that the bootstrap samples must be at least larger than the number of valid observations in the original data set but recommended 5000. However, running the recommended 5000 with the current research's complex model resulted in an indeterminacy problem i.e. SmartPLS stopped producing results after running. Thus, 500 bootstrap samples were used, and the number of cases were 333, which was identical to observations in the sample as put forward by Garson (2016; Hair et al., 2014). Additionally, the researcher deemed 500 bootstrap samples sufficient since it found additional support from a study by Deng et al. (2013) who found that the number of bootstrap replicates, ranging from 500 to 2000, had little effect on either bootstrap standard error or confidence interval. Appendix B and Table 4.21 contain the path coefficients and the bootstrapping results, where the following direct hypothesized relationships were tested:

H1: Self-emotion appraisal (SEA) has a positive relationship with Transformational Leadership (TL) among leaders of Malaysian public universities.

H2: Others emotional appraisal of others (OEA) has a positive relationship with Transformational Leadership (TL) among leaders in Malaysian public universities.

H3: Use of emotion (UOE) has a positive relationship with Transformational Leadership (TL) among leaders in Malaysian public universities.

H4: Regulation of emotion (ROE) has a positive relationship with Transformational Leadership (TL) among leaders in Malaysian public universities.

Table 4.20
Results of Hypothesis Testing

Hypotheses	Relationships	Path Coefficients	t Values	p Values	Results
H1	Self-emotion appraisal → transformational leadership	.13	2.06**	.02	Supported
H2	Others emotional appraisal → transformational leadership	.11	1.86*	0.03	Supported
H3	Use of emotion → transformational leadership	.41	7.79***	.00	Supported
H4	Regulation of emotion → transformational leadership	.03	.47	.32	Not supported
H5	Self-emotion appraisal * organizational culture → transformational leadership	.05	.87	.19	Not supported
H6	Others emotional appraisal * organizational culture → transformational leadership	-.02	.39	.35	Not supported
H7	Use of emotion * organizational culture → transformational leadership	-.02	.50	.31	Not supported
H8	Regulation of emotion * organizational culture → transformational leadership	.12	1.88*	.03	Supported

Note: ***Significant at .01 (1-tailed), **significant at .05 (1-tailed), *significant at .10 (1-tailed).

Even though findings showed a positive relationship between total EI and TL (β= .51, t = 10.66, p = .00) and a coefficient of determination R^2 = .35, only self-emotion appraisal, others emotional appraisal, and use of emotion dimensions were statistically related to TL in the direct model produced an R^2 of .31 as shown in Figure 4.6. It can be concluded from the results obtained, that self-emotion appraisal (SEA) (β= 0.13, t = 2.06, p = .02) and others emotional appraisal (β = .11, t = 1.86, p = .03) positively and significantly affect transformational leadership (TL). Further, the most significant relationship in the study was the proposed one between use of emotion (UOE) and TL (β = .41, t = 7.79, p=0.00) and hence only these three hypotheses in the direct relationships were supported (Table 4.20 and Appendix B). Nevertheless, the hypothesis that proposed a relationship between regulation of emotion (ROE) and TL was not accepted (β = .03, t = .47, p = .32). All in all, the first, second, and third hypothesis were supported, i.e. there was a significant relationship between SEA, OEA, and UOE with TL for academic leaders in public universities in Malaysia as displayed in the hypothesis summary Table 4.20 and Table 22.

Results also showed that there is a significant moderating role for organizational culture between emotional intelligence and transformational leadership relationship (β= .14, t = 2.42, p = .02) and an R^2 of .32. However, when OC was investigated as a moderator between EI dimensions and TL it produced an R^2 of .37 and OC significantly moderated only the relationship between regulation of emotion and TL (β = .12, t = 1.88, p = .03). The results of the remaining three moderating hypotheses testing were presented in Table 4.20 and all t values were below the least critical value for a 1-tailed test of 1.65 for a 10% significance level.

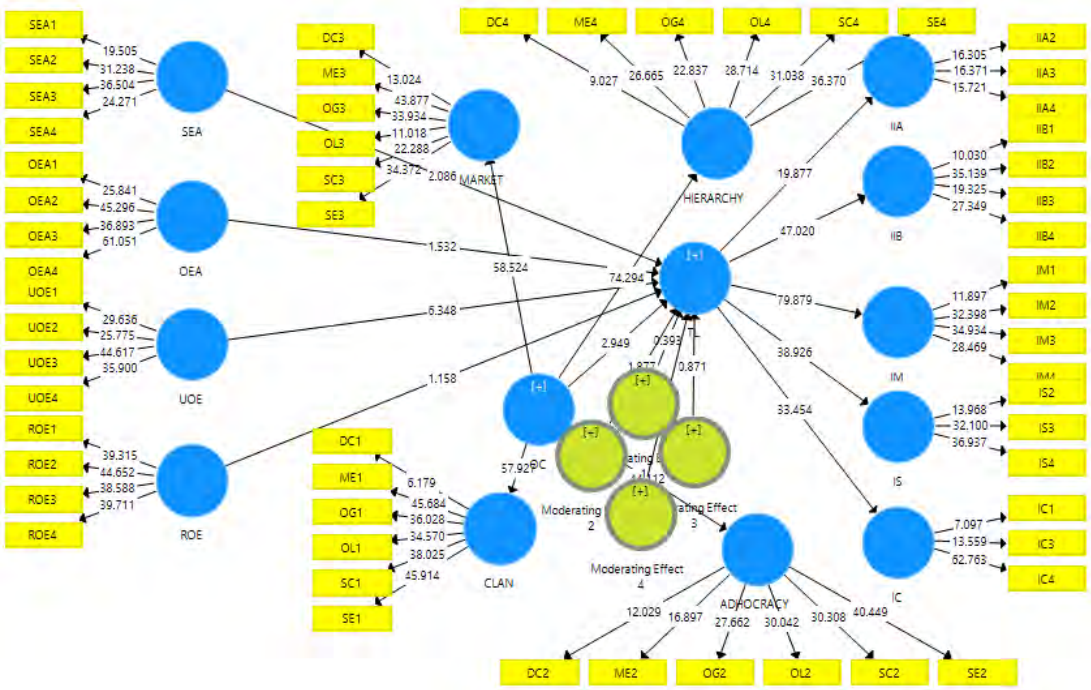

Figure 4.7
PLS Bootstrapping (t-values) for the Study Model

Figure 4.7 and Table 4.20 and Appendix B contain path coefficients and bootstrapping results, where the following moderating hypothesized relationships were tested:

H5: Organizational Culture (OC) positively moderates the relationship between self-emotion appraisal (SEA) and Transformational Leadership (TL) among Malaysian public universities' leaders.

H6: Organizational Culture (OC) positively moderates the relationship between emotion appraisal of others (OEA) and Transformational Leadership (TL) among Malaysian public universities' leaders.

H7: Organizational Culture (OC) culture positively moderates the relationship between use of emotion (UOE) and Transformational Leadership (TL) among Malaysian public universities' leaders.

H8: Organizational Culture (OC) positively moderates the relationship between regulation of emotion (ROE) and Transformational Leadership (TL) among Malaysian public universities' leaders.

Hypothesis 8 stated that organizational culture positively moderates the relationship between regulation of emotion and transformational leadership. As expected, results presented in Table 4.20 indicated that the interaction terms representing regulation of emotion * organizational culture ($\beta = .12$, $t = 1.88$, $p = .03$) was statistically significant.

Alternatively, the study's model ran OC types together and each one individually to investigate their moderating effects in more depth. Another reason was because the model was quite unwieldy with all the interactions simultaneously included. Further, this allowed the effects of each culture type to be investigated in isolation as they are theorized to most likely exist dominantly in organizations. As such, analysis of the model that included all OC types together as moderators revealed that, even though adhocracy was the least dominant culture type in universities (Figure 4.4), it was the only OC type with moderating effect but it was a negatively significant moderating effect on the relationship between OEA and TL ($\beta = -0.17$, $t = 1.77$, $p = .04$). However, when each of the OC types was run individually as moderators, the respective models revealed that clan and hierarchy cultures were the only ones that produced moderation effects by positively moderated the

relationship between ROE and TL (β= 0.14, t = 2.09, p = .04 and β= 0.15, t = 1.99, p = .046, respectively). From this, hypothesis 8 was further supported by specifying which of the culture types moderated the ROE-TL relationship. Information from the path coefficients was used to plot the moderating effect of organizational culture (OC) on the relationship between regulation of emotion and transformational leadership, following the procedures recommended by Marcus et al., (2002).

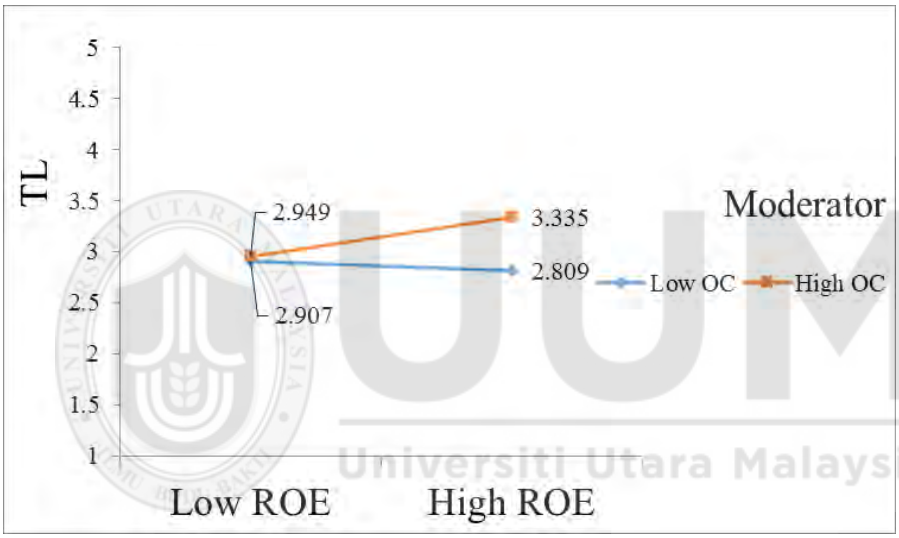

Figure 4.8.
Interaction effect of organizational culture

The interpretation of the interaction in the graph shown in Figure 4.8 is such that, for low OC moderation, there appears to be a slight and negative effect with a percentage decrease in slope of -3.37% (2.809-2.907 ÷ 2.907 * 100 = -3.37%) from regulation of emotion (ROE) on transformational leadership (TL). But when high OC was present in the model, ROE had a clearly and positively stronger effect on TL with a percentage increase in slope of 13.09% (3.335-2.949 ÷ 2.949 * 100 = 13.09%). The logic being, the bigger the difference between the two slopes (low

OC and high OC), the stronger is the interaction effect of the moderator on the IV and DV.

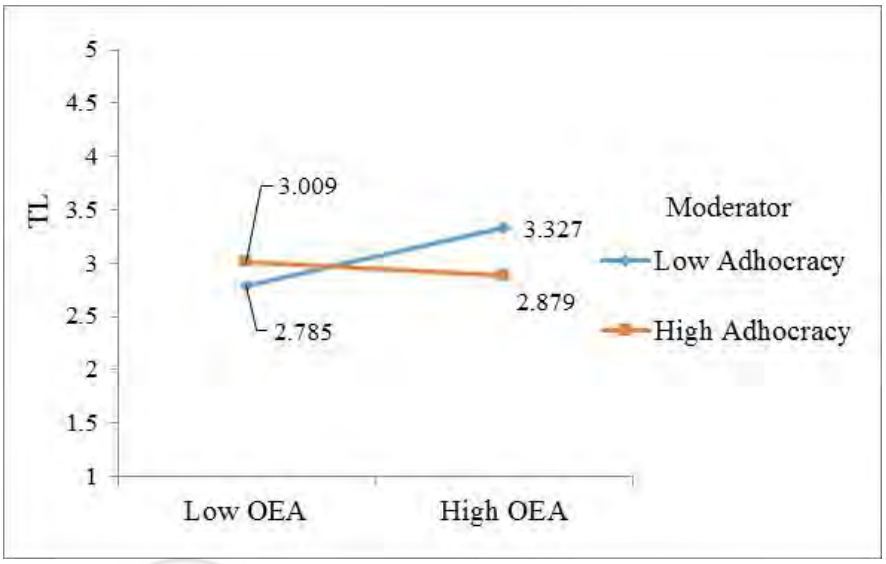

Figure 4.9
Interaction effect of adhocracy OC

When OC types were run in separate models to examine the interaction of each type of culture, only adhocracy culture revealed significant moderating effect on the relationship between OEA and TL but in a negative direction (β= -0.17, t = 1.77, p = .04).The interpretation of the interaction in the graph shown in Figure 4.10 was that for low moderation of adhocracy OC there appeared to be a positive effect with a percentage increase in the slope of 19.48% (3.327-2.785 ÷ 2.785 * 100 = 19.48%) from others emotional appraisal (OEA) on transformational leadership. But when high adhocracy OC was added in the model, OEA declined by almost 9 percentage points with a negative effect on transformational leadership to a percentage decrease in slope of 10.59% (3.327-3.009 ÷ 3.009 * 100 = 10.59%) (Figure 4.9).

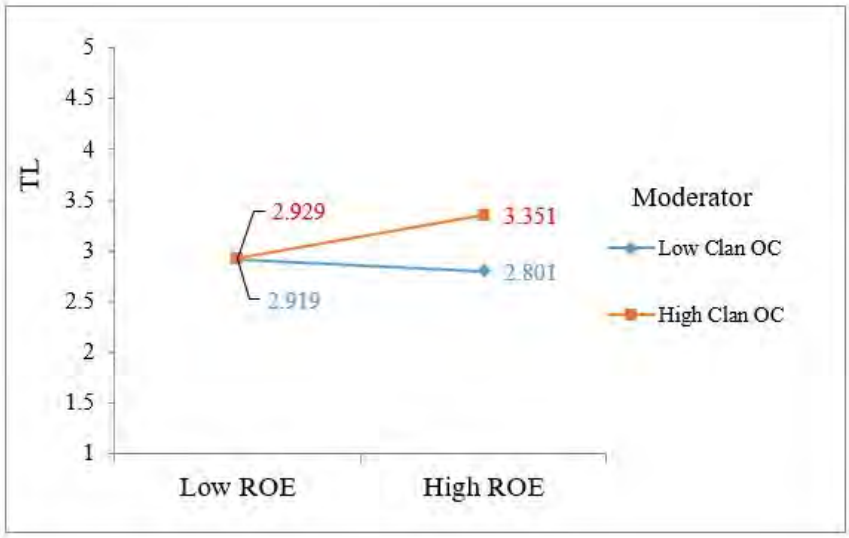

Figure 4.10
Interaction effect of clan OC

Likewise, clan OC positively moderating effect on the ROE-TL relationship (β= 0.14, t = 2.09, p = .04) was significant. The interpretation of the interaction in the graph shown in Figure 4.10 is that for low moderation of clan OC there appears to be a slight and negative effect with a percentage decrease in slope of -4.04% (2.801-2.919 ÷ 2.919 * 100 = -4.04%) between regulation of emotion (ROE) and transformational leadership (TL). But when high clan OC was added into the model, regulation of emotion had a clearly and positively stronger effect on transformational leadership with a percentage increase in slope of 14.41% (3.351-2.929 ÷ 2.929 * 100 = 14.41%).

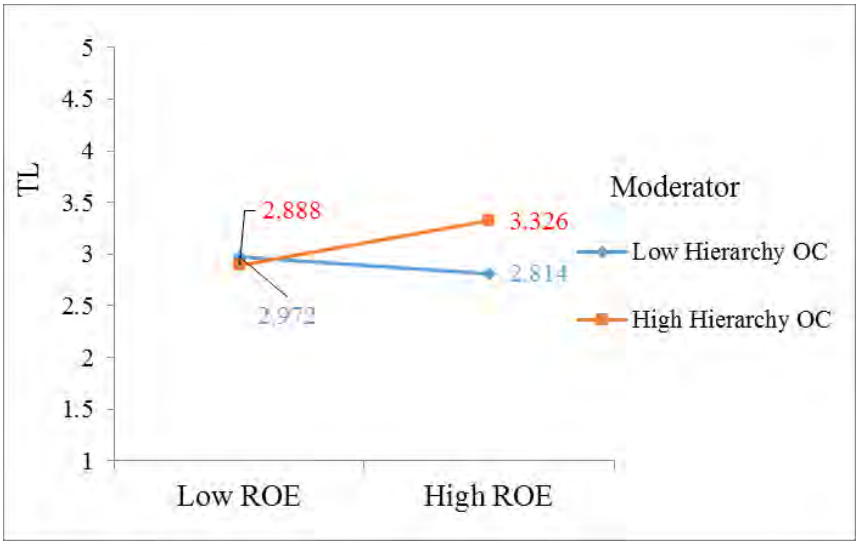

Figure 4.11
Interaction effect of hierarchy OC

Finally, hierarchy OC positively moderating effect on the ROE-TL relationship (β= 0.15, t = 1.99, p = .046) was also significant The interpretation of the interaction in the graph shown in Figure 4.11 is that for low moderation of hierarchy OC there appears to be a slight and negative effect with a percentage decrease in slope of -5.32% (2.814-2.972 ÷ 2.972 * 100 = -5.32%) between regulation of emotion (ROE) and transformational leadership (TL). But when high hierarchy OC was added into the model, regulation of emotion had a clearly and positively stronger effect on transformational leadership with a percentage increase in slope of 15.17% (3.326-2.888 ÷ 2.888 * 100 = 15.17%).

Table 4.21
Strength of the Moderating Effects

Endogenous Latent Variable	**R^2**		**f^2**	**Effect Size**
	Included	Excluded		
Transformational Leadership (OC aggregate)	.37	.31	.10	Small
Transformational Leadership (OC dimensions)	.40	.31	.15	Medium

In the present study, Cohen's (1988) benchmark was used to determine the strength of the moderating effects of organizational culture on the relationship between emotional intelligence dimensions and transformational leadership. The following formula was used to compare the R^2 value of the model before incorporating the moderator and after (Cohen, 1988; Henseler & Fassott, 2010):

$$\textit{Effect size: } (f^2) = \frac{R^2 \textit{ model with moderator} - R^2 \textit{model without moderator}}{1 - R^2 \textit{model with moderator}}$$

As shown in Table 4.21, the effect size for transformational leadership was .10 for OC aggregated but .15 for OC dimensions, which suggested that the moderating effect found were weak and moderate as per guideline values of .02, .15 and .35 being weak, moderate and strong moderation effects sizes respectively (Henseler *et al*., 2007). Still, a low effect size, however, could be significant in intense moderating conditions (Chin *et al*., 2003).

Table 4.22
Summary of Hypotheses Testing

	Hypothesis	Result
H1	Self-emotion appraisal has a positive relationship with Transformational Leadership	Supported
H2	Emotion appraisal of others has a positive relationship with Transformational Leadership among leaders in Malaysian public universities	Supported
H3	Use of emotion has a positive relationship with Transformational Leadership among leaders in Malaysian public universities	Supported
H4	Regulation of emotion has a positive relationship with Transformational Leadership among leaders in Malaysian public universities	Not supported
H5	Organizational Culture positively moderates the relationship between self-emotion appraisal (SEA) and Transformational Leadership among Malaysian public universities'	Not supported
H6	Organizational Culture positively moderates the relationship between emotion appraisal of others and Transformational Leadership	Not supported
H7	Organizational Culture positively moderates the relationship between use of emotion and Transformational Leadership	Not supported
H8	Organizational Culture positively moderates the relationship between regulation of emotion and Transformational Leadership	Supported

4.6 Summary of the Findings

In this chapter, findings were discussed using statistical software, SPSS version 2.0 and SmartPLS 3. The discussion began with the data collection process, followed by non-response bias issues, which looked at differences between early and late respondents using independent t-test analysis. Various treatments were employed to clean the data from missing data and outliers. Next, the evaluation of the measurement and structural models were reported. This section discussed the evaluation of the measurement, in the second half, which confirmed construct reliability, validity, and the significance of the relationships between variables as

seen from applying statistical tools such as algorithm for path coefficients and bootstrapping features using SmartPLS. Prior to examining the hypothesized relationships, the predictive power of the model was duly examined and reported and the goodness of the overall model was confirmed. Table 4.22 summarises the list of the results for testing the hypotheses of the research. In the next chapter, findings are further discussed, managerial and theoretical implications, and limitations and suggestions are made for future research followed by closing remarks for the study.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATION

5.1 Introduction

In this chapter, findings are discussed and recommendations are given. The discussion covers theoretical and practical implications, limitations and suggestions for future research direction. This last chapter serves to wrap up the research as it comes to an end of the examination of the relationship between emotional intelligence dimensions and transformational leadership and the moderating role of organizational culture on this relation among academic leaders in Malaysian public universities. By the by, results revealed the support of four hypotheses and rejection of four hypotheses and so it is now time to link the theoretical and practical gaps as outlined in chapter one.

5.2 Recapitulation of the Study

The current study was conducted to investigate emotional intelligence dimensions, treated as distinct constructs, and their relationships with transformational leadership. The moderating effects of organizational culture between the relationships of self-emotion appraisal, others emotional appraisal, use of emotions, and regulation of emotions and transformational leadership were equally investigated among academic leaders in public universities in peninsular Malaysia.

Structured questionnaires were adopted from previous studies to carry out the present quantitative research approach followed. To pose a sense of urgency and to allow up with a more persuasive, face-to-face interaction with the very busy respondents, self-administered questionnaires were employed. The distribution of

650 questionnaires was made to the 18 public universities in peninsular Malaysia, which had a total population of 2076 academic leaders. A total of 333 questionnaires were retained out of the 347 returned which were keyed into SPSS for data cleaning and preparation for analysis.

Upon completion of the evaluation of the measurement model, evaluation of structural models was carried out, which entailed hypotheses testing by means of bootstrapping to assess path coefficients' significance. H1, H2, and H3 were accepted as results showed that self-emotion appraisal, others emotional appraisal and use of emotion were significantly and positively related to transformational leadership. H4, however, was rejected because of the lack of significance in the relationship between regulation of emotion with transformational leadership. Hypotheses H5, H6, H7, and H8 all proposed moderating effects of organizational culture on the relationships between self-emotion appraisal, others emotion appraisal, use of emotion, and regulation of emotion with transformational leadership. But all were rejected except for the moderating effect of organizational culture on the relationship between regulation of emotion and transformational leadership.

5.3 Discussion of the Findings

The following discussion highlights the study's focus on the research questions asked which were answered by the research objectives. From the research questions and objectives, eight hypotheses were formulated to guide the analysis in order to meet the research objectives. The guiding theme of the questions stressed the level of transformational leadership among academic leaders, followed by inquiry into

the predictive nature of emotional intelligence dimensions on transformational leadership, and finally, concluded with an examination of the moderating role of organizational culture on those relationships. The research questions were, 1) what is the level of transformational leadership among leaders in Malaysian public universities? 2) What is the relationship between emotional intelligence and transformational leadership? 3) Does organizational culture moderate the relationship between emotional intelligence and transformational leadership?

5.3.1 The Level of Transformational Leadership

The research question seeking the level of transformational leadership among academic leaders can be answered by looking at descriptive statistics. The purpose of finding out the level of transformational leadership was to the fill the gap of scarce studies that explored the level of transformational leadership among academic leaders in Malaysian public universities. Secondly, "since you can't manage something if you can't measure it" (Gravin, 1985, p.1) and as a point of reference for leadership development requirements, it made sense to evaluate leadership levels. Thirdly, it served to gauge the extend of EI prediction at the relative proportion of TL levels measured at different significance correlations. The statistical results indicated an overall mean score for transformational leadership of 4.06. This level referred to how frequent a leader felt TL fit his/her style. Similarly, another study ranked the level of leadership in terms of importance (Shamsudin, 2012). However, in the current study the need for TL development is viewed as still evident first because the ranking is not maximum so there is still room for improvement in terms of frequency of TL as viewed by academic leaders. Secondly, leadership development need is manifested in light of the evidence

provided by Sheldon's (2014) study, which discovered that individuals tend to have overly optimistic views of their own expertise and performance.

Specific areas of strength and weakness in TL development can be uncovered from the present study's findings. For example, the highest indicator in transformational leadership was IIB3 (idealized influence (behaviour) referring to the item "I consider the moral and ethical consequences of decisions") at 4.42. This could be interpreted from a cultural viewpoint on the value placed in Malaysian society on ethics. The lowest indicators were IC2 (individualized consideration which referred to the item "I treat others as individuals rather than just as a member of the group") and IIA1 (idealized influence attributed which referred to the item "I instil pride in others for being associated with me") both still high at means of 3.72. This could be explained by the GLOBE project findings about Southern Asia culture scoring high on humane, collectivism and charismatic, team oriented leadership, and hence the higher scoring on the idealized influence, which is considered part of charismatic leadership, and lower scoring on the individualized consideration item since the Malaysian culture prefers collectivism and team oriented leadership style.

5.3.2 Emotional Intelligence and Transformational Leadership

The goal of the second research question was to gauge the predictive significance of the relationship between emotional intelligence and transformational leadership. This question represented the first four hypotheses of the research i.e. Self-emotion appraisal, emotion appraisal of others, use of emotions, and regulation of emotions, all of which have a relationship with transformational leadership.

Hypotheses testing was carried out using bootstrapping technique to assess path coefficients' significance and t values between the emotional intelligence dimensions were treated as independent variables and transformational leadership as the dependent variable. The results showed that total EI (aggregate) positively and significantly related to transformational leadership (TL) at the significance level of 0.01 ($\beta = .51$, $t = 10.66$) that resulted in a coefficient of determination R^2 of .35. Likewise, at the EI dimensions level the overall predictability of the variables explained only 31.1% of the model (.31 Adjusted R^2 value) which was considered moderately significant in this type of research. Accordingly, 68.9% was explained by other factors untouched by the current study. The bootstrapping results accepted H1 H2 and H3, which showing positively significant relationships between self-emotion appraisal, others emotional appraisal, and use of emotion with transformational leadership.

The findings of the current study were consistent with several previous studies regarding the relationship between self-emotion appraisal ($\beta = .13$, $t = 2.06$, $p < .05$), and transformational leadership. The study by Hur, van den Berg, and Wilderom, (2011) collected from 859 employees, working in 55 teams in a South Korean public-sector organization resulted in EI showing positively significant relationship with TL ($r = .46$, $p < .001$). Moreover, self-emotion appraisal was mostly related to transformational leadership dimension of idealized influence attribute ($r = .36$).

Burbach (2004) conducted another study with similar results. He examined data collected from a sample of 146 leaders and 649 observers who rated leaders, and

found a significant positive correlation between EI and TL ($r = .33$; $p < .01$) and relationship between SEA ($r = .27$; $p < .01$) with leadership. Another study by Thomas (2011) surveyed sixty-nine U.S. Navy HR officers found understanding emotions significantly related to leadership effectiveness ($r [67] = .26$, $p = .02$.).

A reason for the positive correlation between self-emotional appraisal with transformational leadership in the current study's context of academic leaders in public universities are quite intuitive. People must first be able to perceive their own and other people's emotions before they can understand and use them. Perceiving emotion accurately increases a leader's ability to keep positive emotions, such as excitement and trust, and inspire gratitude for the importance of work leading to a positive effect on a leader's ability to build commitment and transform others.

The findings regarding others emotional appraisal and its relationship with transformational leadership were also in line with most of the relevant studies discussed earlier. Studies that showed others emotional appraisal significantly relating to transformational leadership include Burbach's (2004) study with significance of $r = .27$ at $p < .01$. Hur et al. (2011) also found OEA related positively to all dimensions of TL. Likewise, Clarke's (2010) results showed using emotions to facilitate thought accounted for a further 4% in variation of both idealized influence and individualized consideration after first controlling for personality. In addition, Weinberger found that others emotional appraisal (OEA) correlated with idealized influence behavior (IIB), which is partially in line with the current study's findings.

The ability to employ emotions to facilitate thinking is tied in with perceptions of emotions and can be very useful to a leader who is interested in encouraging creative ideas to solve problems, corresponding to intellectual stimulation in transformational leadership. From an academic leader's perspective, this could translate into recognition for breakthrough teaching practices shared from the academic community to frontier innovative research and related awards.

There were four very relevant studies that had findings consistent with the present study showing positive correlation between use of emotion and transformational leadership. Hur, van den Berg, and Wilderom (2011) study found that use of emotion was mostly related to idealized influence attribute and inspirational motivation ($r = .46$) dimensions of transformational leadership. Burbach (2004) also found that use of emotion related to transformational leadership ($r = .20$; $p < .01$).

In the academic leaders' context in public universities, use of emotion is the ability to understand emotions and signals carried by them. Understanding emotions is linked to transformational leadership in that it enables them to act as strong role models who can be counted on to do the right thing because of the great trust placed in them. This emotional component is strongly linked to the idealized influence dimension of transformational leadership. Academic leaders who exhibit idealized influence can go far in their role of bridging corporate and academic goals especially as they pertain to academic staff, students, and the community and so the trust rendered by this component would serve as a strong ally in the leader's constant pursuit of balance among these opposing goals.

The only emotional intelligence dimension rejected by the current study was the relationship between regulation of emotion (ROE) and transformational leadership, which was consistent with five past relevant studies. First off, Herbert (2010) found no relation between ROE and TL and so did Weinberger (2009), Clarke (2010), Lindenbaum and Cartwright (2010), Cavazotte and Hickmann (2012), and Follesdal and Hagtvet (2013).

The Regulation of emotion dimension of emotional intelligence did not predict transformational leadership possibly because of the lack of contextual factors to drive the link between the constructs. In other words, some situations may call for the regulation of emotion as such that it mutes emotionally driven impulses. Explanation of this comes from cognitive science which states that humans save energy by having a bottom-up skew in which impulsive, intuitive and automatic cognitive activities take over from top-down activities which can monitor and impose its goals on subcortical machinery (Goleman, 2013). In other words, our emotions and our motives create skews and biases in our attention that we typically don't notice, and don't notice that we don't notice.

Regulation of emotion was showed no relationship with TL most likely because of the contextual and situational nature of this highly complex dimension of emotional intelligence. For example, to control anger when it is at its peak and at the same time produce anger at will in opposition to an injustice. Another reason could be that this highly complex EI ability was not easy to capture with a Likert scale type questionnaire and a better assessment method would be situational cases conducted in an interview or even questionnaire. With this method, respondents could be

asked about how well they would act in certain scenarios and situations involving emotional problem solving with the end goal of overcoming such problems as rationalizing emotions i.e. respondent bias.

Another possible reason for why regulation of emotion did not predict transformational leadership is the structured nature of public universities in which academic leaders operate in a somewhat more controlled environment than their counterparts in the private sector. There is less leeway for the exercise of full management of emotions to reach higher goals already set in motion by a formalized and structured place of work typical of a hierarchy culture found to be the second most dominant culture in public universities of the present study as shown in Figure 4.4.

Finally, regulation of emotion is the ability to manage emotions by staying open to feelings as well as moderating negative ones. And so its lack of TL prediction could be due to the fact that ROE involves controlling temper and emotional expression which are likely hygiene qualities, important for a well adjusted personality but not essential for communicating higher vision and expectations (IM).

5.3.3 The Moderating Effect of Organizational Culture

Discussion of the findings is incomplete without exploring the third research question, which asked whether organizational culture moderated the relationship between emotional intelligence dimensions and transformational leadership among academic leaders in public universities. This question was represented by the fifth, sixth, seventh, and eighth hypothesis, namely, organizational culture positively

moderates the relationship between self-emotion appraisal, emotion appraisal of others, use of emotion, regulation of emotion, and transformational leadership.

These hypotheses were tested by means of SmartPLS bootstrapping technique to assess path coefficients' significance and t values to test the predictive and moderating potential of emotional intelligence and organizational culture, respectively in relation to transformational leadership as the dependent variable. Even though organizational culture moderated the relationship between total EI (aggregate construct) and TL ($\beta = .14$, $t= 2.42$, $p = .02$) and produced an R^2 of .32 and at the EI dimension level R^2 was .37, it only moderated the relationship between regulation of emotion and transformational leadership and so hypothesized relationships H5, H6, and H7 were not supported, but only H8 was accepted.

Organizational culture did not moderate the relationship between self-emotion appraisal and transformational leadership in the current study possibly because culture acts on the total EI construct in its entirety with regard to its relationship with TL. Culture provides guidance to understand emotional events which require coping strategies that are essential for all emotional intelligence abilities to work jointly and that depend on established norms, motivations, and the variety of EI abilities. Therefore, it was not possible to observe moderating effects when investigated for individual lower EI abilities that are less complex, such as self-emotional appraisal.

Another possible reason for organizational culture's lack of moderation could be due to the more than one dominant type of culture in universities creating a non-conducive context for self-emotion appraisal and transformational leadership

interaction. In other words, more than one culture type was detected in the current study, with clan having the highest mean followed by hierarchy type culture (Figure 4.4 and Figure 4.5). These contradictory ways that organizations sometimes behave might translated into an atmosphere of lesser certainty for transformational leaders' expression of emotions freely.

Emotional intelligence dimensions are mostly internally motivated abilities regardless of OC. The individualized consideration that results from self and others emotional perception is a directly affected relation that is not moderated by outside cultural factors such as values, artifacts, and beliefs. For example, time spent by a manager to treat each employee in a caring and unique way based on his perception of his and their emotions is an internally motivated behavior regardless of the culture of the organization.

Similarly, the sensitivity to people's emotions and using that knowledge to facilitate thinking is the main notion behind the OEA ability. Mills (2009) paper linked others emotional appraisal (OEA) with IS (intellectual stimulation) dimension of TL, in which leaders stimulate followers to be creative and to challenge values. Aggregate OC did not moderate the OEA-TL relationship because leaders' stimulation of followers to be creative by being sensitive to their emotions, which facilitates thinking, is in operation regardless of the organizational culture in place. This is again because EI dimensions are mostly internally motivated abilities regardless of OC.

The OEA-TL relationship was found to be negatively moderated by adhocracy culture ($\beta = -0.17$, $t = 1.77$, $p = .04$). This negative moderation by the adhocracy type

culture can be due to the way this type of culture encourages people to take risks while management has freedoms and uniqueness. The presence of such culture decreases the need and motivation to perceive others emotions to facilitate thoughts that can serve to encourage creative ideas in problem solving. Since being unique and free and risk taking are more of individual aspects than the outward perception of others can be mostly less important in these situations.

Once more, EI dimensions are internally motivated abilities regardless of OC and use of emotion relationship and TL was not moderated by OC because understanding emotions acts independently of culture. Leaders are able to utilize the use of emotion to build a role model and vision for followers regardless of value and assumptions in an organization. This is possibly due to other emotional intelligence abilities that need to be present at the same time when examining the interaction of all variables required for the complete emotional learning process in the course of coping with organizational emotional events.

By the same token, the questionnaire examined the use of emotion in order to understand and employ emotions by asking whether respondents set goals and encouraged themselves to follow through on their achievement. Past researchers found UOE to be linked mostly with idealized influence, which is the dimension of leadership involved with leaders building role models and vision for their followers. However, in the current study, the highest loading in TL that correspond to UOE was IM (inspirational motivation). Therefore, the present study results were more logical in that if a person was able to motivate herself, she was also able to motivate others. Nevertheless, the presence of culture did not increase or

decrease the ability to motivate oneself and others maybe because these processes are purely intrinsic in nature.

Since OC moderated the relationship between the overall EI construct and TL, and as OC potentially interacts well with complexity at different levels, therefore, it gave rise to the strength of ROE on TL. As explained by Mayer and Salovey (1997), the branches of ability EI move up from a more rudimentary psychological process to a higher, more complex psychological process. Results of the present study showed that organizational culture's moderation of the relation between regulation of emotion and transformational leadership was positive and significant. Support for H8 can be explained by the fact that part of managing emotions to reach goals requires a leader to display emotions in an effective way, which will depend on many factors. As such, organizational culture was proposed as a situational determinant of the leaders' effective display of their emotions.

Meanwhile, a strong culture has standards that are clear for measuring appropriate behavior, then regulation of emotion may have important consequences in strong rather than in weak situations because of the nature of behaviors expected in strong situations. Therefore, organizational culture did in fact moderate regulation of emotion and transformational leadership when there was a strong clan culture, as indicated in Figure 4.4, Figure 4.8 and Figure 4.10.

Regulation of emotion requires display of emotions in an effective way that depends on organizational culture as a situational determinant. An organizational culture that clearly defines standards gives distinct guidelines for measuring appropriate behavior, such as the case of the present study where hierarchy culture

was second most dominant and had a significant moderating effect on ROE-TL relationship as shown in Appendix B ($\beta = 0.15$, $t = 1.98$, $p = .046$). A good example is the ability to control and elicit anger in situations of injustice as a situation requiring the separation of emotion from behavior. This means that in some instances ROE will be moderated by OC to impact leadership. This could be the reason why the changeable and complex ROE ability needs a moderator such as culture for the ability to have a significant impact on the relationship with transformational leadership. This was exemplified in the results of significant moderating role played by the clan culture on the EI dimensions-TL relationship ($\beta = 0.14$, $t = 2.09$, $p = .04$), whereby, a clan culture that encourages a team building leader who is driven by a value of commitment and communication and strives to produce effectiveness through human development and participation can moderate a leader's ability of control over emotions in order to impact TL behavior.

To conclude, the moderating variable is one that has a strong conditional effect on the independent variable–dependent variable relationship (Sekaran, & Bougie, 2010). In other words, without the moderating variable (organizational culture), the independent variable (regulation of emotion) is unlikely to relate or cause the dependent variable (transformational leadership). In the same way, ROE was mentioned in an earlier example as the ability to control anger and to elicit anger in opposition of injustice. This also demonstrates how this type of emotional control requires separating emotions from behavior. It seams that this changeable and complex ability must require a moderator in order to exert any real impact on TL. And as OC potentially interacts well with complexity at different levels, it therefore gave rise to the strength of ROE on TL.

5.4 Contributions of the Study

The significance of the contribution of the current study is to the area of organizational behaviour and leadership development. Generally, findings of the current research contribute to theoretical knowledge and managerial practice, as expressed in the following sub-sections.

5.4.1 Managerial Implications

More light has been shed on the important elements of emotional intelligence as they relate to transformational leadership. This effort paves the way for managers and consultants to incorporate more of the leadership predictors in their succession and selection processes. Zeroing down on the most important areas that result in the biggest impact gives highest value for training time, effort, and investment. As such, emotional intelligence and leadership dimensions are no exception to this rationale. Many believe in the elusive and hereditary nature of leadership, but what if we can single out what can be learned and bring closer those very useful and intangible leadership skills. The end goal would be knowledge of what needs to be done to develop leaders, who are critical in influencing organizations and individuals to achieving the highest goals and excellence in performance.

Current findings showing EI dimensions as predictors of TL can be combined by HR consultants with the skills approach to develop a comprehensive leadership development program that pools work experience with classroom training efforts. The idea is that, through work experience and training programs, leaders can develop improved problem solving techniques and become more effective at influencing others in the attainment of goals. Therefore, when the results of the current study are pooled in the skills approach, they provide a structure that can

frame the content of leadership education and development programs (Caruso, Mayer, & Salovey, 2002).

A final practical implication of the findings of the study is for policy makers who can promote an OC in line with effectiveness value drivers and leader type especially in the Malaysian context of public universities. For instance, promotion of a culture that can encourage a team building leader driven by a value for commitment to produce effectiveness through participation which ultimately and potentially moderates a leader's ability to control her emotions so as to impact the transformational leadership process.

5.4.2 Theoretical Implications

The study is of interest to leadership development academics and practitioners because it reveals insights into the mechanisms for improving leadership development and training. Current findings enrich the literature covering the topics of emotional intelligence and transformational leadership by providing further support to TL theory and thus contribute to its theoretical and empirical understanding. In other words, the current study provides some resolution of previously inconsistent association between EI and TL. While there were many studies that revealed positive EI-TL association, many were also found for the reverse, thus making the association inconsistent, which motivated the current study. The current research provides further support for a positive correlation between the EI and TL constructs, thus tipping the scale toward EI as predictor of TL, and particularly self-emotion appraisal, others emotional appraisal, and use of emotion dimensions of emotional intelligence.

Although little is known about the moderating role of Organizational Culture (OC) on the relationship between EI and TL, this has been suggested by scholars and the current study has contributed to the body of knowledge by empirically examining this model. With the introduction of OC as a moderator to the relationship between EI and TL, there is now some evidence that organizational culture does play and important role as a moderator in the relationship between emotional intelligence dimensions and transformational leadership and specifically on the regulation of emotion dimension of EI on transformational leadership in the public universities context.

Lastly, there are some methodological implications with regard to improvements made to overcome some of the issues encountered by past studies in this area of study. These include applying recommended remedies to common method variance, using a larger sample size in the investigation of the relationship between EI and TL. Moreover, the relatively higher construct reliability added to the strength of measurement as it also involved studying eighteen organizations making the sample more representative of the population in the Malaysian public higher education sector.

5.5 Limitation of the Study

While the current study had a reasonably large number of respondents (n = 333), all respondents came from a background of lecturing and the higher education professions and in only 18 public universities out of the 672 higher education institutions in Malaysia. Caution should be exercised when extending the findings to other professions since the current study's respondents were academics who are more predisposed to have a relatively higher analytic and EI abilities.

Another important limit of the present study was the use of self rating scales which tend to contribute to response bias and CMV, as well as the threat of socially desirable responding. Using the more robust MSCEIT or TEIQue as multi-rater scales would reduce the possible threat of response bias and CMV (Podsakoff et al., 2003). The study instead relied mainly on clarifying questionnaire items, protecting anonymity and reducing evaluation apprehension, as well as using the Harman's single factor test.

5.6 Recommendations for Future Study

There are some suggestions for future research based on findings from the current study. Emotional intelligence was found to have a positive significant relationship with transformational leadership, specifically, use of emotion and self-emotion appraisal were positive predictors of transformational leadership. In addition, organizational culture was not found to fully moderate the relationship between emotional intelligence dimensions and transformational leadership. Studying EI and other antecedents to servant leadership is suggested since research showed that servant leadership was predominant and effective in southeast Asian culture (Menon, et. al., 2010). A study by Menon et al., (2010) revealed that Singaporeans tend to draw leaders at the back of the group as opposed to their U.S. counterparts who drew them in front of the group, suggesting a prototype leader who gather group's opinions and then unify them from the back.

Another suggestion for future research is to use the more robust MSCEIT or TEIQue as multi-rater scales, which could reduce the possible threat of response bias and CMV. Research can explore further specific roles of the organizational culture dimensions as moderating factor sand another survey might use MSCEIT

to control for respondent bias in the measurement of emotional intelligence. That is because MSCEIT assesses how well an individual performs tasks and solves emotional problems, as opposed to a scale that relies on an individual's subjective assessment of their perceived emotional abilities. Since the responses represent actual abilities, the scores are not affected as much by the respondent rationalizing their emotions. Likewise, carrying out a similar study but by using multi-rater scales for leadership would be advantageous, as recommended by MacKenzie et al. (2012), since it is considered one of the strongest ways to reduce common method variance threats by obtaining independent and dependent measures from separate sources.

Moreover, the current research model only explained about 35% of total variance in TL. Other latent variables could explain the remaining 65% of the variance, such as personality, emotional expression and sensitivity. Also, inclusion of leadership effectiveness and emergence variables as well as control variables such as ability and personality would give a similar study to the current research more rigor, depth, and breadth especially if it included the population of all higher education institutions or at least the private as well as the public universities in Malaysia.

An interesting future study could examine the emotional intelligence levels and related leadership behavior among different generational groups from baby boomers, generation X, and generation Y. That is because these age groups have been known to display different values, work ethics, and technological inclinations due to varying societal exposure to extremely different and changing circumstances in the past seventy years or so.

As suggested by Hair et al. (2007), longitudinal studies are a better way to seek cause and effect relationship among variables at different periods. This could involve studying the outcomes of EI training programs and gauging their effectiveness while bearing in mind current theoretical findings as well as practical needs by various sectors.

Dulewicz and Higgs (2000) indicated, comparatively emotional intelligence was less difficult to measure qualitatively. With that in mind, emotional intelligence can be investigated as well as organizational culture and leadership using qualitative in-depth interviews or case study research conducted with observations to obtain an understanding of what, for instance, academic leaders' exclusive environment in higher education and their leadership effectiveness and emergence.

Emotionally intelligent people are frequently portrayed as reasonable, sincere, honest, determined, and positive (Mayer et al., 1997). Characteristics of authentic leaders include genuine, real, veritable, optimistic and resilient (Luthans & Avolio, 2003). Authentic leadership may be significantly related to emotional intelligence and a study to substantiate that would be exciting. This might be true because self-knowledge and sincerity to ourselves are important traits of being genuine (Northouse, 2012) and emotional perception plays an important role in that regard. In that way, the study of authentic leadership is expected to relate to the use and understanding of emotions.

5.7 Conclusion

All in all, the current study found high transformational leadership levels among academic leaders in Malaysian public universities, the research's first objective.

The second main objective was to evaluate the relationship between emotional intelligence and transformational leadership. A positive significant predictive relationship was found between self-emotion appraisal other emotional appraisal, and use of emotion with transformational leadership. However, there was no significant relationship found between the regulation of emotion with transformational leadership. Finally, the third core objective was to determine the role of organizational culture as a moderator in the relationship between emotional intelligence and transformational leadership. However, the moderating effect of organizational culture as a whole construct, and clan and hierarchy type cultures were found significant only on the relationship between regulation of emotion and transformational leadership while adhocracy type culture negatively moderated the relationship between others emotional appraisal and transformational leadership.

Finally, the research conceptual framework was based on the literature reviewed and its backbone was rooted in the underpinning social systems theory, social cognitive theory, and self-directed learning theory. The main contribution of the study was to the general area of organizational behaviour and to the specific area of leadership development. Many recommendations for future studies were made including the use of different measurement instruments, multi-rating, multi method approach, and longitudinal procedure testing in various contexts to learn more about the interesting areas of human capital development and the leadership phenomenon.

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APPENDIX A

Research Questionnaire

OTHMAN YEOP ABDULLAH
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KEDAH DARUL AMAN
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UUM

KEDAH AMAN MAKMUR • BERSAMA MEMACU TRANSFORMASI

UUM/OYAGSB/R-4/4/1
9 December 2015

TO WHOM IT MAY CONCERN

Dear Sir/Madam,

LETTER FOR DATA COLLECTION AND RESEARCH WORK

This is to certify that **Hussein-Elhakim Al Issa (Matric No: 95999)** is a bonafied student of Doctor of Philosophy (PhD), Othman Yeap Abdullah Graduate School of Business, Universiti Utara Malaysia. He is conducting a research entitled **"Moderating Role of Organizational Culture on the Relationship Between Emotional Intelligence and Leadership"** under the supervision of Prof. Dr. Rosli Mahmood.

In this regard, I hope that you could kindly provide assistance and cooperation for him to successfully complete the research. All the information gathered will be strictly used for academic purposes only.

Your cooperation and assistance is very much appreciated.

Thank you.

"SCHOLARSHIP, VIRTUE, SERVICE"

Yours faithfully

ROZITA BINTI RAMLI
Assistant Registrar
for Dean
Othman Yeap Abdullah Graduate School of Business

c.c - Supervisor
Student's File (95999)

Universiti Pengurusan Terkemuka
The Eminent Management University

My name is Hussein-Elhakim Al Issa. This survey is part of my PhD research in management at UUM. Your input is much appreciated and will duly aid in the pursuit and contribution of knowledge. All information provided in this survey will be treated as strictly confidential, no organization or individuals will be identified

in any research report, and all information collected will be used purely for the purpose of academic research. There are no "right" or "wrong" answers. Please reflect carefully and answer all questions as honestly as possible.

If you have any questions about the survey, please email me at: htalissa@hotmail.com

Section A - Demographics:

1. Please specify the highest level of education you have completed.
   - Master degree
   - PhD degree
   - Other (please specify)
2. Please specify age group:
   - Less than 30
   - 30 - 40
   - Over 40
3. Please specify your gender.
   - Female
   - Male
4. Please specify your race/ethnicity.
   - Malay
   - Chinese
   - Indian
   - Other
5. Occupation / Position _____

Section B – Transformational Leadership:

This section describes your leadership style as you perceive it. If an item is irrelevant or if you are unsure or do not know the answer, leave the answer blank.

Twenty descriptive statements are listed on the following pages. Judge how frequently each statement fits you. The word "other" may mean your peers, clients, direct reports, supervisor, and/or all of these individuals. Use the following rating scale:

Not at All	Once in a While	Sometimes	Fairly Often	Frequently, if not always
1	2	3	4	5

1	I re-examine the critical assumption to question whether they are appropriate	1	2	3	4	5
2	I talk about my most important values and beliefs	1	2	3	4	5
3	I seek differing perspectives when solving problems	1	2	3	4	5
4	I talk optimistically about the future	1	2	3	4	5
5	I instill pride in others for being associated with me	1	2	3	4	5
6	I talk enthusiastically about what needs to be accomplished	1	2	3	4	5
7	I specify the importance of having strong sense of purpose	1	2	3	4	5
8	I spend time teaching and coaching	1	2	3	4	5
9	I go beyond self-interest for the good of the group	1	2	3	4	5
10	I treat others as individuals rather than just as a member of the group	1	2	3	4	5
11	I act in ways that build other's respect for me	1	2	3	4	5
12	I consider the moral and ethical consequences of decision	1	2	3	4	5
13	I display a sense of power and confident	1	2	3	4	5
14	I articulate a compelling vision of the future	1	2	3	4	5
15	I consider an individual as having different needs, abilities and aspirations from other	1	2	3	4	5
16	I get others to look at problems from many different angels	1	2	3	4	5
17	I help other to develop their strength	1	2	3	4	5

18	I suggest new ways of looking at how to complete assignments	1	2	3	4	5
19	I emphasize the importance of having a collective sense of mission	1	2	3	4	5
20	I express confidence that goal will be achieved	1	2	3	4	5

Section C – Emotional Intelligence:

Please select the circle number on the right hand columns to indicate your agreement with the following statements regarding your emotional intelligence:

strongly disagree	disagree	neither disagree nor agree	agree	strongly agree
1	2	3	4	5

	Self-emotion appraisal	1	2	3	4	5
1	I have a good sense of why I have certain feelings most of the time.					
2	I have good understanding of my own emotions.					
3	I really understand what I feel.					
4	I always know whether or not I am happy.					
	Regulation of emotion					
5	I am able to control my temper so that I can handle difficulties rationally.					
6	I am quite capable of controlling my own emotions.					
7	I can always calm down quickly when I am very angry.					
8	I have good control of my own emotions.					
	Use of emotion					
9	I always set goals for myself and then try my best to achieve them.					
10	I always tell myself I am a competent person.					
11	I am a self-motivating person.					
12	I would always encourage myself to try my best.					
	Others emotion appraisal					
13	I always know my friends' emotions.					

14	I am a good observer of others' emotions.					
15	I am sensitive to the feelings and emotions of others.					
16	I have good understanding of the emotions of people around me.					

Section D - Organizational Culture:

Please assign a number on the right hand column to indicate your agreement with the following statements about your organizational culture:

Strongly disagree	Disagree	neither disagree nor agree	Agree	Strongly agree
1	2	3	4	5

1	The organization is a very personal place. It is like an extended family. People seem to share a lot of personal information and features.	
2	The organization is a very dynamic entrepreneurial place. People are willing to stick out their necks and take risks.	
3	The organization is a very results-oriented. A major concern is getting the job done. People are very competitive and achievement-oriented.	
4	The organization is a very controlled and structured place. Formal procedures generally govern what people do.	
5	The leadership in the organization is generally considered to exemplify mentoring, facilitating, or nurturing.	
6	The leadership in the organization is generally considered to exemplify entrepreneurship, innovation, or risk taking.	
7	The leadership in the organization is generally considered to exemplify a no-nonsense, aggressive, results-oriented focus.	
8	The leadership in the organization is generally considered to exemplify coordinating, organizing, or smooth-running efficiency.	
9	The management style in the organization is characterized by teamwork, consensus, and participation.	
10	The management style in the organization is characterized by individual risk taking, innovation, freedom, and uniqueness.	
11	The management style in the organization is characterized by hard-driving competitiveness, high demands, and achievement.	

12	The management style in the organization is characterized by security of employment, conformity, predictability, and stability in relationships.	
13	The glue that holds the organization together is loyalty and mutual trust. Commitment to this organization runs high.	
14	The glue that holds the organization together is commitment to innovation and development. There is an emphasis on being on the cutting edge.	
15	The glue that holds the organization together is an emphasis on achievement and goal accomplishment.	
16	The glue that holds the organization together is formal rules and policies. Maintaining a smooth-running organization is important.	
17	The organisation emphasizes human development. High trust, openness, and participation persist.	
18	The organisation emphasizes acquiring new resources and creating new challenges. Trying new things and prospecting for opportunities are valued.	
19	The organisation emphasizes competitive actions and achievement. Hitting stretch targets and winning in the marketplace are dominant.	
20	The organisation emphasizes permanence and stability. Efficiency, control, and smooth operations are important.	
21	The organisation defines success on the basis of the development of human resources, teamwork, employee commitment, and concern for people.	
22	The organisation defines success on the basis of having the most unique or newest products. It is a product leader and innovator.	
23	The organisation defines success on the basis of winning in the marketplace and outpacing the competition. Competitive market leadership is key.	
24	The organisation defines success on the basis of efficiency. Dependable delivery, smooth scheduling, and low-cost production are critical.	
	Total	

Thank You

APPENDIX B

SPSS Output

Statistics						
		education	age	gender	ethnicity	position
N	Valid	333	333	333	333	333
	Missing	0	0	0	0	0

Education					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Master degree	51	15.3	15.3	15.3
	PhD degree	282	84.7	84.7	100.0
	Total	333	100.0	100.0	

Age					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	30 - 40	104	31.2	31.2	31.2
	over 40	229	68.8	68.8	100.0
	Total	333	100.0	100.0	

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	female	126	37.8	37.8	37.8
	male	207	62.2	62.2	100.0
	Total	333	100.0	100.0	

Ethnicity					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Malay	304	91.3	91.3	91.3
	Chinese	11	3.3	3.3	94.6
	Indian	13	3.9	3.9	98.5
	Other	5	1.5	1.5	100.0
	Total	333	100.0	100.0	

Position					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	HOD/manager	241	72.4	72.4	72.4
	Dean	30	9.0	9.0	81.4
	Deputy Dean	46	13.8	13.8	95.2
	Director	10	3.0	3.0	98.2
	Deputy Director	6	1.8	1.8	100.0
	Total	333	100.0	100.0	

Pearson Correlations (n = 333)							
		Mean_TL	Mean_SEA	Mean_OEA	Mean_UOE	Mean_ROE	Mean_OC
Pearson Correlation	Mean_TL	1.000	.383	.299	.478	.315	.268
	Mean_SEA	.383	1.000	.403	.529	.598	.241
	Mean_OEA	.299	.403	1.000	.334	.374	.237
	Mean_UOE	.478	.529	.334	1.000	.481	.245
	Mean_ROE	.315	.598	.374	.481	1.000	.263

	Mean_OC	.268	.241	.237	.245	.263	1.000
Sig. (1-tailed)	Mean_TL	.	.000	.000	.000	.000	.000
	Mean_SEA	.000	.	.000	.000	.000	.000
	Mean_OEA	.000	.000	.	.000	.000	.000
	Mean_UOE	.000	.000	.000	.	.000	.000
	Mean_ROE	.000	.000	.000	.000	.	.000
	Mean_OC	.000	.000	.000	.000	.000	.
N	Mean_TL	333	333	333	333	333	333
	Mean_SEA	333	333	333	333	333	333
	Mean_OEA	333	333	333	333	333	333
	Mean_UOE	333	333	333	333	333	333
	Mean_ROE	333	333	333	333	333	333
	Mean_OC	333	333	333	333	333	333

Outliers Output (Mahalanobis/Cook's distance):

	Mahalanobis	Cook		Mahalanobis	Cook		Mahalanobis	Cook
1	40.28	0.02	31	40.95	0.00	61	81.25	0.02
2	43.00	0.01	32	55.90	0.00	62	64.84	0.00
3	93.69	0.02	33	47.19	0.00	63	72.69	0.01
4	81.54	0.04	34	112.43	0.02	64	141.40	0.00
5	104.52	0.01	35	110.10	0.01	65	73.92	0.01
6	63.45	0.01	36	40.48	0.00	66	58.82	0.00
7	97.25	0.01	37	38.03	0.00	67	70.06	0.01
8	39.93	0.00	38	110.70	0.01	68	67.68	0.00
9	40.58	0.00	39	80.03	0.00	69	52.63	0.00
10	17.44	0.00	40	79.94	0.00	70	64.88	0.01
11	42.63	0.01	41	77.95	0.00	71	76.85	0.00
12	45.92	0.01	42	49.06	0.01	72	59.53	0.00
13	35.89	0.00	43	67.88	0.01	73	75.28	0.00
14	40.36	0.01	44	75.82	0.00	74	46.52	0.00
15	30.06	0.00	45	104.40	0.01	75	36.94	0.00
16	41.28	0.00	46	78.91	0.00	76	103.41	0.00
17	41.28	0.00	47	68.56	0.00	77	56.41	0.00
18	65.01	0.01	48	38.72	0.00	78	102.35	0.00
19	55.33	0.01	49	50.08	0.01	79	36.01	0.00
20	98.84	0.01	50	37.91	0.00	80	89.99	0.00
21	32.70	0.00	51	47.69	0.01	81	45.72	0.00
22	43.25	0.01	52	113.39	0.01	82	43.63	0.00
23	65.20	0.00	53	49.99	0.01	83	34.87	0.00
24	131.63	0.03	54	77.55	0.01	84	111.18	0.00
25	51.24	0.01	55	44.28	0.00	85	25.15	0.00
26	113.59	0.03	56	46.36	0.00	86	42.12	0.00
27	42.99	0.00	57	81.85	0.00	87	70.90	0.00
28	65.22	0.00	58	69.78	0.01	88	38.17	0.00
29	37.42	0.01	59	58.15	0.01	89	55.41	0.00
30	52.35	0.01	60	82.13	0.00	90	57.19	0.00

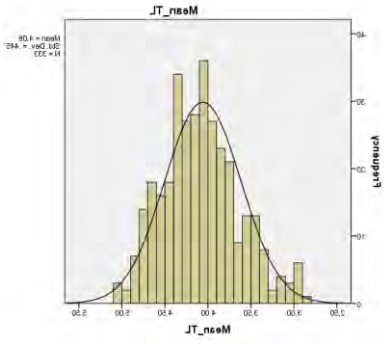
	Mahalanobis	Cook		Mahalanobis	Cook		Mahalanobis	Cook
91	81.71	0.01	121	13.97	0.00	151	57.23	0.00
92	71.87	0.01	122	40.66	0.00	152	51.57	0.00
93	24.63	0.00	123	52.23	0.00	153	54.83	0.00
94	40.24	0.01	124	66.63	0.00	154	54.29	0.00
95	48.17	0.00	125	51.27	0.00	155	47.68	0.00
96	48.90	0.00	126	90.76	0.01	156	60.77	0.00
97	39.65	0.00	127	71.95	0.00	157	103.69	0.00
98	54.89	0.00	128	27.16	0.00	158	78.25	0.00
99	65.21	0.01	129	21.22	0.00	159	36.29	0.00
100	17.26	0.00	130	66.08	0.00	160	23.49	0.00
101	91.80	0.01	131	38.90	0.00	161	108.97	0.00
102	75.11	0.00	132	11.56	0.00	162	94.91	0.00
103	36.58	0.00	133	78.75	0.00	163	45.30	0.00
104	73.95	0.00	134	31.05	0.00	164	67.74	0.00
105	36.67	0.00	135	56.74	0.00	165	44.73	0.00
106	46.08	0.00	136	51.45	0.00	166	43.04	0.00
107	30.48	0.00	137	57.61	0.00	167	151.34	0.00
108	109.84	0.01	138	28.41	0.00	168	42.87	0.00
109	42.00	0.00	139	113.86	0.00	169	67.64	0.00
110	161.92	0.00	140	13.76	0.00	170	30.96	0.00
111	38.84	0.00	141	49.34	0.00	171	26.48	0.00
112	58.15	0.00	142	52.15	0.00	172	63.05	0.00
113	33.27	0.00	143	91.08	0.00	173	94.29	0.00
114	89.81	0.01	144	58.24	0.00	174	78.77	0.00
115	35.37	0.00	145	37.38	0.00	175	68.32	0.00
116	60.80	0.00	146	41.52	0.00	176	90.80	0.01
117	43.01	0.00	147	38.33	0.00	177	112.73	0.00
118	42.32	0.00	148	14.10	0.00	178	53.76	0.00
119	44.69	0.00	149	34.94	0.00	179	107.15	0.00
120	42.70	0.00	150	46.83	0.00	180	27.24	0.00

	Mahalanobis	Cook		Mahalanobis	Cook		Mahalanobis	Cook
181	47.83	0.00	211	36.02	0.00	241	48.35	0.00
182	126.72	0.01	212	64.89	0.00	242	94.99	0.00
183	58.18	0.00	213	53.42	0.00	243	51.91	0.00
184	42.87	0.00	214	50.79	0.00	244	89.42	0.00
185	34.07	0.00	215	42.51	0.00	245	28.39	0.00
186	91.84	0.00	216	67.48	0.01	246	40.45	0.00
187	75.71	0.00	217	121.94	0.00	247	77.59	0.00
188	59.57	0.00	218	39.77	0.00	248	98.17	0.00
189	57.72	0.00	219	107.02	0.03	249	64.87	0.00
190	61.10	0.00	220	57.24	0.00	250	56.59	0.00
191	109.19	0.00	221	51.53	0.00	251	74.01	0.00
192	56.78	0.00	222	54.07	0.00	252	59.39	0.00
193	29.78	0.00	223	35.76	0.00	253	42.35	0.00
194	123.12	0.01	224	32.72	0.00	254	82.17	0.01
195	47.57	0.00	225	31.36	0.00	255	32.56	0.00
196	43.39	0.00	226	29.19	0.00	256	78.96	0.02
197	79.17	0.00	227	35.75	0.00	257	60.44	0.01
198	70.28	0.00	228	25.08	0.00	258	48.73	0.00
199	23.58	0.00	229	31.22	0.00	259	56.33	0.00
200	58.58	0.00	230	43.88	0.00	260	51.50	0.00
201	56.81	0.00	231	76.79	0.01	261	52.88	0.00
202	59.35	0.00	232	60.06	0.00	262	108.77	0.00
203	30.08	0.00	233	57.34	0.00	263	48.31	0.00
204	62.40	0.00	234	51.36	0.00	264	105.49	0.01
205	55.13	0.00	235	70.71	0.00	265	56.45	0.02
206	86.78	0.00	236	77.26	0.00	266	42.27	0.00
207	13.13	0.00	237	70.77	0.00	267	38.20	0.00
208	88.04	0.00	238	47.43	0.00	268	32.83	0.00
209	74.67	0.00	239	89.81	0.00	269	95.28	0.01
210	36.14	0.00	240	55.46	0.00	270	62.97	0.00

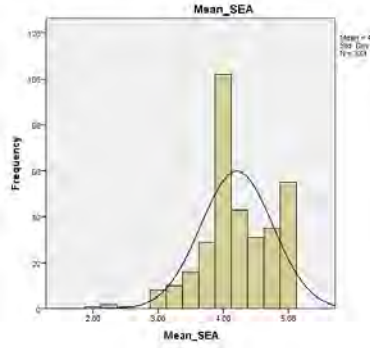
	Mahalanobis	Cook		Mahalanobis	Cook		Mahalanobis	Cook
271	53.55	0.00	301	67.99	0.02	331	50.70	0.01
272	56.56	0.00	302	63.50	0.01	332	58.46	0.01
273	28.16	0.00	303	37.39	0.01	333	31.04	0.00
274	70.91	0.01	304	70.32	0.01			
275	108.51	0.03	305	61.92	0.00			
276	91.33	0.01	306	9.33	0.00			
277	47.11	0.01	307	52.46	0.01			
278	119.05	0.02	308	32.26	0.00			
279	51.42	0.00	309	34.71	0.00			
280	74.75	0.00	310	50.92	0.01			
281	71.94	0.00	311	48.99	0.00			
282	57.57	0.00	312	14.07	0.00			
283	56.33	0.00	313	82.52	0.03			
284	40.86	0.01	314	71.96	0.01			
285	40.21	0.00	315	62.50	0.00			
286	98.81	0.00	316	149.79	0.00			
287	53.23	0.00	317	90.06	0.01			
288	34.48	0.00	318	65.49	0.00			
289	97.85	0.03	319	34.78	0.00			
290	51.79	0.00	320	33.33	0.00			
291	47.98	0.01	321	35.54	0.01			
292	49.27	0.00	322	118.37	0.00			
293	45.04	0.00	323	32.27	0.00			
294	32.87	0.00	324	39.86	0.01			
295	47.50	0.00	325	51.85	0.01			
296	39.23	0.01	326	23.23	0.00			
297	60.76	0.00	327	29.73	0.01			
298	65.48	0.00	328	77.89	0.00			
299	57.28	0.00	329	47.18	0.00			
300	47.78	0.00	330	115.33	0.02			

Results of Normality Assessment (n=333)

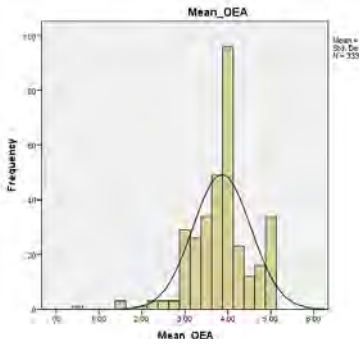
Histograms



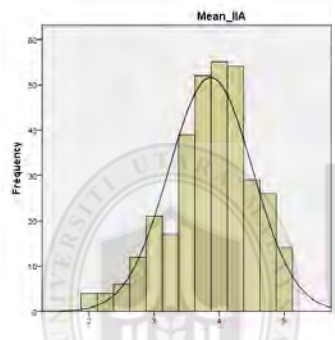
Transformational Leadership (TL)



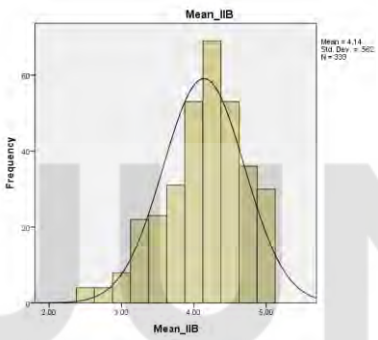
Self-emotion Appraisal (SEA)



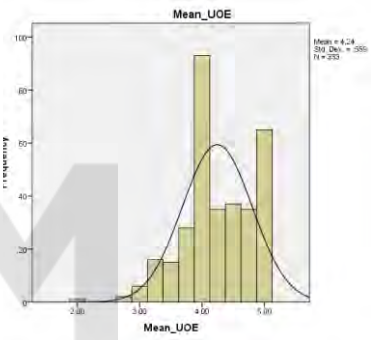
Others Emotional Appraisal (OEA)



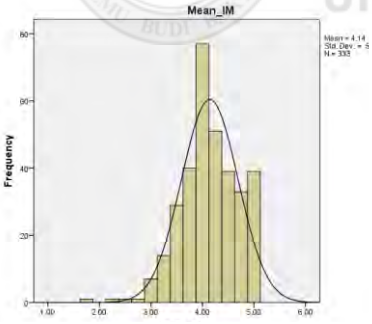
Idealized Influence (attributed) (IIA)



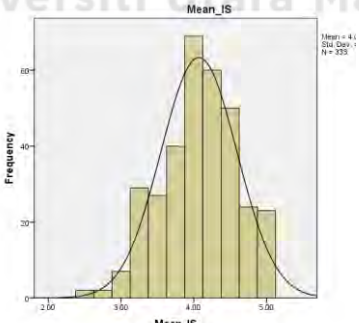
Idealized Influence (behavior) (IIB)



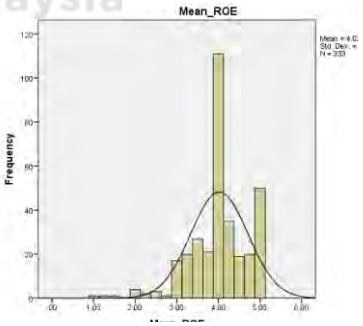
Use of Emotion (UOE)



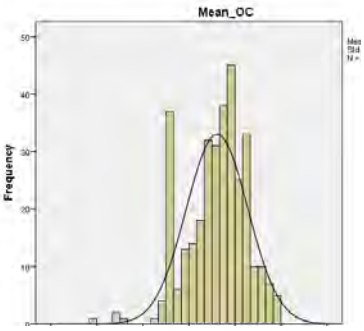
Inspirational Motivation (IM)



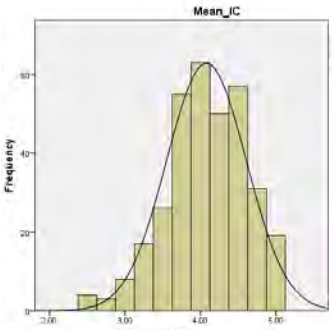
Intellectual Stimulation (IS)



Regulation of Emotion (ROE)



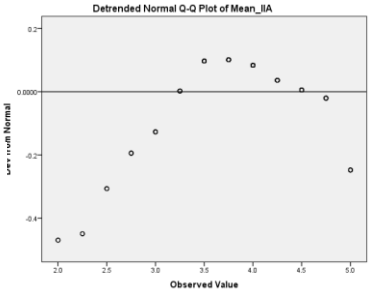
Organizational Culture (OC)

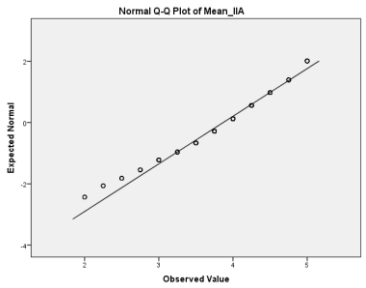


Individualized Consideration (IC)

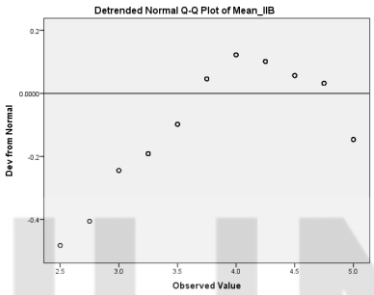
Normality Q-Q and De-trended Q-Q Plots

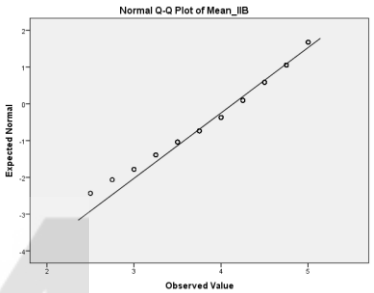
Idealized Influence (attributed) (IIA)



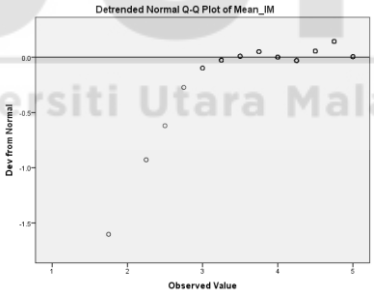


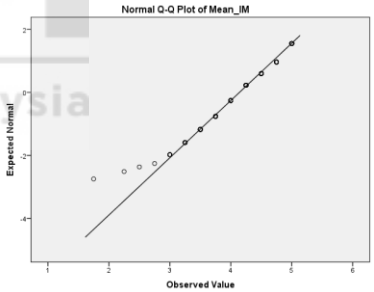
Idealized Influence (behavior) (IIB)



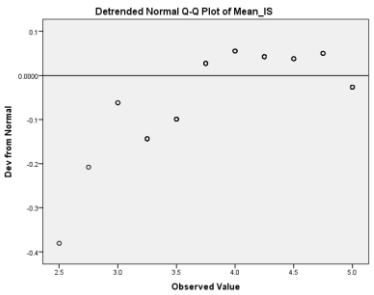


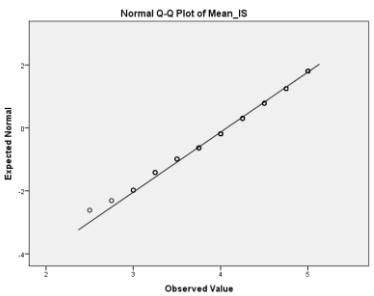
Inspirational Motivation (IM)



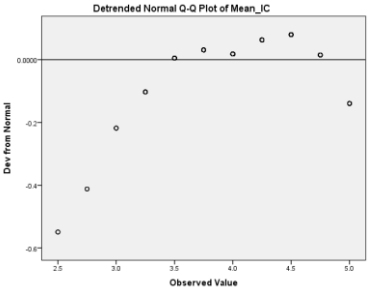


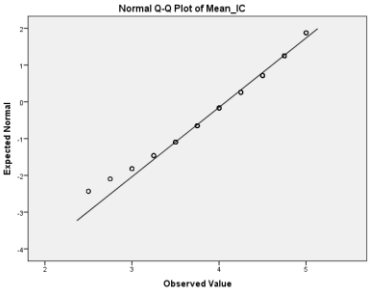
Intellectual Stimulation (IS)



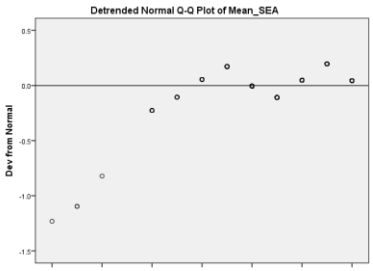


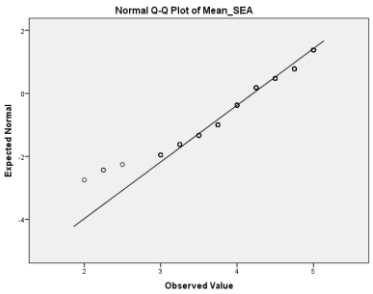
Individualized Consideration (IC)



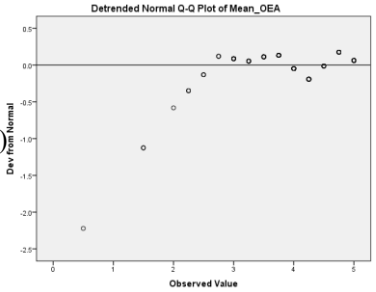


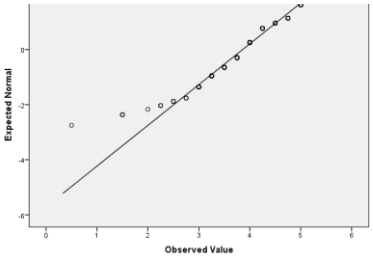
Self-emotion Appraisal (SEA)



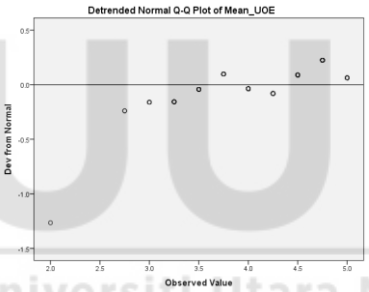


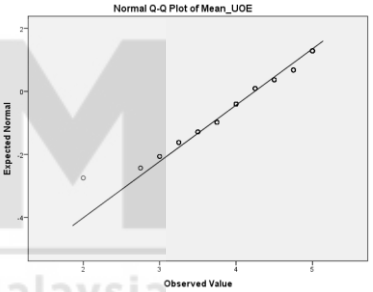
Others Emotional Appraisal (OEA)



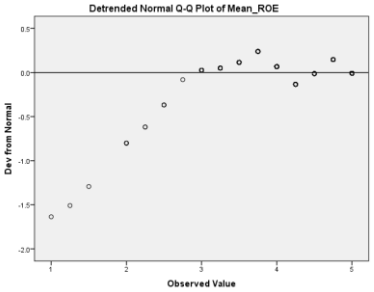


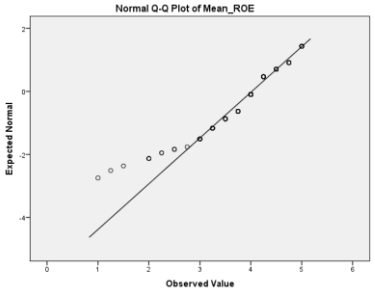
Use of Emotion (UOE)



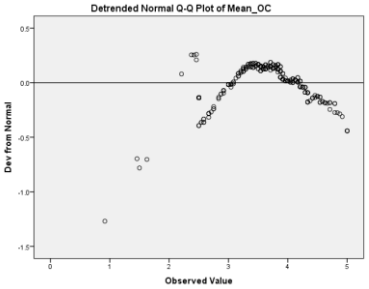


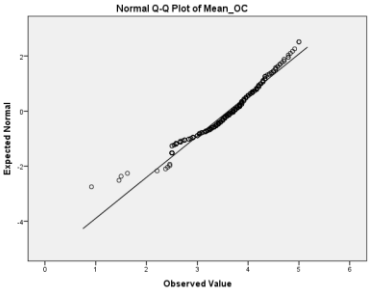
Regulation of Emotion (ROE)





Organizational Culture (OC)





Univariate Skewness and Kurtosis Statistics (n=333):

Std. error of skewness: .134

Std. error of kurtosis: .266

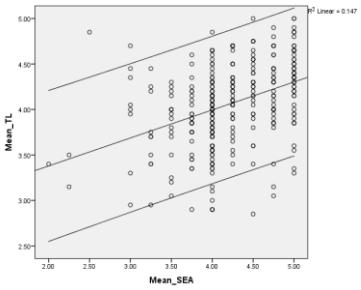
	Min.	Max.	Mean	Std. Deviation	Skewness	Kurtosis
IIA1	1	5	3.72	1.043	-0.8	0.276
IIA2	1	5	4.15	0.919	-1.239	1.65
IIA3	1	5	3.74	1.038	-0.994	0.839
IIA4	1	5	3.86	0.846	-0.514	0.229
IIB1	1	5	3.77	0.981	-0.786	0.472
IIB2	1	5	4.21	0.74	-0.811	0.89
IIB3	1	5	4.42	0.705	-1.209	1.865
IIB4	1	5	4.16	0.744	-0.701	0.657
IM1	1	5	4.13	0.737	-0.714	1.104
IM2	1	5	4.17	0.74	-0.991	2.209
IM3	1	5	4.01	0.756	-0.514	0.566
IM4	3	5	4.26	0.66	-0.346	-0.76
IS1	1	5	3.95	0.771	-0.593	0.71
IS2	1	5	4.02	0.799	-0.507	-0.017
IS3	2	5	4.14	0.738	-0.626	0.278
IS4	2	5	4.17	0.691	-0.345	-0.472
IC1	2	5	4.11	0.734	-0.683	0.578
IC2	1	5	3.72	1.094	-0.809	0.116
IC3	1	5	4.21	0.819	-1.061	1.406
IC4	2	5	4.28	0.678	-0.579	-0.008
SEA1	2	5	4.14	0.652	-0.536	0.887
SEA2	0	5	4.20	0.712	-1.260	4.505
SEA3	1	5	4.21	0.694	-0.802	1.446
SEA4	1	5	4.29	0.692	-0.849	1.247
OEA1	2	5	3.70	0.799	-0.119	-0.465
OEA2	0	5	3.85	0.814	-0.770	1.575
OEA3	0	5	4.00	0.736	-0.956	2.983
OEA4	0	5	3.89	0.782	-0.830	2.309
UOE1	2	5	4.23	0.707	-0.677	0.348
UOE2	2	5	4.14	0.686	-0.414	-0.026
UOE3	2	5	4.26	0.675	-0.654	0.520
UOE4	2	5	4.35	0.644	-0.612	0.044
ROE1	0	5	4.00	0.805	-0.982	2.070
ROE2	0	5	4.05	0.788	-1.267	4.036
ROE3	0	5	3.98	0.819	-0.897	1.686

ROE4	0	5	4.05	0.769	-1.048	2.755
DC1	0	5	3.47	1.037	-0.722	0.296
DC2	0	5	3.24	0.971	-0.464	0.104
DC3	1	5	3.61	1.058	-0.820	0.261
DC4	1	5	3.52	1.002	-0.650	0.094
OL1	1	5	3.80	1.003	-0.878	0.619
OL2	0	5	3.50	0.914	-0.770	0.881
OL3	0	5	3.26	1.099	-0.533	-0.182
OL4	0	5	3.75	1.034	-0.993	0.758
ME1	0	5	3.92	1.067	-1.285	1.436
ME2	0	5	3.34	1.046	-0.690	0.222
ME3	1	5	3.52	0.959	-0.561	0.240
ME4	0	5	3.62	0.980	-0.790	0.687
OG1	0	5	3.81	1.143	-1.103	1.034
OG2	0	5	3.69	1.017	-1.019	1.183
OG3	0	5	3.79	1.003	-1.004	1.110
OG4	0	5	3.66	0.997	-0.861	0.691
SE1	0	5	3.75	1.081	-1.024	0.941
SE2	0	5	3.66	1.057	-1.005	1.139
SE3	0	5	3.57	1.005	-0.794	0.722
SE4	0	5	3.65	1.023	-0.848	0.527
SC1	0	5	3.90	1.105	-1.283	1.586
SC2	0	5	3.41	1.013	-0.622	0.485
SC3	0	5	3.56	1.056	-0.842	0.856
SC4	0	5	3.67	1.018	-1.002	1.105

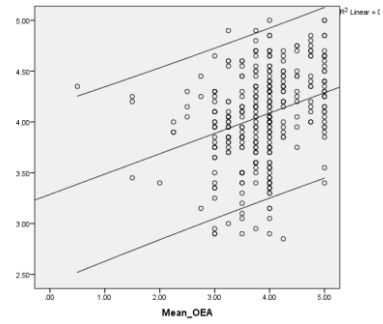
Multicollinearity Coefficients:

Model		Unstandardized Coefficient		Standardized Coefficients	t	Sig.	95.0% Confidence Interval for B		Correlations			Collinearity Statistics	
		B	Std. Error	Beta			Lower Bound	Upper Bound	Zero-order	Partial	Part	Tolerance	VIF
1	(Constant)	1.857	.196		9.490	.000	1.472	2.241					
	Mean_SEA	.095	.051	.119	1.890	.060	-.004	.195	.384	.104	.088	.545	1.836
	Mean_OEA	.069	.035	.105	2.007	.046	.001	.137	.304	.110	.093	.787	1.271
	Mean_UOE	.295	.045	.371	6.487	.000	.206	.385	.496	.338	.302	.662	1.510
	Mean_ROE	-.004	.039	-.006	-.095	.925	-.081	.074	.316	-.005	-.004	.584	1.711
	Mean_OC	.082	.033	.124	2.513	.012	.018	.146	.266	.138	.117	.895	1.117

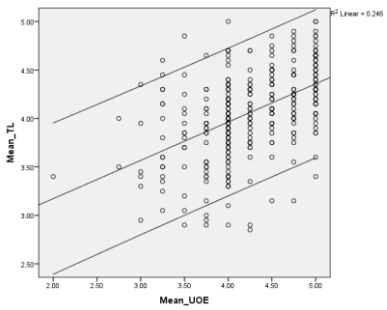
Homoscedasticity Plots:



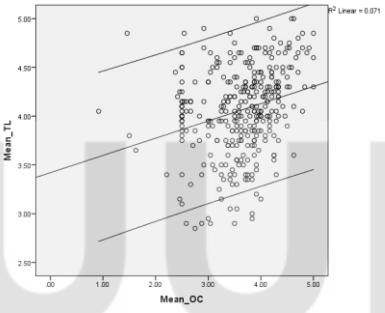
Self-emotion Appraisal (SEA)



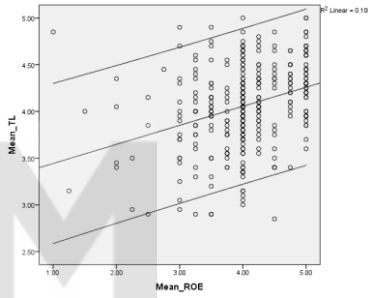
Others Emotional Appraisal (OEA)



Use of Emotion (UOE)



Organizational Culture (OC)



Regulation of Emotion (ROE)

Harman's single factor test (CMV)

Total Variance Explained						
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	13.909	23.182	23.182	13.909	23.182	23.182
2	6.726	11.209	34.392	6.726	11.209	34.392
3	3.620	6.033	40.424	3.620	6.033	40.424
4	2.352	3.921	44.345	2.352	3.921	44.345
5	1.860	3.099	47.445	1.860	3.099	47.445
6	1.659	2.765	50.209	1.659	2.765	50.209
7	1.537	2.561	52.771	1.537	2.561	52.771
8	1.391	2.318	55.089	1.391	2.318	55.089
9	1.333	2.222	57.311	1.333	2.222	57.311
10	1.299	2.165	59.476	1.299	2.165	59.476
11	1.173	1.956	61.431	1.173	1.956	61.431
12	1.077	1.796	63.227	1.077	1.796	63.227
13	1.006	1.676	64.903	1.006	1.676	64.903
14	.984	1.640	66.543			
15	.928	1.547	68.089			
16	.911	1.519	69.608			
17	.828	1.379	70.987			
18	.801	1.335	72.322			
19	.766	1.276	73.598			
20	.718	1.196	74.795			
21	.707	1.179	75.973			
22	.688	1.147	77.121			
23	.669	1.115	78.236			
24	.644	1.074	79.310			
25	.630	1.050	80.360			
26	.590	.983	81.343			
27	.566	.944	82.287			
28	.556	.927	83.214			
29	.545	.909	84.123			

30	.512	.853	84.976			
31	.506	.843	85.819			
32	.497	.828	86.647			
33	.469	.781	87.428			
34	.453	.755	88.183			
35	.417	.695	88.879			
36	.411	.685	89.564			
37	.401	.668	90.232			
38	.380	.634	90.866			
39	.369	.615	91.481			
40	.352	.586	92.068			
41	.344	.574	92.641			
42	.326	.543	93.185			
43	.313	.521	93.706			
44	.308	.514	94.219			
45	.304	.507	94.726			
46	.276	.459	95.186			
47	.271	.452	95.638			
48	.265	.442	96.080			
49	.254	.423	96.503			
50	.246	.410	96.912			
51	.230	.384	97.296			
52	.226	.377	97.673			
53	.208	.347	98.020			
54	.204	.340	98.360			
55	.200	.333	98.694			
56	.175	.292	98.985			
57	.173	.289	99.274			
58	.164	.273	99.547			
59	.149	.249	99.796			
60	.122	.204	100.000			
Extraction Method: Principal Component Analysis.						

Organizational Culture's Indicators' Pearson Correlations

Correlations

		DC1	DC2	DC3	DC4	OL1	OL2	OL3	OL4	ME1	ME2	ME3	ME4	OG1	OG2	OG3	OG4	SE1	SE2	SE3	SE4	SC1	SC2	SC3	SC4
DC1	Pearson Correlation	1	.298**	.103*	.110*	.269**	.205**	.235**	.259**	.254**	.199**	.160**	.271**	.234**	.246**	.259**	.219**	.317**	.286**	.164**	.265**	.169**	.255**	.197**	.255**
	Sig. (1-tailed)		.000	.030	.022	.000	.000	.000	.000	.000	.000	.002	.000	.000	.000	.000	.000	.000	.000	.001	.000	.001	.000	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
DC2	Pearson Correlation	.298**	1	.235**	.081	.281**	.483**	.213**	.283**	.235**	.316**	.309**	.243**	.345**	.390**	.251**	.184**	.320**	.323**	.292**	.238**	.267**	.316**	.250**	.332**
	Sig. (1-tailed)	.000		.000	.071	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
DC3	Pearson Correlation	.103*	.235**	1	.468**	.469**	.358**	.213**	.449**	.456**	.240**	.440**	.247**	.358**	.373**	.397**	.289**	.405**	.267**	.426**	.329**	.447**	.333**	.283**	.408**
	Sig. (1-tailed)	.030	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
DC4	Pearson Correlation	.110*	.081	.468**	1	.273**	.155**	.334**	.350**	.325**	.153**	.341**	.382**	.218**	.200**	.367**	.396**	.235**	.202**	.279**	.349**	.302**	.324**	.254**	.301**
	Sig. (1-tailed)	.022	.071	.000		.000	.002	.000	.000	.000	.003	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
OL1	Pearson Correlation	.269**	.281**	.469**	.273**	1	.447**	.155**	.586**	.712**	.206**	.397**	.424**	.554**	.430**	.484**	.281**	.603**	.437**	.391**	.512**	.591**	.345**	.276**	.480**
	Sig. (1-tailed)	.000	.000	.000	.000		.000	.002	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
OL2	Pearson Correlation	.205**	.483**	.358**	.155**	.447**	1	.348**	.425**	.374**	.511**	.522**	.370**	.376**	.501**	.402**	.292**	.420**	.543**	.435**	.359**	.420**	.518**	.419**	.453**
	Sig. (1-tailed)	.000	.000	.000	.002	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000

	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
OL3	Pearson Correlation	.235**	.213**	.213**	.334**	.155**	.348**	1	.292**	.111*	.388**	.449**	.281**	.207**	.233**	.336**	.332**	.213**	.321**	.380**	.342**	.165**	.400**	.328**	.343**	
	Sig. (1-tailed)	.000	.000	.000	.000	.002	.000		.000	.022	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	
OL4	Pearson Correlation	.259**	.283**	.449**	.350**	.586**	.425**	.292**	1	.680**	.314**	.421**	.507**	.542**	.461**	.547**	.415**	.643**	.451**	.402**	.562**	.641**	.421**	.358**	.562**	
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	
ME1	Pearson Correlation	.254**	.235**	.456**	.325**	.712**	.374**	.111*	.680**	1	.225**	.419**	.440**	.597**	.476**	.541**	.352**	.654**	.456**	.389**	.506**	.672**	.380**	.305**	.500**	
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.022	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	
ME2	Pearson Correlation	.199**	.316**	.240**	.153**	.206**	.511**	.388**	.314**	.225**	1	.421**	.354**	.304**	.392**	.375**	.366**	.288**	.425**	.380**	.334**	.288**	.501**	.319**	.369**	
	Sig. (1-tailed)	.000	.000	.000	.003	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	
ME3	Pearson Correlation	.160**	.309**	.440**	.341**	.397**	.522**	.449**	.421**	.419**	.421**	1	.385**	.435**	.478**	.591**	.358**	.460**	.505**	.568**	.469**	.424**	.461**	.486**	.505**	
	Sig. (1-tailed)	.002	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	
ME4	Pearson Correlation	.271**	.243**	.247**	.382**	.424**	.370**	.281**	.507**	.440**	.354**	.385**	1	.446**	.383**	.501**	.489**	.504**	.499**	.359**	.538**	.500**	.440**	.359**	.520**	
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	
OG1	Pearson Correlation	.234**	.345**	.358**	.218**	.554**	.376**	.207**	.542**	.597**	.304**	.435**	.446**	1	.536**	.514**	.344**	.671**	.470**	.360**	.482**	.677**	.359**	.331**	.488**	

	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
OG2	Pearson Correlation	.246**	.390**	.373**	.200**	.430**	.501**	.233**	.461**	.476**	.392**	.478**	.383**	.536**	1	.537**	.327**	.538**	.598**	.525**	.378**	.464**	.429**	.437**	.476**	
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	
OG3	Pearson Correlation	.259**	.251**	.397**	.367**	.484**	.402**	.336**	.547**	.541**	.375**	.591**	.501**	.514**	.537**	1	.475**	.569**	.556**	.512**	.600**	.522**	.448**	.439**	.575**	
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	
OG4	Pearson Correlation	.219**	.184**	.289**	.396**	.281**	.292**	.332**	.415**	.352**	.366**	.358**	.489**	.344**	.327**	.475**	1	.407**	.357**	.442**	.614**	.412**	.399**	.335**	.466**	
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	
SE1	Pearson Correlation	.317**	.320**	.405**	.235**	.603**	.420**	.213**	.643**	.654**	.288**	.460**	.504**	.671**	.538**	.569**	.407**	1	.513**	.358**	.525**	.662**	.393**	.327**	.582**	
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	
SE2	Pearson Correlation	.286**	.323**	.267**	.202**	.437**	.543**	.321**	.451**	.456**	.425**	.505**	.499**	.470**	.598**	.556**	.357**	.513**	1	.510**	.467**	.491**	.573**	.528**	.493**	
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	
SE3	Pearson Correlation	.164**	.292**	.426**	.279**	.391**	.435**	.380**	.402**	.389**	.380**	.568**	.359**	.360**	.525**	.512**	.442**	.358**	.510**	1	.463**	.402**	.574**	.634**	.495**	
	Sig. (1-tailed)	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	

SE4	Pearson Correlation	.265**	.238**	.329**	.349**	.512**	.359**	.342**	.562**	.506**	.334**	.469**	.538**	.482**	.378**	.600**	.614**	.525**	.467**	.463**	1	.563**	.456**	.407**	.639**
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
SC1	Pearson Correlation	.169**	.267**	.447**	.302**	.591**	.420**	.165**	.641**	.672**	.288**	.424**	.500**	.677**	.464**	.522**	.412**	.662**	.491**	.402**	.563**	1	.378**	.308**	.549**
	Sig. (1-tailed)	.001	.000	.000	.000	.000	.000	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
SC2	Pearson Correlation	.255**	.316**	.333**	.324**	.345**	.518**	.400**	.421**	.380**	.501**	.461**	.440**	.359**	.429**	.448**	.399**	.393**	.573**	.574**	.456**	.378**	1	.595**	.483**
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
SC3	Pearson Correlation	.197**	.250**	.283**	.254**	.276**	.419**	.328**	.358**	.305**	.319**	.486**	.359**	.331**	.437**	.439**	.335**	.327**	.528**	.634**	.407**	.308**	.595**	1	.466**
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
SC4	Pearson Correlation	.255**	.332**	.408**	.301**	.480**	.453**	.343**	.562**	.500**	.369**	.505**	.520**	.488**	.476**	.575**	.466**	.582**	.493**	.495**	.639**	.549**	.483**	.466**	1
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333

**. Correlation is significant at the 0.01 level (1-tailed).

*. Correlation is significant at the 0.05 level (1-tailed).

Transformational Leadership's Indicators' Pearson Correlations

Correlations

		IIA1	IIA2	IIA3	IIA4	IIB1	IIB2	IIB3	IIB4	IM1	IM2	IM3	IM4	IS1	IS2	IS3	IS4	IC1	IC2	IC3	IC4
IIA 1	Pearson Correlation	1	.151**	.317**	.270**	.145**	.202**	.094*	.080	.225**	.220**	.185**	.173**	.223**	.193**	.065	.141**	.111*	.034	.089	.195**
	Sig. (1-tailed)		.003	.000	.000	.004	.000	.044	.073	.000	.000	.000	.001	.000	.000	.119	.005	.021	.270	.052	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IIA 2	Pearson Correlation	.151**	1	.281**	.217**	.223**	.347**	.284**	.335**	.322**	.362**	.354**	.287**	.329**	.290**	.272**	.273**	.203**	.234**	.247**	.359**
	Sig. (1-tailed)	.003		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IIA 3	Pearson Correlation	.317**	.281**	1	.330**	.204**	.335**	.288**	.212**	.143**	.318**	.343**	.258**	.255**	.251**	.191**	.233**	.073	.193**	.226**	.217**
	Sig. (1-tailed)	.000	.000		.000	.000	.000	.000	.000	.004	.000	.000	.000	.000	.000	.000	.000	.091	.000	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IIA 4	Pearson Correlation	.270**	.217**	.330**	1	.262**	.312**	.228**	.312**	.257**	.340**	.533**	.308**	.235**	.121*	.237**	.256**	.204**	.101*	.159**	.356**
	Sig. (1-tailed)	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.014	.000	.000	.000	.033	.002	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333

IIB 1	Pearson Correlation	.145**	.223**	.204**	.262**	1	.347**	.177**	.248**	.326**	.344**	.347**	.296**	.132**	.234**	.218**	.245**	.191**	.042	.064	.301**
	Sig. (1-tailed)	.004	.000	.000	.000		.000	.001	.000	.000	.000	.000	.000	.008	.000	.000	.000	.000	.222	.121	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IIB 2	Pearson Correlation	.202**	.347**	.335**	.312**	.347**	1	.452**	.437**	.351**	.595**	.487**	.458**	.282**	.363**	.344**	.401**	.261**	.175**	.240**	.362**
	Sig. (1-tailed)	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IIB 3	Pearson Correlation	.094*	.284**	.288**	.228**	.177**	.452**	1	.404**	.160**	.318**	.300**	.377**	.170**	.319**	.273**	.282**	.149**	.266**	.283**	.319**
	Sig. (1-tailed)	.044	.000	.000	.000	.001	.000		.000	.002	.000	.000	.000	.001	.000	.000	.000	.003	.000	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IIB 4	Pearson Correlation	.080	.335**	.212**	.312**	.248**	.437**	.404**	1	.242**	.412**	.405**	.504**	.276**	.338**	.427**	.464**	.249**	.128**	.411**	.458**
	Sig. (1-tailed)	.073	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.000	.000	.010	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IM1	Pearson Correlation	.225**	.322**	.143**	.257**	.326**	.351**	.160**	.242**	1	.424**	.388**	.349**	.223**	.297**	.277**	.264**	.162**	.009	.104*	.373**
	Sig. (1-tailed)	.000	.000	.004	.000	.000	.000	.002	.000		.000	.000	.000	.000	.000	.000	.000	.002	.435	.029	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IM2	Pearson Correlation	.220**	.362**	.318**	.340**	.344**	.595**	.318**	.412**	.424**	1	.504**	.465**	.225**	.355**	.378**	.428**	.271**	.169**	.246**	.431**
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.000	.001	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IM3	Pearson Correlation	.185**	.354**	.343**	.533**	.347**	.487**	.300**	.405**	.388**	.504**	1	.485**	.305**	.239**	.425**	.424**	.313**	.159**	.231**	.531**
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.000	.002	.000	.000

	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IM4	Pearson Correlation	.173**	.287**	.258**	.308**	.296**	.458**	.377**	.504**	.349**	.465**	.485**	1	.268**	.313**	.402**	.516**	.200**	.099*	.350**	.496**
	Sig. (1-tailed)	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.000	.000	.000	.035	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IS1	Pearson Correlation	.223**	.329**	.255**	.235**	.132**	.282**	.170**	.276**	.223**	.225**	.305**	.268**	1	.339**	.191**	.224**	.185**	.105*	.221**	.308**
	Sig. (1-tailed)	.000	.000	.000	.000	.008	.000	.001	.000	.000	.000	.000	.000		.000	.000	.000	.000	.027	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IS2	Pearson Correlation	.193**	.290**	.251**	.121*	.234**	.363**	.319**	.338**	.297**	.355**	.239**	.313**	.339**	1	.321**	.336**	.083	.122*	.255**	.283**
	Sig. (1-tailed)	.000	.000	.000	.014	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.066	.013	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IS3	Pearson Correlation	.065	.272**	.191**	.237**	.218**	.344**	.273**	.427**	.277**	.378**	.425**	.402**	.191**	.321**	1	.510**	.228**	.066	.417**	.569**
	Sig. (1-tailed)	.119	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.000	.000	.115	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IS4	Pearson Correlation	.141**	.273**	.233**	.256**	.245**	.401**	.282**	.464**	.264**	.428**	.424**	.516**	.224**	.336**	.510**	1	.165**	.151**	.385**	.614**
	Sig. (1-tailed)	.005	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000		.001	.003	.000	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IC1	Pearson Correlation	.111*	.203**	.073	.204**	.191**	.261**	.149**	.249**	.162**	.271**	.313**	.200**	.185**	.083	.228**	.165**	1	.043	.117*	.253**
	Sig. (1-tailed)	.021	.000	.091	.000	.000	.000	.003	.000	.002	.000	.000	.000	.000	.066	.000	.001		.218	.016	.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IC2	Pearson Correlation	.034	.234**	.193**	.101*	.042	.175**	.266**	.128**	.009	.169**	.159**	.099*	.105*	.122*	.066	.151**	.043	1	.267**	.130**

	Sig. (1-tailed)	.270	.000	.000	.033	.222	.001	.000	.010	.435	.001	.002	.035	.027	.013	.115	.003	.218		.000	.009
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IC3	Pearson Correlation	.089	.247**	.226**	.159**	.064	.240**	.283**	.411**	.104*	.246**	.231**	.350**	.221**	.255**	.417**	.385**	.117*	.267**	1	.434**
	Sig. (1-tailed)	.052	.000	.000	.002	.121	.000	.000	.000	.029	.000	.000	.000	.000	.000	.000	.000	.016	.000		.000
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333
IC4	Pearson Correlation	.195**	.359**	.217**	.356**	.301**	.362**	.319**	.458**	.373**	.431**	.531**	.496**	.308**	.283**	.569**	.614**	.253**	.130**	.434**	1
	Sig. (1-tailed)	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.009	.000	
	N	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333	333

**. Correlation is significant at the 0.01 level (1-tailed). *. Correlation is significant at the 0.05 level (1-tailed).

SMARTPLS Output

Measurement Model

Outer Loadings and Cross Loadings (Item Level Reliability)

	Clan	Adho	Hier	Mrkt	OEA	ROE	SEA	UOE	IC	IIA	IIB	IM	IS
DC1	**0.411**	0.338	0.269	0.321	0.281	0.135	0.082	0.103	0.034	0.063	0.066	0.055	-0.012
ME1	**0.854**	0.506	0.531	0.64	0.174	0.198	0.152	0.193	0.199	0.164	0.204	0.262	0.241
OG1	**0.827**	0.562	0.526	0.58	0.131	0.19	0.233	0.215	0.213	0.148	0.179	0.194	0.173
OL1	**0.81**	0.492	0.51	0.581	0.105	0.153	0.103	0.163	0.152	0.126	0.221	0.252	0.175
SC1	**0.843**	0.549	0.541	0.674	0.13	0.245	0.227	0.237	0.208	0.133	0.219	0.222	0.271
SE1	**0.856**	0.573	0.55	0.661	0.157	0.151	0.204	0.152	0.195	0.12	0.217	0.219	0.177
DC2	0.384	**0.611**	0.371	0.332	0.133	0.149	0.119	0.132	0.108	0.1	0.127	0.158	0.094
ME2	0.338	**0.699**	0.486	0.437	0.055	0.142	0.137	0.074	0.043	0.094	0.015	0.075	0.06
OG2	0.601	**0.77**	0.615	0.518	0.078	0.221	0.126	0.166	0.152	0.075	0.142	0.195	0.149
OL2	0.495	**0.803**	0.573	0.481	0.16	0.203	0.177	0.179	0.206	0.186	0.171	0.23	0.192
SC2	0.447	**0.761**	0.642	0.565	0.143	0.177	0.16	0.234	0.198	0.156	0.133	0.234	0.176
SE2	0.591	**0.807**	0.63	0.567	0.19	0.219	0.239	0.219	0.147	0.131	0.124	0.174	0.157
DC3	0.485	0.396	**0.614**	0.467	0.119	0.163	0.125	0.185	0.199	0.186	0.246	0.205	0.253
ME3	0.501	0.607	**0.819**	0.552	0.205	0.16	0.175	0.151	0.173	0.145	0.188	0.235	0.196

OG3	0.644	0.607	**0.784**	0.693	0.147	0.167	0.158	0.181	0.156	0.116	0.205	0.221	0.187
OL3	0.213	0.406	**0.565**	0.409	0.135	0.11	0.108	0.131	0.056	0.095	0.058	0.046	0.087
SC3	0.381	0.596	**0.727**	0.495	0.244	0.149	0.192	0.165	0.163	0.112	0.17	0.225	0.166
SE3	0.467	0.633	**0.819**	0.557	0.195	0.214	0.143	0.222	0.196	0.152	0.213	0.257	0.185
DC4	0.309	0.243	0.451	**0.549**	0.138	0.094	0.075	0.111	0.098	0.194	0.195	0.151	0.207
ME4	0.565	0.532	0.501	**0.768**	0.126	0.165	0.169	0.074	0.062	0.074	0.152	0.131	0.106
OG4	0.444	0.442	0.521	**0.737**	0.173	0.122	0.115	0.122	0.13	0.096	0.079	0.101	0.111
OL4	0.736	0.549	0.575	**0.78**	0.176	0.22	0.188	0.155	0.198	0.16	0.19	0.244	0.226
SC4	0.619	0.602	0.647	**0.802**	0.128	0.135	0.195	0.165	0.103	0.093	0.148	0.145	0.194
SE4	0.625	0.524	0.612	**0.842**	0.181	0.201	0.184	0.179	0.149	0.094	0.176	0.189	0.182
OEA1	0.211	0.178	0.191	0.202	**0.792**	0.364	0.356	0.278	0.229	0.16	0.15	0.261	0.204
OEA2	0.15	0.132	0.159	0.154	**0.886**	0.297	0.354	0.316	0.224	0.223	0.207	0.233	0.169
OEA3	0.171	0.147	0.228	0.184	**0.87**	0.317	0.354	0.266	0.176	0.22	0.272	0.211	0.197
OEA4	0.138	0.138	0.247	0.164	**0.906**	0.307	0.355	0.289	0.211	0.256	0.266	0.249	0.195
ROE1	0.184	0.233	0.201	0.163	0.328	**0.874**	0.522	0.396	0.245	0.198	0.229	0.284	0.229
ROE2	0.156	0.139	0.146	0.143	0.244	**0.883**	0.51	0.464	0.263	0.217	0.26	0.265	0.245
ROE3	0.203	0.239	0.175	0.202	0.319	**0.848**	0.478	0.394	0.218	0.248	0.248	0.305	0.256
ROE4	0.257	0.268	0.258	0.233	0.402	**0.861**	0.544	0.41	0.19	0.206	0.236	0.267	0.194

SEA1	0.183	0.152	0.164	0.156	0.378	0.382	**0.74**	0.39	0.269	0.325	0.283	0.354	0.289
SEA2	0.189	0.178	0.161	0.157	0.302	0.558	**0.835**	0.464	0.207	0.205	0.261	0.257	0.199
SEA3	0.119	0.112	0.094	0.124	0.355	0.517	**0.845**	0.425	0.216	0.213	0.281	0.292	0.251
SEA4	0.21	0.256	0.244	0.241	0.269	0.464	**0.8**	0.427	0.235	0.188	0.309	0.292	0.28
UOE1	0.193	0.187	0.181	0.144	0.207	0.416	0.452	**0.814**	0.42	0.289	0.302	0.432	0.343
UOE2	0.15	0.123	0.13	0.075	0.31	0.376	0.419	**0.788**	0.298	0.318	0.294	0.34	0.244
UOE3	0.167	0.202	0.204	0.156	0.275	0.443	0.434	**0.857**	0.402	0.353	0.329	0.419	0.307
UOE4	0.239	0.234	0.254	0.206	0.309	0.352	0.44	**0.838**	0.429	0.294	0.374	0.447	0.378
IC1	0.035	0.019	0.007	-0.012	0.096	0.094	0.089	0.277	**0.517**	0.229	0.302	0.317	0.211
IC3	0.142	0.14	0.167	0.118	0.127	0.124	0.219	0.32	**0.722**	0.293	0.364	0.316	0.464
IC4	0.25	0.215	0.242	0.196	0.259	0.3	0.281	0.413	**0.874**	0.438	0.508	0.607	0.652
IIA2	0.102	0.114	0.177	0.105	0.126	0.15	0.222	0.267	0.387	**0.716**	0.421	0.434	0.357
IIA3	0.076	0.02	0.027	0.073	0.181	0.117	0.182	0.234	0.251	**0.716**	0.364	0.359	0.287
IIA4	0.17	0.214	0.177	0.14	0.235	0.269	0.23	0.311	0.348	**0.724**	0.391	0.481	0.273
IIB1	0.069	0.038	0.109	0.001	0.181	0.149	0.237	0.205	0.271	0.321	**0.565**	0.429	0.299
IIB2	0.2	0.126	0.212	0.155	0.175	0.212	0.242	0.308	0.404	0.461	**0.81**	0.63	0.477
IIB3	0.109	0.042	0.1	0.114	0.211	0.187	0.258	0.271	0.361	0.37	**0.702**	0.389	0.373
IIB4	0.28	0.223	0.271	0.273	0.191	0.247	0.286	0.334	0.531	0.404	**0.763**	0.525	0.536

IM1	0.198	0.162	0.227	0.145	0.118	0.157	0.179	0.259	0.323	0.342	0.376	**0.663**	0.358
IM2	0.169	0.148	0.184	0.131	0.18	0.209	0.207	0.352	0.452	0.475	0.595	**0.798**	0.503
IM3	0.221	0.237	0.224	0.179	0.24	0.286	0.358	0.438	0.521	0.574	0.544	**0.799**	0.48
IM4	0.227	0.188	0.23	0.196	0.28	0.314	0.381	0.448	0.513	0.397	0.581	**0.771**	0.541
IS2	0.066	0.01	0.071	0.014	0.099	0.112	0.164	0.167	0.306	0.307	0.443	0.394	**0.664**
IS3	0.251	0.234	0.293	0.247	0.163	0.238	0.248	0.352	0.595	0.328	0.452	0.493	**0.81**
IS4	0.204	0.17	0.189	0.228	0.234	0.253	0.317	0.359	0.589	0.355	0.499	0.547	**0.829**

Self-Emotion Appraisal's Indicators' Pearson Correlations:

Correlations					
		SEA1	SEA2	SEA3	SEA4
SEA1	Pearson Correlation	1	.532**	.422**	.352**
	Sig. (1-tailed)		.000	.000	.000
	N	333	333	333	333
SEA2	Pearson Correlation	.532**	1	.667**	.578**
	Sig. (1-tailed)	.000		.000	.000
	N	333	333	333	333
SEA3	Pearson Correlation	.422**	.667**	1	.678**
	Sig. (1-tailed)	.000	.000		.000
	N	333	333	333	333
SEA4	Pearson Correlation	.352**	.578**	.678**	1
	Sig. (1-tailed)	.000	.000	.000	
	N	333	333	333	333
**. Correlation is significant at the 0.01 level (1-tailed).					

Others Emotional Appraisal's Indicators' Pearson Correlations:

Correlations					
		OEA1	OEA2	OEA3	OEA4
OEA1	Pearson Correlation	1	.652**	.539**	.585**
	Sig. (1-tailed)		.000	.000	.000
	N	333	333	333	333
OEA2	Pearson Correlation	.652**	1	.667**	.733**
	Sig. (1-tailed)	.000		.000	.000
	N	333	333	333	333
OEA3	Pearson Correlation	.539**	.667**	1	.772**
	Sig. (1-tailed)	.000	.000		.000
	N	333	333	333	333
OEA4	Pearson Correlation	.585**	.733**	.772**	1
	Sig. (1-tailed)	.000	.000	.000	
	N	333	333	333	333
**. Correlation is significant at the 0.01 level (1-tailed).					

Use of Emotion's Indicators' Pearson Correlations:

Correlations					
		UOE1	UOE2	UOE3	UOE4
UOE1	Pearson Correlation	1	.540**	.582**	.555**
	Sig. (1-tailed)		.000	.000	.000
	N	333	333	333	333
UOE2	Pearson Correlation	.540**	1	.605**	.529**
	Sig. (1-tailed)	.000		.000	.000
	N	333	333	333	333
UOE3	Pearson Correlation	.582**	.605**	1	.633**
	Sig. (1-tailed)	.000	.000		.000
	N	333	333	333	333
UOE4	Pearson Correlation	.555**	.529**	.633**	1
	Sig. (1-tailed)	.000	.000	.000	
	N	333	333	333	333
**. Correlation is significant at the 0.01 level (1-tailed).					

Regulation of Emotion's Indicators' Pearson Correlations:

Correlations					
		ROE1	ROE2	ROE3	ROE4
ROE1	Pearson Correlation	1	.720**	.647**	.670**
	Sig. (1-tailed)		.000	.000	.000
	N	333	333	333	333
ROE2	Pearson Correlation	.720**	1	.624**	.719**
	Sig. (1-tailed)	.000		.000	.000
	N	333	333	333	333
ROE3	Pearson Correlation	.647**	.624**	1	.664**
	Sig. (1-tailed)	.000	.000		.000
	N	333	333	333	333
ROE4	Pearson Correlation	.670**	.719**	.664**	1
	Sig. (1-tailed)	.000	.000	.000	
	N	333	333	333	333
**. Correlation is significant at the 0.01 level (1-tailed).					

HTMT (Confidence Intervals Bias Corrected)

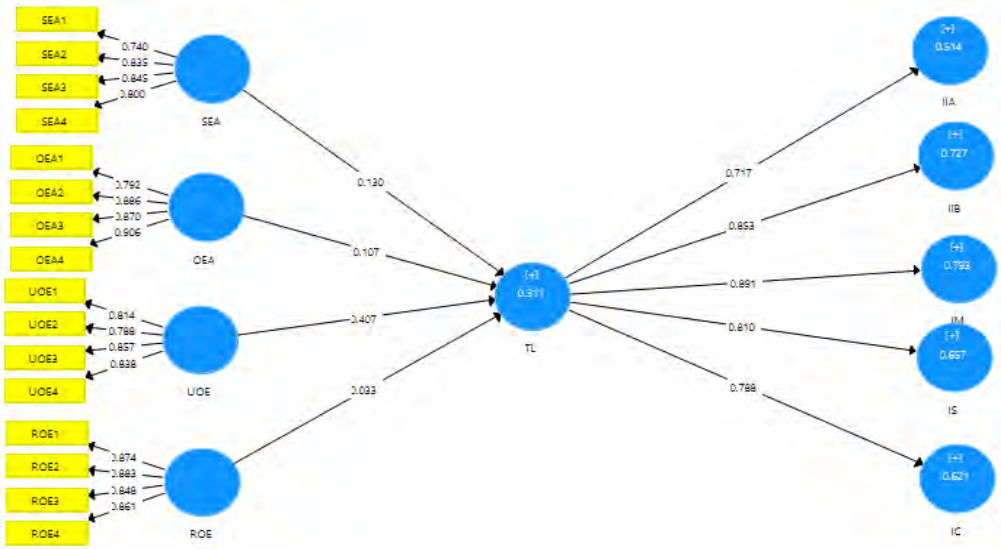
	Original Sample (O)	Sample Mean (M)	Bias	2.50%	97.50%	HTMT Result
OEA -> OC	0.26	0.267	0.007	0.167	0.389	0.278
ROE -> OC	0.287	0.293	0.005	0.173	0.431	0.302
ROE -> OEA	0.422	0.42	-0.001	0.272	0.565	0.4185
SEA -> OC	0.274	0.284	0.01	0.198	0.419	0.3085
SEA -> OEA	0.475	0.471	-0.004	0.361	0.566	0.4635
SEA -> ROE	0.7	0.698	-0.002	0.602	0.779	0.6905
TL -> OC	0.326	0.345	0.019	0.287	0.464	0.3755
TL -> OEA	0.343	0.346	0.003	0.237	0.457	0.347
TL -> ROE	0.378	0.379	0.001	0.268	0.493	0.3805
TL -> SEA	0.466	0.467	0.001	0.355	0.569	0.462
UOE -> OC	0.275	0.282	0.007	0.189	0.403	0.296
UOE -> OEA	0.386	0.385	-0.001	0.248	0.493	0.3705
UOE -> ROE	0.555	0.557	0.002	0.449	0.667	0.558
UOE -> SEA	0.636	0.636	-0.001	0.53	0.73	0.63
UOE -> TL	0.602	0.599	-0.003	0.491	0.681	0.586

Significance Testing Results of the Structural Model Path Coefficients (OC Dimensions)

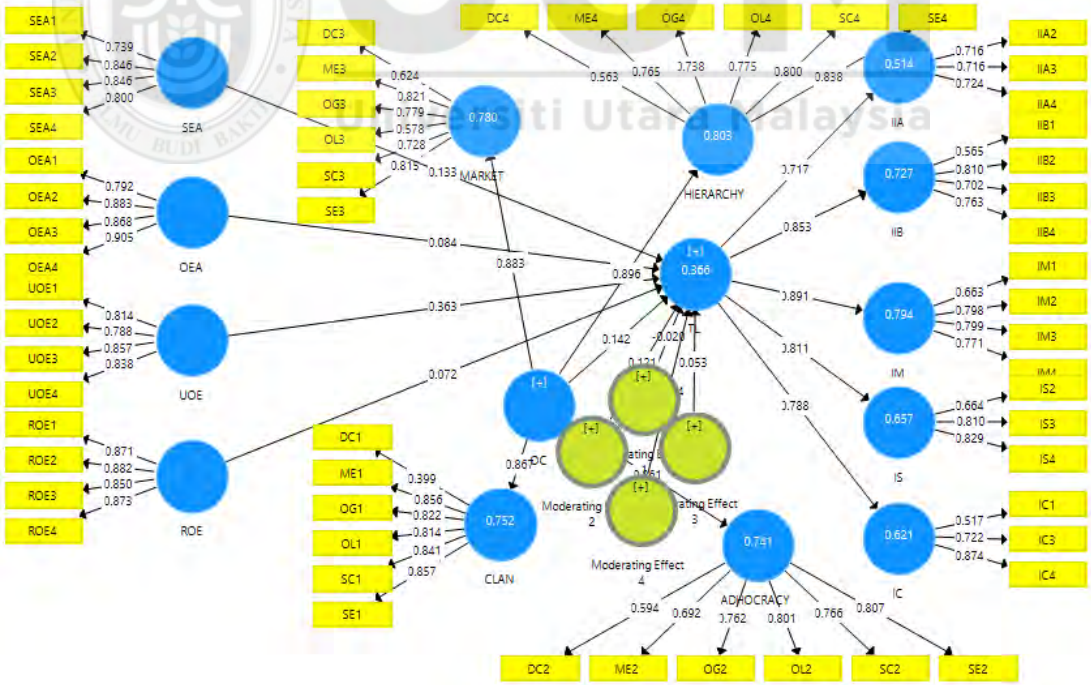
Relationships	Path coefficient	t value	p value
Self-emotion appraisal x clan OC → transformational leadership	0.042	0.690	0.490
Others emotional appraisal x clan OC → transformational leadership	-0.016	0.284	0.777
Use of emtion x clan OC → transformational leadership	0.001	0.029	0.977
Regulation of emotion x clan OC → transformational leadership	**0.135**	**2.085**	**0.037**
Self-emotion appraisal x adhocracy OC → transformational leadership	0.104	1.479	0.139
Others emotional appraisal x adhocracy OC → transformational leadership	-0.077	1.288	0.198
Use of emtion x adhocracy OC → transformational leadership	0.007	0.138	0.890
Regulation of emotion x adhocracy OC → transformational leadership	0.067	0.943	0.346
Self-emotion appraisal x market OC → transformational leadership	0.038	0.523	0.602
Others emotional appraisal x market OC → transformational leadership	0.020	0.343	0.737
Use of emotion x market OC → transformational leadership	-0.008	0.149	0.881
Regulation of emotion x market OC → transformational leadership	0.102	1.317	0.189
Self-emotion appraisal x hierarchy OC → transformational leadership	0.013	0.203	0.839
Others emotional appraisal x hierarchy OC → transformational leadership	-0.003	0.066	0.947
Use of emotion x hierarchy OC → transformational leadership	-0.054	0.983	0.326
Regulation of emotion x hierarchy OC → transformational leadership	**0.149**	**1.997**	**0.046**

Note: ***Significant at 0.01 (1-tailed), **significant at 0.05 (1-tailed), *significant at 0.1 (1-tailed).

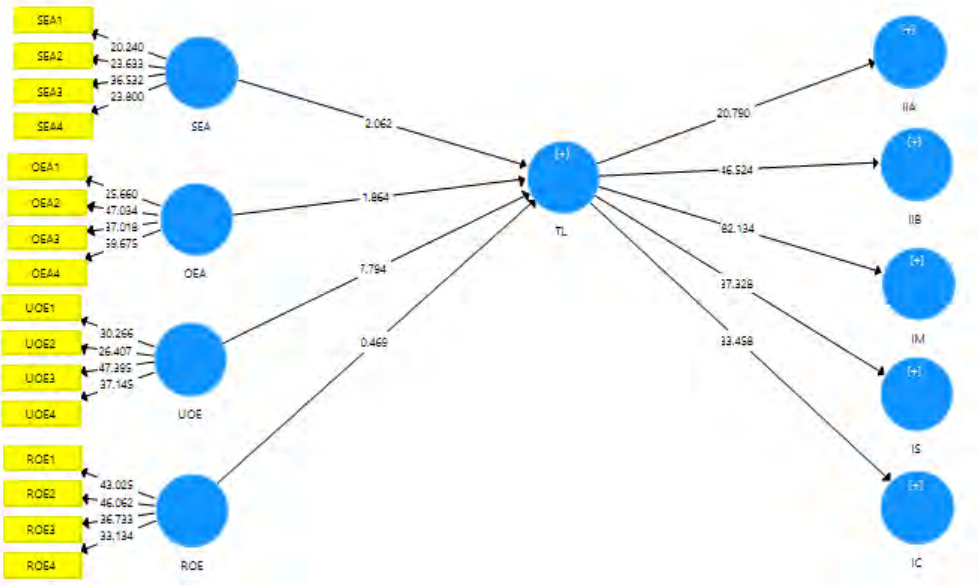
Algorithm EI – TL Model



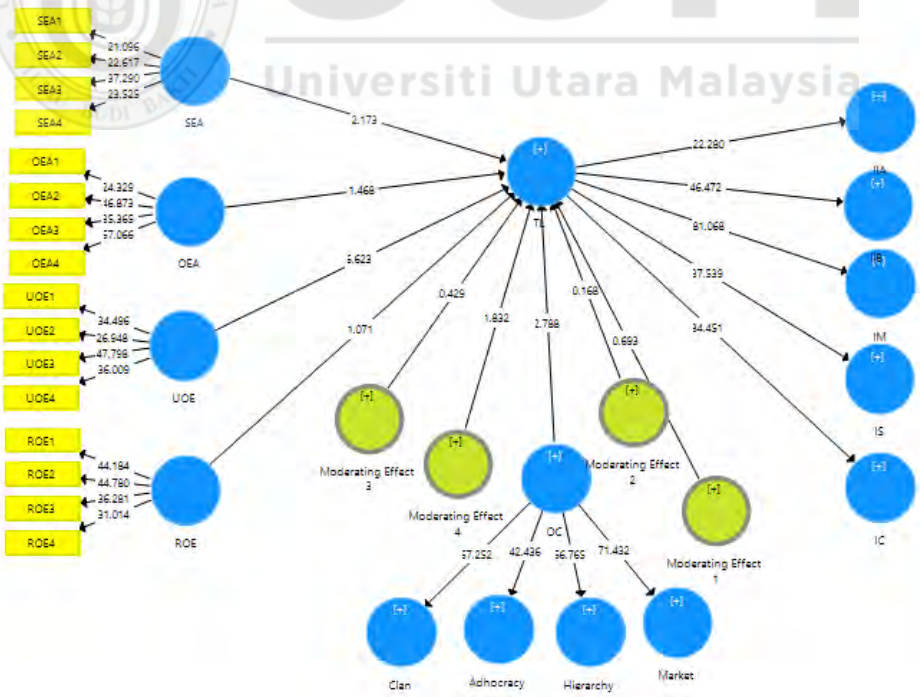
Algorithm OC*EI-Tl- Model



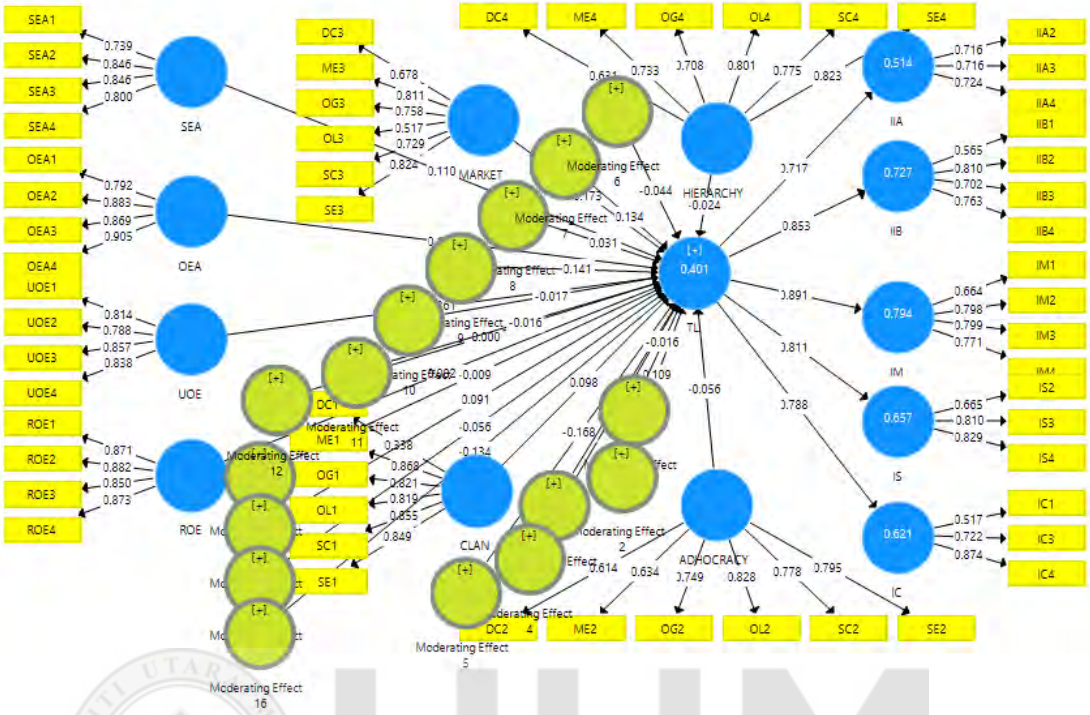
Bootstrapping EI-TL (direct relationship model)



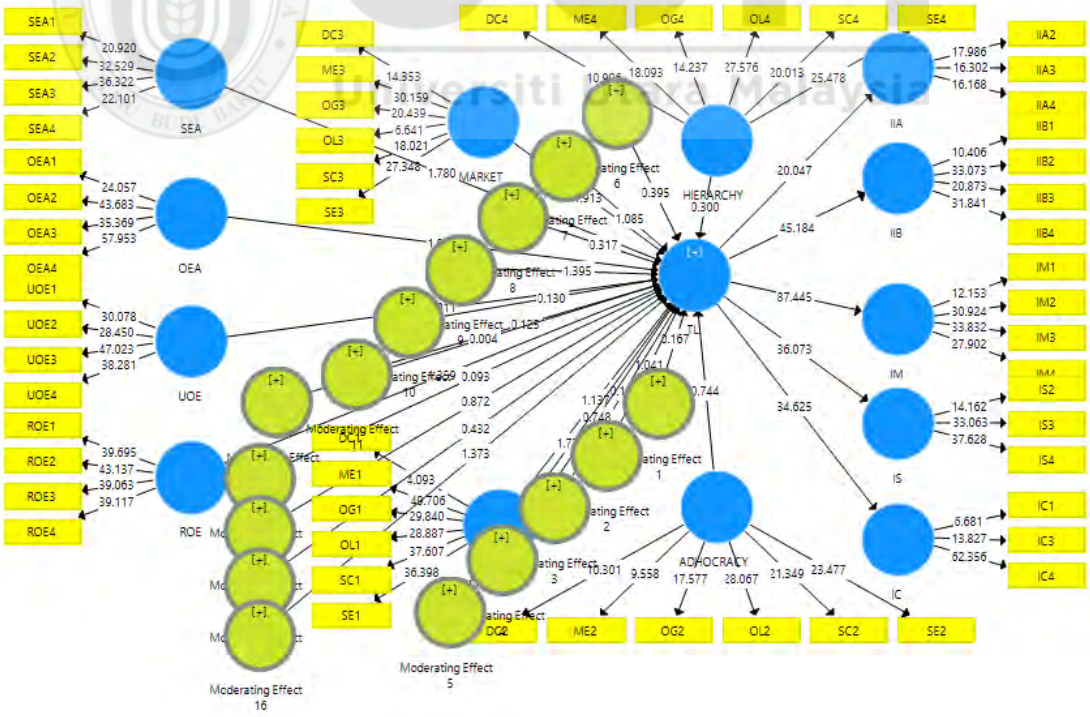
Bootstrapping OC*EI-TL (moderation model)



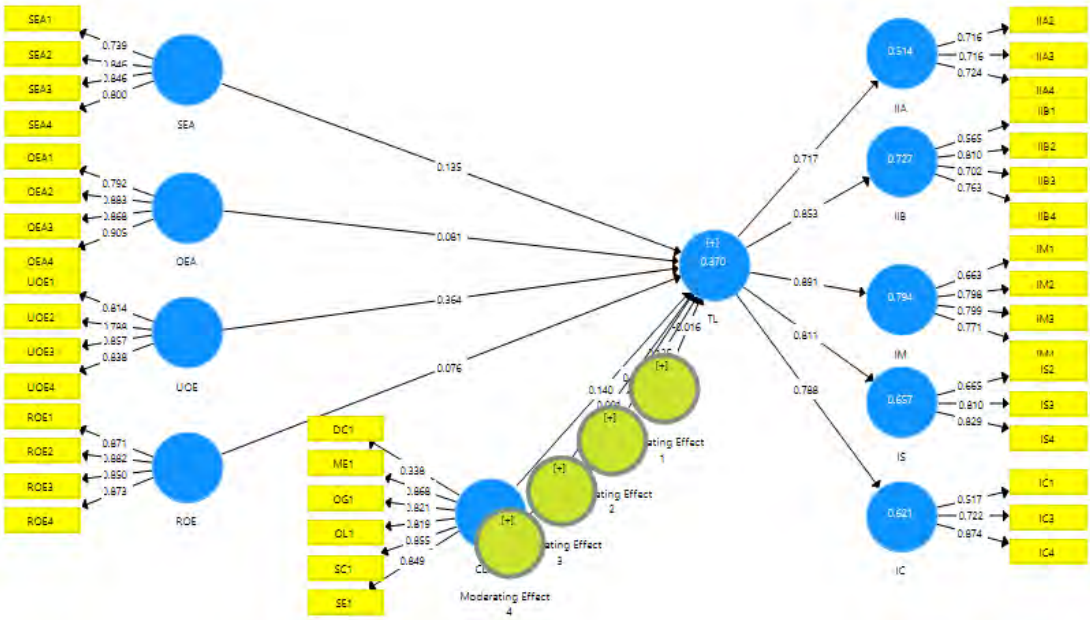
Algorithm OC dimensions



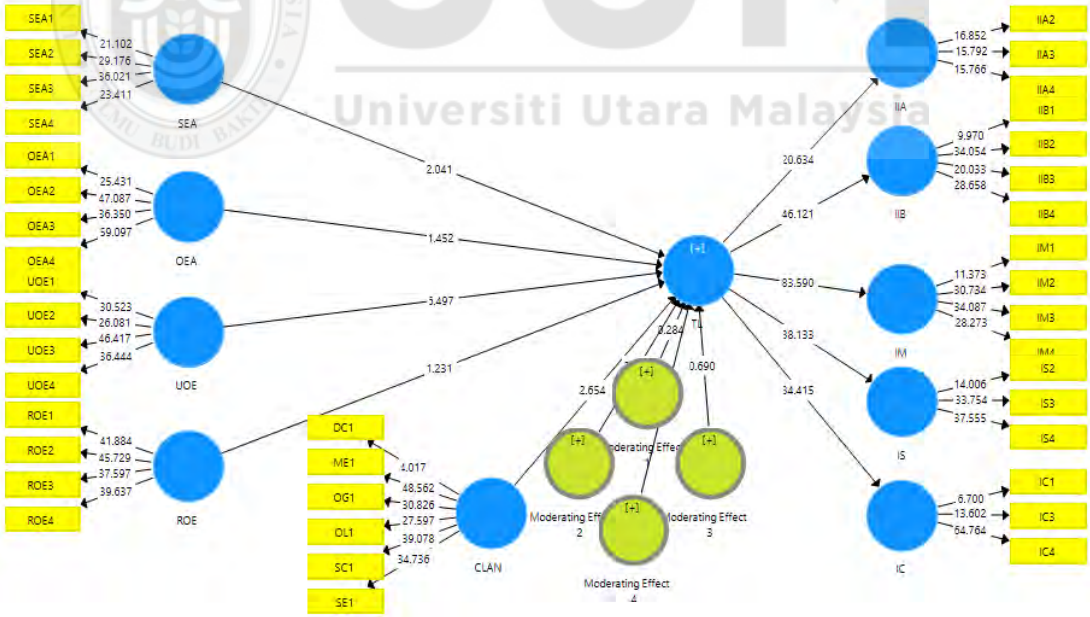
Bootstrap OC dimensions



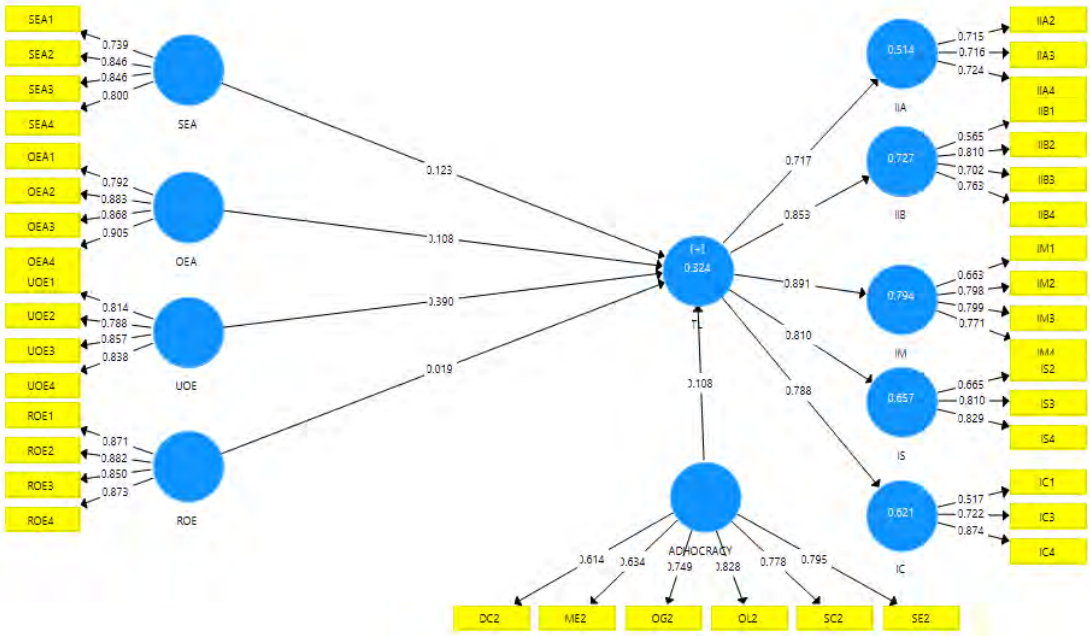
Algorithm Clan OC



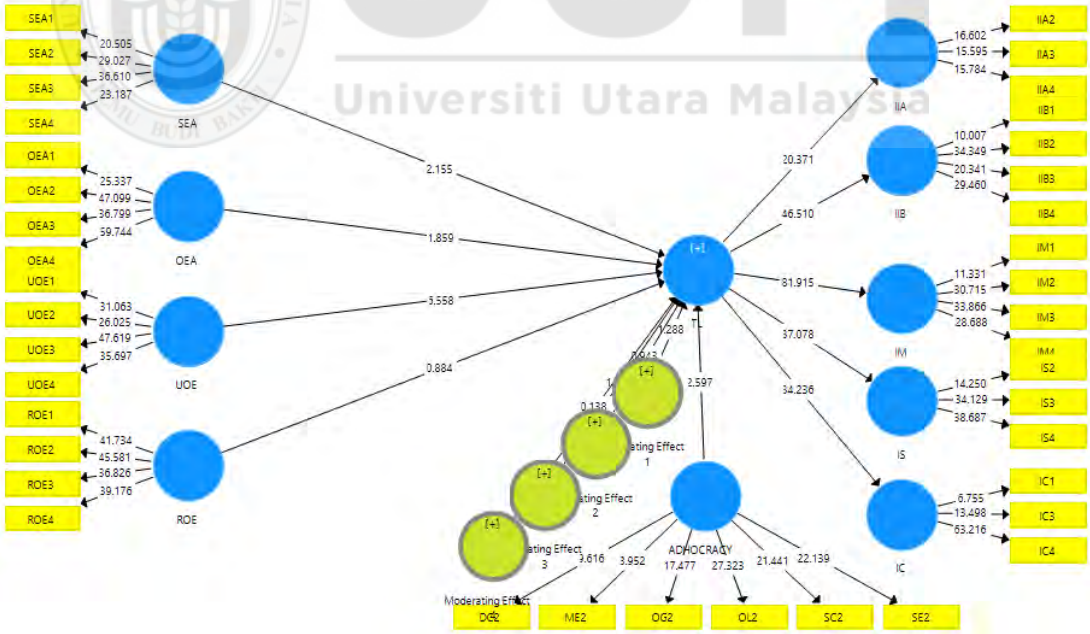
Bootstrap Clan OC



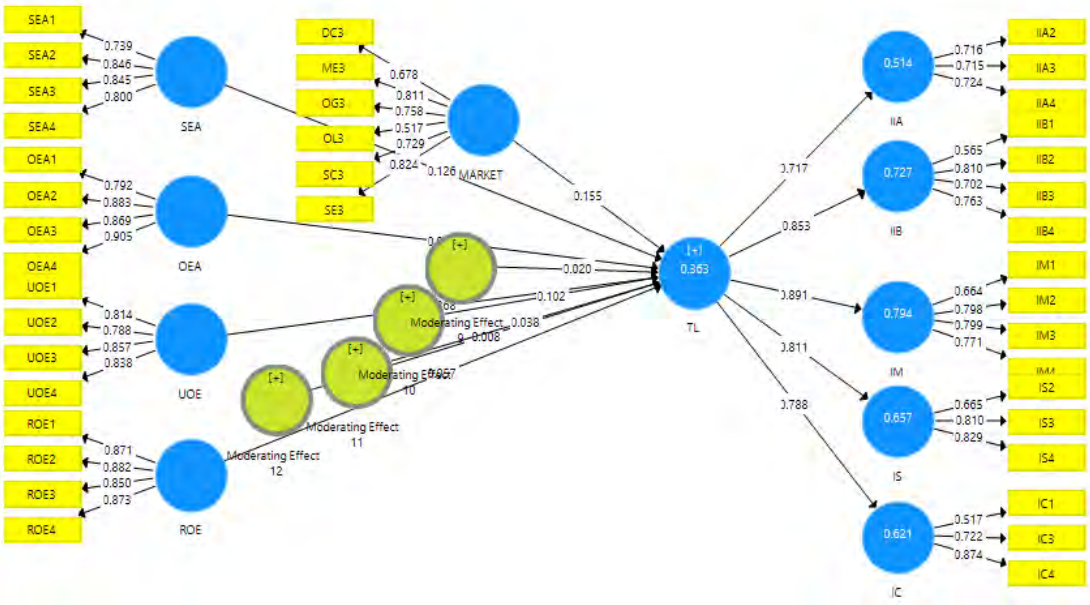
Algorithm Adhocracy OC



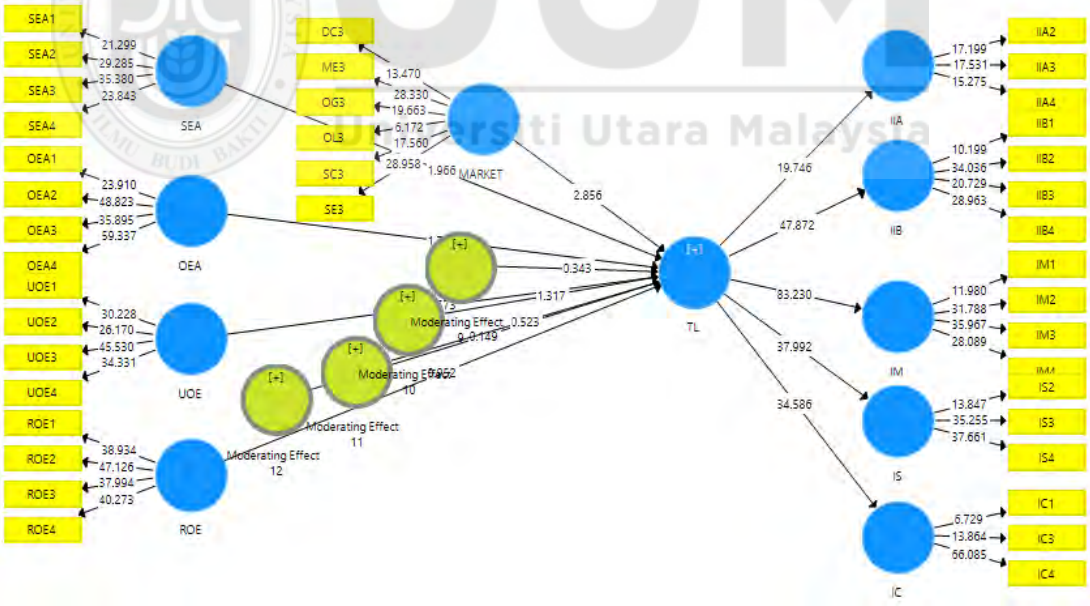
Bootstrap Adhocracy OC



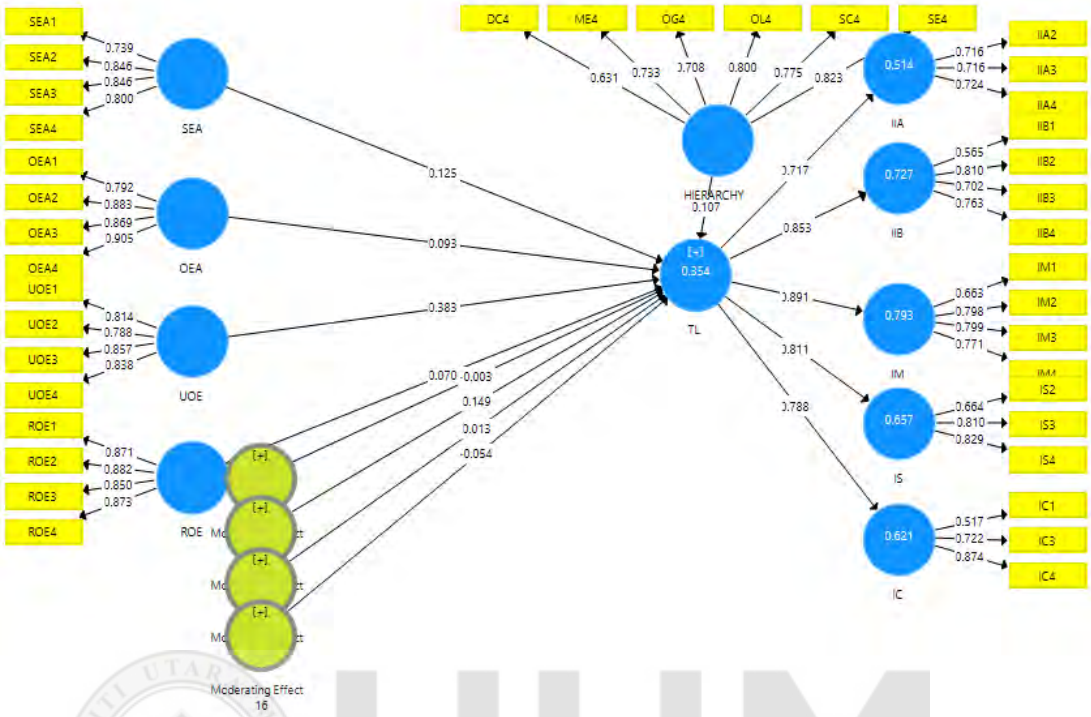
Algorithm Market OC



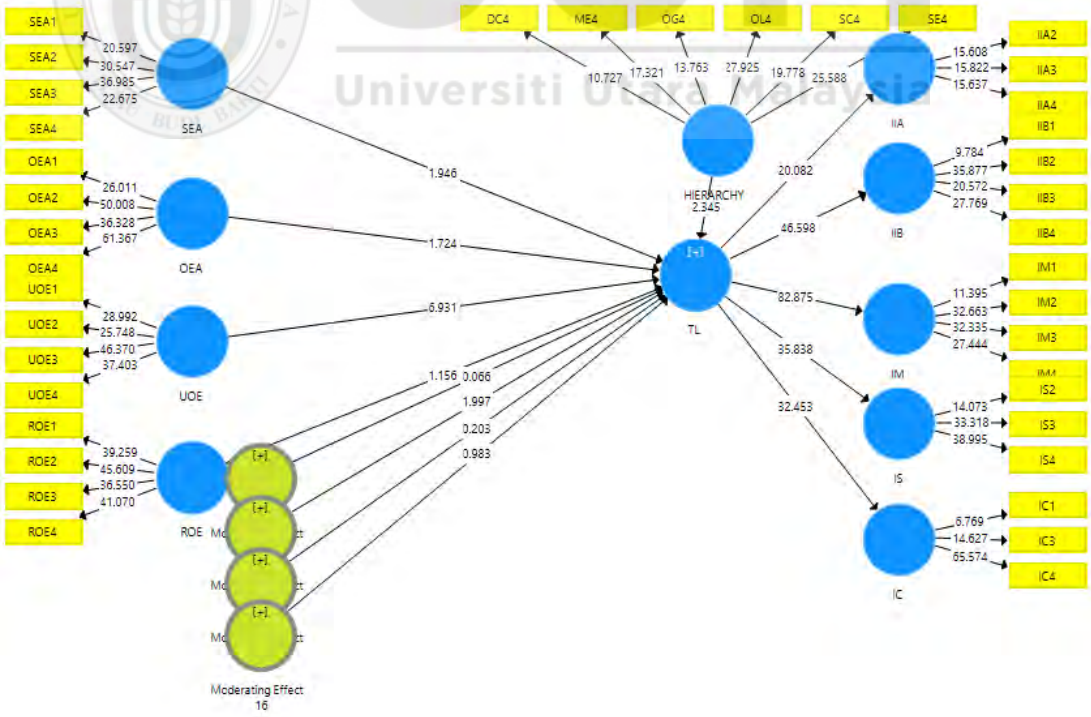
Bootstrap Market OC



Algorithm Hierarchy OC



Bootstrap Hierarchy OC



Bootstrapping

(Direct Relationships – n = 333, samples = 500) Mean, STDEV, T-Values, P-Values (direct)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
OEA -> TL	0.107	0.108	0.057	**1.864**	0.062
ROE -> TL	0.033	0.036	0.070	0.469	0.639
SEA -> TL	0.130	0.134	0.063	**2.062**	0.039
UOE -> TL	0.407	0.406	0.052	**7.794**	0.000

Bootstrapping Output (OC aggregated – Moderation)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Moderating Effect 1 -> TL OC*OEA	-0.020	-0.016	0.050	0.393	0.347
Moderating Effect 2 -> TL **OC*ROE**	0.121	0.109	0.065	**1.877**	0.031
Moderating Effect 3 -> TL OC*SEA	0.053	0.054	0.061	0.871	0.192
Moderating Effect 4 -> TL OC*UOE	-0.024	-0.027	0.049	0.501	0.308

Bootstrap Results (moderating effect of all OC types - full model)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Moderating Effect 1 -> TL CLAN*OEA	-0.016	-0.014	0.097	0.166	0.434
Moderating Effect 10 -> TL MKT*ROE	-0.017	-0.011	0.129	0.129	0.449
Moderating Effect 11 -> TL MKT*SEA	-0.016	-0.008	0.124	0.127	0.449
Moderating Effect 12 -> TL MKT*UOE	0.000	-0.001	0.096	0.004	0.498
Moderating Effect 13 -> TL HIERA*OEA	-0.009	-0.030	0.097	0.093	0.463
Moderating Effect 14 -> TL HIERA*ROE	0.091	0.080	0.098	0.923	0.178
Moderating Effect 15 -> TL HIERA*SEA	-0.056	-0.045	0.125	0.451	0.326
Moderating Effect 16 -> TL HIERA*UOE	-0.134	-0.128	0.100	1.346	0.089
Moderating Effect 2 -> TL CLAN*ROE	0.109	0.102	0.106	1.027	0.152
Moderating Effect 3 -> TL CLAN*SEA	0.012	0.014	0.110	0.105	0.458
Moderating Effect 4 -> TL CLAN*UOE	0.079	0.071	0.102	0.774	0.220
Moderating Effect 5 -> TL **ADHOC*OEA**	-0.168	-0.135	0.095	**1.770**	0.039
Moderating Effect 6 -> TL ADHOC*ROE	-0.044	-0.054	0.109	0.405	0.343
Moderating Effect 7 -> TL ADHOC*SEA	0.134	0.118	0.122	1.096	0.137
Moderating Effect 8 -> TL ADHOC*UOE	0.031	0.027	0.101	0.309	0.379
Moderating Effect 9 -> TL MKT*OEA	0.141	0.129	0.098	1.437	0.076

Bootstrap Results (moderating effect of OC CLAN type – individually run)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Moderating Effect 1 -> TL CLAN-OEA	-0.016	-0.019	0.057	0.284	0.777
Moderating Effect 2 -> TL **CLAN-ROE**	0.135	0.126	0.065	**2.085**	0.037
Moderating Effect 3 -> TL CLAN-SEA	0.042	0.042	0.060	0.690	0.490
Moderating Effect 4 -> TL CLAN-UOE	0.001	-0.001	0.050	0.029	0.977

Bootstrap Results (moderating effect of OC HIERARCHY type – individually run)

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Moderating Effect 13 -> TL HIERA-OEA	-0.003	-0.007	0.052	0.066	0.947
Moderating Effect 14 -> TL **HIERA-ROE**	0.149	0.139	0.075	**1.997**	0.046
Moderating Effect 15 -> TL HIERA-SEA	0.013	0.015	0.064	0.203	0.839
Moderating Effect 16 -> TL HIERA-UOE	-0.054	-0.053	0.055	0.983	0.326