LINKING LEADERS' PERSONALITY, LEADERSHIP STYLE AND EMPLOYEE ENGAGEMENT: EVIDENCE FROM SMES AT KUANTAN, MALAYSIA

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ABSTRAK

Pada masa kini, pemimpin dan pekerja bawahan adalah kunci utama dalam membina dan mengekalkan kelestarian operasi perniagaan terutamanya bagi Perusahaan Kecil dan Sederhana (PKS). Walau bagaimanapun, sering didapati para pekerja tidak mempunyai kejelekitan terhadap organisasi dan kadar tukar ganti pekerja terus meningkat. Keadaan ini mungkin disebabkan oleh gaya kepimpinan yang tidak berkesan yang berkait rapat dengan personaliti pemimpin. Sehubungan denga itu, kajian ini dijalankan untuk mengenal pasti hubungan antara personaliti pemimpin, gaya kepimpinan dan kejelekitan pekerja di PKS khususnya di Kuantan Pahang Malaysia. Terdapat lima kajian personaliti dalam penyelidikan ini iaitu Openness, Conscientiousness, Extraversion, Agreeableness dan Neuroticism; tiga jenis gaya kepimpinan juga dikaji, iaitu Task-Oriented, Relations-Oriented dan Change-Oriented. Di samping itu, kajian ini juga merangkumi tiga elemen kejelekitan pekerja iaitu vigor, absorption dan dedication. Dua set soal selidik telah dibangunkan dan diedarkan kepada pengurus dan pekerja bawahan masing-masing. Sejumlah 160 pemimpin dan 320 pekerja bawahan telah mengambil bahagian dalam kajian ini. Hasil statistik menunjukkan bahawa sifat Conscientiousness dan gaya kepimpinan Task-oriented adalah paling popular di kalangan pemimpin yang dikaji. Openness, Conscientiousness, Extraversion dan Neuroticism mempunyai perkaitan positif dengan kepemimpinan Task-Oriented, Relations-Oriented dan Change-Oriented. Sementara itu, Extraversion adalah penyumbang utama kepada gaya kepimpinan Task-Oriented dan hanya Agreeableness mempunyai perkaitan negatif dengan gaya kepimpinan Task-Oriented dan Relations-Oriented. Selain itu, lima personaliti dan tiga jenis gaya kepimpinan mempunyai perkaitan positif dengan kejelekitan pekerja. Namun hanya Extraversion dan Conscientiousness adalah penyumbang kepada kejelekitan pekerja dan Extraversion adalah penyumbang lebih kuat berbanding Conscientious. Oleh itu, organisasi boleh menggunakan ujian personaliti untuk tujuan pengambilan pekerja atau kenaikan pangkat pemimpin pilihan sama ada dalam aspek keperibadian ataupun gaya kepimpinan, yang akan membantu meningkatkan keberkesanan penglibatan pekerja ke arah mencapai daya saing organisasi.

ABSTRACT

Nowadays, leaders and subordinates are key issues in building and sustaining business operations especially in the Small and Medium Sized Enterprises (SMEs). However, it is commonly found that their employees are disengaged as the turnover rate keeps on increasing. The potential reasons are the ineffective leadership styles which is related to leader's personality. Hence, this research was conducted to identify the relationship between the leaders' personalities, leadership styles and employee engagement in SMEs specifically at Kuantan Pahang Malaysia. There are five personality studies in this research which are Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism; three types of leadership style were adopted, namely Task-Oriented, Relations-Oriented and Change-Oriented. Meanwhile, it also covers three elements of employee engagement which are vigor, absorption and dedication. Two sets of questionnaires were developed and distributed to the managers and their subordinates respectively. A total of 160 leaders and 320 subordinates participated in this study. The statistic results showed that Conscientiousness trait and Task-oriented leadership styles are most popular among the surveyed leaders. Openness, Conscientiousness, Extraversion and Neuroticism are positively related with Task-Oriented, Relations-Oriented and Change-Oriented leadership. Meanwhile, Extraversion is the most contributor to Task-Oriented Leadership Style and only Agreeableness is negatively related to Task-Oriented and Relations-Oriented leadership Style. Furthermore, five personalities and three types of leadership styles are positively correlated with employee engagement. Only Extraversion and Conscientiousness are contributor to employee engagement and Extraversion is more than Conscientious. Hence, organizations can use the personality test to recruit or promote the preferred leaders either in the aspect of leader's personality or leadership style, to enhance the effectiveness of employee engagement towards achieving organizational competitiveness.

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

LIST OF ABBREVIATIONS

A	Agreeableness
C	Conscientiousness
CO	Change-Oriented
E	Extraversion
EE	Employee Engagement
N	Neuroticism
O	Openness
RO	Relations-Oriented
SMEs	Small and Medium Enterprises
TO	Task-Oriented

CHAPTER 1

INTRODUCTION

1.1 Introduction

Leaders and subordinates are crucial issues in building and sustaining business operations in today's hypercompetitive market under globalization. The research focuses on the linkage among leader's personality, leadership style and employee engagement. Big-Five Personality (McCrae and Costa, 1997) has been matched with 16 global Personality (Cattell, 2007), while Yukl (2002)'s leadership styles (i.e. Task-Oriented, Relations-Oriented and Change-Oriented leadership) have been adopted. Furthermore, employee engagement has been investigated from the three elements which are vigor, dedication and absorption. The research is aimed to examine the relationships among these three domains and expects that different personalities would generate different leadership styles which might cause different employee engagement. This chapter overviews the background of study, problem statement, research objectives, research questions, research scope, significance of study, operational definitions and thesis organization.

1.2 Background of Study

Small and Medium Enterprises (SMEs) are the primary component of economic development in Malaysia. According to the Department of Statistics Malaysia in 2016, contributions of SME GDP to the national GDP increased to 36.6 percent as compared to 6.3 percent recorded in 2015 (as shown in Table 1.1). This has reaffirmed SMEs' role as substantial economic agents in supporting Malaysia's economic growth. The performance of SMEs GDP grew by 5.2 percent faster than 4.2 percent growth of Malaysia GDP in 2016. This reflects the importance of SMEs in gearing up the nation's economy. In 2016, the value added of SMEs at constant 2010 prices was RM405.5

billion (2015: RM385.6 billion). In nominal terms, SMEs GDP registered a value of RM463.2 billion, an increment of RM34.2 billion compared to 2015. This indicates that SMEs in Malaysia make enormous economic contribution for the country, specifically from agriculture, construction, mining and quarrying, services and manufacturing.

Table 1.1 Percentage share to Malaysia GDP and annual percentage change for 2015 and 2016 at constant 2010 prices

Category	Share to Malaysia GDP (%)		Value Added (RM Billion)		Annual percentage Change (%)	
	2015	2016	2015	2016	2015	2016
SMEs	36.3	36.6	385.6	405.5	6.1	5.2
Large Enterprises	63.7	63.4	677.8	702.7	4.4	3.7
Malaysia GDP	100.0	100.0	1063.4	1108.2	5.0	4.2

Source: Department of Statistics Malaysia in 2016

Small and Medium Enterprises (SMEs) drive economic development in Malaysia, where employees are considered as the essential asset for every SMEs to ensure the operation to run smoothly. SMEs would be nothing without its employees because employees are the one who strive hard to deliver their best performance in order to achieve objectives and goals of the organization. However, employment contribution from SMEs to the overall employment of the country has decreased in year 2015 (Department of Statistician Malaysia, 2015). As shown in Figure 1.1, the contribution of SMEs employments to overall employment increased 0.5% from year 2014 to 2015. However, the annual growth of SMEs' employment obviously decreased 16% from 21.6% in year 2014 to 5.6% in year 2015 (Department of Statistician Malaysia, 2015). These statistics clearly indicate SMEs have decreased contribution to the overall employment, and the growth of SMEs employment has almost remained in 2015.

The reasons of such negative employment situation in SMEs, according to Randstad World of Work Report (2013/2014), as cited by Malaysian Insiders (2014) include uncompetitive salary, lack of the workplace, and moreover, of the importance of this research, the lack of trust in senior leaders. According to Ashita et al., (2016) leaders' behavior at the workplace influences their subordinates' actions; and leadership is an interpersonal activity that has been studied extensively in the workplace. Hence, to

improve the employment situation, ineffective leadership style shall be avoided in order to reduce the employee turnover rate, and SMEs are highly recommended to recruit effective leaders and engage employees for the growth of employment in Malaysia as well as the growth of the business itself.

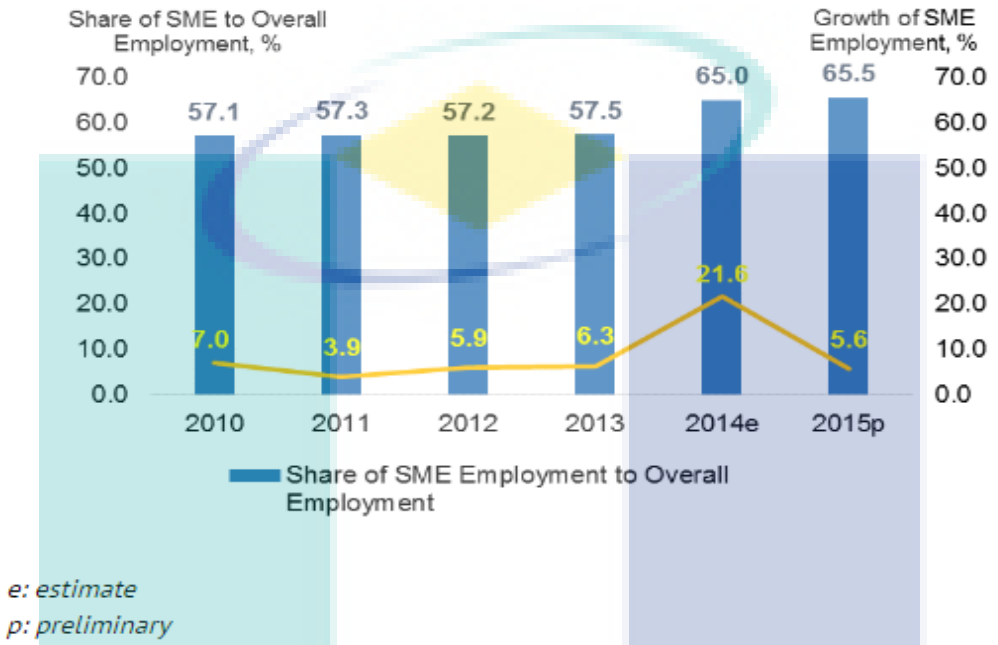

Figure 1.1 Employment contribution in Malaysia

Source: Department of Statistician Malaysia, 2015

Based on Aliyu and Govindan (2016), engagement has recently become one of the most examined topics in the organizational field and has received special attention from industry leaders (Sullivan, 2012; Macey and Schneider, 2008). Engagement refers to the level of how people enjoy and believe in what they do and feel appreciated for doing such activity. Engaged employees play a crucial role in gaining competitive advantages, achieving high productivity and ensuring low turnover. These employees are also happier, more enthusiastic and healthier than non-engaged individuals in the workplace; they create and utilize their personal and job resources, and they share and transfer their engagement to others (Bakker and Demerouti,2008). Harter et al. (2002) posited that organizations with high ratios of engaged employees could outperform other companies in terms of net income, growth and earnings per share as well as achieve positive business unit outcomes, including enhanced profits, high customer satisfaction and high productivity.

Meanwhile, Reginald and Sung (2017) stated employee engagement in public sector organizations goes to the core of the organization-leader-employee workplace relationship, and reveals the potentialities for better performance and transforming employees' working conditions. Hence, it is becoming more important for SMEs to have the right person, at the right place, and in the right time. The purpose of huge investment and putting in more human resources is to make business operations successful, which ultimately depends on the improved employee engagement.

Small and Medium Enterprises (SMEs) are the backbone of economies. They are vital to sustained long-term economic growth (Ardic et al., 2011), and constitute a vibrant and growing sector in most advanced economies across the globe (Levy and Powell, 2005). While Oluseyi et al., (2017) stated SMEs play a significant role in employment generation, revenue generation and export earnings in developing and emerging economies (Javalgi and Todd, 2011), they are often faced with limited resources which impair their access to new innovation (Verheugen, 2003).

Generally, according to SMEs Corp. Malaysia (2013), SMEs companies have less financial and human resources than large enterprises. Specially, they have limitations in labor cost, innovation initiative, access to funding, and working capital. Besides, their limitations in human resource, such like lack of strategic leading to employee and limited expertise in engaging employee on business operation.

In order to maintain a lead in the market and to keep moving on to achieve competitiveness, one of the most important success factors for many SMEs is the capability to identify, find and select effective leaders (Steven and David, 2016). Any mistakes made during the leader selection process affect both the leader's performance and all associated subordinates' performance (Tahir Saeed et al., 2014). Hence, when considering applicants for leadership roles, it is important to identify those individuals whose personality will link to effective leadership styles for better employee engagement.

Particularly in Malaysia, Small and Medium Enterprises (SMEs) play a vital role in the country's economic growth (Chandrakantan et al., 2016). Despite all the governments' supports, SMEs experience difficulties at the early stage of their organizational growth. Therefore, the SMEs need to evaluate survival ability, and

improve their current strategy in human resource to compete and sustain in the competitive market (Orlando Rua et al., 2017). This indicates that SMEs companies cannot properly manage the design and development process. On top of requiring a suitable employee while developing worthy leaders, the productivity also mainly concerns on engaging employee.

In SMEs, it is acknowledged and recognized that leaders make things happen. Leaders search for success, have energy and tenacity, and are frequently seen to have motivation and creativity to achieve their goals. As well, leaders know subordinates' needs and desires and then explain how those needs and desires will be satisfied in exchange for meeting specified objectives or performing certain duties. Consequently, leadership is necessary and important in ensuring the quality of the designing and developing employee engagement. Therefore, a study on different types of the leader's personality, their effects on the leadership style and the development of employee engagement is the imperatively needed. Through leadership enhancement, it could be a theoretical basis for SMEs in their business development to ensure their potential business values.

1.3 Problem Statement

According to Abduallah et al., (2012), SME is one of the potential to develop the organizations structure to be mature and grow up to the big size company in Malaysia. Hence, it is dynamic for the Malaysia SMEs to operate efficiently and effectively to maintain their competitiveness among investor/competitors and in support of Malaysia's continuous growth (Mohd. and Syed, 2009). On the other hand, according to Judge et al. (2004), effective leadership was correlated with the leader's personality to deliver the best value for the SMEs organization. However, in reality, there are many micro and small firms in Malaysia that have neglected and not concerned about the leader's personality factors, the implementation of leadership styles and employee engagement.

Furthermore, SMEs due to lack of human resource management, are incapable of developing effective leadership from various aspects leadership (Yenming Zhang,2012), such as: starting purpose and instructive the values of the organization, developing a vision, articulating a strategy, adapting to change, creating a community

that is committed to the enterprise and its strategy, monitoring strategy implementation and developing future leaders. Meanwhile, the general literature on engaging employees focusses on factors such as mange self-efficacy and employee engagement (Fred and Suzanne, 2002), safety profit with employee engagement (Carolyn et al., 2014), leaving the topic of leaders' personality and leadership style largely unaddressed.

Moreover, there are some studies about relationship between leader personality and leadership styles, such as Hamid Hassan (2016) studied about the determinants of leadership style in Big Five Personality dimensions, but lack of information about the relationship between personality with employee engagement. Ozgur Ongore (2014) studied about personality with job engagement, besides that, lack of implications among leaders' personality, leadership style and employee engagement to enhance employment. Mohd Zairol et al., (2016) did research on knowledge work productivity effect on quality of knowledge work in software development process in SMEs, it studied on SMEs in Malaysia but lack of information about employee engagement related with leadership styles. Peter et al., (2017) studied measuring leader behavior evidence for a big five model of leadership, this research integrating existing theories of leadership and conceptually aligned with the most established model of personality, however, it is not only focus with 'O-C-E-A-N' Big Five Personality yet the location is in Australia.

Therefore, linkage among leaders' personality, leadership style and employee engagement is rarely studied in SMEs. Lack of information induces SMEs do not want to have a try an implementing this knowledge in the leader promotion and employee engagement. Besides that, lack of knowledge on the relationship between leaders' personality and leadership style has also resulted in unclear guideline for organization to select a right leader as well as to design a proper leader development program to implement an effective leadership style.

1.4 Research Objectives

This research aims:

1. To identify different traits of leaders' personality in SMEs at Kuantan, Pahang, Malaysia.

2. To identify different types of leadership styles in SMEs at Kuantan, Pahang, Malaysia.

3. To examine different components of employee engagement in SMEs at Kuantan, Pahang, Malaysia.

4. To investigate the relationships among leaders' personality, leadership styles and employee engagement in SME at Kuantan, Pahang, Malaysia.

1.5 Research Questions

In line with the research objectives above, the research questions to be answered are:

1. What are the traits of leaders' personality in SMEs at Kuantan, Pahang, Malaysia?

2. What are the types of leadership style in SMEs at Kuantan, Pahang, Malaysia?

3. How is employee engagement in SMEs at Kuantan, Pahang Malaysia?

4. What are the relationships among leaders' personality, leadership styles and employee engagement in SMEs at Kuantan, Pahang, Malaysia?

1.6 Research Scope

This study is focused on the relationship among leaders' personality, leadership styles and employee engagement. The 16 Personality Global Factors are adopted to identify the OCEAN Big-Five personality traits Openness (O), Conscientiousness (C), Extraversion (E), Agreeableness (A) and Neuroticism (N). Meanwhile, the leadership style in this study focuses on the Task-Oriented (TO), Relations-Oriented (RO) and Change-Oriented (CO) leadership styles. The employee engagement is limited to vigor, dedication and absorption.

This study was designed to focus on SMEs located in Kuantan Pahang Malaysia. The SMEs were randomly selected from SMEs which registered under Kuantan Pahang Malaysia. In addition, leaders in SMEs refer to the persons holding

managerial positions in business operation, namely, boss, manager, supervisor, sales executives, accountant, etc.

1.7 Significance of Study

Businesses don't fail, leaders do. (Singer et al., 2013). Nowadays, this adage is more relevant in the business market. According to Tahir Saeed et al., (2014) a leader is someone who directs the followers to achieve a specific goal by the outstanding leadership style. The impact of leadership is the keystone to the success of an organization. However, to optimize the potential of leadership, researcher needs to look at the connection between leadership style and leaders' personality. It is especially incredibly valuable to understand the leaders' personality and leadership style in a competitive market. Hence, SMEs can use the relevant findings to select more effective leaders to win business in the competitive market.

A previous review by Hairunnisa et al., (2015) addressed that a better understanding of the role played by employees in organizational settings is required. Through the understanding of the relationships among leaders' personality, leadership style and employee engagement research can increase the chance of success for achieving the SMEs increase GDP goal in next following years. Organizations can utilize the findings of the research to train and shape their leader's personality to match with the leadership style needed. It will help to enhance the effectiveness on employee engagement when implementing the leadership style. Besides that, organizations can use the personality test to promote leaders for the next stage or set criteria to recruit leaders. As well as, employee the new fresh graduate students as suitable position for the right job to solve the social problem and strength country's youth career.

Furthermore, this study is hoped to enrich the literature on leaders' personality, leadership style and employee engagement for future research use. In a nutshell, this study can provide a guideline to clearly understand the relationship among leaders' personality, leadership style and employee engagement for all type of sectors, especially small and medium sized ones.

1.8 Operational Definition

1.8.1 Leaders' personality

Leaders' personality is the structural and dynamic character performed when the leader responds to the circumstances, which indicates the lasting traits that make the one different from others (Richard, 2002). According to Big-Five Personality, it covers five personalities: **Openness** is conceptualized including culture (i.e. an gratefulness for the world and sciences and a generous and critical attitude toward societal values) and intellect (i.e. the ability to study and motive) (Costa and McCrae, 1992); **Conscientiousness** refers to people who tend to have a strong sense of way and work hard to attain goals (Costa and McCrae, 1992); **Extraversion** is defined as confident, active, talkative, positive, energetic, and optimistic (Costa and McCrae,1992); **Agreeableness** refers to the people who are shy, altruistic and tend to be both trusting and trustworthy (Costa and McCrae, 1992); According to Costa and McCrae (1992), the core of **Neuroticism** is the label to experience negative effects, such as anxiety, sadness, guilt, and anger.

1.8.2 Leadership style

Leadership style is the leader's manner and approach of providing direction, implementing plans, and motivating people (Sosik and Jung, 2010). According to Yukl (2002), leadership has been classified into 3 parts which are: **Task-Oriented leadership** is focused on accomplishing the task in an efficient and reliable way (Yukl, 2002); **Relations-Oriented leadership** is focused on increasing mutual trust, cooperation, job satisfaction, and identification with the organization (Yukl, 2002). **Change-Oriented leadership** is focused on understanding environment, finding innovative ways to adapt to it, and implementing major changes, strategies, products, and processes (Yukl, 2002).

1.8.3 Employee engagement

Employee engagement is the employees actually care and concern for their work and the performance of the organization. Normally employees' engagements are often captured in "high job performance", "strong contribution" and "high job involvement" Schaufeli et al. (2002). Based on Schaufeli (2002), employee engagement covers three

elements. **Absorption** is defined as fully concentrate, focus and engage with their task and not realize the time is passing quickly (Schaufeli and Bakker, 2004); **Dedication** refers to a strong involvement in the work and experiencing a sense of significance, enthusiasm, inspiration, pride and challenge. They feel proud of their job and organization (Schaufeli et al., 2002; Gonzalez-Roma et al., 2002); **Vigor** is a characteristic of higher level of energy and mental resilience while working. Meanwhile, it can be represented as employees not easy to exhaustion or give up, but keep moving forward when they face any difficulties.

1.9 Thesis Organization

Chapter 1 presents the background of study, problem statement to list research objectives and research questions. Meanwhile, it shows research problem statement, research scope and significance of study and operational definition.

Chapter 2 reviews relevant researches from books and journals. It covers the leader's personality, leadership styles and employee engagement. It also discusses about the relationships between leaders' personality, leadership style and employee engagement with hypothesis formulated and theoretical framework constructed.

Chapter 3 is about methodology which explains the methods adopted in this study, outlines the techniques employed in the data collection as well as data analysis to measures research instruments.

Chapter 4 provides that findings from questionnaire surveys in order to answer research questions. It includes Pilot test, descriptive analysis, Reliability test, Validity test, Single mean T-test, Normality test, Pearson Correlation test, Regression test and discussion.

Chapter 5 concludes the researches by answering research questions. It also highlights the limitations and proposes some suggestions for future research as well.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter reviews relevant topics on research objectives in this study. Information was collected from books and journals. There are 10 sections in this chapter. First section is about SMEs in Malaysia; Secondly, aimed leader; Thirdly, discusses the Leaders' Personality; Forth, discusses about the Leadership Styles; the Fifth section discuss with Employee Engagement; the Sixth part explains about the relationship between Leaders' Personality and Leadership Style; the Seventh part discusses the relationship between Leaders' Personality with Employees Engagement; the Eighth section discusses effectiveness of Leadership Style and Employee Engagement; the ninth part discusses theoretical framework and the last section is the summary of this chapter.

2.2 SMEs in Malaysia

SME's definition was authorized at the 14th NSDC Meeting in July 2013 in Malaysia (National SME Development Council, 2013). The definition includes all sectors, that is manufacturing, services, agriculture, construction and mining and quarrying. Number of full-time and sales turnover employees are the two criteria used in determining the definition with the or base as follows: For the manufacturing sector, SMEs are defined as firms with million number of full-time employees not exceeding 200 or sales turnover not exceeding RM50 million. For the services and other sectors, SMEs are defined as firms with number of full-time employees not exceeding 75 or sales turnover not exceeding RM20 million (see Figure 2.1).

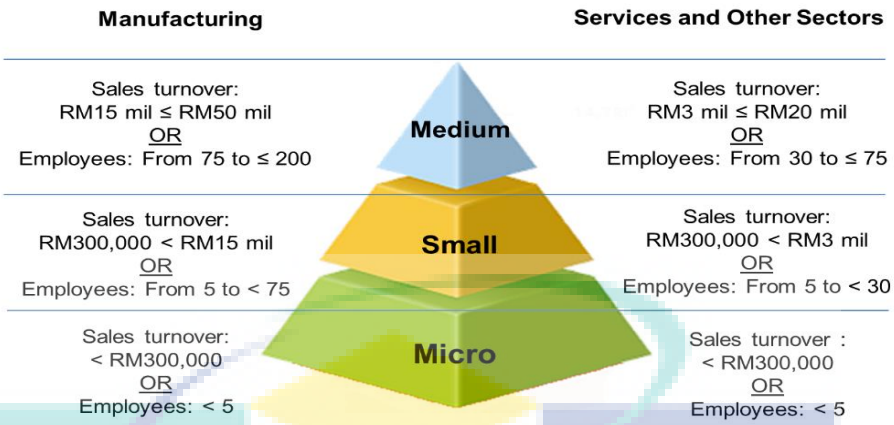

Figure 2.1 Detailed SMEs definition of category

Source: National SME Development Council, 2013

Based on the Department of Statistics Malaysia, the overall GDP of SMEs contribution is displayed in Table 2.1, On the supply side, all the major economic sectors of SMEs, except the agriculture sector, recorded an expansion in 2016. The services sector grew by 5.6% in 2016 (2015: 5.1%) owing to sustained demand in the consumer-related sectors while other sectors expanded more moderately. The agriculture sector contracted due to a decline in crude palm oil (CPO) production as yields were affected by the weather phenomenon. While labor market conditions generally remained stable, the unemployment rate however edged higher to 3.5% in 2016 (2015: 3.1%) due to slower job creation as employers adopted a cautious stance and refrained themselves from expanding their workforce too quickly amid more moderate economic growth. (p: preliminary, e: estimate based on BNM annual Report 2016).

Table 2.1 Real GDP of SMEs by key economic activity (at 2010 prices)

Year	**2015**	**2016p**	**1H2017 p**	**2017e**
		Annual change (%)		
Agriculture	1.3	-5.1	7.1	4.0
Mining and Quarrying	5.3	2.2	0.9	2.7
Manufacturing	4.9	4.4	5.8	4.3
Construction	8.2	7.4	7.4	8.0
Services	5.1	5.6	6.1	4.9
Real GDP	5.0	4.2	5.7	4.4~4.8

2.2.1 Previous research on SMEs in Malaysia

Azhar et al., (2016) studied tax evasion amongst SMEs in Malaysia which is to investigate the relationship between tax evasion and certain demographic factors; Wendy and Siong (2014) studied towards strengthening the development of women entrepreneurship in Malaysia that identify developmental issues associated with women entrepreneurship, with the Malaysian small and medium enterprises (SMEs); Aliyu and Govindan (2017) studied foundational competencies for enhancing work engagement in SMEs Malaysia, it aims to examine the impact of foundational competencies on work engagement in the context of the Malaysian small and medium enterprises (SMEs) service sector.

According to Mohd et al., (2016), knowledge and skill are necessary to develop the capability of knowledge workers in SMEs Malaysia; based on Ramita et al., (2015), knowledge management practice and innovation are believed have an important impact on sustainability and organizational performance; and moreover, Orawan et al., (2016) studied ability of a worker to perform his or her work and it is affected by work environment, and work demand.

Theresa Char et al., (2013) studied on advancing a model of workplace familyism and organizational learning capability in small and medium enterprise (SMEs) manufacturers in Malaysia; Meanwhile, Alain et al., (2013) did empirical analysis on e-business adoption be influenced by knowledge management on Malaysian SMEs; furthermore, Mozhdeh et al., (2017) researched on succession planning and family business performance in SMEs.

Base on the information above, there are many researchers studied about how to improve the technique and skills to enrich SMEs operation or work performance, or find the reasons why factors affect SMEs to ensure SMEs have development space to make better performance. However, Violetta and Maarten (2016) stated the growing focus on employee engagement has been one of the most critical developments in human resource management (HRM) over the last 15 years. Since the engaged high potential employees may be more positive about their organization, thereby contributing to the development of the organizational brand; they may express a stronger wish to stay in the organization, thereby decreasing employee turnover; and they may perform

at a superior level of effort, thereby potentially increasing productivity, customer engagement, revenue growth, operating and profit margins, and overall organizational performance (Bal et al., 2013). Meanwhile, Josh (2017) studied about employers are facing an employee population in which fewer than half are satisfied with their jobs, though it has been somewhat on the rise (Weber, 2016). For companies to compete, they must continue to rethink the relationship of the company with its employees. Meanwhile, an organization is a body of people, their acquisition, development of skills, motivation for higher levels of attainments, in addition to ensuring maintenance of their level of commitment are all significant activities, and these activities fall in the area of HRM. In all organizational settings, the ability of leaders to affect how their organizations perform has made leader behavior – the decisions and actions of leaders (Beaufort Longest, 2017).

Since, the importance of human resource management as soul for each organization, research on leaders' personality, leadership style and employee engagement on SMEs could be one factor that affected organization performance. However, according to previously researches, there are only a few studies about leader' personality, leadership style and employee engagement in SMEs at Malaysia, so lack of information on SMEs leaders' personality, leadership style and employee engagement. Hence, the following section will overview the relevant literature from the three perspectives.

2.3 Leader

According to John Reh (2009), leaders are the one of the people in the group see a problem that needs to be solved or a goal that needs to be achieved. It may be something that no one else sees or simply something that no one else wants to tackle. Whatever it is, it is the focus of the leader's attention and they attack it with a single-minded determination. Whether the goal is to double the company's annual sales, develop a product that will solve a certain problem, or start a company that can achieve the leader's dream, the leader always has a clear target in mind. Leaders play an integral part in modeling teamwork and setting priorities for team members to successfully engage in teamwork processes and outcomes (House, 2004); Bass, 1997; Guzzo and Salas, 1995). Hence, to find the factors about leader is the critical part to engage employee that can help organization to obtain good performance.

There is a long debate around the leadership literature addresses the question of whether leaders are born or made. Trait theorists contend that individuals are born with innate leadership traits (Stogdill, 1974). However, Kirkpatrick and Locke (1991) suggest that key leader traits enable the development of relevant skills, vision and effective planning of procedures to implement these visions. Some research has supported their view; indicating that effective leaders invest time reflecting on events and use developmental learning from these experiences to guide their future actions (Burns, 1978; Fisher et al., 2000; Avolio, 2005). Self-awareness and self-regulated behaviors are believed to foster optimal leadership development (Luthans and Avolio, 2003). In particular, Lord and Hall (2005) postulate that leader development is influenced by individual differences in cognitive capacity, personality and temperament, emotional regulation ability, identities, and value. Loice (2017) stated Leaders in today's most successful organizations are aware that internal changes must go along with what is happening in the external environment (Daft, 2005). Organizations must get exposed to change, not only to prosper but also to survive in today's dynamic changing environment. Changes in leadership behavior and its effect on employee also come about through leader personality traits in addition to leadership styles. Important outcome of the personality need to forward study with the end of the role here is the leader who is the head for an organization that cause organization profit and employee performance. Next section is the leaders' personality.

2.4 Personality

According to Laura (2011), trait psychology has emerged over the past 30 years as a strong anchor for the theoretical basis of understanding the core definers of the individual in terms of thoughts, feelings, and patterns of action (McCrae, 2002). There is also much empirical evidence to support the use of self-reports as valid methods of measurement for personality traits (McAdams, 1992; Kenrick and Funder, 1988; Epstein, 1997). In Hans-Georg and Sowon (2012) statement, traits are fundamental building blocks of personality and refer to stable patterns in the way individuals think, feel, and behave (Pervin et al., 2005). Discussed by Pierce and Gardner (2002), personality can be grouped into two basic determinants, which is heredity and past interactions with the environment. Heredity is the personality mainly come with birth, namely "nature". However, past interactions with the environment is same as "nurture",

which believe that personality is mainly shaped by life experiences. Hence, personality can be affected on person's life ecperience, people can change their personality through their life time.

Furthurmore, personality can be classified into: self-consciousness, morality, relationships, love, religion and divinity. Besides psychology, where the concept was first formally identified and studied, personality has been applied and studied in numerous other fields, including operations management (Judge and Zapata, 2015), marketing (Saad and Gill, 2000), and information systems (Venkatesh and Windeler, 2012). There is a plethora of theories and batteries used in personality research.

One prominent theory is the five-factor model (FFM) of personality (Costa and McCrae, 1992). The FFM is based on five broad constructs, the collection of which describe human personality. The five constructs are openness, conscientiousness, extraversion, agreeableness, and neuroticism (sometimes reverse coded and called emotional stability). Based on the definition of the personality, now comes the fun part, change from how leaders' personality to leader want to be, and to make the way leader seem become the way a leader is, and vice versa. Even people with well-developed personalities can develop more and better. So, it means that personality can also be trained for more effectiveness.

Hence, knowledge of personality is one of many tools in managerial and leadership tool kit for more effective managers and leaders in the organization. Therefore, it is useful for leader's training and leader's promotion purpose in SMEs. The following section elaborates different models of personality traits.

2.4.1 Sixteen personality global factors (Cattell)

Sixteen personality global factors were introduced by Raymond Cattell in 1946. According to Cattell (1946), human personality traits could be summarized by 16 personality factors. Sixteen Personality Factor Model aims to build a common taxonomy of traits using a lexical method to narrow natural language to standard applicable personality adjectives (Dirk and Shannon, 2016). Cattell (1957) stated that human characteristics such as authoritarianism, creativity, or leadership skills could be predicted from these fundamental personality traits.

There are two levels of traits discovered by Cattell (1943), which included primary or secondary-level traits. Primary traits give the most basic definition of individual personality. It combines up to 16 types of personality. Some studies done by Paunonen and Ashton (2001) and Roberts et al. (2006) agreed that primary traits are more powerful in predicting and understanding the complexity of behavior act.

The secondary traits or global factors are also known as the original Big Five, which includes 5 broad dimensions. Figure 2.2 shows the global factors. The global factors provide a larger conceptual and organizing framework to understand the meaning and function of the primary traits. Therefore, the primary traits provide more detailed information for the fullness and the uniqueness of an individual, while the global traits provide a broad overview of personality.

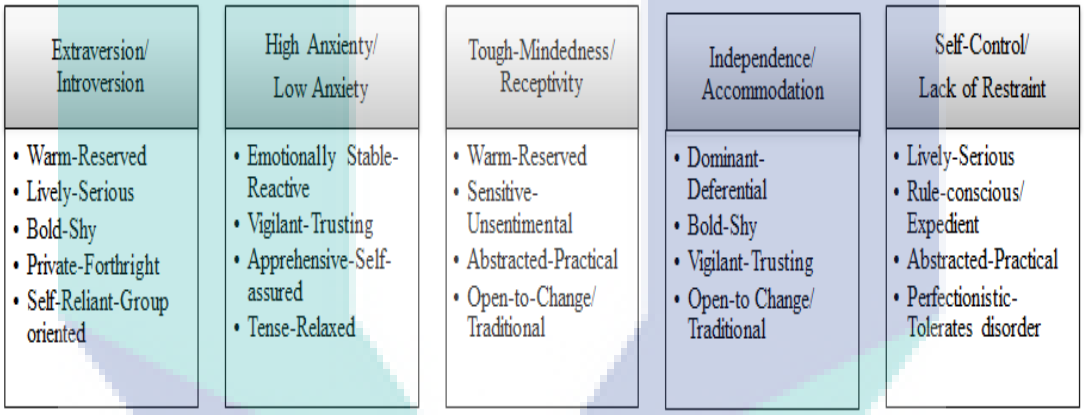

Figure 2.2 16PF global factors and the primary trait make-up

Source: Cattell, H.E.P. (2007)

There is a similar concept between the Cattell Sixteen Personality Global Factors and the 'O-C-E-A-N' Big-Five Factor Model. This statement can be proved by few studies by Cattell (1996), Carnivez and Allen (2005) and Conn and Rieke (1994). These studies show the strong correlations and factor-analytic alignment between the two models. The relationships between the two models are tabulated in Table 2.2. However, the two models have an important distinction in questionnaires. O-C-E-A-N Five Factor Model's questionnaire involves a high degree of transparent self-rating of traits, for example, "I'm an even-tempered person". In this situation, the finding can become fact if the respondent answers with the prefer personality. In contrast, 16PF questionnaire tend to be more indirect and involves more contextualized about the actual behavior from experience. For example, "I hardly ever feel hurried or rushed as I

go about my daily tasks". 16PF test tends to measure personality more accurately.

Table 2.2 Alignments among 16 personality Global Factors and 'O-C-E-A-N' Big Five Model

16 Personality Global Factors	'O-C-E-A-N' Big Five Model
Receptivity	Openness
Self-control	Conscientiousness
Extraversion	Extraversion
Accommodation	Agreeableness
Anxiety	Neuroticism

2.4.2 'O-C-E-A-N' Personality

According to Costa and McCrae (1992), 'O-C-E-A-N' which are openness means people high on openness are intellectually curious and imaginative; Conscientiousness representatives people high on conscientiousness tend to be more determined and goal-oriented, reliable, and scrupulous; Extraversion means people high on extraversion are characterized as liking other people and being active and talkative; Agreeableness shows people likable, cheerful, adaptable, cooperative, complying, and sympathetic are the characteristics that describe those high on agreeableness; Neuroticism shows fear and embarrassment are some of negative emotions experienced by people high on neuroticism.

Openness---As mentioned by Digman (1990), tough-mindedness is tuned to be willingness of individuals to make adjustments to existing attitudes and behaviors once new ideas or situation had been exposed. But receptivity is similar to openness. It describes four different aspects of openness to the world: openness to feelings and emotions (Sensitivity), openness to abstract idea and imagination (Abstractedness), openness to new approaches and idea (openness to change), and openness to people (warmth).

16 Personality Global Factors shows two categories of tough-mindedness, which are tough minded and receptive. Tough minded is the people who score high in tough-mindedness. Tough minded people tend to be reserved, utilitarian, grounded, and traditional. This kind person may not be open to other points of view, new experiences, or unusual people. Therefore, tough minded individuals deal with problems at a cognitive level. Receptive people are those who scores low in tough-mindedness. This kind of people are more open to experiencing feelings, and have more difficulty setting

aside affect when problem solving. Hence, receptive people may overlook practical or objective aspects of a situation.

As mentioned Cattell (1993), receptivity can be determined through the combination of positive warmth (A+), positive sensitivity (I+), positive abstractedness (M+), and positive openness to change (Q1+). Hence, there is similarity for receptivity and openness, in this research, to be replace as openness show as Figure 2.3 below:

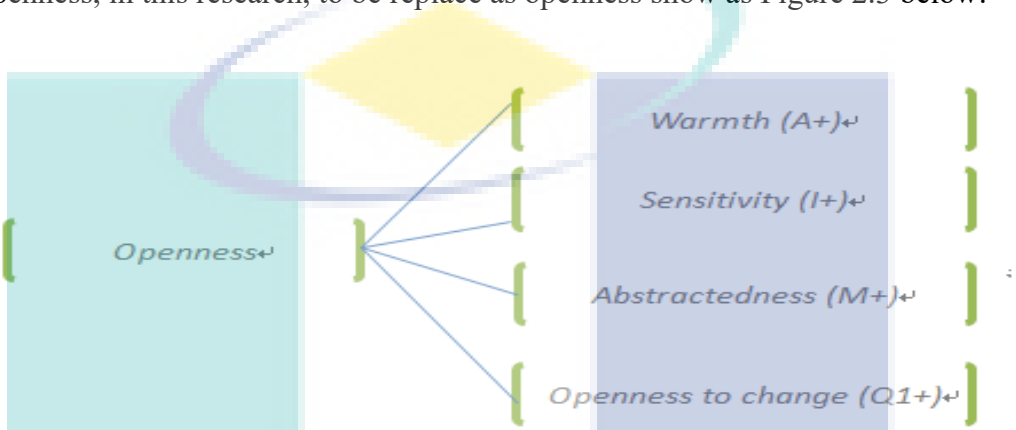

Figure 2.3 Components of openness

Conscientiousness---16 Personality Global Factors, self-control is used to measure the ability to control one's impulses. People scores high in self-control is grouped as self-controlled. Self-controlled people can inhibit their impulses. This kind of people is seen as serious, rule-conscious, practical, and a perfectionist. Therefore, self-controlled people do not display flexibility. Vice versa, peoples' scores low in self-control is grouped as unrestrained. Unrestrained individuals are more likely to follow urges, and this kind of people may be very flexible. However, it can also have problems restraining themselves. This type of people may be perceived as self-indulgent, disorganized, irresponsible, and uncontrollable. Based on Benjamin and Lewis (2017), persons high in Conscientiousness rarely did things like "sleep till noon," "let work pile up until just before a deadline," accrue late fees for books or videos, or daydream. These all reflect the facets of responsibility and organization found in examinations of the component structure of Conscientiousness (Roberts et al., 2005). Social propriety and self-control were reflected in less frequent cursing. Chewing on pencils was singularly (and inversely) linked to Conscientiousness as well. According to Costa and McCrae (1992), self-control has similarity with conscientiousness, in the research going to replace self-control as conscientiousness as following study.

Cattell (1999) mentioned that self-control can be determined through the combination of negative liveliness (F-), positive rule-consciousness (G+), negative abstractedness (M-), and positive perfectionism (Q3+). Self-Control used as conscientiousness Figure 2.4 show below:

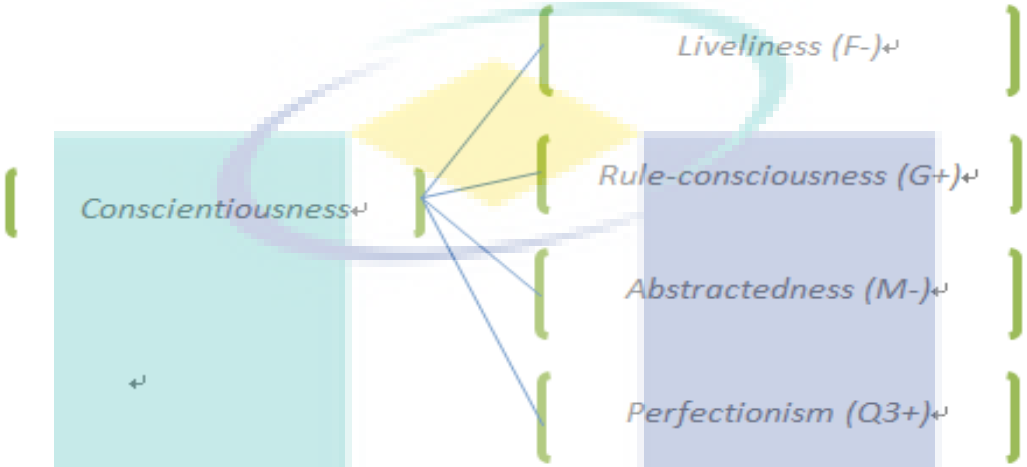

Figure 2.4 Components of conscientiousness

Extraversion---Differentiates people based on the interaction of people with the outside world, as opposed to people who are more absorbed and happy with their own company. Extraverted individuals are more likely to be the center of a group of friends, and they are more valued by their friend and become influential individuals to targets. According to Benjamin and Lewis (2017), analyses of trait-descriptive terms in English and other languages suggest that the core aspects of the Extraversion factor include Activity Level/Energy Level, Assertiveness, and Gregariousness (e.g., Goldberg, 1990). In the present analyses, these components were reflected in the identification of behaviors indicative of social activity (talked on a cellular phone, planned a party) as well as social confidence and dominance (asked questions in a meeting or lecture, gave a public talk or planned presentation).

16 Personality Global Factors, extraversion is used to examine the general social participation level. It consists of two extremes of extraversion people. First type is people who score high on extraversion tends to be people oriented and seek out relationship with others. In other words, people are extroverted and social participatory. The second type is people who score low on extraversion, this is also known as introversion. This kind of people tend to be less outgoing, spending more time on their

own than in the company with others. This kind of person is introverted and social inhibited.

According to Cattell (2003), the measurement of extraversion can be determined throughout the combination of positive warmth (A+), positive liveliness (F+), positive social boldness (H+), negative privateness (N-), and negative self-reliance (Q2-). Shown as below Figure 2.5.

Figure 2.5 Components of extraversion

Agreeableness---Accommodation is also known as agreeableness in 'O-C-E-A-N' Five-Factors Model. According to Benjamin and Lewis (2017), Agreeableness may be weakly associated with a larger number of acts, with relatively few highly distinguishing behaviors. Costa and McCrae (1992) show this dimension as dealing primarily with interpersonal tendencies. While, 16 Personality Global Factors, independence is used to measure of self-determination. People who get high scores in independence are categorized as independent people. However, people get low scores are categorized as accommodating. Independent people tend to form and express their own opinions. This kind of people are often persuasive and powerful, looking forward to challenge the current situation and doubtful of interference from others. However, people who are extremely independent always come across as disagreeable. Accommodating people tend not to ask questions, instead value agreeableness and social harmony. This kind of people feels anxious when speaking out their own opinion, and having difficulty persuading others.

According to Cattell (1970), the measurement of accommodation can be

determined throughout the combination of negative dominance (E-), negative social boldness (H-), negative vigilance (L-), and negative openness to change (Q1-). Shown as Figure 2.6 below:

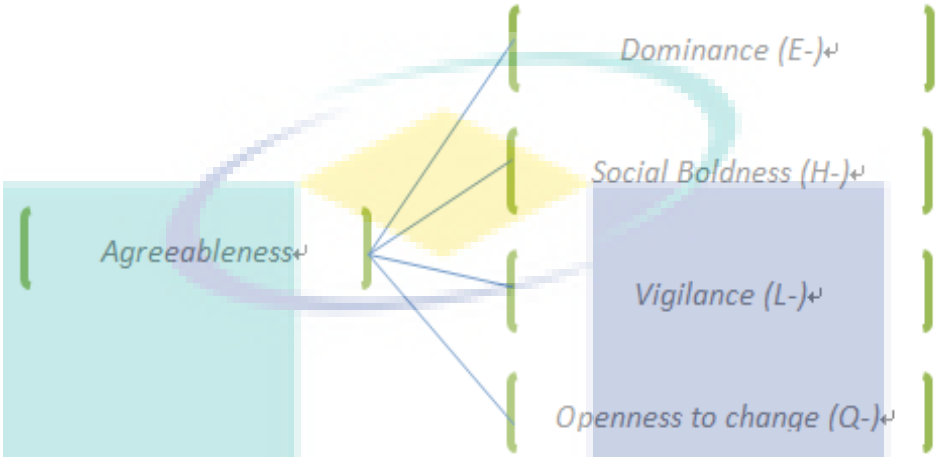

Figure 2.6 Components of agreeablenes.

Neuroticism--- Since Benjamin and Lewis stated (2017) Neuroticism is defined by mood dysregulation and is a risk factor for many types of psychiatric distress, it leads to greater mental health service utilization (Goodwin et al., 2002) and thus access to prescription medication. Poor nutrition ("drank four or more soft drinks a day"), possibly also a self-medication strategy, and accompanying dissatisfaction with one's body ("went on a diet"), were also consistent with neurotic persons' generally worse eating habits (Goldberg and Stycker, 2002) and weight gain (Sutin et al., 2011). Anxiety is an unpleasant state of inner disorder, often accompanied by nervous behavior. It is one of the personalities in 16 Personality Global Factor, which is highly correlated with the neuroticism in 'O-C-E-A-N' Big Five Factor. Neuroticism is a personality dimensions that typify persons as depressed, insecure, emotionally unstable, mistrust, and hedonism (Robbins et al., 2008).

16 Personality Global Factors group anxiety into two types. The first type is the people who score high in anxiety, addressed as anxious people. This kind of person tends to be reactive, distrustful and vigilant, worrying, apprehensive and tense. Besides that, anxious people may have difficulty controlling emotional reaction, and may act in counterproductive ways. However, the second type is people who score low in anxiety, which known as unperturbed or low anxious. Unperturbed and low, anxious people may

minimize the negative effect or be unmotivated to seek change because of a general comfort level.

Cattell (1993) mentioned that anxiety can be determined through the combination of negative emotional stability (C-), positive vigilance (L+), positive apprehension (O+), and positive tension (Q4+). Shown as below Figure 2.7 :

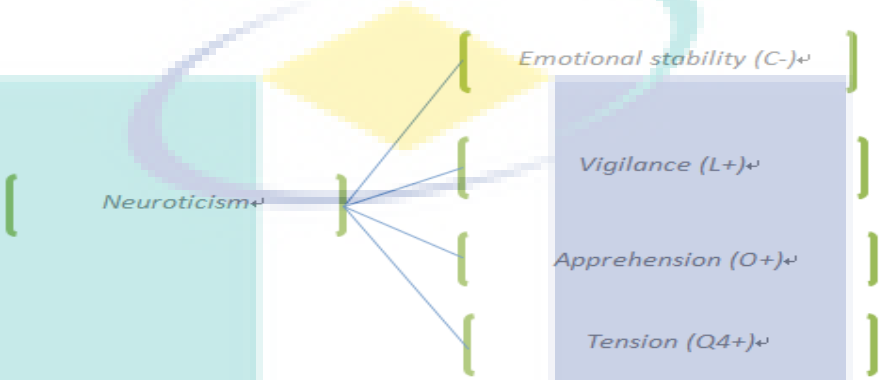

Figure 2.7 Components of neuroticism

2.4.3 Comparison between the 16PF Global Scales with Other Five-Factor Models

For over many years, the 16PF has included the broad, second-order dimensions currently called 'the Big Five' (Cattell, 1946; Krug and Johns, 1986). In fact, Cattell (1933) studied three of these five elements in his earliest studies of temperament– which Digman (1996) called 'the first glimpse of the Big Five'. Four of the five current traits were already published in Cattell's 1957 book. All five traits have been clearly classified and recorded from the questionnaire since the release of the fourth edition around 1970. Although Cattell continued to believe that there were more than five factors, so have many other prominent psychologists (Block, 1995; Fiske, 1994; Hogan et al., 1996; Jackson et al., 2000; Lee et al., 2005; Ostendorf, 1990; Saucier 2001).

The 16PF scales and items also played an important role in the development of the other Big Five factor models (e.g. Costa and McCrae, 1976, 1985; Norman, 1967; McKenzie et al., 1997; Tupes and Christal, 1961). For example, the first 'OCEAN' manual (Costa and McCrae, 1985) describes the development of the questionnaire as beginning with cluster analyses of 16PF scales, which these researchers had been using for over 20 years in their own research. However, this origin, or even acknowledgement

of the existence of the five 16PF global factors, does not appear in any current accounts of the development of the Big Five (Costa and McCrae, 1992a; Digman, 1990; Goldberg, 1992).

Furthermore, when the 16PF correlation matrix, which was used in the original development of the Big Five, is re-analyzed using more modern, rigorous factor-analytic, methods, Costa and McCrae's results do not replicate (McKenzie, 1997). Instead, appropriate factoring (Cattell, 1978; Gorsuch, 1983) of the original matrix produces the five 16PF global factors, compare with Costa and McCrae personality this cause more details with the personality.

A range of studies comparing the five 16PF global factors and the set of 'OCEAN' Big Five factors show a striking resemblance between the two (Carnivez and Allen, 2005; Cattell, 1996; Conn and Rieke, 1994; Gerbing and Tuley, 1991; Schneewind and Graf, 1998). These studies show strong correlational and factor-analytic alignment between the two models: Between tough-mindedness/receptivity and openness, between self-control and conscientiousness, between extraversion and introversion, between accommodation and agreeableness, last between anxiety and neuroticism.

The 16PF scales and items also played an important role in the development of the other Big Five factor models (e.g. Costa and McCrae, 1976, 1985; Norman, 1967; McKenzie et al.,1997; Tupes and Christal, 1961). For example, the first 'O-C-E-A-N' manual (Costa and McCrae, 1985) describes the development of the questionnaire as beginning with cluster analyses of 16PF scales, which these researchers had been using for over 20 years in their own research. However, this origin, or even acknowledgement of the existence of the 16PF global factors, does not appear in any current accounts of the development of the Big Five (Costa and McCrae, 1992; Digman, 1990; Goldberg, 1990).

Furthermore, when the 16PF correlation matrix, which was used in the original development of the Big Five, is re-analyzed using more modern, rigorous factor-analytic methods, Costa and McCrae's results do not replicate (McKenzie, 1998). A range of studies comparing the 16PF global factors, the set of 'O-C-E-A-N' Big Five factors show a striking resemblance among the three (Carnivez and Allen, 2005; Cattell,

1996; Conn and Rieke, 1994; Gerbing and Tuley, 1991; Schneewind and Graf, 1998).

However, there are important differences among two models. Although proponents of the other five-factor models have done much in the last decade to try to bring about a consensus in psychology about the existence of five global factors, their particular set of traits have been found to be problematic. In the development process, the 'O-C-E-A-N' Big Five factors were forced to be statistically uncorrelated or orthogonal for reasons of theoretical and statistical simplicity.

The forced orthogonal factor locations of the five-factor model have had substantial effects on the meanings of the traits. For example, although the basic traits of dominance (or agency) and warmth (or communion) have long been seen as two of the most fundamental dimensions of human personality (Wiggins, 2003), the five-factor model has no factor that centrally includes either dominance or warmth. Rather factor analyses of the 'O-C-E-A-N' show that the central traits of dominance and warmth are widely dispersed and spread thinly among several of the five factors, particularly extraversion and agreeableness (Cattell, 1996; Child, 1998; Conn and Rieke, 1994; Costa and McCrae, 1992).

However, in the 16PF Questionnaire, the Independence global factor is organized around traits of assertiveness and influence in the world (high scorers are dominant, independent-minded and innovative, low scorers are deferential, cooperative, and agreeable). Thus, the 16PF global Independence factor is defined around traits of dominance or 'agency', while in the 'OCEAN' model, the basic trait of dominance is split and relegated to small roles in several factors including extraversion and dis-agreeableness (where dominance is centered in a negative, hostile context).

In a similar way, factor-analyses of the 'O-C-E-A-N' have found that the basic trait of warmth (or communion) is also divided, with low loadings on several factors including extraversion and agreeableness (Cattell, 1996; Child, 1998; Conn and Rieke, 1994; Smith et al., 2001). However, in the 16PF, Warmth plays a central role in Extraversion, the factor that focuses on the basic dimensions of interpersonal relating. Additionally, these factor analyses of the 'O-C-E-A-N' indicate that the openness trait (called 'intellect' in Goldberg's model) tends to focus more on cognitive or intellectual curiosity, rather than equally measuring the whole domain, which includes openness to

feelings, emotions, and esthetics. Also, the Big Five factor 'conscientiousness' appears to be narrower in content than 16PF Self-Control and doesn't include the whole domain of human methods for self-control and self-restraint versus impulsivity (Roberts et al., 2005).

However, the biggest difference among the two approaches is the method of development of the primary level traits. In the 16PF Questionnaire, the first-order primary trait definitions are based on decades of scientific research, and have been confirmed in a wide range of independent studies (see the section on Validity). This method of selecting the fundamental facets of personality raises some basic questions about the 'O-C-E-A-N' mode. First of all, this arbitrary approach to choosing the facets leaves them open to debate by every other psychologist who happens to conceptualize personality differently (e.g. Gough, 1987; Hogan et al., 1996; Wiggins, 2003). More importantly, these facets are now used to define and calculate scores on the basic Big Five factors, which have resulted in changed definitions of the Big Five domains themselves.

Another important distinction between the 16PF and other questionnaires is the contextualized nature of its items. For example, items on the 'O-C-E-A-N' involve a high degree of transparent self-rating or self-assessment of traits (e.g. 'I'm an even-tempered person'; I am dominant, forceful, and assertive'; 'I am known as a warm and friendly person'). Although this type of transparent item may do well in research settings, in most assessment situations where there are strong motivational components, these items tend to be vulnerable to distortion. In contrast, 16PF items tend to be more indirect and involve more contextualize questions about actual behavior or experience (e.g. 'When I find myself in a boring situation, I usually "tune out" and daydream about other things'; 'I hardly ever feel hurried or rushed as I go about my daily tasks'; 'I sometimes feel that I need my friends more than they need me').

Table 2.3 Alignments among the three main Five-Factor models

16PF(Cattell)	O-C-E-A-N (Costa and McCrae)
Extraversion/Introversion	Extraversion
Low Anxiety/High Anxiety	Neuroticism
Tough-Mindedness/Receptivity	Openness
Independence/Accommodation	Agreeableness
Self-Control/Lack of Restraint	Conscientiousness

2.5 Leadership Styles

A review of the extensive psychological research on leadership conducted over a century (e.g. Kurt Lewin, 1938a; Bass, 1990; Yukl, 2001) shows that it has been mainly concerned with examining how leadership as an independent variable affects followers' performance variables and attitudinal. Based on Raimonda and Modesta (2016), Due to multidimensional nature of leadership, it is difficult to provide a universal definition, which would include all the aspects of leadership. Leadership is recognized in someone's behavior, when experienced or seen (Pardey, 2007). Some definitions define leadership as a process to influence people to achieve certain goals or results (Howell and Costley, 2006; Pardey, 2007). On the other hand, Arnold et al. (2005) and Grint (2005) focus on the leader and his/her abilities and qualities more.

Leadership styles are defined by combination of leadership behaviors (Howell and Costley, 2006). The way a leader behaves in order to reach a goal or perform a function, determines which kind of leadership behavior leader adapts. Some examples would be showing concern for the personal feelings of a follower, providing information that helps a follower to perform effectively (Howell and Costley, 2006). In another words, leadership has been defined in a number of ways, such as the ability to guide followers toward shared goals (Bryman, 2007), as a form of influence (Hersey, 1984), and as simply something a leader does (Fleishman, 1973). Specific to the popular study, Yukl (2002) indicated that leaders exhibit Task-Oriented, Relational-Oriented and Change-Oriented behaviors. Cibulskas (2012) discuss many other types of leadership: participative, cooperative, collaborating, sustainable, partial and autocratic. They also define liberal, bureaucratic, primitive, paternalistic, toxic, educating, narcissistic and many more leadership styles. Beyer (2012) lists 50 different leadership approaches that can be found in the recent academic literature. However, she notices, that "the recent concepts appear to be more of a blending of ideas and concepts interrelated between and building upon each other rather than singular theoretical frameworks" Additionally, Castaneda and Nahavandi (1991) indicated that employees are most satisfied when they perceive their supervisors as exhibiting both relational and Task-Oriented behaviors. In addition, leadership styles also refer to the way leaders behave towards the individuals they are leading. As mentioned by Papalexandris and Galanaki (2009), excellent leadership can improve a company's profitability and

performance. Therefore, leadership style is important to the make good performance for SMEs. Leadership are behavior patterns, which can be grouped according to the specifics of a certain behavior Each leadership style is characterized by the set of leadership styles.

2.5.1 Kurt Lewin (1939) leadership style model

The first major study of leadership styles was performed in 1939 by Kurt Lewin who led a group of researchers to identify different styles of leadership (Lewin, Lippit, White, 1939). This early study has talked about quite influential as it established the three major leadership styles: Authoritarian/Autocratic, Participative/Democratic, and Delegative /Laissez-fair.

Authoritarian/Autocratic - the leader tells his or her employees what to do and how to do it, without getting their advice. This style is used when leaders tell their employees what they want done and how they want it accomplished, without getting the advice of their followers. Some of the appropriate conditions to use this style is when you have all the information to solve the problem, you are short on time, and/or your employees are well motivated. Some people tend to think of this style as a vehicle for yelling, using demeaning language, and leading by threats. This is not the authoritarian style, rather it is an abusive, unprofessional style called “bossing people around.” It has absolutely no place in a leader's repertoire. The authoritarian style should normally only be used on rare occasions. If you have the time and want to gain more commitment and motivation from your employees, then you should use the participative style.

Participative/Democratic - the leader includes one or more employees in the decision making process, but the leader normally maintains the final decision making authority. This style involves the leader including one or more employees in the decision making process (determining what to do and how to do it). However, the leader maintains the final decision making authority. Using this style is not a sign of weakness, rather it is a sign of strength that your employees will respect. This is normally used when have part of the information, and employees have other parts. A leader is not expected to know everything—this is why employ knowledgeable and skilled people. Using this style is of mutual benefit as it allows them to become part of the team and allows to make better decisions. Even if have all the answers, gaining

different perspectives and diversity of opinions normally provide greater creativity than insularity.

Delegative/Laissez-fair (free-rein) - the leader allows the employees to make decision, however, the leader is still responsible for the decisions that are made. In this style, the leader allows the employees to make the decisions. However, the leader is still responsible for the decisions that are made. This is used when employees are able to analyze the situation and determine what needs to be done and how to do it. Leaders cannot do everything! Leader must set priorities and delegate certain tasks. This is not a style to use so that can blame others when things go wrong, rather this is a style to be used when fully trust and have confidence in the people below you. Do not be afraid to use it, however, use it wisely.

2.5.2 Bass (1998) leadership style model

Two types of leadership transformational and transactional were identified by Burns (1978). Further, Bass (1990) and Bass and Avolio (1994) espoused one more leadership which namely laissez-fiare. The more detail below as:

Transformational leadership---Research has proven that transformational leadership augments the effects of transactional leadership (Bass,1990a). Transformational leaders rather than focusing solely on current needs of their employees or themselves focus on future needs. These leaders rather than being concerned with short-term problems and opportunities faced by the organization are more concerned with long-term issues, rather than viewing intra and extra organizational factors as discrete, view them in a holistic perspective. The transformational leadership has consistently been linked to high levels of effort, performance and satisfaction (Bass, 1990a).

Transactional leadership---Transactional leaders identify and clarify subordinates' job tasks and communicate to them how successful execution of tasks will lead to the receipt of desirable rewards. Transactional managers determine and define goals for their subordinates, suggest how to execute tasks and provide feedback. Previous investigations suggest that transactional leadership can have a favorable influence on attitudinal and behavioral responses of employees (Bass, 1990b).

Laissez-faire----Laissez-faire leaders abdicate their responsibility and avoid making decisions. Subordinates working under this kind of supervisor basically are left to their own devices to execute their job responsibilities. Although laissez-faire leadership is observed infrequently, managers still exhibit it in varying amounts. Prior research has found that laissez-faire leadership has an adverse effect on work-related outcomes of employees (Bass, 1990).

2.5.3 Yukl (2002) leadership style model

According to Yukl (2002) leadership style has been classified as Task-Oriented, Relations-Oriented, and Change-Oriented. Task-oriented leadership focuses on accomplishing the task in an efficient and reliable way, whereas Relations-oriented leadership emphasizes on increasing mutual trust, cooperation, job satisfaction, and identification with the organization. Change-oriented leadership focuses on understanding environment, finding innovative ways to adapt to it, and implementing major changes, strategies, products, and processes. According to Yukl (2002), each of them was not clearly linked to different outcome, and each outcome was relevant for effective leadership.

Task-Oriented Leadership---Based on Lars et al., (2016), the behavior of both initiating structure and transactional leaders is task oriented (Yukl et al., 2002; Bass, 2008; Fleishman, 1953). The leaders focus on being clear about expectations and the required standards of performance, in order to elicit the commitment and motivation of followers. Deviations from these standards are approached with structure and routines. It was known as initiating structure in Ohio State Leadership Studies. It is identical with job-centered leaders (Mehtap et al., 2011). Task-oriented leadership describes a leader who directs subordinate work activities toward goal attainment. Leaders with this style always give instructions, spend time planning, emphasize deadlines, and provide explicit schedules of work activities. The behavior of task-oriented leadership is mainly concerned with accomplishing the task, utilizing personnel and resources efficiently, and maintaining orderly reliable operations. The specific types or task-oriented behavior is planning, clarifying, and monitoring (Yukl, 2002). However, according to Daft (1999), job-centered leaders, which is identical to task-oriented leaders tend to be less concerned with human needs and goal achievement in favour of meeting schedules, keeping costs low, and achieving production efficiency.

Relations-Oriented Leadership---According to Lars et al., (2016), The behavior of consideration, transformational, and LMX leaders can be described as orientated toward relation. Consideration leaders, for example, care about their followers' needs, treat group members equally, are approachable and friendly and are open to input from others (Bass, 1990). Relational-oriented behaviors are identified in research on democratic (Gastil, 1994), empowering (Srivastava et al., 2006), or participative leadership. Parts of transformational leader behaviors, such as individualized consideration, also focus on a relational-oriented behavior. It is known as a consideration structure in Ohio State Leadership. It is identical with employee-centered leaders (Mehtap et al., 2011). Relations-oriented leader is aware of subordinates, respect subordinate or team members' ideas and feelings, and they focus on building mutual trust within each other. This type of leader is friendly, provides open communication, develops teamwork, and oriented toward their subordinates (Draft, 2008). Besides that, Relations-Oriented leadership is more focused on subordinates' human needs in order to build effective work teams with high performance goals. The behavior of Relations-Oriented leadership is mainly concerned with improving relationships and help people, increasing cooperation and teamwork, increasing subordinate job satisfaction, and building identification with the organization. Yukl (2002) mentioned that there are three specific types of relations-oriented behaviors, which are supporting, developing, and recognizing.

Change-Oriented--- Lars et al., (2016) stated Highly change-oriented leaders encompass actions such as developing and communicating a vision for change, encouraging innovative thinking, and risk taking (Derue et al., 2011). According to Yukl (2002), theories of transformational and charismatic leadership (Bass, 1985; Conger and Kanungo, 1998; House, 1997; Shamir et al., 1993) include change-oriented behaviors, and there is growing evidence that these behaviors are related to effectiveness of leaders (e.g. Lowe et al., 1996). The importance of leading change is suggested by some organization theories (Miller and Friesen, 1984; Tushman and Romanelli, 1985). As mentioned by Kotter (1990), leadership is the most critical responsibility in managing change. Therefore, change-oriented leadership is needed to have effective managing changes. In this context, charismatic and transformational leadership have been discovered (Gil et al., 2005). According to Yukl (2002), change-oriented leadership of behaviour is mainly concerned with improving strategic decisions; increasing flexibility

and innovation; adapting change in the environment; making major changes in processes, products, or services; and gaining commitment to the changes. There are few classification of specific types in change-oriented behaviours, which are the influencing organizational culture, developing a vision, implementing change, and increasing innovation and learning.

2.5.4 Comparison among the leadership style models

According to Lars et al., (2016), as an attempt to integrate existing findings on leadership behavior, Yukl (2002) presented a hierarchical taxonomy with three meta-categories (task, relations, and change behavior) of leadership. This taxonomy provides a parsimonious and meaningful conceptual framework that shows how the leadership behaviors (i.e. transformational and transactional leadership, laissez-faire, consideration, and initiating structure) are interrelated theoretically. It combines the simplicity of a few meta-categories with the explanatory power of specific component behaviors. Potentially, this taxonomy could advance leadership theory since it would allow for a more parsimonious classification of leadership constructs and theories.

Yukl (2002) proposed general behavior meta-categories that classify leadership theories into three different groups: First, the relations-oriented behavior and second, the task-oriented behavior. Whereas the former deals with the leader's support for his/ her subordinates and his/her interest in their needs and well-being, initiating structure describes the extent to which a leader plans tasks, clarifies responsibilities and performance as well as monitors operations. In general, two-factor models of leadership (Yukl, 2002) provide the basis for several leadership theories and can therefore also be adapted to the concepts of both initiating structure-consideration (Halpin and Winer, 1957) and transformational-transactional (Bass,1985; Burns,1978). According to Yukl (2002), these classical categories must be supplemented by a third meta-category of Change-Oriented behavior.

As described above, similarities exist between autocratic, transactional leadership and Task-Oriented leadership (Bass, 1985; 1990; 1999; Bass and Riggio, 2006; Burns, 1978). Autocratic leadership, transactional leadership and Task-Oriented leadership theory focus on leadership behaviors to the exclusion of leadership traits or individual differences, three types of leadership are all focus on the exchange between

leaders and followers and both emphasize work products or outcomes. Base on definition, there are similarities on authentic leadership, transformational leadership and Relations-Oriented leadership, (Bass 1985; 1990; 1999; Burns 1978; Conger,2011), and (Avolio, 2010; Bass, 2008). Democratic leadership is a sign of strength for employee respect, transformational Leadership style looks at leadership behaviors and individual differences, meanwhile, Relations-Oriented leadership is people focused, inspirational, persuasive, and intellectually stimulating (Bass, 2008). In contrast, Change-Oriented leadership theories and laissez-fair leadership, Change-Oriented contingent leadership approaches advocate for the right leadership style and behaviors for the context and situation faced by the organization (Bass,2008; Hersey and Blanchard, 1969; 1979; 1996; Yukl, 1999, 2002). While, laisse-fair leadership style had adverse effect on work-related outcomes of employees. Hence, the Change-Oriented and the laissez-faire are not aligned. Transformational and transactional leadership theories, and the corresponding full range of leadership theory, continue to add to an impressive 30 years' history of empirical support (Diaz-Saenz, 2011; Gundersen et al., 2012; Hamstra et al., 2011; Judge & Piccolo, 2004; Leong, 2011; Yukl; 2002). However, 30 years of history does not guarantee that transformational and transactional leadership adequately address the challenges facing the modern field of leadership.

However, research has yet to fully explore how antecedents might differently affect types of leader behavior. The influence of leadership style on employee engagement, job performance, satisfaction, stress, and turnover intention has been well established. While leadership style has an impact on organizations, departments, and teams, as well as organization culture, leaders who want the best results should not rely on a single leadership style.

Table 2.4 Alignments among the three main leadership style models

Kurt Lewin(1939)	**Bass (1998)**	**Yukl (2002)**
Authoritarian/Autocratic	Transactional	Task-Oriented
Participative/Democratic	Transformational	Relations-Oriented
Delegative/Laissez-faire	Laissez-faire	Change-Oriented

2.6 Employee Engagement

Employee engagement concerns the degree to which individuals make full use of their cognitive, emotional, and physical resources to perform role-related work (Kahn, 1990; May, 2003). However, most of what has been written about employee engagement can be found in practitioner journals where it has its basis in practice rather than theory and empirical research.

Sharma and Kaur (2014) have defined employee engagement as the "extent to which an employee feels a sense of psychological investment in his/her work, so that he/she is behaviorally (social) and intellectually focused on organizational goals". This psychological state according to Hewitt (2011) can potentially lead to behavioral outcomes that facilitate improved organizational performance.

In the academic literature, a number of definitions have been provided. Kahn (1990) defines personal engagement as "the harnessing of organization member themselves to their work roles; in engagement, people employ and express themselves physically, cognitively, and emotionally during role performances." Personal dis engagement refers to "the uncoupling of selves from work roles; in disengagement, people withdraw and defend themselves physically, cognitively, or emotionally during role performances". Thus, according to Kahn (1990,1992), engagement means to be psychologically present when occupying and performing an organizational role. Kahn (1992) also defines engagement as psychological presence but goes further to state that it involves two critical components: attention and absorption.

Aliyu and Govindan (2017) stated engaged employees play a crucial role in gaining competitive advantages, achieving high productivity and ensuring low turnover (Gilbert, 2011). These employees are also happier, more enthusiastic and healthier than non-engaged individuals in the workplace; they create and utilize their personal and job resources, and they share and transfer their engagement to others (Bakker and Demerouti, 2008). Harter et al. (2002) posited that organizations with high ratios of engaged employees could outperform other companies in terms of net income, growth and earnings per share as well as achieve positive business unit outcomes, including enhanced profits, high customer satisfaction and high productivity.

Attention refers to "cognitive availability and the amount of time one spends

thinking about a role" while absorption "means being engrossed in a role and refers to the intensity of one's focus on a role." Burnout researchers define engagement as the opposite or positive antithesis of burnout (Maslach et al., 2001). According to Maslach et al. (2001), engagement is characterized by energy, involvement, and efficacy, the direct opposite of the three burnout dimensions of exhaustion, cynicism, and inefficacy. Research on burnout and engagement has found that the core dimensions of burnout (exhaustion and cynicism) and engagement (vigor and dedication) are opposites of each other (Gonzalez-Roma et al., 2006).

Harter et al. (2002) defined engagement is individual involvement and satisfaction with their task. Engaged employees are more productive, high performance and more willing to give their effort if compared with ungagged workers. Basically, when employees engage with their current position, they will feel satisfied and put more effort on their job. Besides that, they will try their best to achieve certain objectives and provide high commitment to the organization.

Employees who engage in their work are conceptualized as the positive antipode of workplace burnout (Schaufeli and Bakker, 2004). Meanwhile , employees will feel energetic, proud and able to deal with the job demands (Schaufeli and Salanova, 2006). According to Schaufeli (2014) there are three dimensions to identify levels of employees engage with their works and the three factors are vigor, dedication, and absorption. For this study, it's going to deal with Schaufeli (2014) employee engagement, following section are the elements of the employee engagement.

Employees who are engaged in their work have an energetic, enjoyable, and effective connection with their work (Kahn, 1990; Macey and Schneider, 2008). In addition to humanistic reasons for pursuing engagement, there are commercial incentives. Higher levels of employee engagement are associated with increased return on assets, higher earning per employee, higher performance, greater sales growth, and lower absenteeism (Banks, 2006; Harter et al., 2002; JRA, 2007; Salanova et al., 2005; Towers Perrin, 2003). Further, greater engagement is associated with decreased costs, including reduced turnover, lower cost of goods sold, and fewer quality errors (Banks, 2006; Harter et al., 2002; JRA, 2007; Schaufeli and Bakker, 2004; Towers Perrin, 2003). Moreover, a recent study shows that engagement is a conduit for the effects of broader individual and workplace factors on job performance (Rich et al., in press).

2.6.1 Absorption

Absorption is the concept of "being carried away by work". At the same time, it can be characterized as employees are highly concentrated, satisfied, being immersed and happily engrossed in work (Schaufeli and Bakker, 2003). In the engagement concept, absorption represented as employees are fully engaged in their work and they do not notice the passage of time. Employees usually unable detach from the workplace, they will keep continue doing their work and less concern the time (Schaufeli et al., 2002). As a consequence, everything else around is forgotten and time seems to fly. Maslach et al. (2001) also defines absorption as personal concentrate in a work, from which one gets gladness and satisfaction. It also indecates that a person is concentrated on his work and finds it rewarding.

2.6.2 Dedication

The definition of dedication is employees who appreciate and feel proud of their organization and current position. They like to improve themselves and keep moving forward when face any obstacles. Dedication refers to a strong involvement in a work, provide 100% of commitment to the job, and have a sense of significance, enthusiasm, inspiration, pride and challenge (Schaufeli and Bakker, 2003).

Furthermore, dedication represented a great work ethic, high responsibility to their work. Employees in dedication are able to provide high commitment to the organization and low absentee to their work. In other words, dedication is linked to the experience of meaningful work and individual feels proud in his work (Alka Rai, et. Al, 2017).

2.6.3 Vigor

Vigor is considered as opposite of exhaustion. According to Schaufeli (2012) vigor is a characteristic of higher level of energy and mental resilience while working. Meanwhile, it can be represented as employees not easy to exhaustion or give up, but keep moving forward when they face any difficulties. Thus, in workplace vigor demonstrated a willing to contribute energy into a task, an ability to avoid fatigue and demonstrating persistence in completing a task (Weidert, 2011).

Besides that, vigor reflects employees are contributed their energy, times into a work. Dicke et al. (2007) defined, vigor is described as fully involve on the job even during a regular ‘ dull’ day when nothing special case happens. Previous research determined a positive self-concept is always related to employees’ job performance, and vigor may relate to internal states such as happiness, joy and optimism.

From the above information, employee engagement can be understood as cognitive, emotional and physicalrole performance characterised by absorption, dedication and vigour.

2.7 Relationship between Leaders’ Personality and Leadership Style

2.7.1 Relationship between OCEAN personality and Task-Oriented leadership style

According to Yukl (2002), Task-Oriented leadership concentrated on organizing group activities, defining the work need to complete, and maintaining standard and deadlines. Based on Mary et al. (2017), leader personality traits are the idea that people are born with certain character traits, since certain traits are associated with proficiency leadership. According to Mary Agnes Wambui Kiarie al. (2017), leader’s personality traits can be useful in analyzing leaders’ preferred styles as a significant characteristic.

Results of a comprehensive analysis by Judge et al. (2002) suggest that the Big Five dimensions of extroversion and conscientiousness show the most consistent effects on leadership, while effects of openness, neuroticism, and agreeableness vary more with the study setting and context. Judge et al. (2002) attempt to address it in part by evaluating the 30 underlying, more specific Big Five facets as predictors of leadership. Results were somewhat mixed, but they did show that leadership was more strongly predicted by facets of extroversion (sociability and dominance) and conscientiousness (achievement and dependability) than by the more general dimensions. (E/C-Leadership).

De Vries (2008) stressed that other than conscientiousness personality, there is a positivity relationship between personality and Task-Oriented leadership style. (C-TO) Besides that, Singer and Millage (2013) mentioned that individual with Task-Oriented leadership style tends to be a high level of assertiveness and low emotional

(Neuroticism) responsiveness. (N-TO).

Goleman (1995) argues that a leader's ability to understand, manage and use emotional awareness – an aspect of a leader's emotional intelligence – enhances the quality of relationships and improves reactions to problematic individuals and situations. Emotional regulation is considered to have the greatest potential for leadership roles (George, 2000) and is defined as the ability to connect or disconnect from emotions depending on the usefulness of emotion in a given situation (Mayer and Salovey, 1997). According to Riggio and Lee (2007), successful leaders are likely to have developed interpersonal and emotional competencies overtime rather than in the context of a development programmed. Thus, leaders' engagement in self-reflection enables the development of the whole person which contributes to a stronger sense of self-identity and understanding of those around them. As leadership is an inherently social role, emotional skills are critical component of a leader's development and effectiveness (Aoife et al., 2011). (N-LS).

Hetland and Sandal (2003) studied four scales of 16PF (warmth, reasoning, openness to change and tension) finding warmth to be the strongest personality correlate. A significant negative relationship occurred between tension and leadership. Moreover, each of the four scales significantly but modestly explained the variance of leadership, according to the subordinates quizzed. Further, according to superiors, the openness to change was predictive when they were rating participants (OCEAN-LS).

Tiina (2006) stated in the case of 16PF, the conformity was predictive of transformational behavior when superiors rated participants. However, in the case of subordinates, intelligence was connected with transformational leadership (Atwater and Yammarino, 1992). Hetland and Sandal (2003) studied four scales of 16PF (warmth, reasoning, openness to change and tension) finding warmth as the strongest personality correlate. A significant negative relationship occurred between tension and transformational leadership. Also, all those four scales explained significantly but modestly the variance of transformational leadership, according to subordinates. Further, according to superiors, the openness to change was predictive when they were rating participants. (OCEAN-LS)

Hence, this research hypothesizes that:

Hypothesis 1(a): Openness is positively related to Task-Oriented leadership.

Hypothesis 2(a): Conscientiousness is positively related to Task-Oriented leadership.

Hypothesis 3(a): Extraversion is positively related to Task-Oriented leadership.

Hypothesis 4(a): Agreeableness is positively related to Task-Oriented leadership.

Hypothesis 5(a): Neuroticism is negatively related to Task-Oriented leadership.

2.7.2 Relationship between OCEAN personality and Relations-Oriented leadership style

Based on Mary (2017), organizations are currently focusing on the leadership ability, preferred style, and competence of senior managers/leaders, because of the growing evidence regarding the influence of leaders' personality traits on the productivity, performance, and satisfaction of employees (Carmeli, 2003; Kotze, 2004; Whetton and Cameron, 2002; McMurray, 2003). Research indicates that not only do leaders' values and behaviors shape but their preferred approach to the management of their subordinates (McMurray, 2003; Martins et al., 2004). Furthermore, it also indicates a link between leaders' emotional competence and their preferred personality type (Coetzee et al., 2006; Higgs, 2003). In the case of 16PF, conformity was predictive of transformational behavior when superiors rated participants. However, subordinates estimated intelligence to be connected with TF-leadership (Atwater and Yammarino, 1993). (O-RO+ E-RO).

Based on Aoife (2011) Contemporary leadership theories demonstrate the centrality of emotional skills for effective leadership (e.g. transformational leadership (Bass, 1985; Burns, 1978). In turbulent times, leaders often need to contain the anxiety of those they lead, regulate their own emotions and express appropriate emotions in response to the needs of the situation. In fact, leader's mood and affective displays have been found to influence the collective tone and mood of a group (C-RO).

Based on Yukl (2002), Relations-Oriented leadership is more focused on building mutual relationship between managers and subordinates in order to build an effective work team with high performance goals. In order to build mutual trust within each other, friendly and approachable are needed. As mentioned by Chernyshenko et al.

(2011), individuals with extraversion personality are described as friendly, gregarious, and warm. These people are enjoying social interaction. Research indicates that the level of extraversion is positively relate to participation, both eagerness and willingness to share information, in addition to increasing the verbal exchanges without affecting quality amongst the team. (E-RO).

Research supports the notion that high self-awareness among leaders is connected to effectiveness (Atwater and Yammarino, 1992; Bass and Yammarino, 1991). Improving self-awareness involves examining one's personality and behavior, and leaders undertaking that process will benefit the fact that leadership and personality have gained a considerable amount of attention recently (Bono and Judge, 2004; Brown and Reilly, 2009; Carroll, 2010; Hautala, 2008; Hetland and Sandal, 2003; Judge et al., 2002; Northouse, 2007). (C-RO) Judge and Bono (2004) found agreeableness to consistently predict transformational leadership. (A-RO).

Besides that, less independence (N) is related to the Relations-Oriented leadership style. This is because leader with less independence is more individualized considerations. Being concerned to another, they always concern about individuals' growth and development needs. The leader will always praise and rewarded appropriately to their subordinates. So, subordinates are happy in participating and giving ideas in the groups. Thus, this research hypothesis is a positive relationship between extraversion and independence personality towards the Relations-Oriented leadership respectively. (N-RO).

Based on the information above, the research hypothesizes that:

Hypothesis 1 (b): Openness is positively related to Relation-Oriented leadership.

Hypothesis 2(b): Conscientiousness is negatively related to Relations-Oriented leadership.

Hypothesis 3(b): Extraversion is positively related Relations-Oriented leadership.

Hypothesis 4(b): Agreeableness is negatively related to Relations-Oriented leadership.

Hypothesis 5(b): Neuroticism is negatively related Relations-Oriented leadership.

2.7.3 Relationship between OCEAN personality and Change-Oriented leadership style

According to Yukl (2002), there are several common leadership styles appear in recent research such as Change-Oriented leadership. It focuses on making changes in terms of improving strategic decisions; increasing flexibility and innovation; adapting change in the environment; and making major changes in processes to increase organizations performance. Most of the studies use Five Factor Model of personality to examine the relationship between personality and Change-Oriented leadership.

Besides that, Zopiatis and Constanti (2012) mentioned that Change-Oriented leadership is also positively related to openness (less tough-mindedness). Change-Oriented leadership requires open-minded leader in order to accept new idea and become more creative in making changes. So, they can transform people and organizations to achieve the vision that they desired. Thus, this research hypothesis that a positive relationship between extraversion and receptivity personality towards the change-oriented leadership respectively. (E/O-CO).

De Vries (2008) and Bono & Judge (2004) proved that it is positively related between extraversion with Change-Oriented leadership. According to Bass (1990), leaders who need more energy, expressive, and tend to have a lot of social confidence while implementing changes, all of which are important elements of extraversion. Therefore, the research hypotheses that extraversion is positively related to Change-Oriented leadership. (E-CO).

Based on the information above, the research hypotheses are:

Hypothesis 1 (c): Openness is positively related to Change-Oriented leadership.

Hypothesis 2(c): Conscientiousness is positively related to Change-Oriented leadership.

Hypothesis 3(c): Extraversion is positively related Change-Oriented leadership.

Hypothesis 4(c): Agreeableness is negatively related to Change-Oriented leadership.

Hypothesis 5(c): Neuroticism is negatively related Change-Oriented leadership.

2.8 Relationship between Leaders' Personality and Employee Engagement

Mary Agnes Wambui Kiarie (2017) stated organizations are currently focusing on the leadership ability, preferred style, and competence of senior managers/leaders, because of the growing evidence regarding the influence of leaders' personality traits on the productivity, performance, and employee engagement (Carmeli, 2003; Kotze, 2004; Whetton and Cameron, 2002; McMurray, 2003). Research indicates that not only do leaders' values and behaviors shape organizational culture and their preferred approach to the management of their subordinates but also helps to form the organizational culture (McMurray, 2003; Martins et al., 2004). Furthermore, it also indicates a link between leaders' emotional competence and their preferred personality type (Coetzee et al., 2006; Higgs, 2003). There is a greater amount of employee commitment within subcultures that are partially shaped by the behavior of their leader. Studies have shown that employees are more satisfied in their job function, if they have a good relationship with their leaders (Worrell, 2004).

In past years, researchers have found a significant positive relationship between personality traits and job performance (Barrick and Mount, 1991; Tett et al., 1991), and emotions and favorable job outcomes (Staw et al., 1994). Moreover, a recent meta-analysis conducted by the Gallup Organization concluded that the most profitable work units of companies have people doing what they do best, with people they like, and with a strong sense of psychological ownership for the outcomes of their work (Harter, 2002).

Self-esteem is another trait that positively impacts engagement. Indeed, Janssen et al. (1999) found that individuals with high self-esteem were less likely to become emotionally drained and exhausted. Possibly self-esteem allowed individuals to see situations more positively. Janssen et al. (1999) admitted, however, that at this point it is still unclear whether self-esteem is a cause or simply a consequence of engagement. After all, engaged individuals are more productive and happy, and productivity and happiness could enhance their self-esteem. Further research is needed to properly establish the direction of the relationship between self-esteem and engagement. (C-EE).

Moreover, Shraga (2007) and Shirom (2003, 2007) provided evidence suggesting a significant relation between vigor toward work and the openness and

extroversion factors of the Big Five personality characteristics (i.e. openness, conscientiousness, extroversion, agreeableness and neuroticism). (O/E-EE).

Hayes et al. (1994) found that supervisor ratings of employee engagement criteria and overall job effectiveness were related positively to Conscientiousness and inversely to Openness and Extraversion. Lately, Lowerey (1996) found significant positive relations between vigor and traits corresponding closely with Conscientiousness and Extraversion. Hormann and Maschke (1996) found that personality variables, especially those reflecting Neuroticism, predicted variance in pilot performance beyond that explained by flying experience, age and grade in a simulator check flight. Day and Bedeian (1995) found that the more similar in Agreeableness employees were to their co-workers, the more positive supervisors' ratings of performance. (O/C/E-EE).

According to Costa and McCrae (1992), openness includes a willingness to try new activities and approaches, and also intellectual curiosity and openness to new ideas. These tendencies should encourage learning and adaptability, qualities that should be valuable for leaders. Also, the person high in openness would in principle be more open to feedback, and generally more attuned to activities and relationships within the organization. Leaders who are high in openness would likely be more approachable by subordinates, and more likely to have a good "situation awareness" or understanding of the surrounding situation. Openness is positively related to employee engagement.

Conscientiousness includes the facets of competence, order, and dutifulness. The leader who is technically skilled and knowledgeable (competent) should be more confident and capable, the kind of person others are willing to follow. Conscientiousness also involves being well organized and dedicated to the mission, also qualities that would be highly valued in a leader. The conscientious person is goal-oriented (achievement striving), focused and persistent (self-disciplined), more likely to follow-through and complete tasks. He/she would thus be better able to organize and delegate work to accomplish goals, also valuable skills for a leader. Conscientiousness is positively related to employee engagement.

Extroversion, which includes warmth, gregariousness, assertiveness, and positive outlook (Costa and McCrae, 1992), is expected to be a positive influence on

leader effectiveness. Sociability and dominance or assertiveness should be valuable and appreciated assets for leaders in organizations like the military, where group tasks are common and social interaction is frequent. Extroversion is positively related to employee performance.

The high agreeable person is trusting, honest and concerned for the welfare of others. In a leader, these are qualities that would be appreciated by peers and subordinates alike. High agreeableness should be especially useful in the context of military leadership, where caring for subordinates and giving "selfless service" are highly valued. Agreeableness is positively related to employee performance.

According to Paul T. Bartone (2009), neuroticism is negatively related to employee engagement. Persons high in neuroticism, which includes anxiety, impulsiveness, hostility, depression, and low self-confidence, would be expected to avoid leadership roles as much as possible, and perform poorly when required to act as leaders. They lack the social skills needed to interact effectively with others, and are not likely to be chosen as role-models. (N-EE).

Recently personality traits were connected to engagement (Langelaan et al. 2006). Langelaan (2006) found that burned out individuals were more likely to score high in ''Neuroticism'' (a correlated set of traits that includes pessimism, anxiety, worry, and other negative emotions). As a contrast, engaged individuals scored lower in neuroticism and higher in extraversion. In particular, the extraversion-engagement connection makes sense: after all, extraversion is connected with enthusiasm, outgoingness, and a feeling of ''take charge'' (Howard, 2001). Reasonably, ''take charge'' kinds of persons will attempt to change undesirable environments in order to suit their needs. (N-EE).

Hence, the research hypotheses are as below:

Hypothesis 6: Openness is positively related to employee engagement.

Hypothesis 7: Conscientiousness is positively related to employee engagement.

Hypothesis 8: Extraversion is positively related to employee engagement.

Hypothesis 9: Agreeableness is positively related to employee engagement.

Hypothesis 10: Neuroticism is negatively related to employee engagement.

2.9 Relationship between Leadership Style and Employee Engagement

According to Sapna Popli (2017), research indicates that employee engagement attributes are impacted by the leadership style prevalent in the organization (Harter et al., 2002; May et al., 2004; Schaufeli et al., 2002). Besides leadership, the other variable that seems to drive positive employee behavior and has started receiving significant attention is "employee engagement (EE)." EE influences profitability through its impact on productivity, sales, customer satisfaction and retention, enhanced safety, customer loyalty (Hewitt Associates, 2004; Markos and Sridevi, 2010; Ellis and Sorensen, 2007).

The relationship between leadership on employee engagement are continuing to attract and bring greater interest among scholars worldwide (Macey and Schneider, 2008). Most of the researches focused on the relationship between these two variables; because they believed leadership is one of main issue influence the employees' performance in a workplace. Thus, leadership is one of the popular studied fields in the social sciences and different types of leadership style will bring a different level of employee engagement.

In Spana (2017) views of the critical role of employee behaviors in influencing customer and service outcomes, it becomes imperative to identify the factors that drive these behaviors. Leadership and EE association is also well documented with Carasco-Saul et al. (2014) citing more than 20 specific research studies highlighting the significance of this association.

Previous researchers have done similar researches which are relationship between leadership styles and employee engagement. A great deal of studies suggest, engaged employees will continue work with their company and increased their own productivity if they are working with a good leader (Baumruk, 2004). Several researchers found that, organizational support and leader's support have a positive relationship to the employee engagement (Maslach et al., 2001). To Vazirani (2005) the level of employees engage to their work are affected by several factors, and one of the factor is leadership style.

Seijts and Crim (2006) defined, a leader who plays his leadership role well, he is able to achieved high level of commitment from his employees, and the level of employee involvement and engagement toward the organization will increase simultaneously. A leader with good communication and take care others feeling is able to encourage employees to more participated and engaged to the organization (Suharti and Suliyanto, 2012).

Multiple empirical studies have provided general support for the hypothesized relations between transformational and transactional leadership and performance (Avolio, 1999; Bass, 1998; Bass et al., 2003). Research has also supported the so-called augmentation hypothesis, indicating that in most situations transformational leadership behavior will augment that of transactional leadership (Kane and Tremble, 2000; Waldman et al., 1990). Transformational leadership has been positively correlated with supervisor evaluations of managerial performance (Hater and Bass, 1988; Waldman et al., 1987), recommendations for promotion (Waldman et al., 1990), project team innovations (Keller, 1999), financial outcome indicators (Howell and Avolio, 1993), and increased situational awareness (Eid et al., 2004). Meta-analyses have also confirmed a positive relationship between transformational leadership and performance as reported in the literature (Lowe et al., 1996; Patterson et al., 1995).

According to Russell P. Guay,2012, Meta-analytic evidence has shown that transformational leadership has strong positive relationships with not only leader effectiveness but also follower satisfaction with leaders, job satisfaction, organizational commitment, and job performance (DeGroot et al., 2000; Judge and Piccolo, 2004; Lowe et al., 1996). Much is known regarding outcomes of transformational leadership, however, it is crucial to more fully understand what makes leaders engage in transformational leader behaviors.

Burns (1978) based on the premise that transforming leadership raises both leaders' and subordinates' level of motivation and morale. When transformational leadership causes more active behaviour of every participant due to inner motivation, the transactional leaders try to motivate subordinates by rewarding or punishing them.

2.9.1 Task-Oriented leadership style and employee engagement

Turner and Glenn (2012) stated task-oriented leaders like to force, manipulation and threats their employees to achieve organization's goals and objectives. They like to make all the decisions alone and rarely accept other suggestions. This type of leaders generally believes their employees are not able to complete a task. So their leading way is directly saying the employees what should be done and how to be done. Although this type of leadership usually leads to high efficiency in completing their task, but most of the employees are unhappy.

This type of leadership has many drawbacks. For instant, lead to high absenteeism, high employees' turnover and refuse to get into work. This is because most of the employees are unsatisfied with the leader style and less engage with their organization (Admin, 2012). Turner and Glenn (2012) stated nowadays task-oriented style is not a favored style in the modern business area. This is due to the high stress working environment and low participation for each of decision making process. Hence, it might lead to employee poor morale and high turnover.

Furthermore, task-oriented leaders usually provide a little opportunity for employees to involve in the decision-making process (Tyler and Smith, 1995). This leading style might lead to employees' low participation and low engagement to the organization. Meanwhile, this approach is tending to decrease employee performance on complex tasks and seems to hamper creativity. According to Goethals et al. (2004) autocratic approach often leads to employees' lower morale and less effective with their current working area.

Although this type of leaderships is suited and often require employees who are inexperienced, and the working situation need make urgent decision- making and unskilled jobs. However, autocratic approach should not be imposed in situations in which need high level of employee creativity and professional fields. Thus, this research hypothesizes there is a negative relationship between task-oriented leadership and employee engagement.

Bass further divided transactional leadership into three components. When using contingent reward, leaders provide positive reinforcement that is contingent upon performance. In the management by exception active style, the leader monitors

followers and intervenes when problematic behavior is identified. Then the leader specifies the behavioral standards for compliance as well as those behaviors that constitute ineffective performance. In the management by exception passive style, the leader responds to errors and corrects problems only if they surface in some unavoidable way. Another aspect of this style is the tendency for leaders to apply punishment in non-contingent ways (Atwater et al., 1998).

2.9.2 Relations-Oriented leadership style and employee engagement

Skogan (2008) stated relation-oriented leaders like to invite employees to participate and take part in the decision making procedure. Employees in this leadership style will feel more participation, high morale and responsibility to the organization. This not only increase employee satisfaction, but at the same time employees feel motivated to work hard by more than just a financial reward (Bhatti et al., 2012). Normally this type of leadership will lead to higher employee productivity, satisfaction and high motivation. Besides that, relation-oriented leadership is very suitable in a project which involves teamwork and focuses on quality rather than speed to market productivity (Bhatti et al., 2012).

Although this type of leadership has its drawbacks; one of obvious characteristic is relation-oriented leaders like to ask everything in details. They prefer to know everything clearly. Hence, employees may feel stress and annoyance with leaders' behavior. However, usually this type of leaders will support more on the creation of employee engagement. Democratic leader not only give an order and concern on the result of work, but they also fully involved in finished the works. In addition, they willing to listen and concern employees' feeling (Suharti and Suliyanto, 2012). Thus, the hypothesis in this research is there is a positive relationship between relation-oriented leadership and employee engagement.

In the Full Range of Leadership Model (FRLM), Bass (1998) divided transformational leadership into four components. Idealized Influence involves inspiring visions, sharing risks and hardships, and earning trust and confidence from subordinates. Leaders who exert idealized influence behave in ways that demonstrate high standards of ethical and moral conduct (Bass, 1998). Inspirational motivation involves showing enthusiasm and optimism in ways that motivate those around one by

providing meaning and challenges. Followers of such leaders often report being enthusiastic, optimistic and cooperative (Avolio, 1999).

According to Millissa Cheung (2010) Transformational leadership, in particular, has been closely associated with followers' creativity at the individual level (Shin and Zhou, 2003; Gumusluoglu and Ilsev, 2009). This is because when subordinates work in service jobs that do not explicitly requires them to come up with very new ideas and services, transformational leaders may inspire the subordinates to go beyond their abilities for providing better service or better way of completing their tasks. Specifically, transformational leadership is realized by a transformational leader who influences followers by "broadening and elevating followers' goals and providing them with confidence to perform beyond the expectations specified in the implicit or explicit exchange agreement" (Dvir et al., 2002).

2.9.3 Change-Oriented leadership style and employee engagement

The roles of change-oriented leaders are keep a low profile and obedient, and seldom give the direction to their employees. They like to avoid making each of decisions and let employees perform everything. This type of leaders is fail to lead. This is because they seldom offer any direction and advise to their employees (Webb, 2007). This type of leaders assumes employees are known everything and can handle any problems. Previous research shows that, leaders who under this leadership are usually failed to coordinate organizational objectives prevent responsibilities and let employees do everything (Van Eeden et al., 2008).

This type of leadership has brought some drawback to an organization. For example, employees will become apathetic, low motivate and resentful of the organization and their leader. They will start to absenteeism and lower morale. At the end, they will bring down productivity. Based on the previous experimental study, a group of employees are assigned to change-oriented leadership style. After the task trials, employees were asked whether they wanted to work with laissez-faire leadership style or leave the group. The results suggested that participants were more likely to leave the group. This is because, most of them are unhappy with the laissez-faire leader. In this case, although they have a large freedom in their work, but they are not motivated to invest additional effort (Tims et al., 2011). Thus, based on previous

explanation, a hypothesis was developing as there is negative relationship between change-oriented leadership and employee engagement.

Based on the information above, research hypotheses are that:

Hypothesis 11: Task-Oriented is negatively related to employee engagement.

Hypothesis 12: Relation-Oriented is positively related to employee engagement.

Hypothesis 13: Changed-Oriented is negatively related to employee engagement.

2.10 Theoretical Framework

Based on Sixteen Personalities Global Factors (Cattell, 1990), personality had been classified as five elements which called 'O-C-E-A-N' Big-Five personality. There are many types of Big-Five personality, this study selected 'O-C-E-A-N' Big-Five personality as research theoretic model. The 'O-C-E-A-N' represent Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism.

Leadership style has been classified into 3 types which are Task-Oriented, Relations-Oriented and Change-Oriented. There are several reasons why taxonomies developed to describe leadership style are so diverse (Yukl, 1989). Behavior categories are abstractions rather than tangible attributes of the real world. The distinction between task-oriented and relation-oriented behavior during the 1950s has been helpful for organizing specific types of leadership behavior into broader categories. By the 1980s, changed-oriented behavior was implicit in some theories of leadership style.

This research is going to investigate the relationship between leaders' personality and leadership style, while to analyze the relationship between leaders' personality and employee engagement. Moreover, to defined the relationship between leadership style with employee engagement. Since the leaders' personality reflect different behavior, which guide different leadership style. Furthermore, leaders' behavior can affect the employee engagement. According to all the information above, the theoretical framework of this study is displayed in Figure 2.8.

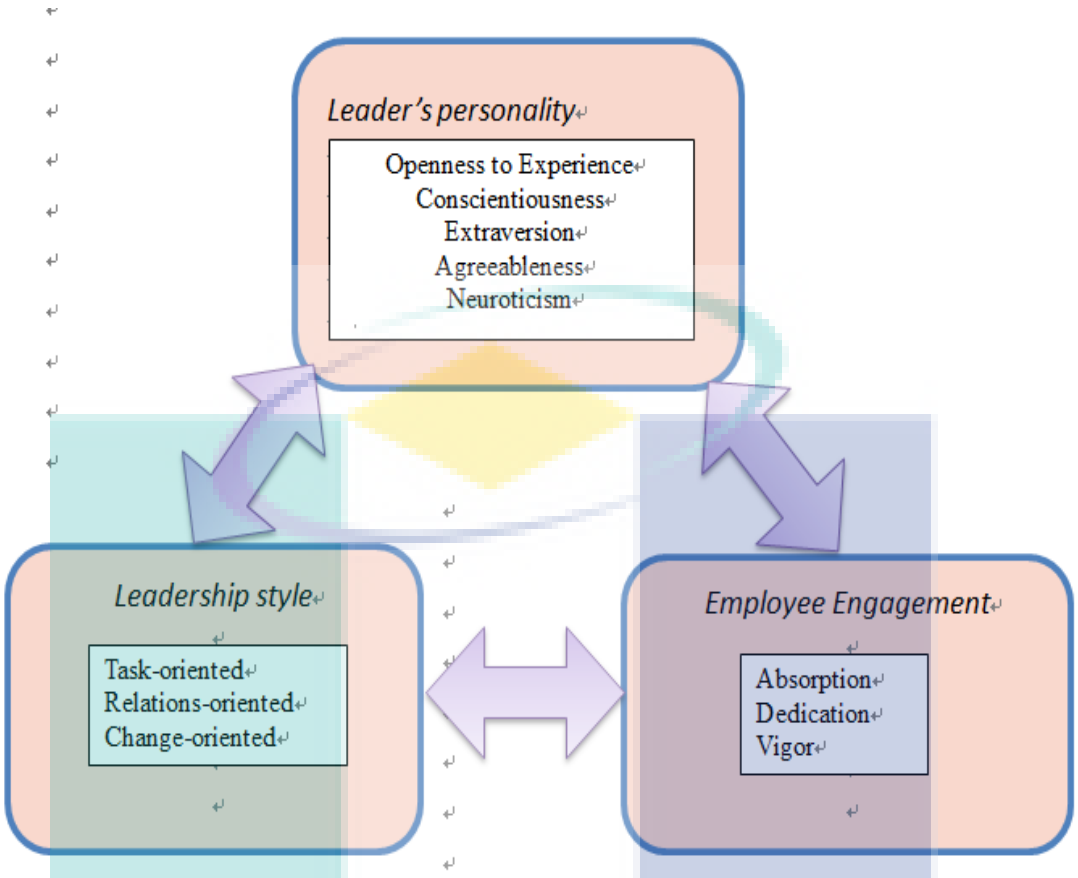

Figure 2.8 Theoretical framework

2.11 Summary

In this chapter, it studied about leader personality, leadership styles and employee engagement in detail. For the leader personality, the Cattell Sixteen Personality Global Factors are discussed by grouping them into five main groups: Openness, Conscientiousness, Extraversion, Agreeableness, and Neuroticism. There are three major types of leadership style, which are the Task-Oriented, the Relations-Oriented and Change-Oriented leadership. Base on reviewed the related literature on leadership styles and employee engagement. Furthermore, this chapter involved three dimensions (i.e. vigor, dedication and absorption) to identify the levels of employee engagement. After studying the previous researchers' finding, twenty-third hypotheses are formulated. The first group of hypothesis is on Leader's Personality and Leadership Style which includes fifteen hypotheses. The second group of hypothesis is about Leaders' Personality and Employee Engagement which includes five hypotheses. The last group of hypothesis is about Leadership Style and Employee Engagement which includes three hypotheses. The next chapter proceeds with Research Methodology.

CHAPTER 3

METHODOLOGY

3.1 Introduction

The research methodology was stated by Rajasekar et al. (2013) as it is a science that describes and analyses methods, indicating their potentialities to research advances of the studying how research is to be carried out. (This chapter explains the methods issues that being used to conducted this study, outlines the techniques used in data collection and data analysis. This chapter consists of eight parts which are the conceptual framework and research hypothesizes, research design, population and sampling, instrument development, instrument design, data collection, data analysis, and summary.

3.2 Conceptual Framework and Research Hypothesis

Based on the proposed theoretical framework and the afore-formulated research hypotheses in the previous chapter, the conceptual frameworks are presented in Figure 3.1. There are fifteen hypotheses on the relationship between big five personalities (i.e. O-C-E-A-N) and the three leadership styles (i.e. TO, RO and CO); five hypotheses on the relationship between big five personalities (i.e. O-C-E-A-N) and the three employee engagement (i.e. vigor, absorption and dedication); three hypotheses on the relationship between the three leadership styles (i.e. TO, RO and CO) and employee engagement (i.e. vigor, dedication and absorption).

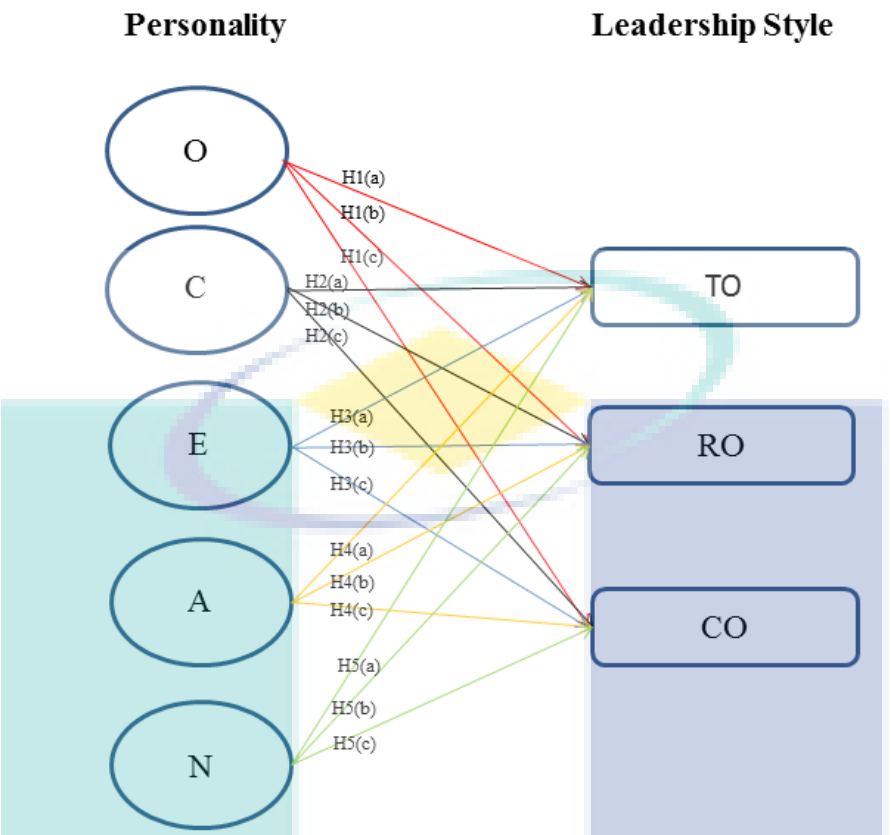

Figure 3.1 Conceptual framework for personality and leadership style (Pre-analysis)

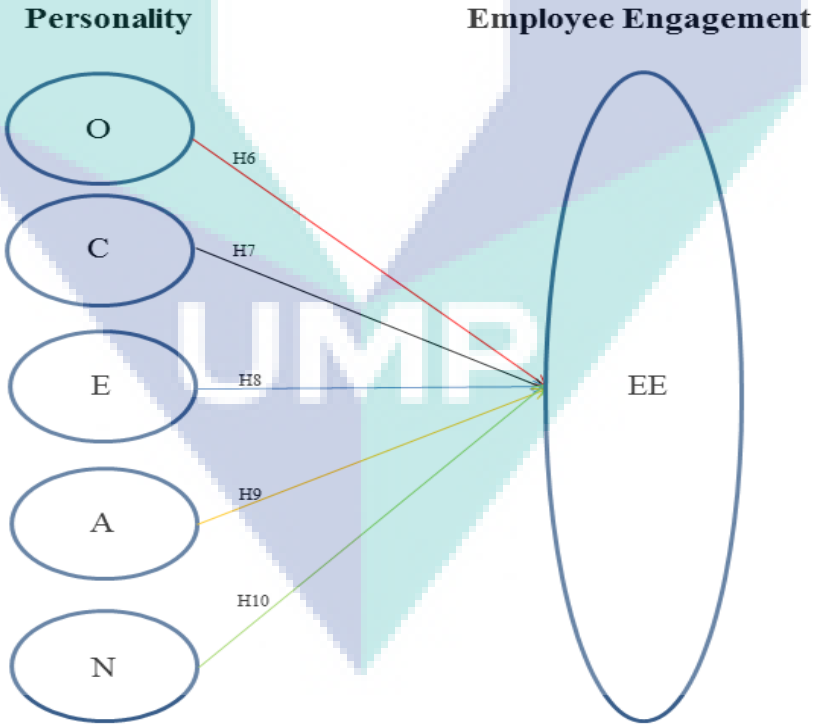

Figure 3.2 Conceptual framework for personality and employee engagement (Pre-analysis)

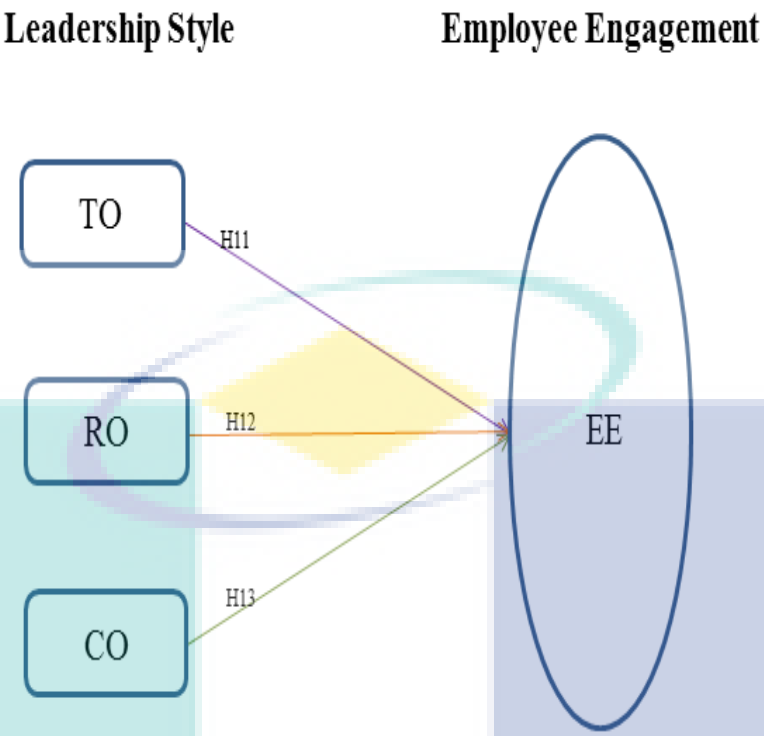

Figure 3.3 Conceptual framework for leadership style and employee engagement (Pre-analysis)

The afore-formulated hypotheses are summarized below:

Hypothesis 1: Openness is positively related to (a) Task-Oriented leadership, (b) Relations-Oriented leadership, and (c) Changed-Oriented leadership overall.

Hypothesis 2: Conscientiousness is positively related to (a) Task-Oriented leadership, (c) Changed-Oriented leadership, and negatively related to (b) Relations-Oriented leadership.

Hypothesis 3: Extraversion is positively related to (a) Task-Oriented leadership, (b) Relations-Oriented leadership, and (c) Changed-Oriented leadership overall.

Hypothesis 4: Agreeableness is positively related to (a) Task-Oriented leadership, and negatively related to (b) Relations-Oriented leadership and (c) Changed-Oriented leadership.

Hypothesis 5: Neuroticism is negatively related to (a) Task-Oriented leadership, (b) Relations-Oriented leadership, and (c) Changed-Oriented leadership overall.

Hypothesis 6: Openness is positively related to Employee Engagement.

Hypothesis 7: Conscientiousness is positively related to Employee Engagement.

Hypothesis 8: Extraversion is positively related to Employee Engagement.

Hypothesis 9: Agreeableness is positively related to Employee Engagement.

Hypothesis 10: Neuroticism is negatively related to Employee Engagement.

Hypothesis 11: Task-Oriented is negatively related to Employee Engagement.

Hypothesis 12: Relations-Oriented is positively related to Employee Engagement.

Hypothesis 13: Changed-Oriented is negatively related to Employee Engagement.

3.3 Research Design

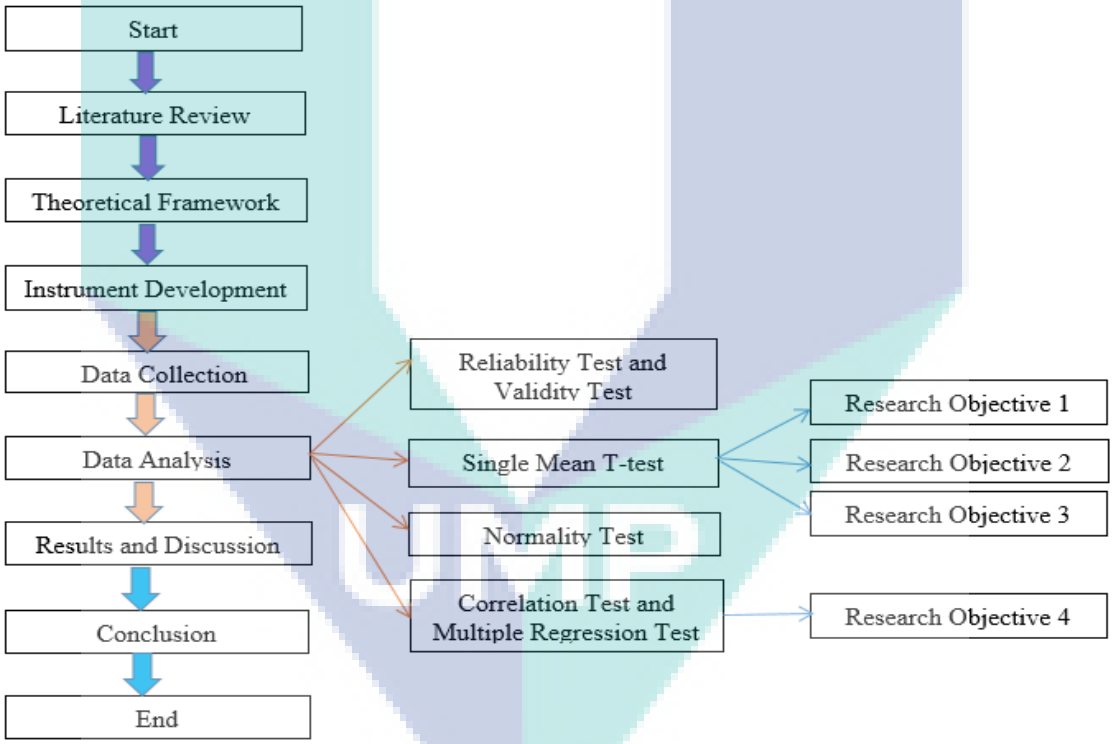

Figure 3.4 Flow of research design

In this study, quantitative research analysis had been used to identify the leaders' personality and leadership styles that affect the employee engagement in SMEs at Kuantan Pahang Malaysia. Besides that, quantitative method also used to examine the relationship among leader personality: (1) Openness, (2) Conscientiousness, (3) Extraversion, (4) Agreeableness, and (5) Neuroticism towards the leadership styles: (1)

Task-Oriented leadership style, (2) Relations-Oriented leadership style, and (3) Change-Oriented leadership style tendency on Employee Engagement (1) Absorption, (2) Dedication, (3) Vigor.

In this research, primary data had been used for new research finding. The information obtained through the questionnaires returned by respondents. Secondary data have been used to define a research problem, literature reviews, and conduct questionnaire. The information is mainly from journals and books.

3.4 Population and Sampling

One crucial aspect of study design is deciding how big research sample should be. In other words, if an investigation is too small then it will not detect results that are in fact important. Conversely, if a very large sample is used, even tiny deviations from the null hypothesis will be statistically significant, even if these are not, in fact, practically important.

Table 3.1 Economic Census 2016

State of Malaysia	Number of SMEs	State of Malaysia	Number of SMEs
Selangor	19.8%	Pahang	4.1%
Kuala Lumpur	14.7%	Ng. Sembilan	3.6%
Johor	10.8%	Terengganu	3.2%
Perak	8.3%	Perlis	0.8%
Pulau Pinang	7.4%	Putrajaya	0.1%
Kedah	5.4%	Sarawak	6.7%
Kelantan	5.1%	WP Labuan	0.3%

Source: Department of Statistic Malaysia (DOSM)

Mohsin Alvi (2016) affirmed that population refers to be homogenous when its every element is similar to each other in an entire group of people that the researcher wishes to investigate; while the sample is defined as a group of relatively smaller number of people subset of the population for investigation purpose. For this research, the population is the SMEs located in Kuantan Malaysia. According to SME Corp Malaysia board database, Economic Census 2016, Department of Statistic Malaysia (DOSM), as shown in Table 3.1, For the SMEs in Malaysia by East state, Selangor has located the highest number of SMEs up to 19.8%, followed by Kuala Lumpur (14.7%), Johor (10.8%), Perak (8.3%), Pulau Pinang (7.4%), Kedah (5.4%), Kelantan (5.1%), Pahang (4.1%), Ng. Sembilan (3.6%), Melaka (3.5%), Terengganu (3.2%), Perlis

(0.8%) and lastly WP Putrajaya (0.1%). Regarding the SMEs establishments in the West of Malaysia, Sarawak occupies 6.7%, followed by Sabah (6.2%) and WP Labuan (0.3%).

Overall, the total number of SMEs in Malaysia is 907,065 according to the SME Corp Malaysia board database in 2016 (DOSM, 2016). Based on Krejcie and Morgan (1970) Sample Size Table (see Table 3.2), the minimum sample size should be about 380, which is for whole Malaysia. Since the specific number of SMEs in Kuantan, Pahang is not publically available, this study randomly selected 400 SMEs located in Kuantan Pahang Malaysia to collect data. The targeted respondents are leaders from those companies and their subordinates. Leaders in this study are considered the person in charge in the organization who has paired work with subordinates.

Table 3.2 Krejcie & Morgan (1970) sample size table (N: Population, S: Sample size)

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	346
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	354
35	32	150	108	360	186	1100	285	5000	357
40	36	160	113	380	191	1200	291	6000	361
45	40	170	118	400	196	1300	297	7000	364
50	44	180	123	420	201	1400	302	8000	367
55	48	190	127	440	205	1500	306	9000	368
60	52	200	132	460	210	1600	310	10000	370
65	56	210	136	480	214	1700	313	15000	375
70	59	220	140	500	217	1800	317	20000	377
75	63	230	144	550	226	1900	320	30000	379
80	66	240	148	600	234	2000	322	40000	380
85	70	250	152	650	242	2200	327	50000	381
90	73	260	155	700	248	2400	331	75000	382
95	76	270	159	750	254	2600	335	1000000	384

3.5 Instrument Development

The instrument utilized in this study is the survey with two different sets of questionnaire. The first set of the questionnaire is used to identify the leaders' personality and employee engagement which is targeted at the leader respondents from SMEs. There are 54 statements which were adapted from the Cattell 16 Personality Factors to measure leaders' personality. These statements can clearly define the

personality types of the leader. Meanwhile, 12 statements adapted from the Utrecht Work Engagement Scale (UWES) to measure the three elements of Employee Engagement: Vigor, Dedication, and Absorption. For the leader's questionnaire, 5 Likert Scale was used to evaluate these 66 statements. Table 3.3 to Table 3.7 shows the measurement of leaders' personality and Table 3.9 shows the measurement of employee engagement.

The second set of questionnaire was constructed for subordinates to evaluate their leaders' leadership style. This questionnaire consists of 24 statements. The statements were adapted from Yukl (2002). These statements were used to describe the leadership style of leaders by their subordinates. The questionnaire used 5 Point Scale to evaluate the statements. Table 3.8 shows the measurement for leadership style.

The questionnaires were prepared in English since it adapted from the original Big-Five Personality (Cattell,1996), Leadership Style (Yukl,2002) and Employee Engagement (UWES). The questionnaires only use the original once the language change, afraid make the respondent more confused. In addition, all distributed questionnaires were labeled with a set of series number for the purpose of matching the leaders and subordinates who are from the same company.

3.5.1 Measurement of openness personality

Openness describes four different parts of openness to the world: openness to feelings and emotions (Sensitivity), openness to abstract idea and imagination (Abstractedness), openness to new approaches and idea (Openness to change), and openness to people (Warmth).

16 Personality Global Factors shows two categories of Openness, which are tough-minded and receptive. Tough-minded is the people who score high in tough-mindedness. Tough-minded people tend to be reserved, utilitarian, grounded, and traditional. This kind person may not be open to other points of view, new experiences, or unusual people. Therefore, tough-minded individuals deal with problems at a cognitive level. Receptive people are those who score low in tough-mindedness. This kind of people are more open to experiencing feelings and have more difficulty setting the side effect when problem-solving. Hence, receptive people may overlook practical or objective aspects of a situation.

As mentioned Cattell (1993), receptivity can be determined through the combination of positive warmth (A+), positive sensitivity (I+), positive abstractedness (M+), and positive openness to change (Q1+) as show below Table 3.3.

Table 3.3 Measurement for openness personality

Factor	Construct	Code	Item No.	Statement
Openness	Warmth (A+)	O1	4	I like to get involved in other people's problem.
		O2	5	I am really interested in others.
		O3	6	I try to think about the needy.
	Sensitivity (I+)	O4	25	I do enjoy watching dance performances.
		O5	26	I like works of fiction.
		O6	27	I always notice my emotional reactions.
	Abstractedness (M+)	O7	31	I do things not always by the book.
		O8	32	I sometimes daydream.
		O9	33	I sometimes get lost in thought.
	Openness to change (Q1+)	O10	43	I never avoid complex people.
		O11	44	I am interested in abstract ideas.
		O12	45	I always look for a deeper meaning in things.

3.5.2 Measurement for conscientiousness personality

16 Personality Global Factors, self-control is used to measure the ability to control one's impulses. People scores high in conscientiousness have been grouped as self-controlled. Self-controlled people can inhibit their impulses. This kind of people is seen as serious, rule-conscious, practical, and a perfectionist. Therefore, conscientiousness people do not display flexibility. Vice versa, peoples' scores low in conscientiousness is grouped as unrestrained. Unrestrained individuals are more likely to follow urges, and this kind of people may be very flexible. However, it can also have problems restraining themselves. This type of people may be perceived as self-indulgent, disorganized, irresponsible, and uncontrollable.

Cattell (1993) mentioned that self-control can be determined through the combination of negative liveliness (F-), positive rule-consciousness (G+), negative abstractedness (M-), and positive perfectionism (Q3+) as show below Table 3.4.

Table 3.4 Measurement for conscientiousness personality

Factor	Construct	Code	Item No.	Statement
Conscientiousness	Liveliness (F-)	C1	16	I don't like crowded events.
		C2	17	I seldom joke around.
		C3	18	I dislike loud music.
	Rule-consciousness (G+)	C4	19	I try to follow the rules.
		C5	20	I respect authority.
		C6	21	I believe laws should be strictly enforced.
	Abstractedness (M-)	C7	31	I do things by the book.
		C8	32	I seldom daydream.
		C9	33	I seldom get lost in thought.
	Perfectionism (Q3+)	C10	49	I like order.
		C11	50	I continue until everything is perfect.
		C12	51	I am exacting in my work.

3.5.3 Measurement for extraversion personality

The measurement for extraversion personality adapted from 16 Personality Global Factor Personality. Extraversion is used to examine the general social participation level. It consists of two extremes of extraversion people. The first type is people who score high on extraversion tends to be people oriented and seek out the relationship with others. In other words, people are extroverted and social participatory. The second type is people who score low on extraversion, this is also known as introversion. This kind of people tends to be less outgoing, spending more time on their own than in the company with others. This kind of person is introverted and social inhibited.

According to Cattell (1993), the measurement of extraversion can be determined throughout the combination of positive warmth (A+), positive liveliness (F+), positive social boldness (H+), negative privateness (N-), and negative self-reliance (Q2-) as show below Table 3.5.

Table 3.5 Measurement for extraversion personality

Factor	Construct	Code	Item No.	Statement
Extraversion	Warmth (A+)	E1	1	I know how to comfort others.
		E2	2	I feel other's emotions.
		E3	3	I cheer people up.
	Liveliness (F+)	E4	13	I love large parties.
		E5	14	I amuse my friends.
		E6	15	I act wild and crazy.
	Social Boldness(H+)	E7	22	I talk to a lot of different people at parties.
		E8	23	I make friends easily.
		E9	24	I start conversations.
	Privateness (N-)	E10	34	I am open about myself to others.
		E11	35	I show my feeling.
		E12	36	I disclose my intimate thoughts.
	Self-Reliance (Q2-)	E13	46	I enjoy being part of a group.
		E14	47	I enjoy teamwork.
		E15	48	I can't do without the company of others.

3.5.4 Measurement for agreeableness personality

Accommodation is also known as agreeableness in Five-Factors Model. Costa and McCrae (1992) show this dimension as dealing primarily with interpersonal tendencies. While, 16 Personality Global Factors, independence is used to measure self-determination. People who get high scores in independence are categorized as independent people. However, people get low scores are categorized as accommodating. Independent people tend to form and express their own opinions. This kind of people are often persuasive and powerful, looking forward to challenging the current situation and doubtful of interference from others. However, people who are extremely independent always come across as disagreeable. Accommodating people tend not to ask questions, instead of value agreeableness and social harmony. This kind of people feels anxious when speaking out their own opinion, and having difficulty persuading others.

According to Cattell (1993), the measurement of accommodation can be determined throughout the combination of negative dominance (E-), negative social boldness (H-), negative vigilance (L-), and negative openness to change (Q1-) as show below Table 3.6.

Table 3.6 Measurement for agreeableness personality

Factor	Construct	Code	Item No.	Statement
Agreeableness	Dominance (E-)	A1	10	I don't want to be in charge.
		A2	11	I don't take control of things.
		A3	12	I don't say what I think.
	Social boldness(H-)	A4	22	I don't talk to a lot of different people at parties.
		A5	23	I never make friends easily.
		A6	24	I never start conversations.
	Vigilance (L-)	A7	28	I find it not hard to forgive others.
		A8	29	I trust people.
		A9	30	I believe people usually tell you the whole truth.
	Openness to change (Q1-)	A10	40	I don't love to think up new ways of doing things.
		A11	41	I don't prefer variety to routine.
		A12	42	I don't enjoy hearing new ideas.

3.5.5 Measurement for neuroticism personality

Anxiety is an unpleasant state of inner disorder, often accompanied by nervous behavior. It is one of the personalities in 16 Personality Global Factor, which is highly correlated with the neuroticism in O-C-E-A-N Big Five Factor. Neuroticism is the personality dimension that typify persons as calm, depressed, insecure, emotionally unstable, mistrust, and hedonism (Robbins et al., 2008). According to Judge et al. (2002), people of this personality always have the limited social network and avoid managerial tasks.

16 Personality Global Factors group anxiety into two types. The first type is the people who score high in anxiety, addressed as anxious people. This kind of person tends to be reactive, distrustful and vigilant, worrying, apprehensive and tense. Besides that, anxious people may have difficulty controlling emotional reaction and may act in counterproductive ways. However, the second type is people who score low in anxiety, which known as unperturbed or low anxious. Unperturbed and low, anxious people may minimize the negative effect or be unmotivated to seek change because of a general comfort level.

Cattell (1993) mentioned that anxiety can be determined through the combination of negative emotional stability (C-), positive vigilance (L+), positive

apprehension (O+), and positive tension (Q4+) as show below Table 3.7.

Table 3.7 Measurement for neuroticism personality

Factor	Construct	Code	Item No.	Statement
Neuroticism	Emotional stability(C-)	N1	7	I have frequent mood swings.
		N2	8	I am easily discouraged.
		N3	9	I dislike myself.
	Vigilance (L+)	N4	28	I find it hard to forgive others.
		N5	29	I distrust people.
		N6	30	I believe people seldom tell you the whole truth.
	Apprehension (O+)	N7	37	I feel guilty when I say "no".
		N8	38	I am afraid that I will do the wrong thing.
		N9	39	I am easily hurt.
	Tension (Q4+)	N10	52	I get irritated easily.
		N11	53	I am annoyed by others' mistakes.
		N12	54	I am easily put out.

3.5.6 Measurement for leadership style

The questionnaire for subordinate part two is about the leadership style. This questionnaire consisted of 24 statements. The statements were adapted from Yukl (2002). These statements were used to describe the leadership style of the managers by their subordinates. 5 Point scale was used to evaluate the statements. Table 3.8 shows the structure of questionnaire as shown below Table 3.8:

Table 3.8 Measurement for leadership style

Leadership style	Code	Item No.	Statement
Task-Oriented	TO1	1	Organize work activities to improve efficiency.
	TO2	2	Assign work to groups or individuals.
	TO3	3	Clarify what results are expected for a task.
	TO4	4	Set specific goals and standard for task performance.
	TO5	5	Explain rules, policies, and standard operating procedures.
	TO6	6	Direct and coordinate work activities.
	TO7	7	Monitor operations and performance.
	TO8	8	Resolve immediate problems that would disrupt the work.
Relations-Oriented	RO1	9	Provide support and encouragement to someone with a difficult task.
	RO2	10	Express confidence that a person or group can perform a difficult task.
	RO3	11	Socialize with people to build relationship.
	RO4	12	Recognize contributions and accomplishments.
	RO5	13	Provide coaching and mentoring when appropriate.
	RO6	14	Consult with people on decisions affecting them.
	RO7	15	Allow people to determine the best way to do a task.
	RO8	16	Keep people informed about actions affecting them.
Change-Oriented	CO1	17	Envision exciting new possibilities for the organization.
	CO2	18	Encourage people to view problems or opportunities in a different way.
	CO3	19	Develop innovative new strategies linked to core competencies.
	CO4	20	Interpret events to explain the urgent need for change.
	CO5	21	Experiment with new approaches for achieving objectives.
	CO6	22	Study competitors and outsiders to get ideas for improvements.
	CO7	23	Influence outsiders to support change and negotiate agreements with them.
	CO8	24	Encourage and facilitate collective learning in the team.

3.5.7 Measurement for employee engagement

In this research, the questionnaires for leader have second part to evaluate the dimensions of employee engagement under construction. The questionnaires' source for this edition called as Utrecht Work Engagement Scale (UWES) which includes the three factors of employee engagement to the workplace and it consists of 12 items, which were vigor (4 items), dedication (4 items), and absorption (4 items). 5 Point scale was

used to evaluate these statements as show Table 3.9 below:

Table 3.9 Measurement for employee engagement

Employee Engagement	Item No.	Statement
Vigor	55	My employees feel busting with energy when they working.
	56	In the job, my employees feel strong and vigorous.
	57	My employees are always persevered, even when things do not go well.
	58	My employees can continue work for very long period at one time.
Dedication	59	My employees are enthusiastic about their job.
	60	My employees feel job inspires them.
	61	My employees are proud with their job.
	62	My employees feel enthusiastic about their job.
Absorption	63	My employees are focusing their work, and not realized time is passing.
	64	When my employees are working, they are forgetting everything else around them.
	65	My employees feel happy when they are working intensely.
	66	My employees are immersed in their work.

3.6 Instrument Design

There are 2 sets of questionnaires have been distributed to the SMEs' managers and their subordinate's respectively. Each questionnaire has 2 parts. The first part is about the demographic of the respondents. For the manager's questionnaire, the second part is about leaders' personality (54 items) and employee engagement (12 items). For the subordinates' questionnaire, the second part is about leadership style (24 items).

3.6.1 Questionnaire for leaders

The questionnaire for leaders consists of two parts. Part one is the respondent details which consists of 7 questions. It used to gather the background information that enables accurate comparisons among groups of the individual with similar characteristics.

The second part for the leader's questionnaire, 5 Point Likert scale (as shown in Table 3.10) is used to evaluate these 66 statements.

Table 3.10 5 Point Likert Scale used to evaluate the statement

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

3.6.2 Questionnaire for subordinates

The questionnaire for subordinates shown consists of two parts. Part one is the respondent details which consists of 6 questions. It used to gather the background information that enables accurate comparisons among groups of the individual with similar characteristics.

The second part for the subordinates' questionnaire, 5 Point scale (as shown in Table 3.11) was used to evaluate the 24 statements.

Table 3.11 5 Point Scale used to evaluate the statement

Not at all	Once in a while	Sometimes	Fairly often	Frequently
1	2	3	4	5

3.7 Pilot Test

According to Arain et al (2010), basically, pilot testing means finding out if the survey, key informant interview guide or observation form will work in the "real world" by trying it out first on a few people. The purpose is to make sure that everyone in research sample not only understands the questions but understands them in the same way. Meanwhile, it can see if any questions make respondents feel uncomfortable. The researcher also able to find out how long it takes to complete the survey in real time. Once have a version on the project is happy with, but before training research data collectors about how to administer it. People that represent the various subgroups within intended sample. Remember, researcher want to make sure that everyone will understand research data collection instrument in the same way.

In this research, the most important for the pilot test debrief and revise research instruments. After pilot testing, the instrument on a number of people, debrief with surveyors to look for patterns in the feedback. Did several encounter the same hesitations, requests for clarification, and suggestions for different wording? Use this data to revise the instrument. Then field tests the revised version before starting actual data collection. However, this process is critical as it can minimize measurement error.

The pilot study covers the goal of the pilot study – what the researcher expects from a pilot study. The researcher then discusses the application of the pilot study in the current research. The outcomes of the pilot study will also be discussed shortly, because these have a very direct influence on the actual research itself. The researcher will first define a pilot study and state the value thereof following the introduction to clarify what a pilot study really is and why it is needed in the research process. A pilot study is a mini-version of a full-scale study or a trial run done in preparation of the complete study. The latter is also called a 'feasibility' study. It can also be a specific pre-testing of research instruments, including questionnaires or interview schedules. (Compare Polit, et al. and Baker in Nursing Standard, 2002; Van Teijlingen and Hundley, 2001.) The pilot study will thus follow after the researcher has a clear vision of the research topic and questions, the techniques and methods, which will be applied, and what the research schedule will look like. It is "reassessment without tears" (Blaxter, Hughes and Tight, 1996), trying out all research techniques and methods, which the researcher had in mind to see how well they will work in practice. If necessary, it can then still be adapted and modified accordingly. (Blaxter, Hughes & Tight, 1996) The pilot study in the current research can be defined as mainly a try-out of research techniques and methods, but also of questionnaires and interviews. The researcher compiled an emotional intelligence programed and applied this to a pilot group of primary school children. During this process, the researcher also tested a short opened questionnaire on the cultures of the SMEs, questionnaires on their operating business for the companies, a behavior style instrument / questionnaire on the leader in the company and feedback reports on these surveyed SMEs. The pilot study of the current research can therefore be defined as both a feasibility study as well as a pre-testing of instruments, questionnaires and interviews. The value of piloting the whole research process is discussed in the next section, because if a pilot study is of too little value, the researcher can waste time, energy and money.

3.8 Data Collection

There are several phases involved in the data collection. The first phone calls were made to get permission from human resource department (if any) in the company; for these micro firms, the researcher just went directly to the company and asked their permission for survey questionnaire. Some of the companies assigned a person in

charge to handle, where the researcher handed over the questionnaire to the person in charge. The researcher also briefed about the instruction of distributing the questionnaire in order to ensure the questionnaire will be distributed to the right person and make sure they understand the contribution from them. Rarely the questionnaires were returned immediately. Most of the time, the researcher went back to the company after half an hour or one hour to fetch; or made phone calls the other days later to remind the person in charge to collect the questionnaire before going to the company again. In addition, the distance drive to Kuantan spend long an hour to go, hence, the process of data collection took a long time.

3.9 Data Analysis

Statistical Package for Social Science (SPSS) version 22.0 was used to analyze the collected data. This is because SPSS is one of the most convenient and user-friendly application. Besides that, it also can tabulate thus make the research work more systematic and reliable.

3.9.1 Descriptive analysis

The descriptive analysis was used to understand the respondents' characteristics. Such as the responders' gender, race, age, educational level, position in company and numbers of subordinates. The descriptive analysis describes the data of frequency can be interpreted as a set of data organized by summarizing the number of times a particular value of variable occurs. In other words, frequencies refer to the number of times various subcategories of a certain phenomenon occur, from which the percentage and the cumulative percentage of their occurrence can be easily calculated.

In addition, this analysis is done according to the section or part provided in the questionnaire. Each of the questions in the questionnaire is analyzed to show the respondents' views on the topic under study or research. All the data will be shown in a frequency table that means a simple tabulation that indicates the frequency with which respondent give a particular answer. Frequency analyses for a variable procedure are the table of frequency count, percentages and cumulative percentage for all the values associated with that variable.

3.9.2 Reliability test

The reliability test is conducted by test both consistency and stability. The consistency would be showing that how well the items measuring a concept together as a set. Cronbach's Alpha is commonly used to generate a reliability coefficient that indicated how well the items in a set are positivity correlated to one another. Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is considered to be a measure of scale reliability. A "high" value for alpha does not imply that the measure is unidimensional. If, in addition to measuring internal consistency, wish to provide evidence that the scale in question is unidimensional, additional analyses can be performed. Exploratory factor analysis is one method of checking dimensionality. Technically speaking, Cronbach's alpha is not a statistical test – it is a coefficient of reliability (or consistency).

The Cronbach's Alpha used to compute the reliability test. It is one of the most popular reliability statistics tool implemented nowadays. As mentioned by Sekaran (2006), the reliability test indicates the extent of the measure without bias and hence offers a consistent measure across time and across the various items in the instrument. The Cronbach's alpha reliability co-efficient indicates how well the items in a set are positively correlated with one another and it is computed based on average inter-correlations among the items measuring the concept. Therefore, the closer the Cronbach's alpha to 1, the higher the consistent reliability. Sekaran (2006) mentioned that the variables are considered reliable when the Cronbach's Alpha value is 0.60. Those in the 0.7 range are acceptable and those over 0.8 are considered good.

3.9.3 Validity test (Factor Analysis)

Validity refers to the degree in which our test or other measuring device is truly measuring what we intended it to measure. It becomes less valid as a measurement of advanced addition because as it addresses some required knowledge for addition, it does not represent all of knowledge required for an advanced understanding of addition.

Sugiyono (2006) defined validity test as performed on the content of an instrument, with the aim to measure the accuracy of the instruments used in a study. According to Gronlund et al., (1990) validity is the accuracy of the interpretation made

from the results of measurement or evaluation is the accuracy of the interpretations made from the results of measurement or evaluation. Anastasi (1990) stated that validity is the accuracy of measuring the construct. Arikunto (1995) explained that validity is a condition that describes the level of the relevant instruments to measure what is to be measured.

Validity test is the degree to which a test procedure accurately measures what it was designed to measure. Validity Test also concerns the test and assessment procedures used in psychological and educational testing, and the extent to which this measure what they purport to measure. 'Validity refers to the degree to which evidence and theory support the interpretations of test scores entailed by proposed use of tests.' Although classical models divided the concept into various 'validities' (such as content validity, criterion validity, and construct validity), the currently dominant view is that validity is a single unitary construct.

In this research, with factor analysis, the construct validity of a questionnaire can be tested (Bornstedt, 1977; Ratray & Jones, 2007). If a questionnaire is construct valid, all items together represent the underlying construct well. Hence, one's total score on the twenty items of the questionnaire of interest should represent one's pleasure in writing correctly. Exploratory factor analysis detects the constructs - i.e. factors - that underlie a dataset based on the correlations between variables (in this case, questionnaire items) (Field, 2009; Tabachnik & Fidell, 2001; Rietveld & Van Hout, 1993). The factors that explain the highest proportion of variance the variables share are expected to represent the underlying constructs. In contrast to the commonly used principal component analysis, factor analysis does not have the presumption that all variance within a dataset is shared (Costello & Osborne, 2005; Field, 2009; Tabachnik & Fidell, 2001; Rietveld & Van Hout, 1993). Since that generally is not the case either, factor analysis is assumed to be a more reliable questionnaire evaluation method than principal component analysis (Costello & Osborne, 2005).

Factor analysis is a method of analysis that allows the user to understand patterns of association among variables. This method of analysis works on the basis of an underlying model known as the 'common factor model' Factor analysis solution procedure is similar to that of principle components analysis, and users of factor analysis should ideally have familiarity with principle components analysis. The steps

of the procedure are elaborated in the following.

Firstly, decide on the variables to be used in the factor analysis. The researcher needs at least five data points per variable; use sample size to find the most suitable number of variables. In short, divide sample size by five is to determine how many variables should be included.

Secondly, find the number of the factors. Run principal components analysis on data. Plot the Eigenvalues from the output of the principle components analysis against the principle components. Find the last principle components with an Eigenvalue greater than one. The number labeling this principle component will be the number of factors for research factor analysis. If research sees the third principle component's Eigenvalues drop below one, then a number of factors will be three.

Thirdly, apply the common factor model to the data. Initialize the communalities as the squared multiple correlations. The common factor model will yield a solution in terms of factors. The researcher can treat these factors as new variables, representing a simplification of the original variables.

Lastly, interpret the factors. Apply multiple forms of rotation to the factors from the common factor model. Two common methods of rotation are Kaiser's varimax rotation and quarts max rotation. Rotate solution until researcher can interpret it easily in ordinary language.

3.9.4 T-test

In this research, the one sample t-test to test the level measurement that requires the sample data to be numeric and continuous, as it is based on the normal distribution. Continuous data can take on any value within a range (income, height, weight, etc.). The opposite of continuous data is discrete data, which can only take on a few values (Low, Medium, High, etc.). Occasionally, discrete data can be used to approximate a continuous scale, such as with Likert-type scales.

One Sample T-test is a statistical procedure performed to determine whether a sample comes from a population with a specific mean. It can be used under the assumption that sample distribution is normal. In this research, one sample T-test is

used to determine whether the variables were neutral or not neutral. The test value is 3, where it is “Neither agree nor disagree” or “sometimes” in this research. The significant level is at 0.05. If the calculated significant value is less than 0.05, it indicated that the variable is statistically significantly different from 3.

3.9.5 Normality test

The Normality Test is to check whether the data are normally distributed. Normality test for using in statistical analysis parametric, assuming that should belong to the data is that the data must be the normal distribution. The meaning of the data distributed normally is that the data will follow the shape of the normal distribution (Santosa et al., 2005). In statistics, P-P plot (probability-probability plot or percent-percent plot) is a probability plot for assessing how closely two data sets agree, which plots the two cumulative distribution functions against each other. P-P plots are sometimes limited to comparisons between two samples, rather than a comparison of a sample to a theoretical model distribution.

The normal P-P plot in principle, normality can be detected by looking at the spread of the data (Points) on the graphic or the accuracy of diagonal view of the residual histogram. The standards of testing Normality:

a) If data disseminates around line diagonal and follows direction of the line diagonal, or of graphics histogram shows a pattern of normal distribution, then model regression meets the assumption normality.
b) If data spread from line diagonally and or does not follow the direction of the line diagonal, or of graphic histogram does not show a pattern of normal distribution, then model regression does not meet the assumption normality (Ghozali, 2007).

3.9.6 Correlation test

Methods of correlation summarize the relationship between two variables in a single number called the correlation coefficient. The correlation coefficient is usually given the symbol r and it ranges from -1 to +1. A correlation coefficient quite close to 0, but either positive or negative, implies little or no relationship between the two variables. A correlation coefficient close to plus 1 means a positive relationship between

the two variables, with increases in one of the variables being associated with increases in the other variable. A correlation coefficient closes to -1 indicates a negative relationship between two variables, with an increase in one of the variables being associated with a decrease in the other variable.

A correlation coefficient can be produced for ordinal, interval or ratio level variables, but has little meaning for variables which are measured on a scale which is no more than nominal. For ordinal scales, the correlation coefficient which is usually calculated is Spearman's rho. For interval or ratio level scales, the most commonly used correlation coefficient is Pearson's r, ordinarily referred to as simply the correlation coefficient or r.

The Pearson Correlation Analysis was used for hypothesis testing in order to determine the relationship between independent variables and dependent variables of the study. It indicates the positive, negative or no relationship between variables. This is useful for interval scale, such as Point Scale. The positive value of the Pearson Correlation means there is positive relationship, while the negative value shows that the relationship is negatively associated.

Sekaran (2006) has stated that the correlation coefficient of less than 0.3 indicates weak relationship; the correlation, coefficient of greater than 0.3 and less than 0.8 indicates moderate or medium relationship; and the correlation coefficient of great than 0.8 indicates a strong relationship.

3.9.7 Regression test

A statistical tool that allows you to examine how multiple independent variables are related to a dependent variable. Once have identified how these multiple variables relate to research dependent variable, researcher can take information about all of the independent variables and use it to make much more powerful and accurate predictions about why things are the way they are.

Regression analysis is a powerful and flexible procured for analysis associative relationship between a metric dependent variable and one or more independent variables since this study has more than one independent variable, the multiple regression analysis is most suitable to apply.

R-squared is a statistical measure of how well a regression line approximates real data points. It helps predict a trend since it is considered a base that falls between zero and one. R-squared also is a descriptive measure between zero and one, indicating how good one term is at predicting another.

Regression testing is defined to confirm that a recent program or code change has not adversely affected existing features. Regression testing is nothing but the full or partial selection of already executed test cases which are re-executed to ensure existing functionalities work fine.

3.10 Summary

This chapter fully covered the research method implemented in this study. Research design in this study is quantitative research. Besides that, data collection is the procedures for collecting data. Lastly, data analysis in this study involved descriptive analysis, reliability test, validity test, T-test, normality test, correlation test and regression test.

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Introduction

This chapter shows findings from surveyed leaders and employees that in order to answer research questions proposed in Chapter 1. Data analysis and interpretations are presented in a logical statistic sequence. The general demographics of respondents were described first, followed by reliability test, validity test, single mean T-test, normality test, Pearson Correlation test and Regression test. Figures and tabulations were necessarily illustrated for elaboration. Besides that, the verified relationships were discussed in the end of the chapter.

4.2 Result of Pilot Test

Pilot test was conducted to minimize measurement errors of survey questionnaire. In total, 50 leaders and 50 of their followers from SMEs in Gambang Pahang Malaysia participated in the test. Actually, the involved leaders and employees from the selected SMEs, are all living in Kuantan but doing business at Gambang. Gambang is a town nearby Kuantan and these two towns belong to Pahang state. Hence, residents in these two towns have cultural similarities and the results from the pilot test in Gambang could be based on for the main data collection in Kuantan in the next stage of this research.

Table 4.1 shows that the Cronbach's alpha coefficient of internal consistency for the first row OCEAN Personality the 54 items is 0.823, it can be regarded as the 54 items have relatively good and reliable internal consistency (note that a reliability coefficient of 0.70 or higher is considered acceptable in most social science research situation); for the second row Yukls (2002) leadership style the 24 items is 0.904, it can

be regarded as the 24 items have relatively good and reliable internal consistency; the last row employee engagement for 12 items is 0.904, it can be regarded as the 12 items have relatively good and reliable internal consistency.

According to Table 4.1, it shows the research instrument is reliable. Hence, the major data collection was preceded and the derived results are presented in the following sections.

Table 4.1 Reliability results for pilot test

Reliability Statistics		
	Cronbach's Alpha	**N of Items**
OCEAN Personality	0.823	54
Yukl' Leadership Style	0.904	24
Employee Engagement	0.904	12

4.3 Descriptive Analysis

There were distributed 200 sets of questionnaire to SMEs located in Kuantan, but only 160 companies replied the survey. The rest of 40 companies they rejected because of they are busy with their business, some of them said they cannot because their boss not allow to. In additional, some of collected questionnaire could be use because they mismatching with leader, incomplete questionnaire, approached filled questionnaire; and then concluded finally questionnaires from 160 leaders and 320 subordinates from 160 companies located in Kuantan were used in data analysis.

4.3.1 Profiles of leader respondents

The profile data is about 160 leaders from each small firm. All the data collected feedbacks consist of gender, race age, the highest education level, position in the company and number of subordinates in the firms. In addition, there is no missing value. Those kinds of data provided the demographics of respondents who are engaged in measuring leader's personality and employee engagement. The summary for leaders' demographics are presented in Table 4.2.

Firstly, about the gender distributions of the respondents, there are 111 (69.40%) female leaders as respondents and 49 (30.6%) male leaders as respondents. For race distribution, there are 118 (73.80%) Malay as firm's leader, 41 (25.60%) Chinese and 1 (0.60%) Indian. Regarding age for the respondent, there are 115 (71.9%) respondents at

age 20-29, followed are 33 (20.60%) at age 30-39 years old, 9 (5.60%) at age 40-49 and the rest are 3 (1.90%) at age 50 above. Forth, about leaders' education level, the highest percentage of the respondents is holding SPM as 60.60%, followed by Diploma as 18.10%, Degree as 11.30%, STPM as 8.80% and PMR as 1.30%. Fifth, about position distribution of the respondents from 160 companies. There are 57 (35.60%) executive, followed by supervisor as 41 (25.60%), boss as 35 (21.90%), manager as 19 (11.90%) and accountant as 8 (5.00%). Last about subordinates' numbers for the leader. There are 139 (86.90%) as 1-9 people, followed by 16 (10.00%) 10-19 people, then 4 (2.50%) 20-29 people and 30 above only one company. Sum up, the majority of leaders are female and at age 20-29. Meanwhile Malay is the majority race there. However, as firm's leader holding SPM is the mostly highest education.

Table 4.2 Profile of leader respondents (N=160)

		Frequency	Percentage (%)
Gender	Male	49	30.60
	Female	111	69.40
	Total	160	100.00
Race	Malay	118	73.80
	Chinese	41	25.60
	India	1	0.60
	Total	160	100.00
Age	20-29	115	71.90
	30-39	33	20.60
	40-49	9	5.60
	50 and above	3	1.90
	Total	160	100.00
Highest Education Level	PMR	2	1.30
	SPM	97	60.60
	STPM	14	8.80
	Diploma	29	18.10
	Degree	18	11.30
	Total	160	100.00
Position	Boss	35	21.90
	Manager	19	11.90
	Supervisor	41	25.60
	Executive	57	35.60
	Accountant	8	5.00
	Total	160	100.00
Number of Subordinates	1-9 people	139	86.90
	10-19 people	16	10.00
	20-29 people	4	2.50
	30 and above	1	0.60
	Total	160	100.00

4.3.2 Profiles of employee respondents

The profile data is 320 employees from 160 companies with 2 employees per company at average. All the data collected consist of gender, race age, the highest education level and who they are subordinated for the firms. There is no missing value for descriptive. Those kinds of information provide the demographics of respondents who are engaged in measuring leadership style, the summaries for both leader and employee are presented in Table 4.3.

Table 4.3 Demographic data of respondents from employee (N=320)

		Frequency	Percentage (%)
Gender	Male	78	24.40
	Female	242	75.60
	Total	320	100.00
Race	Malay	266	83.10
	Chinese	48	15.00
	India	3	0.90
	Others	3	0.90
	Total	320	100.00
Highest Education Level	PMR	8	2.50
	SPM	214	66.90
	STPM	27	8.40
	Diploma	51	15.90
	Degree	19	5.90
	Others	1	0.30
	Total	320	100.00
Age	20-29	263	82.20
	30-39	49	15.30
	40-49	5	1.60
	50 and above	3	0.90
	Total	320	100.00
Subordinate for	Boss	70	21.90
	Manager	40	12.50
	Supervisor	82	25.60
	Executive	112	35.00
	Accountant	16	5.00
	Total	320	100.00

Table 4.3 showed the demographic data of respondents for employee. Firstly, it is about the gender distributions of the respondents. There are 242(75.60%) female employee as respondents and 78 (24.40%) male employee as respondents. Secondly about race distribution, there are 266 (83.10%) Malay as firm's employee, 48 (15.00%) Chinese, 3 (0.90%) India and 3 other race which are from Pakistan, Iran and Nepal.

Third indicated about age, there are 263 (82.20%) respondents at age 20-29, followed are 49 (15.30%) at age 30-39 years old, 5 (1.60%) at age 40-49 and the rest are 3 (0.90%) at age 50 above. Forth, it's about employees' education level, the highest percentage of the respondents is SPM as 66.90%, followed by Diploma as 15.90%%, STPM as 8.10%, Degree as 5.90%, PMR as 2.50% and others 0.60%. Lastly, it's about subordinates for the leader's position distribution of the respondents from 160 companies. There are 112 (35.00%) executive, followed by supervisor as 82 (25.60%), boss as 70 (21.90%), manager as 40 (12.50%), and accountant as 16 (5.00%). Based on the data recorded, the fact that the majority of employees in the 160 companies are Malay female at age 20-29 holding SPM work with sell executive.

4.4 Reliability Test (Cronbach's Alpha)

Reliability test allows studying the properties of measurement scales and the items that compose the scales. The procedure calculates a number of commonly used measures of scale reliability and also provides information about the relationships between individual items in the scale. Intra- class correlation coefficients can be used to compute inter-rater reliability estimates. Reliability is the degree to which an assessment tool produces stable and consistent results (Sekaran, 2010). The models of reliability are available such as, Cronbach Alpha, Split-half, Guttman, Parallel and Strict Parallel. This study uses Cronbach Alpha, a model of internal consistency based on the average inter-item correction.

Table 4.4 Reliability test for openness

Reliability Statistics					
Cronbach'sAlpha	0 .741		N of Items		9
Item-Total Statistics of Openness					
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
O1	27.7750	18.490	0.311	0.312	0.738
O2	27.3563	18.734	0.406	0.324	0.720
O3	27.2063	18.202	0.487	0.331	0.708
O4	27.3250	17.781	0.433	0.306	0.715
O5	27.3313	17.443	0.530	0.384	0.699
O6	27.4813	18.264	0.362	0.248	0.728
O7	27.6937	18.843	0.333	0.243	0.732
O8	27.2875	18.672	0.395	0.322	0.722
O9	27.1438	17.621	0.536	0.432	0.699

Table 4.4 shows that the Cronbach's alpha coefficient of internal consistency for the 9 items is 0.741, it can be regarded as the 9 items have relatively high and reliable internal consistency (note that a reliability coefficient of 0.70 or higher is considered acceptable in most social science research situation). Since Cronbach Alpha is 0.741 and each items are above 0.6 and the reliability value considered as high reliability (Sekaran, 2010). So it is most undesirable to remove any items.

Table 4.5 Reliability test for conscientiousness

Reliability Statistics					
Cronbach's Alpha		**0 .658**		**N of Items**	**11**
Item-Total Statistics of Conscientiousness					
	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Squared Multiple Correlation**	**Cronbach's Alpha if Item Deleted**
C1	34.3625	23.792	0.195	0.199	0.661
C2	34.2312	22.456	0.322	0.202	0.634
C3	34.5625	24.046	0.173	0.134	0.665
C4	33.6188	24.162	0.310	0.280	0.637
C5	33.4500	23.469	0.442	0.384	0.618
C6	33.7125	23.439	0.354	0.281	0.628
C7	34.0875	23.565	0.305	0.207	0.636
C8	34.1125	22.729	0.381	0.441	0.622
C9	34.1563	22.183	0.431	0.420	0.612
C11	33.5813	23.566	0.329	0.288	0.632
C12	33.8125	23.776	0.252	0.303	0.646

Table 4.5 shows that the Cronbach's alpha coefficient of internal consistency for the 11 items is 0.658, it can be regarded as the 11 items have relatively reliable internal consistency (note that a reliability coefficient of 0.60 or higher is considered acceptable in most social science research situation). The final column "Alpha if Item Deleted" tells how the reliability of the scale is affected by each of the items. Twelve Cronbach's a's are reported in this column (See Appendix C), each representing the Cronbach's a of the scale when one item on the scale is removed. The statistics show from this column that removing item 10 from the scale cause a to increase from .634 to 0.658. Since Cronbach Alpha is 0.658 and each items are above 0.6 and the reliability value considered as accepted in this study (Sekaran, 2010), so item 10 had been logically deleted to increase all items reliability output above 0.6.

Table 4.6 Reliability test for extraversion

Reliability Statistics					
Cronbach's Alpha	**0 .669**		**N of Items**		**12**
Item-Total Statistics of Extraversion					
	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Squared Multiple Correlation**	**Cronbach's Alpha if Item Deleted**
E1	37.1813	24.652	0.455	0.375	0.629
E2	37.1937	24.610	0.438	0.387	0.630
E3	37.0875	24.999	0.402	0.313	0.636
E4	37.4250	25.303	0.246	0.182	0.661
E5	37.2688	26.198	0.244	0.196	0.659
E6	37.7937	26.014	0.137	0.126	0.684
E7	37.4500	24.262	0.379	0.313	0.637
E8	37.6125	23.748	0.401	0.238	0.632
E9	37.7562	25.481	0.292	0.316	0.652
E10	36.9563	25.463	0.316	0.367	0.648
E11	36.8250	25.403	0.287	0.384	0.653
E12	37.4938	26.025	0.193	0.113	0.669

Table 4.6 shows that the Cronbach's alpha coefficient of internal consistency for the 12 items is 0.669, it can be regarded as the 12 items have relatively reliable internal consistency (note that a reliability coefficient of 0.60 or higher is considered acceptable in most social science research situation). Since Cronbach Alpha is 0.669 and each items are above 0.6 and the reliability value considered as acceptable in this study (Sekaran, 2010), so there is no item to be deleted to increase all items output above 0.6.

Table 4.7 Reliability test for agreeableness

Reliability Statistics					
Cronbach's Alpha	**0.674**		**N of Items**		**12**
Item-Total Statistics of Agreeableness					
	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Squared Multiple Correlation**	**Cronbach's Alpha if Item Deleted**
A1	31.3125	29.814	0.302	0.348	0.656
A2	31.2438	28.965	0.405	0.414	0.639
A3	31.1938	28.799	0.412	0.275	0.638
A4	30.7813	30.964	0.238	0.168	0.666
A5	31.3188	28.168	0.427	0.389	0.634
A6	31.3625	28.924	0.433	0.359	0.635
A7	30.4688	32.578	0.080	0.179	0.692
A8	30.6375	32.144	0.147	0.388	0.679
A9	30.7938	32.064	0.187	0.305	0.672
A10	31.1000	30.279	0.318	0.291	0.654
A11	31.1000	29.009	0.440	0.326	0.635
A12	31.3125	29.210	0.350	0.341	0.648

Table 4.7 shows that the Cronbach's alpha coefficient of internal consistency for the 11 items is 0.674, it can be regarded as the 12 items have relatively reliable internal consistency (note that a reliability coefficient of 0.60 or higher is considered acceptable in most social science research situation). Since Cronbach Alpha is 0.674 and each items are above .0.6 and the reliability value considered as acceptable in this study (Sekaran, 2010), so there are no items deleted.

Table 4.8 Reliability test for neuroticism

Reliability Statistics					
Cronbach's Alpha		**0.740**		**N of Items**	**9**
Item-Total Statistics of Neuroticism					
	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Squared Multiple Correlation**	**Cronbach's Alpha if Item Deleted**
N1	24.1938	21.528	0.390	0.249	0.722
N2	24.5313	21.358	0.408	0.309	0.719
N3	25.3000	22.249	0.263	0.203	0.747
N4	24.0813	21.660	0.423	0.207	0.716
N5	23.7625	22.094	0.376	0.347	0.724
N6	24.1313	21.008	0.442	0.309	0.713
N7	24.3250	20.938	0.533	0.352	0.698
N8	24.3438	21.460	0.478	0.298	0.708
N9	24.4313	21.731	0.485	0.317	0.708

Table 4.8 shows that the Cronbach's alpha value of neuroticism consistency of the 9 items is .740. It can be regarded as that the 9 items have relatively high and reliable internal consistency. Since Cronbach Alpha is 0.60 and each items are above 0.6 and the reliability value considered as accepted in this study (Sekaran, 2010), so there is no need to delete any item of neuroticism.

Table 4.9 shows that the Cronbach's alpha coefficient of the Task-Oriented leadership style is 0.840. It can be regarded as the 9 items have relatively good and reliable internal consistency (note that a reliability coefficient of 0.60 or higher is considered good result in most social science research situation). Since Task-Oriented Cronbach Alpha is 0.840 and each items are above 0.6 and the reliability value considered as good result in this study (Sekaran, 2010), so there is no any item is needed to be deleted. Next value of Relations-Oriented leadership style 8 items is 0.864, hence the 8 items have relatively high and reliable internal consistency (note that a reliability coefficient of 0.60 or higher is considered good result in most social science research situation). And there is no item for Relations-Oriented leadership style to be

deleted. Furthermore, the Cronbach's alpha coefficient of internal consistency for the Change-Oriented leadership style of 8 items is 0.865, it can be regarded as that involved 8 items have relatively high and reliable internal consistency (note that a reliability coefficient of 0.60 or higher is considered good result in most social science research situation). And no item is needed to be deleted. Hence the data collected for the three types of leadership styles are reliable without any items deleted.

Table 4.9 Reliability test for leadership style

Reliability Statistics			
Leadership style	**Cronbach's Alpha**	**Items**	**Cronbach's Alpha if Item Deleted**
Task-Oriented	0.840	TO1	0.821
		TO2	0.826
		TO3	0.821
		TO4	0.820
		TO5	0.815
		TO6	0.821
		TO7	0.818
		TO8	0.829
Relations-Oriented	0.864	RO1	0.843
		RO2	0.840
		RO3	0.853
		RO4	0.847
		RO5	0.846
		RO6	0.852
		RO7	0.844
		RO8	0.858
Change-Oriented	0.865	CO1	0.858
		CO2	0.855
		CO3	0.846
		CO4	0.845
		CO5	0.847
		CO6	0.842
		CO7	0.845
		CO8	0.848

Table 4.10 shows that the Cronbach's alpha coefficient of internal consistency for the 12 items is 0.854 for employee engagement, it can be regarded as the 12 items have relatively high and reliable internal consistency (note that a reliability coefficient of 0.60 or higher is considered acceptable in most social science research situation). Since Cronbach Alpha is .854 and each items are above 0.80 and the reliability value considered as good result in this study (Sekaran, 2010), so there is no item can be deleted to increase all items output above 0.6.

Table 4.10 Reliability test for employee engagement

Reliability Statistics				
Cronbach's Alpha	**0.854**	**N of Items**	**12**	
Item-Total Statistics of Dedication				
	Scale Mean if Item Deleted	**Scale Variance if Item Deleted**	**Corrected Item-Total Correlation**	**Squared Multiple Correlation**	**Cronbach's Alpha if Item Deleted**
Vigor1	36.8750	41.343	0.223	0.127	0.861
Vigor2	36.7000	37.947	0.541	0.381	0.841
Vigor3	37.7688	39.198	0.444	0.369	0.848
Vigor4	36.8500	38.153	0.446	0.327	0.848
Dedication1	36.7938	37.322	0.648	0.520	0.835
Dedication2	36.6000	36.606	0.647	0.549	0.834
Dedication3	36.6063	36.630	0.621	0.517	0.835
Dedication4	36.7125	36.860	0.641	0.541	0.834
Absorption1	36.7250	36.326	0.630	0.472	0.835
Absorption2	37.0875	38.898	0.378	0.257	0.853
Absorption3	36.5938	37.098	0.592	0.593	0.838
Absorption4	36.7188	37.663	0.523	0.468	0.843

4.5 Validity Test (Factor Analysis)

Validity test is the extent to which a test measures what it claims to measure. It is vital for a test to be valid in order to ensure the results are accurately applied and interpreted. Factor analysis is a statistical procedure used to identify a small number of factors that can be used to represent relationships among sets of interrelated variables.

4.5.1 Sample adequacy

The Kaiser-Meyer-Olkin (KMO) measure of Sampling Adequacy test is adopted to check the appropriateness of factor analysis. Values greater than 0.5 indicate factor analysis is acceptable (Sekaran, 2010). Factor analysis is general name denoting a class of procedures primarily used for data reduction and summarization. Varimax rotation is used to see how groupings of items (variables) measure the same factor. The item with Varimax value less than 0.4 should be removed (Sekaran, 2010).

Table 4.11 shows the results of KMO and Batlett's Test for the 160 company's leaders' personality. It can be seen that the KMO values is 0.706, if KMO>0.5, the sample is adequate. Here the KMO=0.706 which indicates that the sample is adequate and may proceed with the Factor Analysis. For Bartlett's Test of Sphericity, taking a

95% level of significance, a=0.05, the p-value (Sig.) of 0.000<0.05, therefore the Factor Analysis is valid. The approximate of Chi-square is 3431.276 with 153 degrees of freedom, which the significant at 0.05 level of significance. The KMO statistic of 0.706 is also large (greater than 0.50). Hence Factor Analysis is considered as an appropriate technique for further analysis of the data.

Table 4.11 KMO and Bartlett's Test for leaders' personality

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.706
Bartlett's Test of Sphericity	**Approx. Chi-Square**	3431.276
	Df	1378
	Sig.	0.000

Table 4.12 shows the results of KMO and Batlett's Test for the 160 companies leadership style. It can be seen that the KMO values is 0.938, if KMO>0.5, the sample is adequate. Here the KMO=0.938 which indicates that the sample is adequate and may proceed with the Factor Analysis. For Bartlett's Test of Sphericity, taking a 95% level of significance, a=0.05, the p-value (Sig.) of 0.000<0.05, therefore the Factor Analysis is valid. The approximate of Chi-square is 3538.057 with 276 degrees of freedom, which the significant at 0.05 level of significance. The KMO statistic of 0.938 is also large (greater than 0.50). Hence Factor Analysis is considered as an appropriate technique for further analysis of the data.

Table 4.12 KMO and Bartlett's Test for leadership style

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.938
Bartlett's Test of Sphericity	**Approx. Chi-Square**	3538.057
	Df	276
	Sig.	0.000

Table 4.13 shows the results of KMO and Batlett's Test for the 160 companies employee engagement. It can be seen that the KMO values is .841, if KMO>0.5, the sample is adequate. Here the KMO=0.841 which indicates that the sample is adequate and we may proceed with the Factor Analysis. For Bartlett's Test of Sphericity, taking a 95% level of significance, a=0.05, the p-value (Sig.) of .000<0.05, therefore the Factor Analysis is valid. The approximate of Chi-square is 695.016 with 66 degrees of freedom, which the significant at 0.05 level of significance. The KMO statistic of 0.841 is also large (greater than 0.50). Hence Factor Analysis is considered as an appropriate technique for further analysis of the data.

Table 4.13 KMO and Bartlett's Test for employee engagement

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.841
Bartlett's Test of Sphericity	**Approx. Chi-Square**	695.016
	Df	66
	Sig.	0.000

4.5.2 Varimax rotation

The purpose of rotation is to simplify the structure of the analysis, so that each factor will have non-zero loadings for only some of the variables without affecting the communalities and the percent of variance explained. The most common method is Varimax which minimizes the number of variables that high loading on the factor. Then Varimax Rotation is a change of coordinates used in principal component analysis and factor analysis that maximizes the sum of the variance of the squared loadings (squared correlations between variables and factors).

According to Table 4.14, all the (absolute) values of varimax rotation of the independent personality variables for surveyed companies' leader. This matrix contains the loadings of each variable onto each personality factor. By defaulting SPSS display all loadings; however, we requested that all loadings less than 0.4 be suppressed in the output and so there are blank spaces for many loadings. At this stage SPSS has extracted five factors. One important decision is the number of factor to extract. By Kaiser's criterion we should extract five factors which mean all the tested variables are considered valid and can be used for further analysis (Sekaran, 2010). Additionally, the Varimax rotation of the items of each independent variable for these 160 companies' leader personality is demonstrated in Appendix C as items, with all the absolute values of varimax rotation.

Table 4.14 Rotated Factor Matrix for leaders' personality

	Component				
	1	**2**	**3**	**4**	**5**
O1	0.530				
O2	0.579				
O3	0.503				
O4	0.498				
O5	0.594				
O6	0.577				
O7	0.415				
O8	0.518				
O9	0.563				
C4		0.565			
C5		0.467			
C8		0.512			
C9		0.412			
C11		0.600			
C12		0.530			
E1			0.565		
E2			0.459		
E3			0.541		
E4			0.497		
E6			0.420		
E7			0.488		
E8			0.424		
E9			0.411		
E10			0.528		
E11			0.528		
A1				0.667	
A2				0.641	
A3				0.473	
A4				0.428	
A5				0.696	
A6				0.678	
A7				0.583	
A8				0.534	
N1					0.444
N2					0.502
N3					0.658
N5					0.622
N6					0.522
N7					0.414
N9					0.526

Extraction method: Principal Component analysis.
Rotation Method: Varimax with Kasier Normalization.
a. Rotation converged in 14 iterations.

After rotation, the first component accounted 9 variables which are 0.530, 0.579, 0.503, 0.498, 0.594, 0.577, 0.415, 0.518, and 0.563. Component number 1 included items with only positive loadings. Positive loadings include the variables of openness, the highest loading is item No. 2 I am really interested in others which labelled positive

Warmth (A+) and the lowest loading is item No. 7 I do thing not always by the book which labelled positive Abstractedness (M+). (see Appendix C); the second component has 11 variables which are 0.339, 0.281, 0.329, 0.565, 0.467, 0.374, 0.287, 0.512, 0.412, 0.600 and 0.530. Component 2 included items with only positive loading named conscientiousness, but 5 loadings are less than 0.4 (refer to Appendix C), as discussed above, therefore, removed the loadings less than 0.4, then all the loadings, the highest loading is item No. 11 I continue until everything is perfect which labelled Perfectionism (Q3+) and the lowest loading is question No. 9 I seldom get lost in thought Abstractedness (M-) (after removed loading less than 0.4); the third component has 12 variables which are 0.565, 0.459, 0.541, 0.497, 0.396, 0.420, 0.488, 0.424, 0.411, 0.528, 0.528 and 0.260. Component 3 included items with only positive loading named extraversion, but there 2 loadings are less than 0.4 (see from Appendix C), as we discussed above, therefore, removed the loading less than 0.4. All the loadings, the highest loading is item No. 1 I know how to comfort others which labelled Warmth (A+) and the lowest loading is item No. 9 I start conversations Social Boldness (H+) (after removed loading less than 0.4); the forth component has 12 variables which are 0.667, 0.641, 0.473, 0.428, 0.696, 0.678, 0.583, 0.534, 0.293, 0.0.331, 0.373 and 0.332. Component 4 included items with only positive loading named agreeableness, but 4 loadings are less than 0.4 (see from Appendix C), as we discussed above, therefor, removed the items with loading less than 0.4. All the loadings, the highest loading is item No. 5 I never make friends easily which labelled Social Boldness (H-) and the lowest loading is item No. 4 I don't talk to a lot of different people at parties Social Boldness (H-) (after removed loading less than 0.4); the last component has 9 variables which are 0.444, 0.502, 0.658, 0.338, 0.622, 0.522, 0.414, 0.335 and 0.526. Component 5 included items with only positive loading named neuroticism, but there 2 loadings are less than 0.4 (see from Appendix C), as discussed above, therefor, removed the loading less than 0.4. all the loadings, the highest loading is item No. 5 I distrust people which labelled Vigilance (L+) and the lowest loading is item No. 7 I feel guilty when I say "no" Apprehension (O+) (after removed loading less than 0.4).

Table 4.15 Rotated Factor Matrix for leadership style

	Component		
	1	**2**	**3**
TO1	0.661		
TO2	0.740		
TO3	0.559		
TO4	0.549		
TO5	0.465		
TO6	0.520		
TO7	0.572		
TO8	0.511		
RO1		0.589	
RO2		0.596	
RO3		0.661	
RO4		0.638	
RO6		0.405	
RO7		0.514	
CO1			0.582
CO2			0.674
CO3			0.583
CO4			0.651
CO5			0.762
CO6			0.770
CO7			0.706
CO8			0.667

Extraction Method: Principal Component Analysis.
Rotation Method : Varimax with Kaiser Normalization.[a]
a. Rotation converged in 13 iterations.

According to Table 4.15, all the (absolute) values of varimax rotation of the independent variables of leadership styles are over 0.4, which means all the tested variables are considered valid and can be used for further analysis (Sekaran, 2010). Additionally, the Varimax rotation of the items of each original independent variable under leaders' personality is demonstrated in Appendix C.

After rotation, the first component accounted 8 variables which are 0.661, 0.740, 0.559, 0.549, 0.465, 0.520, 0.572 and 0.511. Component number 1 included items with only positive loadings. Positive loadings include the variables of Task-Oriented leadership style, the highest loading is item No. 2 Assign work to groups or individuals and the lowest loading is item No. 5 Explain rules, policies, and standard operating procedures (see Table 3.8); the second component has 8 variables which are 0.589, 596, 0.661, 0.638, 0.335, 0.405, 0.514, 0.400. Component 2 included items with only positive loading named Relations-Oriented leadership style, but there 2 loadings are less

than 0.4 (see from Appendix C), as discussed above, therefore, removed the loading less than 0.4. All the loadings, the highest loading is item No. 3 Socialize with people to build relationship and the lowest loading is item No. 6 Consult with people on decisions affecting them. (After removed loading less than 0.4); the last component has 8 variables which are 0.582, 0.674, 0.583, 0.651, 0.762, 0.770, 0.706 and 0.667. Component 3 included items with only positive loading named Chang-Oriented leadership style, since all the loadings are over than 0.4, so there no loadings need to remove. The highest loading is item No. 7 Influence outsiders to support change and negotiate agreements with them and the lowest loading is item No. 1 Envision exciting new possibilities for the organization.

According to Table 4.16, all the (absolute) varimax values of employee engagement are over 0.4, which means all the tested variables are considered valid and can be used for further analysis (Sekaran, 2010). Additionally, the Varimax rotation of the items of each independent variable employee engagement is demonstrated in Appendix C as items, with all the absolute values of varimax rotation over 0.4.

Table 4.16 Rotated Factor Matrix for employee engagement

	Component		
	1	**2**	**3**
Vigor1	0.887		
Vigor2	0.495		
Vigor3	0.757		
Vigor4	0.636		
Dedication1		0.709	
Dedication2		0.694	
Dedication3		0.640	
Dedication4		0.723	
Absorption1			0.658
Absorption2			0.678
Absorption3			0.840
Absorption4			0.785

Extraction Method: Principal Component Analysis.
Rotation Method : Varimax with Kaiser Normalization.[a]
a. Rotation converged in 4 iterations.

After rotation, the first component accounted 4 variables which are 0.887, 0.495, 0.757 and 0.636. Component number 1 included items with only positive loadings. Positive loadings include the variables of vigor, the highest loading is item No. 1 My employees feel busting with energy when they working and the lowest loading is item No. 2 In the job, my employees feel strong and vigorous. (see Table 4.16); the second

component has 4 variables which are0.709, 0.694, 0.640 and 0.723. Component 2 included items with only positive loading named Dedication, but there no loadings are less than 0.4, as discussed above, therefore, no loading need to remove. All the loadings, the highest loading is item No. 4 My employees feel enthusiastic about their job and the lowest loading is item No. 3 My employees are proud with their job; the last component has 4 variables which are 0.658, 0.678, 0.840 and 0.785. Component 3 included items with only positive loading named Absorption, since all the loadings are over than 0.4 so there no loadings need to remove. The highest loading is item No. 3 My employees feel happy when they are working intensely and the lowest loading is item No. 1 My employees are focusing their work, and not realized time is passing.

4.6 Single Mean T-Test (Analysis of the levels of Factors)

The one sample T-test is used for comparing sample results with a known value. Specifically, in this type of test, s single sample is collected, and the resulting sample mean is compared with a value of interest, that is not based on the current sample. The purpose of the one-simple T-test is to determine whether there is sufficient evidence to conclude that the mean of the population from which the sample is taken is different from the specified value. Related to the one-simple T-test is a confidence interval on the mean. The confidence interval is usually applied when it is not to test against specified value of population mean but instead want to know a range of plausible values of the unknown mean of the population from which the sample was selected (Sekaran, 2010).

Table 4.17 Level of leader's personality

	One Sample Test						
	Test Value=3						
	N	Mean	Std. Deviation	Std. Error Mean	T	Df	Sig. (2-tailed)
O	160	3.4250	0.52525	0.04152	-37.930	159	0.000
C	160	3.5802	0.56480	0.04465	-31.797	159	0.000
E	160	3.4031	0.48154	0.03807	-41.947	159	0.000
A	160	2.8352	0.54897	0.04340	-49.881	159	0.000
N	160	3.0054	0.59171	0.04678	-42.640	159	0.909

Table 4.17 provides basic information about the personality Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism. Including the valid (non-missing) sample size N=160. The highest mean is conscientiousness which is 3.5802, the following are Openness as 3.4250, Extraversion is 3.4031, Neuroticism is

3.0054 and Agreeableness is 2.8352. The test value we entered as 3 in the one-sample T Test window. T is the test statistic of the one sample T test which calculated by dividing the mean difference by the standard error mean. All the OCEAN variables are at significance level at 0.000. Lastly the result shows Conscientiousness is the most popular personality.

Table 4.18 Level of leadership style

	One Sample Test Test Value=3						
	N	**Mean**	**Std. Deviation**	**Std. Error Mean**	**T**	**Df**	**Sig. (2-tailed)**
TO	160	3.5352	0.58671	0.04638	11.538	159	0.000
RO	160	3.4786	0.66566	0.05108	9.369	159	0.000
CO	160	3.4844	0.63347	0.05008	9.672	159	0.000

Table 4.18 provides basic result about the leadership style variable Task-Oriented, Relations-Oriented and Change-Oriented are including the valid (non-missing) sample size N=160. The highest mean is Task-Oriented which is 3.5352, the following are Change-Oriented is 3.4844 and last one is Relations-Oriented is 3.4786. The test value we entered as 3 in the one-sample T Test window. T is the test statistic of the one sample T- test which calculated by dividing the mean difference by the standard error mean. All the leadership style variables are at significance level at 0.000. This result shows more preferred in Task-Oriented leadership style to operation business.

Table 4.19 Level of employee engagement

	One Sample Test Test Value=3						
	N	**Mean**	**Std. Deviation**	**Std. Error Mean**	**T**	**Df**	**Sig. (2-tailed)**
Vigor	160	3.2953	0.58403	0.04617	6.396	159	0.000
Dedication	160	3.4156	0.70816	0.05598	7.424	159	0.000
Absorption	160	3.3125	0.72954	0.05768	5.418	159	0.000

Table 4.19 shows basic information about the employee engagement variable vigor, dedication and absorption. Including the valid (non-missing) sample size N=160. The highest mean is dedication which is 3.4156, the following vigor is 3.2953 and the absorption is 3.3125. The test value we entered as 3 in the One-Sample T Test window. T is the test statistic of the one sample T-test which calculated by dividing the mean difference by the standard error mean. All the employee engagement variables are at

significance level at 0.000. This result shows that beside vigorous, absorptive, the employee more dedicated in business operation.

4.7 Normality Test (P-P PLOTS)

Testing normality is testing the normality of distribution of data. That the data are distributed normally means that the data follow the shape of normal distribution. In statistics, a P-P plot (Probability-Probability plot or percent-percent plot) is a probability plot for assessing how closely two data sets agree, which plots the two cumulative distribution functions against each other. Then, the normality can be detected by looking at the spread of data (points) on the graphic or the accuracy of diagonal view of the residual histogram (Sekaran, 2010).

If data disseminate in around line diagonal and follows direction of the line diagonal or, if graphics histogram shows a pattern of normal distribution (Sekaran, 2010). Otherwise, if data spreads far from the line diagonal and or does not follow the direction of the line diagonal or if graphics histogram does not show a pattern of normal distribution, then data are not normally distributed (Sekaran, 2010).

The notion of using the familiar correlation coefficient as a means of judging the straightness of a normal probability plot is intuitively appearing. This test has the virtues of being sample, easily remembered, and powerful. It encourages the use and comparison of a visual test (the probability plot) with an objective measure (Rp). This test can also be used to provide an intuitive explanation.

Figure 4.1 demonstrate the P-P plot of the 5 OCEAN Personalities. It can be seen that the data for each variable spread around the diagram, which indicates that the processed data for all the variables are following a normal distribution. Then, correction analysis can be further conducted. The frequency histograms with normal curve and related statistics are also provided respectively in Appendix C.

As shown in Figure4.1 the data of Openness demonstrates around the diagram which indicates that, the processed data for the variable of Openness is following a normal distribution. Secondly, showed the data of Conscientiousness spread around the diagram which indicates that, the processed data for the variable Conscientiousness is normal distribution. Then, data of Extraversion spread around the diagram which

indicates that, the processed data for the variable Extraversion is following a normal distribution. Fourth, the data of Agreeableness spread around the diagram which indicates that the processed data for the variable Agreeableness is following a normal distribution. Fifth, the data of Neuroticism spread around the diagram which indicates that the processed data for the variable Neuroticism is following a normal distribution.

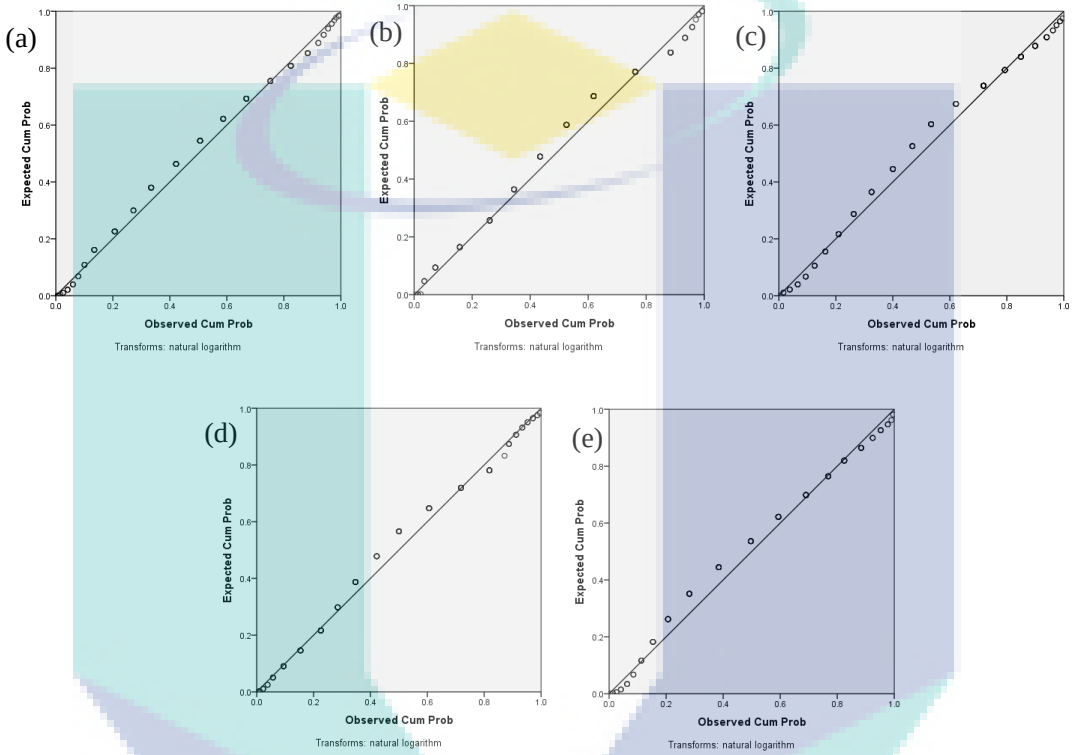

Figure 4.1 P-P Plots on OCEAN personalities for 160 companies (a) openness, (b) conscientiousness, (c) extraversion, (d) agreeableness, and (e) neuroticism

Then, Figure 4.2 showed the data of Leadership style. Below showed Task-Oriented spread around the diagram which indicates that the processed data for the Task-Oriented leadership style is following a normal distribution. Next, data of Relations-Oriented leadership style spread around the diagram which indicates that the processed data for the Relations-Oriented leadership style is following a normal distribution. Lastly the data Change-Oriented leadership style spread around the diagram which indicates that the processed data for Change-Oriented leadership style is following a normal distribution.

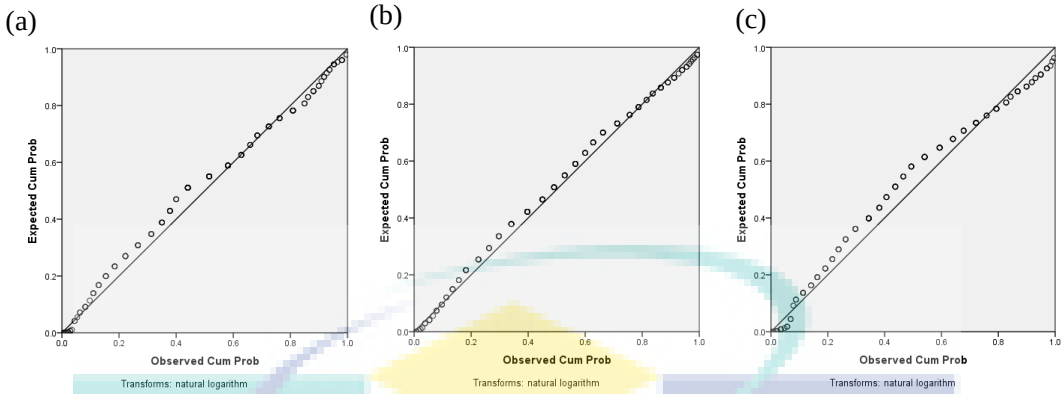

Figure 4.2 P-P Plots leadership style for 160 companies (a) Task-Oriented, (b) Relations-Oriented and (c) Change-Oriented

Lastly, Figure 4.3 showed the data for variable of Employee Engagement spread around the diagram which indicates that the processed data for the variable Employee Engagement is following a normal distribution.

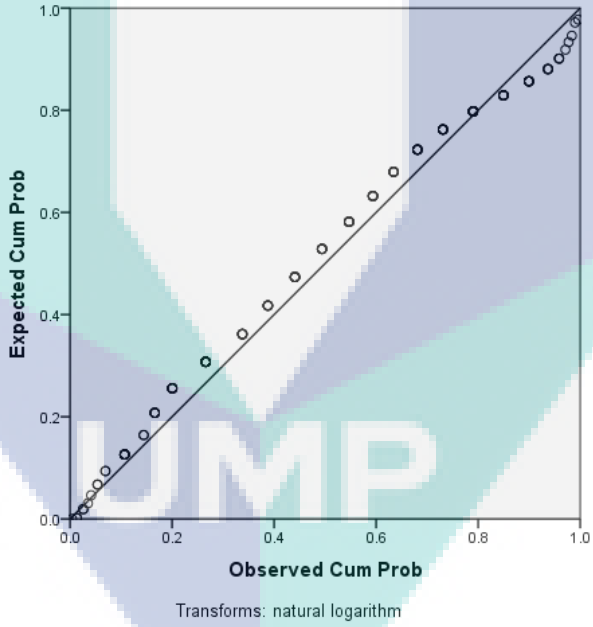

Figure 4.3 P-P Plots on employee engagement for 160 companies

4.8 Correlation Analysis (Testing Hypothesis)

Pearson's Correlation analysis was adopted to test the formulated hypotheses. The details are discussed in the following subtopic.

4.8.1 Testing relationship between OCEAN personality and leadership style (H1-H5)

4.8.1.1 Openness and leadership style

Table 4.20 Correlation between openness and leadership style

		O	TO	RO	CO
O	Pearson Correlation	1	0.269**	0.190**	0.171*
	Sig. (1-tailed)		0.000	0.008	0.015
	N	160	160	160	160

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

Table 4.20 shows the Pearson's correlation result between Openness and Leadership Style. It can be seen that the Pearson Correlation coefficient between Openness and Task-Oriented (TO) equals to 0.269** with Sig. (1-tailed) .000 less than 0.01, therefore, H1 (a) is accepted, which means Openness is positively related to Task-Oriented leadership style. It can also be seen that the Pearson Correlation between Openness and Relations-Oriented (RO) equals to 0.190** with Sig. (1-tailed) .008 less than 0.01, therefore, H1(b) is accepted, that is Openness is positively related to Relations-Oriented leadership style. The last column shows the Pearson's correlation result between Openness and Change-Oriented leadership style. It can be seen that the Pearson Correlation between Openness and Change-Oriented (CO) equals to 0.172* with Sig. (1-tailed) .015 less than 0.05, therefore, H1(c) is accepted, that is Openness is positively related to Change-Oriented leadership style. Hence, Openness is positively related to the three types of leadership styles.

4.8.1.2 Conscientiousness and leadership style

Table 4.21 Correlation between conscientiousness and leadership style

		C	TO	RO	CO
C	Pearson Correlation	1	0.274**	0.248**	0.253**
	Sig.(1-tailed)		0.000	0.001	0.001
	N	160	160	160	160

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

Table 4.21 shows the Pearson's correlation result between Conscientiousness and Leadership Style. It can be seen that the Pearson Correlation between Conscientiousness and Task-Oriented (TO) equals to 0.274** with Sig. (1-tailed) 0.000 less than 0.01, therefore, H2(a) is accepted, which means Conscientiousness is positively related to Task-Oriented (TO) leadership style. It can also be seen that the Pearson Correlation Conscientiousness between Relations-Oriented (RO) equals to 0.248** with Sig. (1-tailed) .001 less than 0.01, therefore, H2(b) is rejected, which means Conscientiousness is positively related to Relations-Oriented (RO) leadership. Finally, shows the Person's correlation result between Conscientiousness and Change-Oriented leadership style equals to 0.253** with Sig. (1-tailed) 0.001 less than 0.01 level (1-tailed), therefore, H2(c) is accepted, which means Conscientiousness is positively related to Change-Oriented leadership style. Hence, Conscientiousness is positively related all three types of leadership styles.

4.8.1.3 Extraversion and leadership style

Table 4.22 Correlation between extraversion and leadership style

		E	TO	RO	CO
E	Pearson Correlation	1	0.335**	0.243**	0.231**
	Sig.(1-tailed)		0.000	0.001	0.002
	N	160	160	160	160

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

Table 4.22 shows the Pearson's correlation result between Extraversion and Leadership Style. It can be seen that the Pearson Correlation between Extraversion and Task-Oriented (TO) equals to 0.335** with Sig. (1-tailed) 0.000 less than 0.01, therefore, H3 (a) is accepted, which means Extraversion is positively related to Task-Oriented leadership style. Next, also can be seen that the Pearson Correlation between Extraversion and Relations-Oriented (RO) equals to 0.243** with Sig. (1-tailed) .001 less than 0.01, therefore, H3(b) is accepted, which means Extraversion is positively related to Relations-Oriented leadership. The last column shows the Pearson's correlation result between Extraversion and Change-Oriented leadership style. It can be seen that the Pearson Correlation between Extraversion and Change-Oriented (CO) equals to 0.231** with Sig. (1-tailed) 0.002 less than 0.01, therefore, H3(c) is accepted, which means Extraversion is positively related to Change-Oriented leadership style.

Hence, Extraversion is positively related all three types of leadership styles.

4.8.1.4 Agreeableness and leadership style

Table 4.23 Correlation between agreeableness and leadership style

		A	TO	RO	CO
A	Pearson Correlation	1	-0.061	-0.017	0.044
	Sig.(1-tailed)		0.223	0.416	0.292
	N	160	160	160	160

Table 4.23 shows the Pearson's correlation result between Agreeableness and Leadership Style. It can be seen that the Pearson Correlation between Agreeableness and Task-Oriented (TO) equals to -0.061 with Sig. (1-tailed) 0.223, therefore, H4 (a) is rejected, which means Agreeableness is negatively related to Task-Oriented (TO) leadership style but insignificantly. The fifth column shows the Person's correlation result between Agreeableness and Relations-Oriented (RO) equals to -0.017 with Sig. (1-tailed) 0.416, therefore, H4 (b) is accepted, which means Agreeableness is negatively related to Relations-Oriented (RO) leadership style. The last column shows the Pearson's correlation result between Agreeableness and Change-Oriented (CO) leadership style equals to 0.044 with Sig. (1-tailed) 0.292, therefore, H4(c) is rejected, which means Agreeableness is positively related to Change-Oriented (CO) leadership but not at significate level. Hence, Agreeableness is negatively related with Task-Oriented (TO) and Relations-Oriented (RO) leadership style, positively related with Change-Oriented leadership style.

4.8.1.5 Neuroticism and leadership style

Table 4.24 Correlation between neuroticism and leadership style

		N	TO	RO	CO
N	Pearson Correlation	1	0.074	0.006	0.120
	Sig.(1-tailed)		0.176	0.468	0.065
	N	160	160	160	160

Table 4.24 shows the Pearson's correlation result between Neuroticism and Leadership Style equals to .074 for Task-Oriented (TO) with Sig. (1-tailed) 0.176, therefore, H5(a) is rejected, which means Neuroticism is positively related to Task-Oriented (TO) leadership but not at significate level. The fifth column shows the Person's correlation result between Neuroticism and Relations-Oriented leadership

style. It can also be seen that the Pearson Correlation between Neuroticism and Relations-Oriented leadership style equals to 0.006 for Relations-Oriented with Sig. (1-tailed) 0.468, therefore, H5(b) is rejected, which means Neuroticism is positively related to Relations-oriented (RO) leadership style without significate level. The last column shows the Person's correlation result between Neuroticism and Change-Oriented (CO) leadership style equals to 0.120 for Change-Oriented (CO) with Sig. (1-tailed) 0.065, therefore, H5(c) is rejected, which means Neuroticism is positively related to Change-Oriented leadership style. Hence, Neuroticism is positively related with Task-Oriented, Relations-Oriented and Change-Oriented leadership styles. But there is no significate relationship between Neuroticism and different leadership style.

4.8.2 Testing relationship between OCEAN personality and employee engagement (H6-H10)

Table 4.25 shows the Pearson's correlation result between OCEAN Personalities and Employee Engagement. The fourth column can be seen that the Pearson Correlation coefficient equals to 0.462** between Openness and Employee Engagement with Sig. (1-tailed) 0.000 less than 0.01, therefore, H6 is accepted, which means Openness is positively related to Employee Engagement. The fifth column shows the Person's correlation result between Conscientiousness and Employee Engagement. It can be seen that the Pearson Correlation coefficient equals to 0.465** for Employee Engagement with Sig. (1-tailed) 0.000 which are significant at the 0.01 level (1-tailed), therefore, H7 is accepted, which means Conscientiousness is positively related to Employee Engagement. The sixth column shows the Pearson's correlation result between Extraversion and Employee Engagement. It can be seen that the Pearson Correlation coefficient equals to 0.558** for Employee Engagement with Sig. (1-tailed) 0.000 which are significant at the 0.01 level (1-tailed), therefore, H8 is accepted, which means Extraversion is positively related to Employee Engagement. The seventh column shows the Pearson's correlation result between Agreeableness and employee engagement. It can be seen that the Pearson Correlation coefficient equals to 0.201** for Employee Engagement with Sig. (1-tailed) 0.005 which are significant at the 0.05 level (1-tailed), therefore, H9 is accepted, which means Agreeableness is positively related to Employee Engagement. The last column shows the Pearson's correlation result between Neuroticism and Employee Engagement. It can be seen that the Pearson Correlation

coefficient equals to 0.243** for Employee Engagement with Sig. (1-tailed) 0.001 which are significant at the 0.01 level (1-tailed), therefore, H10 is rejected, which means Neuroticism is positively related to Employee Engagement. Hence, all the personalities (OCEAN) are positively related with Employee Engagement.

Table 4.25 Correlation between OCEAN personality and employee engagement

		E E	O	C	E	A	N
E E	Pearson Correlation	1	0.462**	0.465**	0.558**	0.201**	0.243**
	Sig. (1-tailed)		0.000	0.000	0.000	0.005	0.001
	N	160	160	160	160	160	160

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

4.8.3 Testing relationship between leadership style and employee engagement

Table 4.26 shows the Pearson's correlation result between Leadership Style and Employee Engagement. The forth column can be seen that the Pearson Correlation coefficient equals to 0.298** between Task-Oriented and Employee Engagement with Sig. (1-tailed) .000 which are significant at the 0.01 level (1-tailed), therefore, H11 is rejected, which means Task-Oriented is positively related to Employee Engagement. The fifth column shows the Pearson's correlation result between Relations-Oriented and Employee Engagement. It can be seen that the Pearson Correlation coefficient equals to 0.248** for Employee Engagement with Sig. (1-tailed) 0.012 which are significant at the 0.01 level (1-tailed), therefore, H12 is accepted, which means Relations-Oriented is positively related to Employee Engagement. The last column shows the Pearson's correlation result between Change-Oriented and Employee Engagement. It can be seen that the Pearson Correlation coefficient equals to 0.269** for Employee Engagement with Sig. (1-tailed) 0.000 which are significant at the 0.01 level (1-tailed), therefore, H13 is rejected, which means Change-Oriented is positively related to Employee Engagement. Hence, Task-Oriented, Relations-Oriented and Change-Oriented leadership styles are positively related with Employee Engagement.

Table 4.26 Correlation between leadership style and employee engagement

		E E	TO	RO	CO
E E	Pearson Correlation	1	0.298**	0.248**	0.269**
	Sig. (1-tailed)		0.000	0.001	0.000
	N	160	160	160	160

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

After hypothesizes testing, the results of the hypothesis verification are

summarized as shown in Table 4.27 (A representative accepted and R representative rejected). There are 14 hypothesizes accepted, and the 9 are rejected.

Table 4.27 Summary of hypothesis results

Personality & Leadership Style	*Hypothesis 1(a): Openness is positively related to TO Leadership Style.*	A
	Hypothesis 1(b): Openness is positively related to RO Leadership Style.	A
	Hypothesis 1(c): Openness is positively related to CO Leadership Style.	A
	Hypothesis 2(a): Conscientiousness is positively related to TO Leadership Style.	A
	Hypothesis 2(b): Conscientiousness is negatively related to RO Leadership Style.	R
	Hypothesis 2(c): Conscientiousness is positively related to CO Leadership Style.	A
	Hypothesis 3(a): Extraversion is positively related to TO Leadership Style.	A
	Hypothesis 3(b): Extraversion is positively related to RO Leadership Style.	A
	Hypothesis 3(c): Extraversion is positively related to CO Leadership Style.	A
	Hypothesis 4(a): Agreeableness is positively related to TO Leadership Style.	R
	Hypothesis 4 (b) Agreeableness is negatively related to RO Leadership Style.	A
	Hypothesis 4 (c) Agreeableness is negatively related to CO Leadership Style.	R
	Hypothesis 5(a): Neuroticism is negatively related to TO Leadership Style.	R
	Hypothesis 5(b) *Neuroticism is negatively related to RO Leadership Style.*	R
	Hypothesis 5(c) Neuroticism is negatively related to CO Leadership Style.	R
Personality & Employee Engagement	*Hypothesis 6: Openness is positively related to Employee Engagement.*	A
	Hypothesis 7: Conscientiousness is positively related to Employee Engagement.	A
	Hypothesis 8: Extraversion is positively related to Employee Engagement.	A
	Hypothesis 9: Agreeableness is positively related to Employee Engagement.	A
	Hypothesis 10: Neuroticism is negatively related to Employee Engagement.	R
Leadership Style & Employee Engagement	*Hypothesis 11: Task-Oriented is negatively related to Employee Engagement.*	R
	Hypothesis 12: Relations-Oriented is positively related to Employee Engagement.	A
	Hypothesis 13: Changed-Oriented is negatively related to Employee Engagement.	R

4.9 Multiple Regression Test

After verifying the reliability and validity of the collected data, regression analysis was adopted to further identify the most influential factors in the whole Leaders' Personality, Leadership Style and Employee Engagement. Since this study has more than one independent variable, the multiple linear regression analysis is the most suitable to be applied.

4.9.1 Regression test for OCEAN personality and Task-Oriented leadership style

The first regression test was performed for Leaders' Personality and Task-Oriented test. By running SPSS, the derived regression results are demonstrated in Table 4.28.

Table 4.28 Multiple regression results for OCEAN personality and Task-Oriented

Model Summary[b]

R	R square	Adjusted R Square	Std. Error of the Estimate	Durbin-Watson	F	Sig.
0.389[a]	0.151	0.123	0.54930	2.088	5.479	0.000[b]

Coeffieients

Model	Unstandardized Coefficients		Standardized Coeffieients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.275	0.365		6.233	0.000
Openness	0.096	0.117	0.086	0.825	0.411
Conscientiousness	0.102	0.104	0.099	0.989	0.324
Extraversion	0.340	0.130	0.279	2.615	**0.010**
Agreeableness	-0.174	0.094	-0.163	-1.845	0.067
Neuroticism	-0.034	0.095	-0.034	-0.358	0.721

a. Dependent Variable: Task-Oriented
b. Predictors:(Constant),Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism.

The results in Table 4.28 shows R are the value of the multiple correlation coefficient between the predicators and the outcomes. When only Task-Oriented is used as a predicator, the correlation between OCEAN Personality with Task-Oriented is 0.389. R square is a measure of how much of the variability in the outcome is accounted for by the predicators and the value is .151, which means that the 5 independent variables accounts for 15.1% of the variation in Task- Oriented. The adjusted R2 gives some idea of how well the research model generalizes and ideally would like its value to be the same or very close to. The difference for the model is a fair bit (0.151-

0.123=0.028 or 2.8%). This shrinkage means that if the model were derived from the population rather than a sample it would account for approximately 2.8% less variance in the outcome. For the Durbin-Waston statistic informs about whether the assumption of independent errors is tenable and the closer to 2 that the value is the better. For these data the value is 2.088, which is so close to 2 that the assumption has almost certainly been met. The F-value (5.479) and the Sig. (0.000b) indicate that the regression is robust. Based on coefficient value, the strongest variable in OCEAN Personality is Extraversion with the highest B value 0.340 (Sig.010), the followed by Conscientiousness with B value 0.102 (Sig. 099), Openness with B value 0.096 (Sig. 0.086), Neuroticism with B value -.034 (Sig. 0.721) and Agreeableness with B value -.174 (Sig. 0.067). Only Extraversion at significate level, thus it can be said Extraversion is the most critical factors that drives Task-Oriented leadership style.

4.9.2 Regression test for OCEAN personality and Relations-Oriented leadership style

The second regression test was performed for OCEAN Personality and Relations-Oriented test. By running SPSS, the derived regression results are demonstrated in Table 4.29.

Table 4.29 Multiple regression results for OCEAN personality and Relations-Oriented

Model Summary[b]						
R	**R square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**	**F**	**Sig.**
0.308[a]	0.095	0.065	0.62469	2.048	3.218	0.009[b]

Coeffieients					
Model	Unstandardized Coefficients		Standardized Coeffieients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.352	0.415		5.665	0.000
Openness	0.033	0.133	0.026	0.245	0.807
Conscientiousness	0.200	0.118	0.175	1.700	0.091
Extraversion	0.255	0.148	0.190	1.725	0.087
Agreeableness	-0.048	0.107	-0.041	-0.447	0.656
Neuroticism	-0.145	0.108	-0.132	-1.342	0.182

a. Dependent Variable: Relations-Oriented
b.Predictors: (Constant), Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism.

The result in Table 4.29 shows that in the column labelled R are the value of the multiple correlation coefficient between the predicators and the outcomes. When only Relations-Oriented is used as a predicator, the correlation between OCEAN Personality with Relations-Oriented is 0.308. The next column is R square which is a measure of how much of the variability in the outcome is accounted for by the predicators and the value is 0.095, which means that the 5 independent variables accounts for 9.5% of the variation in Relations-Oriented. The adjusted R2 gives us some idea of how well the research model generalizes and ideally would like its value to be the same or very close to. The difference for the model is a fair bit (0.095-0.065=0.030 or 3.0%). This shrinkage means that if the model were derived from the population rather than a sample it would account for approximately 3.0% less variance in the outcome. For the Durbin-Waston statistic informs about whether the assumption of independent errors is tenable and the closer to 2 that the value is the better. For these data the value is 2.048, which is so close to 2 that the assumption has almost certainly been met. The F-value (3.281) and the Sig. (0.009b) indicate that the regression is robust. Based on coefficient value, the strongest variable in OCEAN Personality is Extraversion with the highest B value 0.255 (Sig.0.087), the followed by Conscientiousness with B value 0.200 (Sig. 091), Openness with B value 0.033 (Sig.0.807), Agreeableness with B value -.048 (Sig. 0.656), and Neuroticism with B value -0.145 (Sig. 0.182). Totally, there is no any personality significant contribute to Relations-Oriented leadership style.

4.9.3 Regression test for OCEAN personality and Change-Oriented leadership style

The third regression test was performed for OCEAN Personality and Change-Oriented test. By running SPSS, the derived regression results are demonstrated in Table 4.30.

The result in Table 4.30 Shows that in the column labelled R are the value of the multiple correlation coefficient between the predicators and the outcomes. When only Change-Oriented is used as a predicator, the correlation between OCEAN Personality with Change-Oriented is 0.274. The next column is R square which is a measure of how much of the variability in the outcome is accounted for by the predicators and the value is 0.075, which means that the 5 independent variables accounts for 7.5% of the variation in Change- Oriented. The adjusted R2 gives us some idea of how well the

research model generalizes and ideally would like its value to be the same or very close to. The difference for the model is a fair bit (0.075-0.045=0.030 or 3.0%). This shrinkage means that if the model were derived from the population rather than a sample it would account for approximately 3.0% less variance in the outcome. For the Durbin-Waston statistic informs about whether the assumption of independent errors is tenable and the closer to 2 that the value is the better. For these data the value is 2.082, which is so close to 2 that the assumption has almost certainly been met. The F-value (2.381) and the Sig. (0.041b) indicate that the regression is robust. Based on coefficient value, the strongest variable in OCEAN Personality is Conscientiousness with the highest B value 0.209 (Sig.0.076), the followed by Extraversion with B value 0.181 (Sig. 0.219), Neuroticism with B value .019 (Sig. 0.859), Openness with B value -.032 (Sig.0.810) and Agreeableness with B value -.039 (Sig. 0.859). Base on the data list, there is no any personality affect Change-Oriented leadership style at significate level. Thus, in this research showed, OCEAN personality may not affect Change-Oriented leadership Style.

Table 4.30 Multiple regression results for OCEAN personality and Change-Oriented

Model Summary[b]						
R	**R square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**	**F**	**Sig.**
0.274[a]	0.075	0.045	0.61903	2.082	2.502	0.033[b]

Coeffieients					
Model	Unstandardized Coefficients		Standardized Coeffieients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	2.283	0.411		5.550	0.000
Openness	-0.032	0.132	-0.026	-0.241	0.810
Conscientiousness	0.209	0.117	0.186	1.787	0.076
Extraversion	0.181	0.147	0.138	1.234	0.219
Agreeableness	-0.039	0.106	-0.034	-0.365	0.715
Neuroticism	0.019	0.107	0.018	0.178	0.859

a. Dependent Variable: Change-Oriented
b. Predictors: (Constant), Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism.

4.9.4 Regression test for leadership style and employee engagement

The fourth regression test was performed for Employee Engagement and Leadership Style test. By running SPSS, the derived regression results are demonstrated in Table 4.31.

The result in Table 4.31 Shows that that in the column labelled R are the value of the multiple correlation coefficient between the predicators and the outcomes. When only Task-Oriented is used as a predicator, the correlation between Leadership Style with Employee Engagement is 0.311. The next column is R square which is a measure of how much of the variability in the outcome is accounted for by the predicators and the value is 0.097, which means that the 3 independent variables accounts for 9.7% of the variation in Employee Engagement. The adjusted R2 gives us some idea of how well the research model generalizes and ideally would like its value to be the same or very close to. The difference for the model is a fair bit (0.097-0.079=0.018 or 1.8%). This shrinkage means that if the model were derived from the population rather than a sample it would account for approximately 1.8% less variance in the outcome. For the Durbin-Waston statistic informs about whether the assumption of independent errors is tenable and the closer to 2 that the value is the better. For these data the value is 2.175, which is so close to 2 that the assumption has almost certainly been met. The F-value (5.702) and the Sig. (0.001b) indicate that the regression is robust. Based on coefficient value, the strongest variable in Leadership Style is Task-Oriented with the highest B value 0.232 (Sig.0.066), the followed by Change-Oriented with B value 0.122 (Sig. 0.104) and Relations-Oriented with B value -0.047 (Sig. 0.705). Since there is no leadership style at significate level, through back to data showed, Leadership Style is not the factor that affects Employee Engagement at surveyed SMEs in Kuantan Malaysia.

Table 4.31 Multiple regression results for leadership style and employee engagement

Model Summary[b]						
R	**R square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**	**F**	**Sig.**
0.311[a]	0.097	0.079	0.53298	2.175	5.577	0.001[b]
Coeffieients						
Model		Unstandardized Coefficients		Standardized Coeffieients	T	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.260	0.269		8.395	0.000
Task-Oriented		0.232	0.126	0.245	1.848	0.066
Relations-Oriented		-0.047	0.124	-0.055	-0.380	0.705
Change-Oriented		0.122	0.104	0.139	1.167	0.245

a. Dependent Variable: Employee Engagement
b. Predictors: (Constant), Task-Oriented, Relations-Oriented, Change-Oriented.

4.9.5 Regression test for OCEAN personality and employee engagement

The last regression test was performed for OCEAN Personality and Employee Engagement test. By running SPSS, the derived regression results are demonstrated in Table 4.32.

Table 4.32 Multiple Regression Results for OCEAN Personality and Employee Engagement

Model Summary[b]						
R	**R square**	**Adjusted R Square**	**Std. Error of the Estimate**	**Durbin-Watson**	**F**	**Sig.**
0.591[a]	0.349	0.328	0.45541	2.137	16.517	0.000[b]

Coeffieients					
Model	Unstandardized Coefficients		Standardized Coeffieients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	0.788	0.303		2.606	0.010
Openness	0.123	0.097	0.116	1.270	0.206
Conscientiousness	0.173	0.086	0.176	2.012	**0.046**
Extraversion	0.453	0.108	0.393	4.200	**0.000**
Agreeableness	0.069	0.078	0.068	0.885	0.378
Neuroticism	-0.075	0.079	-0.080	-0.955	0.341

a. Dependent Variable: Employee Engagement
b. Predictors: (Constant), Openness, Conscientiousness, Extraversion, Agreeableness, Neuroticism.

The result in Table 4.32 Shows that in the column labelled R are the value of the multiple correlation coefficient between the predicators and the outcomes. When only Leaders' Personality used as a predicator, the correlation between OCEAN Personality with Employee Engagement is 0.591. The next column is R square which is a measure of how much of the variability in the outcome is accounted for by the predicators and the value is .349, which means that the 5 independent variables accounts for 34.9% of the variation in Employee Engagement. The adjusted R2 gives us some idea of how well the research model generalizes and ideally would like its value to be the same or very close to. The difference for the model is a fair bit (0.349-0.328=0.021 or 2.1%). This shrinkage means that if the model were derived from the population rather than a sample it would account for approximately 2.1% less variance in the outcome. For the Durbin-Waston statistic informs about whether the assumption of independent errors is tenable and the closer to 2 that the value is the better. For these data the value is 2.137, which is so close to 2 that the assumption has almost certainly been met. The F-value (16.517) and the Sig. (0.000b) indicate that the regression is robust. Based on

coefficient value, the strongest variable in OCEAN Personality is Extraversion with the highest B value 0.453 (Sig.000), the followed by Conscientiousness with B value 0.173 (Sig.0. 046), Openness with B value .123 (Sig. 0.206), Agreeableness with B value 0.069 (Sig.378), and Neuroticism with B value -0.075 (Sig. 0.341). Hence, Extraversion and Conscientiousness have effect on Employee Engagement in this study, and Extraversion is more prediction than Conscientiousness.

4.10 Discussion and Managerial Suggestions

4.10.1 The identified traits of leaders' personality

Based on the Single Mean T-test for OCEAN Personalities, it shows that Conscientiousness is the most popular personality among the surveyed leaders in SMEs at Kuantan Malaysia. According to Costa et al. (1991), Conscientiousness is referred to as the extent to which an individual has more self-control and is ambitious for success. Conscientiousness includes the facets of competence, order, and dutifulness. Hence, the leaders with such personality, who are technically skilled and knowledgeable (competent) are more confident and capable; the kind of leaders have others willing to follow. Conscientiousness also involves being well organized and dedicated to the mission, also qualities that would be highly valued in a leader. So the conscientious leader is goal-oriented (achievement striving), focused and persistent (self-disciplined), more likely to follow-through and complete tasks. Leaders would thus be better able to organize and delegate work to accomplish goals (Jarle Eid, 2009).

The next popular personality is Openness; it is a trait in Big Five taxonomy which emanates from motivational and cognitive components (McCrae and Costa, 1997), where motivation refers to the willingness of trying new happenings and cognition is referred to as the ability of an individual to process information and learning (LePine et al., 2000). Next is Extraversion, which is characterized by a lively and active relationship with the environmental actor, scholars have suggested that extroverts tend to be engaged in evaluation of themselves and their environment and usually have more control on their environment (Rothbart et al., 2000).

And next is Neuroticism. Leaders high in neuroticism are opt to have anxiety, impulsiveness, hostility, depression, and low self-confidence; they would be expected to perform poorly when required to act as leaders (Paul T Bartone, 2009). People who has

neurotic, lack the social skills needed to interact effectively with others, and are not likely to be chosen as role-models. And the least popular personality is Agreeableness, which demonstrates tendency of a person to maintain strong and positive relations with others (Komorita and Parks, 1995). Agreeable leaders are regarded as altruistic, cooperative, modest, thoughtful, and considerate (McCrae & Costa, 1987). Previous research suggests that agreeableness leaders may actually be quite passive, not actively identifying as many leaders in a group (e.g. Hetland, Sandal, & Johnsen, 2008).

Hence for this study, leaders are more "agreed" with Conscientiousness, Openness and Extraversion personality, on contrast, Neuroticism is "not sure" and Agreeableness is more "disagreed" by leader. Based on the results, SMEs in Kuantan are more likely to select leader who has Conscientiousness, Openness and Extraversion personalities or train the leader to have these kind of personalities in order to enhance develop effective business operation.

4.10.2 The identified leadership style

According to the Single Mean T-Test results, the three leadership styles are all on the "agree" level; the Task-Oriented leadership style showed the most preferable by leaders, the followed by the Change-Oriented and the Relations-Oriented leadership style. It indicates that the leaders in the surveyed SMEs focus more on Task-Oriented Leadership Style which on goal achievement and establishes well-defined patterns of communication. According to Tabernero, Chambel, Curral and Arana (2009), Task-Oriented leaders induced greater group efficacy, a more positive and less negative affective state among members of the group, and that groups who perceive their leaders as more Task-Oriented achieve higher levels of task accomplishment. Moreover, the surveyed leaders are also practicing the Change-Oriented leadership styles. Skogstad and Einarsen (1999) argue that Changed-Oriented leader is a visionary, charismatic and creative leader. This leader sets new goals and identifies new methods for accomplishing them. The Relations-oriented leadership style is also implemented by the surveyed leaders. Bass (1990) argues that a Relations-Oriented leader shows concern and respect for their followers, looks out for their welfare and expresses appreciation and support.

The most implied leadership is Task-Oriented Leadership Style, followed by

Change-Oriented and the last one is Relations-Oriented. Remarkably, the results of single mean test for level of leadership style are good since mean of all the variables are higher than neutral 3. Since leadership style is still at 'agree' level instead of 'strongly agree', there is still space for SMEs to improve their employee engagement further. As implied by the results, for these companies Task-Oriented leadership would help to achieve higher level of task. SMEs by using Task-Oriented leadership style can accomplish task for organization to achieve business goals.

4.10.3 The level of employee engagement

Results showed Single Mean T-test for the Employee Engagement Variable Vigor, Dedication and Absorption. Dedication is the most preferred to engaged with employee. Wilmar B. Schaufeli (2001) said that absorption refers to a more persistent and pervasive affective cognitive state that is not focused on any particular object, event, individual, or behavior. Vigor is characterized by high levels of energy and mental resilience while working, the willingness to invest effort in one's work, and persistence even in the face of difficulties. Dedication is characterized by a sense of significance, enthusiasm, inspiration, pride, and challenge. Instead of involvement we prefer to use the term dedication.

Results showed that Dedication is the highest for Employee Engagement, followed by Absorption and Vigor. These result indicated the engaged employees besides vigorous and absorptive, are more dedicated in their business operation. Since employee engagement is still at 'agree' level instead of 'strongly agree', there is still space for SMEs to improve their employee engagement further.

4.10.4 The verified relationship between leader's personality, leadership style and employee engagement

4.10.4.1 The verified relationship between leader's personality and leadership style

Result showed the Pearson's correlation between Openness and Leadership Style. Based on data information, hypothesis 1(a), 1(b) and 1(c), which means Openness is positively related to Task-Oriented, Relations-Oriented and Change-Oriented leadership style. However, in this study, when Task-Oriented, Relations-

Oriented and Change-Oriented are used as a predicator for Openness Personality, there are no effects of Openness on Task-Oriented, Relations-Oriented or Change-Oriented Leadership Style. Hence, Openness personality can guide leaders operated with all types of leadership style, to develop organization business running, leaders who have Openness is better for operating business.

Secondly, the results Pearson's correlation between Conscientiousness and Leadership Style. For hypothesizes 2(b) is rejected, which means Conscientiousness is positively related to Task-Oriented, Relations-Oriented and Change-Oriented Leadership Style. However, hypothesis 2(b) is rejected which means Conscientiousness is positively related to Relations-Oriented leadership. However, results shown Conscientiousness is positively related all types of leadership style. Last, according to regression test, there is no any contribution of Conscientiousness onto all types Leadership Styles. There may have some other reasons affecting leadership style such as different education background (Stephen Swensen, 2016).

Thirdly, results for Pearson's correlation between Extraversion and Leadership Style. Extraversion is a personality trait associated with sociability, talkativeness, high energy, dominance, and positive affect (McCrae & Costa, 1987). Therefore, hypothesis 3 is accepted, which means Extraversion is positively related to Task-Oriented, Relations-Oriented and Change-Oriented Leadership Styles. In the OCEAN Personality, for Task-Oriented Leadership Style only Extraversion is significate, thus it can be said Extraversion is the most critical factor that drives Task-Oriented leadership style. Meanwhile, Extraversion is insignificant toward Relations-Oriented and Change-Oriented leadership style. In this research may other factor drive Relations-Oriented and Change-Oriented Leadership Style, such as culture different, different scope of business, or education background (Khong Sin Tan, 2012; Ramita Abdul Rahim,2015, Orawan Kaewboonchoo, 2016).

For hypothesis 4 showed Pearson's correlation between Agreeableness and Leadership Style. As hypothesis 4(a) and H4(c) are rejected, it means Agreeableness is negatively related to Task-Oriented and positively related to Change-Oriented Leadership Style. However, hypothesis 4(a) is accepted, which means Agreeableness is negatively related to Relation-oriented Leadership Styles. Based on the regression test, agreeableness is not a predictor for Leadership Style. Hence, in this study, Leadership

Style is not driven by Agreeableness Personality, it may affect by other facts.

Hypothesis 5 was verified by the Pearson's correlation result between Neuroticism and Leadership Style. All hypothesizes 5 (a) (b), (c) are rejected, which means Neuroticism are positively related to Task-Oriented, Relations-Oriented and Change-Oriented Leadership Style but not at significate level. Moreover, the regression test shows Neuroticism is not a significate predictor for any Leadership Style in this research.

4.10.4.2 The verified relationship between leader's personality and employee engagement

According to Pearson's correlation between OCEAN Personality with Employee Engagement, Hypotheses 6-9 are all accepted and H10 is rejected which means Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism are positively related to Employee Engagement. Based on the regression test, Extraversion and Conscientiousness significantly affect Employee Engagement and Extraversion is more effective than Conscientiousness. Hence, organization can train leaders more Extraversion or hire leader who has this type of traits.

4.10.4.3 The verified relationship between leadership style and employee engagement

According to Pearson's correlation between Leadership Style and Employee Engagement, hypothesis 11and 13 are rejected, H12 is accepted which means Task-Oriented, Relations-Oriented and Change-Oriented are positively related to Employee Engagement. Based on regression test, there is no any leadership style contributes to employee engagement at a significate levels, leadership style is not the factor that affect employee engagement. It may be caused by other factors such as strategy by Jyotsna Bhatnagar (2009); psychological well-being from Ivan T. Robertson (2010).

4.11 Summary

This chapter discussed about the quantitative findings from survey questionnaire. A series of tests were conducted including Descriptive Analysis, Reliability Test, Validity Test, Single Mean T-Test, Normality Test and finally by using

Correlation Test and Regression Test to test the relationship between the Leaders' Personality, Leadership style and Employee Engagement.

Then to summarize results from data analysis of quantitative firstly, based on the results of Single Mean T-Test the levels leadership style and employee engagement are good, because the means of all the variables are higher than neutral 3, only leaders' personality which labelled agreeableness is 2.8352 which almost reaches 3. For the personality, it showed Conscientiousness is the most popular personality but agreeableness is disagreed by the respondents. Hence, SMEs could develop a system to train leader to be more conscientiousness.

Secondly, based on correlation Analysis (Testing Hypothesis), 14 hypothesis of the research hypothesizes are accepted, 9 of them are rejected. Openness, Consciousness, Extraversion, and Neuroticism are positively related all types of leadership style. Agreeableness is negatively related to Task-Oriented and Relations-Oriented leadership but positively related to Change-Oriented leadership style. Five personalities all positivity related to employee engagement. Base on the multiple linear regression results, this study found that Extraversion is the best personality for the Task-Oriented leadership style. Meanwhile, Extraversion and Conscientiousness personality are the significant contributor to Employee Engagement.

Overall, the results generally supported the hypotheses, and confirmed that Big Five personality traits play specific roles in the Leadership Style and Employee Engagement at SMEs. Based on the results above, clearly indicated the linkage between the Extraversion personality traits to the Task-Oriented leadership style. In contrast, more Agreeableness individuals were marginally more disagree by leader. Importantly, by identifying the personality surveyed leaders, to understand the most popular personality that Extraversion plays in SMEs in Kuantan or implicit leadership theories of the Task-Oriented leaders (Shondrick & Lord, 2010). However, there is no any contributor from leadership style to employee engagement. Moreover, Extraversion and Consciousness has contributor for employee engagement among the surveyed SMEs.

CHAPTER 5

CONCLUSION

5.1 Introduction

At length, after analyzing and discussing quantitative findings from survey questionnaires, this chapter concludes the findings of the quantitative data reaped from the conducted surveys follow discussion to intensify the understanding. Meanwhile, by reasoning out this study, it also reveals limitations and proposes some suggestions for future research as well, in the hope that the competitiveness of SMEs could be effectively reinforced from the perspective of managing leader's personality, leadership style and employee engagement.

5.2 Conclusions

In the following, the accomplished works are concluded according to the afore proposed research questions.

RQ1: What are the traits of leaders' personality in SMEs at Kuantan, Pahang, Malaysia?

Among the Big Five Personality traits, leaders in SMEs at Kuantan have three popular personalities which are Openness, Conscientiousness and Extraversion. Moreover, Conscientiousness personality is the most obvious personality traits of the surveyed leaders in Kuantan. It implied that the surveyed leaders in Kuantan are more achievement-oriented and diligent, rule-following, dependable with emphasis on orderly, hard-working reliability. They have more responsibility for guiding business. Hence, it is suggested that SMEs in Kuantan are more likely to select leader who has Conscientiousness, Openness and Extraversion personalities or train the leader to have

these kind of personalities in order to enhance develop effective business operation.

RQ2: What are different types of leadership style in SMEs Kuantan, Pahang, Malaysia?

Based on literature review, there are three types of leadership styles from Yukl (2002) model. In this study, Task-Oriented leadership style is the most practiced one in SMEs at Kuantan, followed by the Change-Oriented leadership style and the last one is the Relations-Oriented leadership style. Remarkably, Task-Oriented leaders help company to achieve higher level of task accomplishment on time within enough time and cost. Meanwhile, Task-Oriented leadership is effective in SMEs as those leaders communicate with employee more directly for particular tasks and ensure members of firm have clear understanding of their individual roles. It also works especially well in environments where job responsibilities are more easily defined and predictable.

RQ3: How is employee engagement at SMEs in Kuantan, Pahang, Malaysia?

From the results, employee engagement is at 'Agree' level. Among the three dimensions of Employee Engagement, it shows the highest level is Dedication, followed by Absorption and Vigor. It implies that SMEs employees are enthusiastic about their jobs, or they feel job inspires them. Moreover, it may show a solution for the individual, providing them with the opportunity to invest themselves in their work. Indeed, it increased employee's sense of self efficacy to do work for good business operation. Since employee engagement is still at 'agree' level instead of 'strongly agree', there is still space for SMEs to improve their employee engagement further.

RQ4: What are the relationships among leader's personality, leadership style and employee engagement in SMEs in Kuantan, Pahang, Malaysia?

Based on result of SEMs in Kuantan Malaysia, OCEAN Personality with Task-Oriented Leadership Style, four personalities are positively related with Task-Oriented Leadership Style, they are Openness, Conscientiousness, Extraversion and Neuroticism. Meanwhile, Extraversion is the most obvious personality the surveyed leaders agreed. However, Agreeableness is negatively related with Task-Oriented leadership Style. In additionally, Extraversion personality is the most contributors onto Task-Oriented Leadership Style, hence, SMEs can guide leader to have or to train leader to

Extraversion Personality to do task for operation business.

Next, there are four personalities among OCEAN Personality positively related with Relations-Oriented leadership Style, which are Openness, Conscientiousness, Extraversion and Neuroticism. However, Agreeableness is negatively related with Relations-Oriented Leadership Style. And there is no any Personalities contributor for Relations-Oriented Leadership Style. Based on this study, SMEs can make personality test before hire leader.

Thirdly, there are five personalities among OCEAN Personality all positively related with Change-Oriented leadership Style, which are Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism. And there is no any Personalities contributor for Change-Oriented Leadership Style. Based on this study, SMEs can make personality test before hire leader or give the train to the leader to get the Change-Oriented leadership style to guide the SMEs employees.

Lastly, Task-Oriented Leadership Style Change-Oriented Leadership Style and Relations-Oriented Leadership are all positively related with Employee Engagement. Based on results, there are five personalities are also positively related with Employee Engagement. Meanwhile, Extraversion and Consciousness are the most popular contributor to employee engagement in SMEs at Kuantan. Hence, SMEs can make system to select leaders who are more extravert and conscious in order to improve employee engagement.

5.3 Contribution

Theoretically, this study bridges the gaps between leaders' personality, leadership styles and employee engagement and empirically tested the proposed linkages taking respondents from SMEs at Kuantan, Pahang, Malaysia. This study is among the pioneer to investigate employee engagement from the leadership style perspective together with the personality considerations. Practically, the constructed questionnaire could be utilized by the organizations especially SMEs in recruiting or selecting process to identify the proper candidates with the preferred personality and leadership styles towards improving employee engagement and ultimately the organization's competitiveness.

5.4 Limitations and Recommendations

First, this study is limited to SMEs at Kuantan town in Malaysia due to time and financial constraints. As Kuantan can represent the whole Malaysia, the results from this research could not be generalized to the SMEs in Malaysia. Hence, future research could extend the location to cover more areas of Malaysia.

Secondly, this study solely depends on questionnaire to collect data and carry out quantitative data analysis. As questionnaire has its own limitations such as instable response from respondents if time, situation or mood varies. Future researchers could further combine with qualitative analysis using interview to validate the derived quantitative results, as such the final results could be more accurate.

Thirdly, as this study only targets at SMEs generally, further researches may extend to the specific sectors (i.e. agriculture, mining, construction, etc.) of SMEs for more in-depth study. Perhaps comparison between different sectors could also bring insightful results and implications.

Finally, it is hoped that this study would be beneficial to all relevant parties especially the industry participants, academic research students, end users and the shoppers as well as the various practitioners. In short, the objectives of this study have been achieved and the researcher also has come out with several recommendations that can be practiced by SMEs to enhance employee engagement from the perspectives of leaders' personality and leadership style.

REFERENCES

Abdullah, NH, Shamsuddin, A & Wahab, E, 2012. The influence of transformational leadership on product innovations among small business. International Conference of Technology Management, Business and Entrepreneurship 2012. (ICTMBE2012).

Alain Yee-Loong Chong, Keng-Boon Ooi, Haijun Bao, Binshan Lin, 2014. Can e-business adoption be influenced by knowledge management? An empirical analysis of Malaysian SMEs. *Journal of Knowledge Management.* 18(1): 121-136.

Aliyu Yelwa Haruna, Govindan Marthandan, 2017. Foundational competencies for enhancing work engagement in SMEs Malaysia. *Journal of Workplace Learning.* 29(3):165-184.

Alka Rai, Piyali Ghosh, Ragini Chauhan, Navin Kumar Mehta, 2017. Influence of job characteristics on engagement: does support at work act as moderator?. International *Journal of Sociology and Social Policy*. 37(1/2): 86-105.

Annual report in Department of Statistician Malaysia 2015.

Annual report in Department of Statistics Malaysia in 2016.

Annual report National SME Development Council in 2013.

Aoife McDermott, Rachel Kidney, Patrick Flood, 2011. Understanding leader development: learning from leaders. *Leadership & Organization Development Journal*. 32(4): 358-378.

Arain, M., Campbell, M. J., Cooper, C. L., & Lancaster, G. A., 2010. What is a pilot or feasibility study? A review of current practice and editorial policy. *BMC medical research methodology.* 10(1): 67.

Ardic, O.P., Mylenko, N. and Saltane, V., 2011. Small and medium enterprises: a cross-country analysis with a new data set. *The World Bank Policy Research Working Paper 5538.* 1(1): 1-30.

Arnold B. Bakker, Evangelia Demerouti, 2008. Towards a model of work engagement. *Career Development International.* 13: 209-223.

Arnold, J. , Silvester, J. , Patterson, F. , Robertson, I. , Cooper, C. and Burnes, B., 2005. Work Psychology: Understanding Human Behaviour in the Workplace , 4th ed., Pearson Education Limited, Harlow.

Ashita Goswami, Prakash Nair, Terry Beehr, Michael Grossenbacher, 2016. The relationship of leaders 'humour and employees' work engagement mediated by positive emotions: Moderating effect of leaders' transformational leadership style. *Leadership & Organization Development Journal.* 37.

Atwater, L. and Yammarino, F., 1992. Does self-other agreement on leadership perceptions moderate the validity of leadership and performance predictions?. *Personnel Psychology*. 45(1): 141-64.

Atwater, L.E. and Yammarino, F.J., 1993. Personal attributes as predictors of superiors' and subordinates' perceptions of military academy leadership. *Human Relations.*46(5): 645-68.

Avolio, B.J., 2005. Leadership Development in Balance: MADE/Born, Lawrence Erlbaum Associates, Mahwah, NJ.

Azhar Mohamad, Mohd Hasrol Zakaria, Zarinah Hamid, 2016. Cash economy: tax evasion amongst SMEs in Malaysia. *Journal of Financial Crime*. 23(4):974-986.

Bakker, A. B. & Demerouti, E., 2008. Towards a model of work engagement. *Career Development International.* 13(3): 209–223.

Bal, P.M., Kooij, D.T.A.M., & De Jong, S.B., 2013. How do developmental and accommodative HRM enhance employee engagement and commitment? The role of psychological contract and SOC-strategies. *Journal of Management Studies*. 50: 545-572.

Banks, M., 2006. How one federal agency harnessed employee engagement as a tool for transformation", *Journal of Organizational Excellence.* 25(4): 21-30.

Barrick, M.R. and Mount, M.K., 1991. The Big Five personality dimensions and job performance: a meta-analysis. *Personnel Psychology*. 44(1): 1-26.

Barrick, M.R., Day, D.V., Lord, R.G. and Alexander, R.A., 1991. Assessing the utility if executive leadership. *Leadership Quarterly*. 2: 9-22.

Bartone, Paul T., Jarle Eid, Bjorn Helge Johnsen, Jan Christian Laberg, and Scott A. Snook., 2009. Big five personality factors, hardiness, and social judgment as predictors of leader performance. *Leadership & Organization Development Journal.* 30(6): 498-521.

Bass B. M. and Avolio B. J., 1990 Developing transformational leadership. *Journal of European Industrial Training.* 14: 21–27.

Bass, B. M., & Avolio, B. J.,1993. Transformational leadership: A response to critiques. In M. M. Chemers & R. A. Ayman (Eds.), Leadership theory and research: Perspectives and directions. 49-80. London: Academic.

Bass, B. M., 1997. Personal selling and transactional/transformational leadership. *Journal Of Personal Selling & Sales Management.* 17(3):19-28.

Bass, B. M., 1998. Transformational leadership: Industrial, military, and educational impact. Mahwah, NJ: Lawrence Erlbaum Associates, Inc.

Bass, B. M.1990a. Bass and Stogdill's handbook of leadership: Theory, research and managerial applications. New York: Free Press.

Bass, B. M.1990b. From transactional to transformational leadership: Learning to share the vision. *Organizational Dynamics.* 18: 19-31.

Bass, B.M. and Avolio, B.J., 1994. Improving Organizational Effectiveness through Transformational Leadership, Sage, Thousand Oaks, CA.

Bass, B.M. and Yammarino, F.J., 1991. Congruence of self and others' leadership ratings of naval officers for understanding successful performance. *Applied Psychology: An International Review*. 40(4): 437-54.

Bass, B.M., 1985. Leadership and Performance beyond Expectations, Free Press, New York, NY.

Bass, B.M., 1990. Bass and Stogdill's Handbook of Leadership: Theory, Research, and Managerial Applications, 3rd ed., Free Press, New York, NY.

Bass, B.M., 1997.Does the transactional-transformational leadership paradigm transcend organizational and national boundaries?. American Psychologist. 52(2): 130-9.

Baumruk, R., and Marusarz, T. 2004. Employee engagement: insights into why it matters and what you can do about it.

Beaufort Longest, 2017. Responsible leader behavior in health sectors. *Leadership in Health Services.* 30(1):8-15.

Benjamin P. Chapman, Lewis R.Goldberg, 2017. Personality and Individual Differences. *ELSEVIER.* 116(1):201-205.

Beyer, B., 2012. Blending constructs and concepts: development of emerging theories of organizational leadership and their relationship to leadership practices for social justice. *International Journal of Educational Leadership Preparation.* **7**(3): 1-12.

Bhatti, N., Maitlo, G. M., Shaikh, N., Hashmi, M. A. and Shaikh, F. M. 2012. The impact of autocratic and democratic leadership style on job satisfaction. *International Business Research.* 5(2): 192.

Blaxter, L., Hughes, C., and Tight, M.,1996. How to research. Buckingham: Open University Press.

Block, J., 1995. A contrarian view of the fivefactor approach to personality description. *Psychological Bulletin.* 117(2): 187–215.

Bono, J.E. and Judge, T.A. 2004. Personality and transformational and transactional leadership: a meta-analysis. *Journal of Applied Psychology.* 89(5): 901-10.

Bornstedt, G. W. 1977. Reliability and validity assessment in attitude measurement. Attitude measurement. In G. F. Summers (Ed.) 80-99. London, England.

Brown, F.W. and Reilly, M.D., 2009. The Myers-Briggs type indicator and transformational leadership. *Journal of Management Development.* 28(10): 916-32.

Bryman, A., 2007. Effective leadership in higher education: a literature review. *Studies in Higher Education.* 32(6): 693-710.

Burns J. M., Leadership, Harper & Row, New York (1978).

Burns, J.M., 1978. Leadership, Harper & Row, New York, NY.

Burns, J.M., 1978. Leadership, Harper & Row, New York, NY.

Carasco-Saul, M., Kim, W. and Kim, T., 2014. Leadership and employee engagement: proposing research agendas through a review of literature. *Human Resource Development Review.* 14(1): 38-63.

Carmeli, A., 2003. The relationship between emotional intelligence and work attitudes, behaviour and outcomes: An examination among senior managers. *Journal of Managerial Psychology*. 18(8): 788-813.

Carmeli, A., 2003. The relationship between emotional intelligence and work attitudes, behaviour and outcomes: an examination among senior managers. *Journal of Managerial Psychology*. 18(8): 788-813.

Carnivez, G.L. and Allen, T.J., 2005. Convergent and factorial validity of the 16PF and the NEO-PI-R. Annual Convention of the American Psychological Association, Washington, DC.

Carnivez, G.L. and Allen, T.J., 2005. Convergent and factorial validity of the 16PF and the NEO-PI-R. Annual Convention of the American Psychological Association, Washington, DC.

Carolyn Findley Musgrove, Alexander E. Ellinger, Andrea D. Ellinger, 2014. Examining the influence of strategic profit emphases on employee engagement and service climate. *Journal of Workplace Learning*. 26(3/4): 152-171.

Carroll, G.K., 2010. An examination of the relationship between personality type, self perception accuracy and transformational leadership practices of female hospital leaders. Bowling Green State University and OhioLINK, Ohio.

Castaneda, M., & Nahavandi, A., 1991. Link of manager behavior to supervisor performance rating and subordinate satisfaction. *Group & Organization Management*. 16: 357-366.

Cattell, H.E.P. 2007. Exploring your 16PF Profile. Oxford: Oxford Psychologist Press.

Cattell, H.E.P. and Schuerger, J.M., 2003. Essentials of the 16PF Assessment. New York: John Wiley & Sons.

Cattell, H.E.P., 1996. The original big five: A historical perspective. *European Review of Applied Psychology*. 46(1): 5–14.

Cattell, H.E.P., 2005. Spanish-American 16PF Questionnaire Technical Manual: A PanSpanish Psychological Assessment. Champaign, IL: Institute for Personality and Ability Testing.

Cattell, H.E.P., 2007. Exploring your 16PF Profile, Oxford: Oxford Psychologist Press.

Cattell, R.B, 1933.Temperament tests:II. *British Journal of Psychology*. 23: 308–29.

Cattell, R.B. and Krug, S.E., 1986. The number of factors in the 16PF: A review of the evidence with special emphasis on methodological problems. *Educational and Psychological Measurement.* 46(3): 509–22.

Cattell, R.B. and Stice, G.F., 1954. Four formulae for selecting leaders on the basis of personality. *Human Relations.* 7(4): 493–507.

Cattell, R.B. and Tsujioka, B., 1964. The importance of factor-trueness and validity versus homogeneity and orthogonality in test scales. *Educational and Psychological Measurement.* 24(1): 3–30.

Cattell, R.B. Cattell, A.K. and Cattell, H.E.P.,1993. 16PF Fifth Edition Questionnaire. Champaign, IL: Institute for Personality and Ability Testing.

Cattell, R.B. Cattell, A.K., Cattell, H.E.P. and Kelly, M.L., 1999. The 16PF Select Manual. Champaign, IL: Institute for Personality and Ability Testing.

Cattell, R.B. Cattell, A.K., Cattell, H.E.P., Russell, M.T. and Bedwell, S., 2003. The PsychEval Personality Questionnaire. Champaign, IL: Institute for Personality and Ability Testing.

Cattell, R.B. Eber, H.W. and Tatsuoka, M.M., 1970. Handbook for the Sixteen Personality Factor Questionnaire. Champaign, IL: Institute for Personality and Ability Testing.

Cattell, R.B., 1943. The description of personality: Basic traits resolved into clusters. *Journal of Abnormal and Social Psychology*. 38: 476–506.

Cattell, R.B., 1946. The Description and Measurement of Personality. New York: Harcourt, Brace and World.

Cattell, R.B., 1957. Personality and Motivation Structure and Measurement. New York: World Book.

Cattell, R.B., 1978. The Scientific Use of Factor Analysis in Behavioral and Life Sciences. New York: Plenum. THE SIXTEEN PERSONALITY FACTOR QUESTIONNAIRE (16PF).

Cattell, R.B.,1973. Personality and Mood by Questionnaire. San Francisco: Jossey-Bass.

Chandrakantan Subramaniam, Faridahwati Mohd. Shamsudin, Md. Lazim Mohd Zin, Subramaniam Sri Ramalu, Zuraida Hassan, 2016. Safety management practices and safety compliance in small medium enterprises: Mediating role of safety participation. *Asia-Pacific Journal of Business Administration.* 8(3): 226-244.

Chernyshenko, O.S., Stark, S. and Drasgow, F., 2011. Individual differences: Their measurement and validity. In S. Zedeck (Ed.), Handbook of industrial and organizational psychology. 1st ed. Washington, DC: American Psychological Association.

Child, D., 1998. Some technical problems in the use of personality measures in occupational settings illustrated using the “Big Five”. Directions in Educational Psychology, London: Whirr Publishing. 346–64.

Cibulskas, G. and Zydziunaite, V., 2012. Lyderystes vystymosi mokykloje modelis , Svietimo ir mokslo ministerijos Svietimo aprupinimo centras, Vilnius.

Coetzee, M., Martins, N., Basson, J.S. & Muller, H., 2006. The relationship between personality preferences, selfesteem and emotional competence. *SA Journal of Industrial Psychology*. 32(2): 64-73.

Coetzee, M., Martins, N., Basson, J.S. and Muller, H., 2006. The relationship between personality preferences, self-esteem and emotional competence SA. *Journal of Industrial Psychology*. 32(2): 64-73.

Compare Polit et.al & Baker in Nursing Standard, 2002:33-44.

Conger, J.A. and Kanungo, R.N., 1998. Charismatic Leadership in Organizations, Sage, Thousand Oaks, CA.

Conger, J.A. and Kanungo, R.N., 1998. Charismatic Leadership in Organizations. Sage, Thousand Oaks, CA.

Conn, S.R. and Rieke, M.L., 1994. The 16PF Fifth Edition Technical Manual. Champaign, IL: Institute for Personality and Ability Testing.

Costa, P. T., Jr., & McCrae, R. R., 1992~. Revised NEO Personality inventory (NEO-PI-R) and NEO Five-Factor Inventory (NEO-FFI) professional manual. Odessa, FL: Psychological Assessment Resources, Inc.

Costa, P. T., Jr., & McCrae, R. R., 1992b. Four ways five factors are basic. *Personality and Individual Differences.* 13: 653-665.

Costa, P. T., Jr., & McCrae, R. R., 1992d. Trait psychology comes of age. In T. B. Sonderegger (Ed.), Nebraska Symposium on Motivation: Psychology and Aging. 169-204. Lincoln, NE: University of Nebraska Press.

Costa, P.T. and McCrae, R.R., 1976. Age differences in personality structure: A cluster analytic approach. *Journal of Gerontology*. 31: 564–70.

Costa, P.T. and McCrae, R.R., 1985. The NEOPI-R Personality Inventory Manual. Odessa, FL: Psychological Assessment Resources.

Costa, P.T. and McCrae, R.R.,1992. Professional Manual: Revised NEO Personality Inventory (NEO-PI-R) and NEO Five-Factor-Inventory (NEO-FFI). Psychological Assessment Resources, Odessa, FL.

Costa, P.T. and McCrae, R.R.,1992a. Revised NEO-PI-R Personality Inventory (NEO-PI-R) and NEO-PI-R Five-Factor Inventory (NEO-PIR-FFI) Professional Manual. Odessa, FL: Psychological Assessment Resources.

Costello, A.B. & Osborne, J.W., 2005. Best Practices in Exploratory Factor Analysis: Four Recommendations for Getting the Most from Your Analysis. Practical Assessment, Research and Evaluation. 10: 1-9.

Daft, R. 1999. Leadership: Theory and practice. Fort Worth, TX: Dryden Press.

Daft, R.L., 2005. The Leadership Experience, Harcourt College Publishers, Orlando, FL.

Daft, R.L., 2008. The New Era of Management. 2nd ed. USA: Thomson South-Western Corporation.

De Vries, R.E., 2008. What are we measuring? Convergence of leadership with interpersonal and non-interpersonal personality. Leadership. 4: 403-17.

Derue, D.S., Wellman, N., Nahrgang, J.D. and Humphrey, S.E., 2011. Trait and behavioral theories of leadership: a meta-analytic test of their relative validity. *Personnel Psychology*. 64(1): 7-52.

Diaz-Saenz, H. R., 2011. Transformational leadership. In A. Bryman, D. Collinson, K. Grint, B. Jackson & M. Uhl-Bien (Eds.), The SAGE handbook of leadership 299-310.Thousand Oaks, CA: Sage.

Dicke, C., Holwerda, J. and Kontakos, A.-M. 2007. Employee engagement: what do we really know? what do we need to know to take action?

Digman, J. 1990. Personality structure: emergence of the five factor model. *Annual Review of Psychology*. 41: 417-40.

Digman, J.M., 1990. Personality structure: Emergence of the five-factor model. *Annual Review of Psychology*. 41: 417–40.

Digman, J.M.,1996. A curious history of the five-factor model. in J.S. Wiggins (ed.), The Five-factor Model of Personality: Theoretical Perspectives. New York: Guilford Press.

Dirk Hovy and Shannon L. Spruit., 2016. The social impact of natural language processing. In Proceedings of the 54th Annual Meeting of the Association for Computational Linguistics. 2: 591–598.

Eid, J., Brun, W., Laberg, J.C. and Johnsen, B.H., 1998. Participating in a prisoner-of-war exercise: stress reactions and coping. International Applied Military Psychology Meeting, Paris, France: Department of Defense. 121-126.

Ellis, C.M. and Sorensen, A., 2007. Assessing employee engagement: the key to improving productivity. Perspectives. 15(1): 1-9.

Epstein, S. 1997. The stability of behavior: On predicting most of the people much of the time. *Journal of Personality and Social Psychology.* 37: 1097-126.

F. John Reh., 2009. Are Your Top People Ready To Leave You.

Field, A. 2009. Discovering Statistics using SPSS. Sage: London

Fisher, D., Rooke, D. and Torbert, W.R., 2000. Personal and Organizational Transformation: Through Action Inquiry, rev. ed., Edge/Work Press, Boston, MA.

Fiske, D.W., 1994. Two cheers for the Big Five! *Psychological Inquiry*. 5: 123–4.

Fleishman, E.A.,1953. The description of supervisory behavior. *Personnel Psychology*. 37: 1-6.

Fleishman, E.A.,1973. Twenty years of consideration and structure. In E. A. Fleishman & J. G. Hunt (Eds.). Current developments in the study of leadership 1-37. Carbondale: Southern Illinois University Press.

Fred Luthans, Suzanne J. Peterson, 2002. Employee engagement and manager self-efficacy. *Journal of Management Developmen*. 21(5): 376-387.

Gastil, J., 1994. A definition and illustration of democratic leadership. *Human Relations*. 47(8): 953-975.

Gerbing, D.W. and Tuley, M.R., 1991. The 16PF related to the five-factor model of personality: Multiple-indicator measurement versus the a priori scales. *Multivariate Behavioral Research.* 26(2): 271–89.

Gil, F., Rico, R..A.C.M. and Barrasa, A., 2005. Change-oriented leadership satisfaction and performance in work group: Effectis of team climate and group potency. *Journal of Managerial Psychology.* 20: 312-28.

Goethals, G. R., Sorenson, G. J. and Burns, J. M. 2004. encyclopedia of leadership: ae, sage.

Goldberg, L. R., & Stycker, L. A., 2002. Personality traits and eating habits: The assessment of food preferences in a large community sample. *Personality and Individual Differences.* 32(1): 49–65.

Goldberg, L. R., 1990. An alternative "description of personality": The Big-Five factor structure. *Journal of Personality and Social Psychology.* 59(6): 1216–1229.

Goldberg, L., 1992. The development of markers for the big-five factor structure. *Psychological assessment.* 4(1): 26–42.

Goleman, D. (1995). Emotional intelligence. New York: Bantam Books.

Gonzalez-Roma, V., Schaufeli, W. B., Bakker, A. B. & Lloret, S., 2006. Burnout and work engagement: Independent factors or opposite poles? *Journal of Vocational Behavior*. 68: 165–174.

Goodwin, R. D., Hoven, C. W., Lyons, J. S., & Stein, M. B., 2002. Mental health service utilization in the United States. The role of personality factors. *Social Psychiatry and Psychiatric Epidemiology.* **37**(12), 561–566.

Gorsuch, R.L., 1983. Factor Analysis (2nd revedn). Hillsdale, NJ: Erlbaum.

Gough, H.G., 1987. California Psychological Inventory Administrator's Guide. Mountain View, CA: Consulting Psychologists Press.

Grint, K., 2005. Leadership: Limits and Possibilities , Palgrave Macmillan, New York, NY.

Gronlund, N. E. , & Linn, R. 1990. Measurement and evaluation in teaching (6th ed.). New York: Macmillan.

Gumusluoglu, L. and Ilsev, A., 2009. Transformational leadership, creativity, and organizational innovation. *Journal of Business Research.* 62: 461-73.

Gundersen, G., Hellesoy, B. T., & Raeder, S., 2012. Leading international project teams: The effectiveness of transformational leadership in dynamic work environments. *Journal of Leadership & Organizational Studies*. 19(1): 46-57.

Guzzo, R. A., & Salas, E., 1995. Team effectiveness and decision making in organizations. San Francisco, Cal.: Jossey-Bass.

Hairunnisa Ma'amora, Nur'ain Achima, Nor Sara Nadia Muhamad Yunusa, Nurhazirah Hashima and Ahasanul Haque, 2015. The Influence of Personality Traits towards Quality Pledge. *Procedia Economics and Finance.* 37: 73 – 79.

Halbesleben, J. R., Harvey, J., & Bolino, M. C. 2009. Too engaged? A conservation of resources view of the relationship between work engagement and work interference with family. *Journal of Applied Psychology.* 94(6): 1452.

Halpin, A. and Winer, B., 1957. A factorial study of the leader behavior descriptions. in Stogdill, R. and Coons, A.E. (Eds), Leader Behavior. Ohio State University, Columbus, OH. 39-55.

Hamid Hassan, Sarosh Asad, Yasuo Hoshino,2016. Effect of Representative Leadership Styles on the Composition of Organization Commitment with the Facilitating Role of Organizational Maturity. *International Business Research.* 9(4).

Hamstra, M. R. W., Van Yperen, N. W., Wisse, B., & Sassenberg, K., 2011. Transformational transactional leadership styles and followers' regulatory focus: Fit reduces followers' turnover intentions. *Journal of Personnel Psychology*. 10(4): 182-186.

Hans-Georg Wolff, Sowon Kim, 2012. The relationship between networking behaviors and the Big Five personality dimensions. *Career Development International.* 17(1): 43-66.

Harter, J. K., Schmidt, F. L. & Hayes, T. L., 2002. Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: A meta-analysis. *Journal of Applied Psychology*. 87(2) 268–279.

Harter, J. K., Schmidt, F. L. and Hayes, T. L. 2002. Business-unit-level relationship between employee satisfaction, employee engagement, and business outcomes: a meta-analysis. *Journal Of Applied Psychology*. 87(2): 268.

Harter, J. K., Schmidt, F. L., & Hayes, T. L., 2002. Business unit level relationship between employee satisfaction, employee engagement and business outcomes: A meta-analysis. *Journal of Applied Psychology.* 87(2): 268-279.

Hautala, T., 2008. TJ leaders as transformational leaders: followers and leaders appraisals. *Journal of Psychological Type.* 9: 68-88.

Hersey, P., & Blanchard, K. H., 1980. The management of change. *Training & Development Journal.* 34(6): 80.

Hersey, P., & Blanchard, K. H., 1981. So you want to know your leadership style? *Training & Development Journal.* 35(6): 34.

Hersey, P., & Blanchard, K. H.,1979. Life cycle theory of leadership. *Training & Development Journal.* 33(6): 94.

Hersey, P., & Blanchard, K. H.,1996. Great ideas revisited: Revisiting the life-cycle theory of leadership. *Training & Development Journal.* 50(1): 42.

Hersey, P., & Blanchard, K.H., 1969. Life cycle theory of leadership. *Training and Development Journal*. 23(2): 26-34.

Hersey, P., & Blanchard, K.H., 1988. Management of organizational behavior (5th ed.). Englewood Cliffs, NJ: Prentice-Hall.

Hersey, P., 1984. The situational leader. Escondido, CA: Center for Leadership Studies.

Herzberg, P. Y., & Brähler, E., 2006. Assessing the big-five personality domains via short forms: A cautionary note and a proposal. *European Journal of Pscyhological Assessment.* 22: 139-148.

Hetland, H. and Sandal, G.M., 2003. Transformational leadership in Norway: outcomes and personality correlates. *European Journal of Work & Organizational Psychology*. 12(2): 147-71.

Hetland, H. and Sandal, G.M., 2003. Transformational leadership in Norway: outcomes and personality correlates. *European Journal of Work and Organizational Psychology*. 12(2): 147-71.

Hewitt Associates, 2004. Employee engagement higher at double digit growth companies. Research Brief, Hewitt Associates LLC.

Hewitt, A., 2011. Trends in Global Employee Engagement. Consulting Talent & Organization, Chicago.

Higgs, M., 2001. Is there a relationship between the MyersBriggs Type Indicator and emotional intelligence? *Journal of Managerial Psychology*. 16(7): 509-533.

Higgs, M.J., 2003. Developments in leadership thinking. *Journal of Organizational Development and Leadership*. 24(5): 273-284.

Hogan, J., Brinkmeyer, K. and Hogan, R., 1996. Hogan Personality Inventory Form manual. Tulsa, OK: Hogan Assessment Systems.

Hogan, R. 1971. Personality characteristics of highly rated policemen. *Personnel Psychology*. 39: 210-19.

House, R. J., 2004. Culture, leadership and organizations: the GLOBE study of 62 societies.Thousand Oaks, Calif.: Sage.

House, R.J. and Aditya, R.M., 1997. The social scientific study of leadership: Quo Vadis. *Journal of Management.* 23(3): 409-473.

Howard, P.J. and Howard, J.M. 2001. The Owner's Manual for Personality at Work, Bard Press, Marietta, GA.

Howell, J.M. and Avolio, B.J., 1993.Transformational leadership, transactional leadership, locus of control, and support for innovation: key predictors of consolidated business unit performance", *Journal of Applied Psychology*. 7: 891-902.

Howell, J.P. and Costley, D.L., 2006. Understanding Behaviours for Effective Leadership , 2nd ed., Pearson Education Inc., Upper Saddle River, NJ.

Howell, J.P. and Costley, D.L.,2006. Understanding Behaviours for Effective Leadership. 2nd ed.,Pearson Education Inc., Upper Saddle River, NJ.

Jackson, D.N., Paunonen, S.V. and Tremblay, P.F., 2000. Six Factor Personality Questionnaire. Port Huron, MI: Sigma Assessment Systems.

Janssen, P., Schaufeli, W.B. and Houkes, I., 1999. Work-related and individual determinants of the three burnout dimensions. *Work & Stress*. 13(1): 74-86.

Javalgi, R.G. and Todd, P.R., 2011. Entrepreneurial orientation, management commitment, and human capital: the internationalization of SMEs in India. *Journal of Business Research*. 64(9): 1004-1010.

Josh Plaskoff, 2017. Employee experience: the new human resource management approach. *Strategic HR Review*. 16(3):136-141.

JRA (2007), Employee Engagement: Driving Employee Performance, JRA, Auckland.

Judge TA, Bono JE, Ilies R, Gerhardt MW 2002. Personality and leadership. A qualitative and quantitative review. *J. Appl. Psychol*. 87: 765-780.

Judge, T. A., & Piccolo, R. F., 2004. Transformational and transactional leadership: A metaanalytic test of their relative validity. *Journal of Applied Psychology*. 89(5): 755-768.

Judge, T. A., & Zapata, C. P., 2015. The person–situation debate revisited: Effect of situation strength and trait activation on the validity of the Big Five personality traits in predicting job performance. *Academy of Management Journal*. 58(4): 1149-1179.

Judge, T.A, & Bono, J.E., 2004. Personality and transformational and transactional leadership: A meta-analysis. *Journal of Applied Psychology*. 89(5): 901-910.

Judge, T.A. and Bono, J.E., 2000. Five-factor model of personality and transformational leadership. *Journal of Applied Psychology*. 85(5): 751-765.

Judge, T.A., Bono, J.E., Ilies, R. and Gerhardt, M.W., 2002a. Personality and leadership: a qualitative and quantitative review. *Journal of Applied Psychology*. 87: 765-780.

Judge, T.A., Heller, D. and Mount, M.K., 2002b. Five-factor model of personality and job satisfaction: a meta-analysis. Journal of Applied Psychology. 87: 530-541.

Judge, T.A., Piccolo, R.F. and Ilies, R. 2004. The Forgotten Ones? The Validity of Consideration and Initiating Structure in Leadership Research. *Journal of Applied Psychology*. 89: 36-51.

Kahn, W. A., 1990. Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal.* 33: 692–724.

Kahn, W. A.,1992. To be fully there: Psychological presence at work. *Human Relations.* 45(4): 321–349.

Kahn, W.A., 1990. Psychological conditions of personal engagement and disengagement at work. *Academy of Management Journal.* 33(4): 692-724.

Kane, T.D. and Tremble, T.R. Jr, 2000. Transformational leadership effects at different levels of the army. *Military Psychology*. 85: 751-65.

Keller, T., 1999. Images of the familiar: individual differences and implicit leadership theories. *The Leadership Quarterly*. 10: 589-607.

Kenrick, D.T. and Funder, D.C., 1988. Profiting from controversy: lessons from the person-situation debate. *American Psychologist*. 43: 23-34.

Kirkpatrick, S.A. and Locke, E.A., 1991. Leadership: do traits matter?. *Academy of Management Executive.* 5(2): 48-60.

Komorita, S. S., & Parks, C. D., 1995. Interpersonal relations: Mixed-motive interaction. *Annual Review of Psychology*. 46: 183-207.

Kotter, J. P. 2001. what leaders really do? Harvard Business Review. 79(11): 85-96.

Kotter, J. P. 2008. force for change: how leadership differs from management. Simon And Schuster.

Kotter, J.P., 1990. A Force for Change: How leadership differs from management. New York: Free Press.

Kotze, T. (2004). Quality of work life: What managers need to know. Management Today. 20(6): 38-41.

Kotze, T., 2004. Quality of work life: what managers need to know. *Management Today*. 20(6): 38-41.

Krejcie, R.V., & Morgan, D.W. (1970). Determining Sample Size for Research Activities. *Educational and Psychological Measurement.* 30: 607-610.

Krug, S.E. and Johns, E.F., 1986. A large-scale cross-validation of second-order personality structure defined by the 16PF. *Psychological Reports.* 59: 683–93.

Langelaan, S., Bakker, A.B. and van Doornen, L.J. 2006. Burnout and work engagement: do individual differences make a difference? *Personality and Individual Differences*. 40:521-34.

Lars Borgmann, Jens Rowold, Kai Christian Bormann, 2016. Integrating leadership research: a meta-analytical test of Yukl's meta-categories of leadership. Personnel Review. 45(6): 1340-1366.

Laura Ann Migliore, 2011. Relation between big five personality traits and Hofstede's cultural dimensions: Samples from the USA and India. *Cross Cultural Management: An International Journal.* 18(1): 38-54.

Lee, K., Ogunfowora, B. and Ashton, M.C., 2005. Personality traits beyond the Big Five: Are they within the HEXACO space?. *Journal of Personality*. 73(5): 1437–63.

Leong, L. Y. C., 2011. Is transformational leadership universal? A meta-analytical investigation of multifactor leadership questionnaire means across cultures. *Journal of Leadership & Organizational Studies.* 18(2): 164-174.

Levy, M. and Powell, P., 2005. Strategies for growth in SMEs: the role of information and information systems. *International Small Business Journal.* 24(3): 326-328.

Lewin, J. E., & Sager, J. K. 2010. The influence of personal characteristics and coping strategies on salespersons' turnover intentions. *Journal of Personal Selling and Sales Management*. 30(4): 355-370.

Lewin, K. and Korsch, K., 1939. Mathematical constructs in psychology and sociology. Erkenntnis. 8: 397-403.

Lewin, K. and Lippitt, R.,1938. An experimental approach to the study of autocracy and democracy: a preliminary study. Sociometry. 1: 292-300.

Lewin, K., 1938b. The conceptual representation and the measurement of psychological forces. Durham, NC: Duke University Press.

Lewin, K., 1944. Dynamics of group action. *Educational Leadership*. 1: 195-200.

Lewin, K., 1944/1997. Constucts in field theory. In K. Lewin, Resolving social conflicts and Field theory in social science 191-199. Washington, DC: American Psychological Association.

Lewin, K., 1946/1997. Behaviour and development as a function of the total situation. In K. Lewin, Resolving social conflicts and Field theory in social science 336-381. Washington, DC: American Psychological Association.

Lewin, K., 1947/1997. Frontiers in group dynamics. In K. Lewin, Resolving social conflicts and Field theory in social science 301-336. Washington, DC: American Psychological Association.

Lewin, K., 1948. Resolving social conflicts. New York: Harper and Brothers.

Lewin, K., 1949/1999. Cassirer's philosophy of science and the social sciences. In M. Gold (Ed.), The complete social scientist: a Kurt Lewin reader 23-36. Washington, DC: American Psychological Association.

Lewin, K., Lippitt, R. and White, R.K. (1999/1939). Patterns of aggressive behaviour in experimentally created "social climates". In M. Gold (Ed.), The complete social scientist: a Kurt Lewin reader 227-250. Washington, DC: American Psychological Association.

Lewin, K.,1921/1999. Socializing the Taylor system. In M. Gold (Ed.), The complete social scientist: a Kurt Lewin reader. 297-320. Washington, DC: American Psychological Association.

Lewin, K.,1931/1999. The conflict between Aristotelian and Galileian modes of thought in contemporary psychology. In M. Gold (Ed.), The complete social scientist: a Kurt Lewin reader 37-66. Washington, DC: American Psychological Association.

Lewin, K.,1936. Principles of topological psychology. New York: McGraw-Hill.

Lewin, K.,1938a. Will and needs. In W.D. Ellis (Ed.), A source book of gestalt psychology 283-299. London: Kegan Paul, French, Trubner.

Lewin, K.,1943/1999. Psychology and the process of group living. In M. Gold (Ed.), The complete social scientist: a Kurt Lewin reader 330-345. Washington, DC: American Psychological Association.

Lewin, M. A., 1998. Kurt Lewin: his psychology and a daughter's recollections. In G.A. Kimble and M. Wertheimer (Eds.), Portraits of Pioneers of Psychology. 3: 105-118. Washington, DC: American Psychological Association.

Lord, R.G. and Hall, R.J., 2005. Identity, deep structure and the development skill. *The Leadership Quarterly*. 16(4): 591-615.

Lowe, K.B., Kroeck, K.G. and Sivasubramaniam, N., 1996. Effectiveness correlates of transformational and transactional leadership: a meta-analytic review of the MLQ literature. *Leadership Quarterly.* **7**(3): 385-425.

Lowe, K.B., Kroeck, K.G. and Sivasubramaniam, N., 1996. Effectiveness correlates of transformational and transactional leadership: a meta-analytic review of the MLQ literature. *Leadership Quarterly*. **7**: 385-425.

Luthans, F. and Avolio, B.J., 2003. Authentic leadership: A positive developmental approach. in Cameron, K.S., Dutton, J.E. and Quinn, R.E. (Eds), Positive Organizational Scholarship, Barrett-Koehler, San Francisco, CA. 241-61.

Macey, W. and Schneider, B., 2008. Engaged in engagement: we are delighted we did it. *Industrial and Organizational Psychology*. 1: 76-83.

Macey, W. H. & Schneider, B. (2008). The Meaning of Employee Engagement.*Industrial and Organizational Psychology*. 1(1): 3–30.

Macey, W.H. and Schneider, B., 2008. The meaning of employee engagement. *Industrial and Organizational Psychology*. 1(1): 3-30.

Markos, S. and Sridevi, M.S., 2010. Employee engagement: the key to improving performance. *International Journal of Business and Management*. **5**(12): 89-96.

Martins, N., Martins, E.C. & Terblanche, F., 2004. An organizational culture model to stimulate creativity and innovation in an university library. Advances in Library Administration and Organisation. 21.

Martins, N., Martins, E.C. and Terblanche, F., 2004. An organizational culture model to stimulate creativity and innovation in a university library. *Administration and Organization.* 21: 83-130.

Mary Agnes Wambui Kiarie, Loice C. Maru, Thomas Kimeli Cheruiyot, 2017. Leader personality traits and employee job satisfaction in the media sector, Kenya. *The TQM Journal.* 29(1):133-146.

Mary Agnes Wambui Kiarie, Loice C. Maru, Thomas Kimeli Cheruiyot, 2017. Leader personality traits and employee job satisfaction in the media sector, Kenya. *The TQM Journal*. 29(1):133-146.

Maslach, C. & Leiter, M. P., 1997. The Truth about Burnout. San Francisco: JosseyBass.

Maslach, C., Schaufeli, W. B. & Leiter, M. P., 2001. Job burnout. *Annual Review of Psychology*. 52: 397–422.

May, D. R., 2003. Fostering the human spirit at work: Toward an understanding of the influences on employees' experienced meaningfulness at work.

Mayer, J.D. & Salovey, P., 1997. What is emotional intelligence? In P. Salovey & D.J. Sluyter (Eds.), Emotional Development and Emotional Intelligence: Educational Implications: 3-31. New York: Basic Books.

McAdams, D.P., 1992. The five-factor model in personality: a critical appraisal. *Journal of Personality.* 60: 329-61.

McCrae, R. R., 2002. NEO-PI-R data from 36 cultures: Further intercultural comparisons. In R. R. McCrae & J. Allik (Eds.), The Five-Factor Model of personality across cultures.105-126. New York: Kluwer Academic/Plenum Publishers.

McCrae, R.R. and Costa, P.T. 1997. Personality trait structure as a human universal. *American Psychologist.* 52: 509-516.

McKenzie, J., Tindell, G. and French, J., 1997. The great triumvirate: Agreement between lexically and psycho-physiologically based models of personality. *Personality and Individual Differences.* 22(2): 269–77.

McMurray, A.J., 2003. The relationship between organizational climate and organizational culture. *Journal of American Academy of Business.* 3(1): 1-8.

McMurray, A.J., 2003. The relationship between organizational climate and organizational culture. *The Journal of American Academy of Business.* 3(1): 1-8.

Mehtap, O., Zehir, C. and A. Zafer, A., 2011. Linking leadership style to firm performance: the mediating effect of the learning orientation. *Procedia Social and Behavioral Science.* 24: 1546-59.

Miller, D. and Friesen, P.H., 1984. A longitudinal study of the corporate life cycle. *Management Science.* 30(10):1161-1183.

Millissa F.Y. Cheung, Chi-Sum Wong, 2011. Transformational leadership, leader support, and employee creativity. *Leadership & Organization Development Journal.* 32(7): 656-672.

Mohd Zairol Yusoff, Massudi Mahmuddin, Mazida Ahmad, 2015. Knowledge Work Process: Software Developer's in Small Medium Enterprise. *Indonesian Journal of Electrical Engineering.* 13(3): 555-560.

Mohd Zairol Yusoff, Massudi Mahmuddin, Mazida Ahmad, 2015. Knowledge Work Process: Software Developer's in Small Medium Enterprise. *Indonesian Journal of Electrical Engineering.* 13(3): 555 ~ 560.

Mohd. Kamal Mohammad Noor and Syed Shah Alam, 2009. ICT Adoption in Small and Medium Enterprises: An Empirical Evidence of Service Sectors in Malaysia. *International Journal of Business and Management.* 4(2).

Mohsin Alvi, 2016, A Manual for Selecting Sampling Techniques in Research, University of Karachi, Iqra University.

Mozhdeh Mokhber, Tan Gi Gi, Siti Zaleha Abdul Rasid, Amin Vakilbashi, Noraiza Mohd Zamil, Yee Woon Seng, 2017. Succession planning and family business performance in SMEs. *Journal of Management Development.* 36(3): 330-347.

Norman, W.T., 1967. Personality Trait Descriptors: Normative Operating Characteristics for a University Population. Ann Arbor: University of Michigan, Department of Psychology.

Northouse, P.G., 2007. Leadership: Theory and Practice, 4th ed., Sage, Thousand Oaks, CA.

Oluseyi Moses Ajayi, Kayode Odusanya, Susan Morton, 2017. Stimulating employee ambidexterity and employee engagement in SMEs. *Management Decision.* 55(4): 662-680.

Orawan Kaewboonchoo, Marzuki Isahak, Indri Susilowati, Toai Nguyen Phuong,Ikuharu Morioka, Kitiphong Harncharoen,Wah Yun Low and Paul Ratanasiripong, 2016. Work Ability and Its Related Factors Among Workers in Small and Medium Enterprises:Comparison Among Four ASEAN Countries. *Asia Pacific Journal of Public Health.* 1–12.

Orlando Rua, Alexandra França, Rubén Fernández Ortiz, 2017.Key drivers of SMEs export performance: the mediating effect of competitive advantage. *Journal of Knowledge.*

Ostendorf, F.,1990. Language and Personality Structure: On the Validity of the Five-factor Model of Personality. Regensburg, Germany: S. Roderer Verlag.

Ozgur Ongore, 2014. A Study of Relationship Between Personality Traits and Job Engagement. *Social and Behavioural Sciences*. 141: 1315 – 1319.

Papalexandris, N. and Galanaki, E., 2009. Leadership's impact on employee engagement. *Leadership and Organization Development Journal: Differences among entrepreneurs and professional CEOsl.* 30(4): 365-85.

Pardey, D., 2007, Introducing Leadership , 1st ed., Elsevier Ltd, Oxford.

Patterson, C., Fuller, J.B., Kester, K. and Stringer, D.Y., 1995. Ameta-analytic examination of leadership style and selected compliance outcomes. Annual

Conference of the Society for Industrial and Organizational Psychology, Orlando, FL.

Paul T. Bartone, 2009. Big five personality factors, hardiness, and social judgment as predictors of leader performance. *Leadership & Organization Development Journal*. 30(6): 498-521.

Paunonen, S. V., & Ashton, M. C., 2001. Big Five factors and facets and the prediction of behavior. *Journal of Personality and Social Psychology*. 81: 524-539.

Pervin, L.A., Cervone, D. and John, O.P., 2005. Personality: Theory and Research, 9th ed., Wiley, Hoboken, NJ.

Peter H. Langford, Cameron B. Dougall, Louise P. Parkes, 2017. Measuring leader behaviour: evidence for a "big five" model of leadership. *Leadership & Organization Development Journal.* 38(1): 126-144.

Pierce,J.L.& Gardner,D.G., 2002. Management and organizational behavior.

Raimonda Alonderiene, Modesta Majauskaite, 2016. Leadership style and job satisfaction in higher education institutions. *International Journal of Educational Management*. 30(1): 140-164.

Ramita Abdul Rahim, Nik Hasnaa Nik Mahmood and Maslin Masrom, 2015. The Role of Knowledge Management in Facilitating Innovation for Sustainable SMEs. International Conference on Technology, Informatics, Management, Engineering & Environment (TIME-E) Samosir Island, North Sumatra, Indonesia.

Rattray, J.C. and Jones, M.C. 2007. Essential elements of questionnaire design and development. *Journal of Clinical Nursing.* 16: 234-243.

Reginald G. Ugaddan, Sung Min Park, 2017. Quality of leadership and public service motivation: A social exchange perspective on employee engagement. *International Journal of Public Sector Management.* 30(3):270-285.

Reichard, R. J., Riggio, R. E., Guerin, D. W., Oliver, P. H., Gottfried, A. W., & Gottfried, A. E., 2011. A longitudinal analysis of relationships between adolescent personality and intelligence with adult leader emergence and transformational leadership. *The Leadership Quarterly.* 22(3): 471-481.

Rich, B.L., LePine, J.A. and Crawford, E.R. (in press). Job engagement antecedents and effects on job performance. *Academy of Management Journal.*

Richard L. Daft., 2002. The Leadership Experience, MacMillan Living Universe Series Management Series. The Dryden Press series in management.

Rietveld, T., & van Hout, R., 1993. Statistical techniques for the study of language and language behaviour. Berlin: Mouton de Gruyter.

Riggio, R. E., & Lee, J., 2007. Emotional and interpersonal competencies and leader development. *Human Resource Management Review.* 17: 418-426.

Robbins SP, Judge TA, Sanghi S.,2008. Org. Behav. Pearson education. India.

Robbins, S.P., Judge, T.A. and Sanghi, S., 2008. Organisational Behaviour. India: Pearson education.

Roberts BW, Chernyshenko O, Stark S, Goldberg L., 2005. The structure of conscientiousness: An empirical investigation based on seven major personality questionnaires. *Personnel Psychology.* 58:103–139.

Roberts, B. W., Walton, K. E., & Viechtbauer, W., 2006. Personality traits change in adulthood: *Psychological Bulletin.* 132: 29-32.

S. Rajasekar, 2013, School of Physics, Bharathidasan University, Tiruchirapalli. 620-024 Tamilnadu, India.

Saad, G. and Gill, T., 2000. Applications of evolutionary psychology in marketing. *Psychology and Marketing.* 17(12): 1005-1034.

Salanova, M., Agut, S. and Peiró, J.M.,2005. Linking organizational resources and work engagement to employee performance and customer loyalty: the mediation of service climate. *Journal of Applied Psychology*. 90(6): 1217-27.

Sapna Popli, Irfan A. Rizvi, 2017. Leadership style and service orientation: the catalytic role of employee engagement. *Journal of Service Theory and Practice*. 27(1): 292-310.

Saucier, G., 2001. Going beyond the Big-Five. Annual Conference of the American Psychological Association. San Francisco.

Schaufeli, W. B. & Bakker, A. B., 2004. Job demands, job resources, and theirrelationship with burnout and engagement: a multi-sample study. *Journal of Organizational Behavior*. 25(3), 293–315.

Schaufeli, W. B., 2014. What is engagement?. In Truss, C., Delbridge, R., Alfes, K.,Shantz, A & Soane, E. (eds.). Employee engagement in theory and practice. 15–35.

Schaufeli, W. B., Bakker, A. B. & Salanova, M., 2006. The measurement of work engagement with a short questionnaire: A cross-national study. *Educational and Psychological Measurement.* 66(4), 701–716.

Schaufeli, W. B., Salanova, M., Gonzalez-Roma, V. & Bakker, A. B., 2002. The measurement of engagement and burnout: A two sample confirmatory factor analytic approach. *Journal of Happiness Studies.* 3(1), 71–92.

Schaufeli, W.B. and Bakker, A.B., 2002. Work and well-being: towards a positive occupational health psychology. *Gedrag and Organisation.* 14(1): 229-253.

Schaufeli, W.B. and Bakker, A.B.,2004. Job demands, job resources, and their relationship with burnout and engagement: a multi-sample study. *Journal of Organizational Behaviour*. 25(3): 293-315.

Schaufeli, W.B., Salanova, M., González-Romá, V. and Bakker, A.B., 2002. The measurement of engagement and burnout: a two sample confirmatory factor analytic approach. *Journal of Happiness Studies.* 3(1): 71-92.

Schneewind, K.A. and Graf, J., 1998. The 16 Personality Factor Test – Revised Version Test Manual. Bern, Switzerland: Verlag Hans Huber.

Seijts, G. and Crim, D. 2006. What engages employees the most or the 10 c's of employee engagement. *Ivey Business Journal*.

Sekaran 2006. Research Method for Business: A Skill Building Approach. United Kingdom: John Wiley & sons, Inc.

Shamir, B., House, R.J. and Arthur, M.B., 1993. The motivational effects of charismatic leadership: a self-concept based theory. *Organization Science.* 4(4): 577-594.

Sharma, S.K. and Kaur, S., 2014. An introspection of employee engagement: a quantitative content analysis approach. *IUP Journal of Organizational Behavior*. 13(2): 38-57.

Shin, S.J. and Zhou, J. 2003. Transformational leadership, conservation, and creativity: evidence from Korea. *Academy of Management Journal*. 46: 703-14.

Shirom, A., 2003. Feeling vigorous at work? The construct of vigor and the study of positive affect in organizations. in Ganster, D. and Perrewe, P.L. (Eds), *Research in Organizational Stress and Well-being.* 3 JAI Press, Greenwich, CN, 135-65.

Shirom, A., 2007. Explaining vigor: on the antecedents and consequences of vigor as a positive affect at work. in Cooper, C.L. and Nelson, D. (Eds), *Positive Organizational Behavior*, Sage, London, 86-100.

Shraga, O., 2007. Vigor at work: its construct validity, and its relations with job satisfaction and job characteristics: triangulating qualitative and quantitative

methodologies. unpublished doctoral dissertation, Tel Aviv University, Tel Aviv.

Singer, L. and Millage, P., 2013. The interaction of leadership and personlaity among Chinee and American nascent entrepreneurs. *Journal of Technology Management in China.* 8(1): 44-54.

Skogan, W. G. 2008. Why reforms fail. Policing And Society. 18(1): 23-34.

Skogstad, A. & Einarsen, S., 1999. The importance of a change-centred leadership style in four organizational cultures. *Scandinavian Journal of Management*. 15: 289-306.

SME Corp Malaysia board database, Economic Census 2016, Department of Statistic Malaysia (DOSM)

SME Corp. Malaysia Secretariat to the National SME Development Council October 2013.

Smith, M.A., Moriarty, K.O. and Lutrick, E.C., 2001. Exploratory factor analysis of the NEO-PI-R for job applicants: Evidence against the Big Five. Annual Meeting of the Society for Industrial and Organizational Psychology. San Diego.

Sosik, J.J. and Jung, D.I., 2010. Full Range Leadership Development: Pathways for People. Profit and Planet, Routledge, New York, NY.

Srivastava, A., Bartol, K.M. and Locke, E.A., 2006. Empowering leadership in management teams: effects on knowledge sharing, efficacy, and performance. *Academy of Management Journal.* 49(6): 1239-1251.

Steven Tam, David E Gray, 2016. Organisational learning and the organisational life cycle: The differential aspects of an integrated relationship in SMEs. *European Journal of Training and Development.* 40(1): 2-20.

Stogdill, R.M., 1974. Handbook of leadership: A survey of the literature, New York: Free Press.

Sugiyono, 2008. Business Research Methods. Alfabeta: Bandung.

Suharti, L. and Suliyanto, D. 2012. The effects of organizational culture and leadership style toward employee engagement and their impacts toward employee loyalty. *World Review Of Business Research.* 2(5): 128-139.

Sullivan J., 2012. What's Wrong with employee work engagement? The top 20 potential problems.

Sutin, A. R., Ferrucci, L., Zonderman, A. B., & Terracciano, A., 2011. Personality and obesity across the adult life span. *Journal of Personality and Social Psychology.*

Tabachnick, B. G., & Fidell, L. S., 2012. Using multivariate statistics (6th ed.). New York: Pearson.

Tabernero, C., & Wood, R. E., 1999. Implicit theories versus the social construal of ability in self regulation and performance on a complex task. *Organizational Behavior and Human Decision Processes.* 78(2): 104-127.

Tahir Saeed, Shazia Almas, M. Anis-ul-Haq, GSK Niazi, 2014. Leadership styles: relationship with conflict management styles. *International Journal of Conflict Management.* 25(3): 214-225.

Tett, R.P., Jackson, D.N., & Rothstein, M., 1991. Personality measures as predictors of job performance: A meta-analytic review. *Personnel Psychology*. 44: 703-742.

Theresa Char Fei Ho, Noor Hazlina Ahmad, Ramayah Thurasamy, 2013. Learn and thou shall thrive: advancing a model of workplace familism and organizational learning capability in small and medium enterprise (SMEs) manufacturers in Malaysia. *Business Strategy Series*.14(5/6):151-159.

Tiina M. Hautala, 2006. The relationship between personality and transformational leadership. *Journal of Management Development*. 25(8): 777-794.

Tims, M., Bakker, A. B. and Xanthopoulou, D. 2011. Do transformational leaders enhance their followers' daily work engagement? *The Leadership Quarterly.* 22(1): 121-131.

Towers Perrin (2003), Working Today: Understanding What Drives Employee Engagement, Towers Perrin, Stamford, CT.

Tupes, E.C. and Christal, R.E., 1961. Recurrent Personality Factors Based on Trait Ratings. Tech. Rep. Nos 61–67. Lackland, TX: US Air Force Aeronautical Systems Division.

Turner and Glenn, M. 2012. Using the autocratic leadership style wisely.

Tushman, M.L. and Romanelli, E., 1985. Organizational evolution: interactions between external and emergent processes and strategic choice. *Research in Organizational Behavior*. 8: 171-222.

Tyler, T. R. and Smith, H. J. 1995. Social justice and social movements.

Van Eeden, R., Cilliers, F. and Van Deventer, V. 2008. Leadership styles and associated personality traits: support for the conceptualisation of transactional

and transformational leadership. *South African Journal Of Psychology*. 38(2): 253-267.

Van Teijlingen, E. and Hundley, V., 2002. The Importance of Pilot Studies. Nursing Standard. 16:33-36.

Vazirani, N. 2005. Employee engagement. *Sies College Of Management Studies, Working Paper Series.*

Venkatesh, V. and Windeler, J.B., 2012. Hype or help? A longitudinal field study of virtual world use for team collaboration. *Journal of the Association for Information Systems.* 13(10): 735-771.

Verheugen, G., 2003. The new SME definition, user guide and model declaration. *European Union enterprise and industry publications.*

Violetta Khoreva, Maarten van Zalk, 2016. Antecedents of work engagement among high potential employees. *Career Development International.* 21(5): 459-476.

Waldman, D.A., Bass, B.M. and Yammarino, F.J., 1990. Adding to contingent reward behavior: the augmenting effect of charismatic leadership. *Group and Organizational Studies*. 15: 381-94.

Webb, K., 2007. Motivation Peak Performance: Leadership Behaviors that Stimulate Employee Motivation and Performance. *Christian Higher Education*. 53-71.

Weber, L., 2016. Job satisfaction hits a 10 year high – but it's still below 50%. *Wall Street Journal.*

Weidert, J.M., 2011. The physiological measurement of employee engagement. In partial fulfillment of the requirements for the Degree of Master of Science Colorado State University Fort Collins, Colorado.

Wendy Ming Yen Teoh, Siong Choy Chong, 2014. Towards strengthening the development of women entrepreneurship in Malaysia. *Gender in Management: An International Journal.* 29(7):432-453.

Whetton, D.A. & Cameron, K.S., 2002. Developing management skills. New Jersey: Prentice-Hall.

Whetton, D.A. and Cameron, K.S., 2002. Developing Management Skills, 5th ed., Upper Saddle River, Prentice-Hall, NJ.

Wiggins, J.S., 2003. Paradigms of Personality Assessment. Guilford Press.

Worrell, T.G., 2004. School psychologists job satisfaction. Counselor Education, Blacksburg, Virginia.

Yenming Zhang, Tzu Bin Lin, Suan Fong Foo, 2012. Servant leadership: a preferred style of school leadership in Singapore. *Chinese Management Studies.* 6(2): 369-383.

Yukl, G. A.,2002. Leadership in Organizations. (5th ed.), Prentice Hall.

Yukl, G., & Carrier, H., 1986. An exploratory study on situational determinants of managerial behavior. *Eastern Academy of Management*. 174-177.

Yukl, G., & Clemence, J., 1984. A test of path-goal theory of leadership using questionnaire and diary measures of behavior. *Eastern Academy of Management*. 174-177.

Yukl, G., & Falbe, C., 1989. Influence tactics in upward, downward, and lateral relations. Unpublished manuscript, State University of New York, Albany.

Yukl, G., & Nemeroff, W., 1979. Identification and measurement of specific categories of leadership behavior: A progress report. In J.G. Hunt and L.L. Larson (Eds.), Crosscurrents in leadership 164-200. Carbondale: Southern Illinois University Press.

Yukl, G., & Taber, T., 1983. The effective use of managerial power. 37-44.

Yukl, G., & Van Fleet, D.,1982. Cross-situational, multi-method research on military leader effectiveness. *Organizational Behavior and Human Performance*. 30: 87-108.

Yukl, G., 1971. Toward a behavioral theory of leadership. *Organizational Behavior and Human Performance*. 6: 414-440.

Yukl, G., 1989. Leadership in organizations, second edition. Englewood Cliffs, NJ: Prentice-Hall.

Yukl, G., Wall, S., & Lepsinger, R., 1988. Preliminary report on validation of the management practices survey. Center For Creative Leadership conference on Psychological Characteristics of Leaders, San Antonio.

Yukl, G.,1981. Leadership in organizations. Englewood Cliffs, NJ: Prentice-Hall.

Yukl, G.,1987. A new taxonomy for integrating diverse perspectives on managerial behavior. American Psychological Association, New York.

Yukl, G.A. 2002. Leadership in Organizations. Prentice-Hall International.

Zopiatis, A. and Constanti, P., 2012. Extraversion, openness and conscientiousness. *Leadership and Organization Development Journal.* 33(1): 86-104.

APPENDIX A QUESTIONNAIRE FOR LEADERS

Cover Letter for Survey

10.Jan.2017

Dear Leader respondents,

Liking Leader's Personality, Leadership Style and Employee Engagement: Evidence from SMEs at Kuantan Malaysia

Enclosed with this letter is a questionnaire that consists of 2 parts, Part I is respondent profile and Part II is covered leader personality and employee engagement. Please take 5 minutes to complete this questionnaire. Your participation is quite valuable and greatly appreciated. And all the feedbacks from this survey will be kept confidential and you will not be contacted about the results unless you so desire. We are sincerely grateful for you taking the time to help us to further conduct this project research and hope that our research results could shed a sense of light on the development of your job and organization.

Yours truly,

FENG LI (Std. ID: MPH15001)
Faculty of Industrial Management
University Malaysia Pahang

PART I: RESPONDENT DETAILS

This part gathers background information, which will enable accurate comparisons among groups of individual with similar characteristics. All of the information provided will be strictly kept confidential.
There are 7 questions in this part. Kindly answer and tick (/) in the appropriate box.

1. Name of company: _____

2. Gender:

	Male
	Female

3. Race:

	Malay
	Chinese
	India
	Other:_____

4. Age:

	20 – 29
	30 – 39
	40 – 49
	50 and above

5. Highest education level:

	PMR
	SPM
	STPM
	Diploma
	Degree
	Master
	PhD
	Other: _____

6. Position in company:

	Project Manager
	Construction Manager
	HR Manager
	Accounting Manager
	Marketing Manager
	Purchasing Manager
	Others: _____

7. Subordinates number:

	1-9 people
	10-19 people
	20-29 people
	30 and above

Part II: Leader Personality and Employee Engagement

This questionnaire is to test the leader personality and employee engagement, which is crucial for the purpose of this study that you complete this survey as accurate as possible. All responses are completely confidential. Thank you for your participation.

There are 66 statements listed in this part, statement 1 to 54 is about leaders' personality, the rest 12 statements are about employee engagement. Kindly tick (/) in the appropriate box by referring to the rating scale below:

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

NO.	Statement	1	2	3	4	5
1	I know how to comfort others					
2	I feel other's emotions					
3	I cheer people up					
4	I like to get involved in other people's problem					
5	I am really interested in others					
6	I try to think about the needy					
7	I have frequent mood swings					
8	I am easily discouraged					
9	I dislike myself					
10	I don't want to be in charge					
11	I don't take control of things					
12	I don't say what I think					
13	I love large parties					
14	I amuse my friends					
15	I act wild and crazy					
16	I don't like crowed event					
17	I seldom joke around					
18	I dislike loud music					
19	I try to follow the rules					
20	I respect authority					
21	I believe laws should be strictly enforced					
22	I don't talk to a lot of different people at parties					
23	I never make friends easily					
24	I never start conversations					
25	I do enjoy watching dance performances					
26	I like works of fiction					
27	I always notice my emotional reactions					
28	I find it not hard to forgive others					

29	I trust people					
30	I believe people usually tell you the whole truth					
31	I do things not always by the book					
32	I sometimes daydream					
33	I sometimes get lost in thought					
34	I am open about myself to others					
35	I show my feeling					
36	I disclose my intimate thoughts					
37	I feel guilty when I say “no”					
38	I am afraid that I will do the wrong thing					
39	I am easily hurt					
40	I don’t love to think up new ways of doing things					
41	I don’t prefer variety to routine					
42	I don’t enjoy hearing new ideas					
43	I never avoid complex people					
44	I am interested in abstract ideas					
45	I always look for a deeper meaning in things					
46	I enjoy being part of a group					
47	I enjoy teamwork					
48	I can’t do without the company of others.					
49	I like order					
50	I continue until everything is perfect.					
51	I am exacting in my work					
52	I get irritated easily					
53	I am annoyed by others’ mistakes					
54	I am easily put out					
55	My employees feel busting with energy when they working.					
56	In the job, my employees feel strong and vigorous.					
57	My employees are always persevered, even when things do not go well.					
58	My employees can continue work for very long period at one time.					
59	My employees are enthusiastic about their job.					
60	My employees feel job inspires them.					
61	My employees are proud with their job.					
62	My employees feel enthusiastic about their job.					
63	My employees are focusing their work, and not realized time is passing.					
64	When my employees are working, they are forgetting everything else around them.					
65	My employees feel happy when they are working intensely.					
66	My employees are immersed in their work					

----------The End. Thank you. ----------

APPENDIX B QUESTIONNAIRE FOR SUBORDINATES

Universiti Malaysia PAHANG
Engineering • Technology • Creativity

Cover Letter for Survey

10.Jan.2017

Dear subordinates' respondents,

Liking Leader's Personality, Leadership Style and Employee Engagement: Evidence from SMEs at Kuantan Malaysia

Enclosed with this letter is a questionnaire that consists of 2 parts, Part I is respondent profile, and Part II is covered leadership style. Please take 5 minutes to complete this questionnaire. Your participation is quite valuable and greatly appreciated. And all the feedbacks from this survey will be kept confidential and you will not be contacted about the results unless you so desire. We are sincerely grateful for you taking the time to help us to further conduct this project research and hope that our research results could shed a sense of light on the development of your job and organization.

Yours truly,

FENG LI (Std. ID: MPH15001)
Faculty of Industrial Management
University Malaysia Pahang

PART I: RESPONDENT DETAILS

This part gathers background information, which will enable accurate comparisons among groups of individual with similar characteristics. All of the information provided will be strictly kept confidential.
There are 6 questions in this part. Kindly answer and tick (/) in the appropriate box.

1. Name of company: _____

2. Gender:

	Male
	Female

3. Race:

	Malay
	Chinese
	India
	Other:_____

4. Age:

	20 – 29
	30 – 39
	40 – 49
	50 and above

5. Highest education level:

	PMR
	SPM
	STPM
	Diploma
	Degree
	Master
	PhD
	Other:_____

6. Subordinate for:

	Project Manager
	Construction Manager
	HR Manager
	Accounting Manager
	Marketing Manager
	Purchasing Manager
	Others:_____

Part II: Leadership styles

The questionnaire is to describe the leadership style of the leaders to whom you directly report, which you perceive it. It is crucial for the purpose of this study that you complete this survey as accurate as possible. All responses are completely confidential. Thank you for your participation.

There are 24 statements listed in this part. Kindly assess your leader behavior by ticking (/) in the appropriate box referring to the rating scale below:

Not at all	Once in a while	Sometimes	Fairly often	Frequently
1	2	3	4	5

NO	Statement	1	2	3	4	5
1.	Organize work activities to improve efficiency					
2.	Assign work to groups or individuals					
3.	Clarify what results are expected for a task					
4.	Set specific goals and standard for task performance					
5.	Explain rules, policies, and standard operating procedures					
6.	Direct and coordinate work activities					
7.	Monitor operations and performance.					
8.	Resolve immediate problems that would disrupt the work.					
9.	Provide support and encouragement to someone with a difficult task.					
10.	Express confidence that a person or group can perform a difficult task.					
11.	Socialize with people to build relationship.					
12.	Recognize contributions and accomplishments.					
13.	Provide coaching and mentoring when appropriate.					
14.	Consult with people on decisions affecting them.					
15.	Allow people to determine the best way to do a task.					
16.	Keep people informed about actions affecting them.					
17.	Envision exciting new possibilities for the organization.					
18.	Encourage people to view problems or opportunities in a different way.					
19.	Develop innovative new strategies linked to core competencies.					
20.	Interpret events to explain the urgent need for change.					
21.	Experiment with new approaches for achieving objectives.					
22.	Study competitors and outsiders to get ideas for improvements.					
23.	Influence outsiders to support change and negotiate agreements with them.					
24.	Encourage and facilitate collective learning in the team.					

----------**The End. Thank you.** ----------

APPENDIX C OUTPUT OF SPSS ANALYSIS

a) Reliability Test

1. Openness Reliability Test

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.741	.746	9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Openness1	27.7750	18.490	.311	.312	.738
Openness2	27.3563	18.734	.406	.324	.720
Openness3	27.2063	18.202	.487	.331	.708
Openness4	27.3250	17.781	.433	.306	.715
Openness5	27.3313	17.443	.530	.384	.699
Openness6	27.4813	18.264	.362	.248	.728
Openness7	27.6937	18.843	.333	.243	.732
Openness8	27.2875	18.672	.395	.322	.722
Openness9	27.1438	17.621	.536	.432	.699

2. Conscientiousness Reliability Test

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.634	.653	12

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Conscientiousness1	37.5250	25.408	.165	.201	.639
Conscientiousness2	37.3938	23.938	.299	.207	.611
Conscientiousness3	37.7250	25.421	.165	.135	.639
Conscientiousness4	36.7813	25.254	.333	.294	.607
Conscientiousness5	36.6125	24.755	.437	.385	.593
Conscientiousness6	36.8750	24.827	.338	.286	.604
Conscientiousness7	37.2500	25.107	.274	.219	.615
Conscientiousness8	37.2750	24.025	.375	.442	.596
Conscientiousness9	37.3188	23.413	.430	.421	.585
Conscientiousness10	37.3688	27.354	.032	.090	.658
Conscientiousness11	36.7438	24.708	.343	.288	.603
Conscientiousness12	36.9750	24.704	.288	.319	.612

3. Extraversion Reliability Test

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.669	.684	12

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Extraversion1	37.1813	24.652	.455	.375	.629
Extraversion2	37.1937	24.610	.438	.387	.630
Extraversion3	37.0875	24.999	.402	.313	.636
Extraversion4	37.4250	25.303	.246	.182	.661
Extraversion5	37.2688	26.198	.244	.196	.659
Extraversion6	37.7937	26.014	.137	.126	.684
Extraversion7	37.4500	24.262	.379	.313	.637
Extraversion8	37.6125	23.748	.401	.238	.632
Extraversion9	37.7562	25.481	.292	.316	.652
Extraversion10	36.9563	25.463	.316	.367	.648
Extraversion11	36.8250	25.403	.287	.384	.653
Extraversion12	37.4938	26.025	.193	.113	.669

4. Agreeableness Reliability Test

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.674	.672	12

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Agreeableness1	31.3125	29.814	.302	.348	.656
Agreeableness2	31.2438	28.965	.405	.414	.639
Agreeableness3	31.1938	28.799	.412	.275	.638
Agreeableness4	30.7813	30.964	.238	.168	.666
Agreeableness5	31.3188	28.168	.427	.389	.634
Agreeableness6	31.3625	28.924	.433	.359	.635
Agreeableness7	30.4688	32.578	.080	.179	.692
Agreeableness8	30.6375	32.144	.147	.388	.679
Agreeableness9	30.7938	32.064	.187	.305	.672
Agreeableness10	31.1000	30.279	.318	.291	.654
Agreeableness11	31.1000	29.009	.440	.326	.635
Agreeableness12	31.3125	29.210	.350	.341	.648

5. Neuroticism Reliability Test

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.740	.748	9

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Neuroticism1	24.1938	21.528	.390	.249	.722
Neuroticism2	24.5313	21.358	.408	.309	.719
Neuroticism3	25.3000	22.249	.263	.203	.747
Neuroticism4	24.0813	21.660	.423	.207	.716
Neuroticism5	23.7625	22.094	.376	.347	.724
Neuroticism6	24.1313	21.008	.442	.309	.713
Neuroticism7	24.3250	20.938	.533	.352	.698
Neuroticism8	24.3438	21.460	.478	.298	.708
Neuroticism9	24.4313	21.731	.485	.317	.708

6. Task-Oriented Reliability Test

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.840	.840	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Task_Oriented1	24.8500	21.432	.578	.383	.821
Task_Oriented2	24.7594	22.284	.532	.356	.826
Task_Oriented3	24.8594	22.002	.572	.351	.821
Task_Oriented4	24.7875	22.011	.582	.374	.820
Task_Oriented5	24.7188	21.626	.622	.442	.815
Task_Oriented6	24.6688	21.890	.576	.405	.821
Task_Oriented7	24.6563	21.361	.601	.420	.818
Task_Oriented8	24.6688	22.705	.506	.283	.829

7. Relations-Oriented Reliability Test

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.864	.865	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Relations_Oriented1	24.3406	24.395	.659	.474	.843
Relations_Oriented2	24.3063	24.382	.690	.509	.840
Relations_Oriented3	24.2875	24.726	.569	.381	.853
Relations_Oriented4	24.4313	24.585	.621	.443	.847
Relations_Oriented5	24.4313	24.572	.631	.414	.846
Relations_Oriented6	24.3688	25.744	.576	.374	.852
Relations_Oriented7	24.3469	24.064	.646	.453	.844
Relations_Oriented8	24.3500	25.438	.527	.352	.858

8. Change-Oriented Reliability Test

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.865	.865	8

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Change_Oriented1	24.4500	26.969	.522	.335	.858
Change_Oriented2	24.4406	26.592	.556	.369	.855
Change_Oriented3	24.5031	25.969	.635	.435	.846
Change_Oriented4	24.4250	25.361	.644	.466	.845
Change_Oriented5	24.3469	25.970	.625	.456	.847
Change_Oriented6	24.3344	25.176	.672	.495	.842
Change_Oriented7	24.4531	25.358	.644	.473	.845
Change_Oriented8	24.1719	25.999	.618	.410	.848

9. Employee Engagement Reliability Test

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.854	.854	12

Item-Total Statistics

	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Squared Multiple Correlation	Cronbach's Alpha if Item Deleted
Vigor1	36.8750	41.343	.223	.127	.861
Vigor2	36.7000	37.947	.541	.381	.841
Vigor3	36.7688	39.198	.444	.369	.848
Vigor4	36.8500	38.153	.446	.327	.848
Dedication1	36.7938	37.322	.648	.520	.835
Dedication2	36.6000	36.606	.647	.549	.834
Dedication3	36.6063	36.630	.621	.517	.835
Dedication4	36.7125	36.860	.641	.541	.834
Absorption1	36.7250	36.326	.630	.472	.835
Absorption2	37.0875	38.898	.378	.257	.853
Absorption3	36.5938	37.098	.592	.593	.838
Absorption4	36.7188	37.663	.523	.468	.843

b) FACTOR TEST

Personality

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.706
Bartlett's Test of Sphericity	Approx. Chi-Square	3431.276
	df	1378
	Sig.	.000

Rotated Component Matrix[a]

	Component				
	1	2	3	4	5
Openness1	.249	.136	-.084	-.045	.530
Openness2	.239	-.051	.007	.086	.597
Openness3	.503	-.062	-.079	.220	.238
Openness4	.498	.263	-.006	.079	.210
Openness5	.594	.122	.069	-.087	.283
Openness6	.577	.041	.262	.180	-.034

Openness7	.415	.210	.199	-.112	-.064
Openness8	.518	.082	-.125	.037	.010
Openness9	.563	.086	.022	.175	.106
Conscientiousness1	.018	.088	.179	.339	-.142
Conscientiousness2	.281	.279	.232	.227	-.161
Conscientiousness3	.049	.092	.329	-.032	-.191
Conscientiousness4	.565	-.152	.193	.060	.023
Conscientiousness5	.467	-.191	-.019	.398	-.075
Conscientiousness6	.374	-.324	.138	.350	.104
Conscientiousness7	.188	-.014	.287	.256	-.019
Conscientiousness8	.138	.153	.122	.512	.031
Conscientiousness9	.219	.322	.217	.412	.109
Conscientiousness11	.600	.027	.029	.052	.162
Conscientiousness12	.530	.088	-.229	.143	.212
Extraversion1	.565	.024	.029	.242	-.201
Extraversion2	.459	.255	-.127	.317	-.278
Extraversion3	.541	-.159	-.121	.232	.071
Extraversion4	.174	.019	-.064	.165	.497
Extraversion5	.111	-.030	-.121	.396	.303
Extraversion6	-.005	.420	.088	.249	.350
Extraversion7	.463	.488	.074	-.179	-.002
Extraversion8	.356	.424	-.017	.075	-.043
Extraversion9	.409	.411	.142	.057	-.297
Extraversion10	.528	-.108	-.212	.106	.173
Extraversion11	.528	-.280	.055	.081	.154
Extraversion12	.141	-.020	.260	.080	.071
Agreeableness1	-.089	.667	-.028	.053	-.052
Agreeableness2	-.082	.641	.139	.055	-.098
Agreeableness3	-.084	.473	.320	.257	.037
Agreeableness4	.069	.032	.428	.218	-.297
Agreeableness5	-.071	.058	.696	.083	-.032
Agreeableness6	-.088	.156	.678	-.001	-.136
Agreeableness7	.583	-.046	.292	-.150	.098
Agreeableness8	.534	.083	.114	-.269	.310
Agreeableness9	.223	.065	.283	-.417	.293
Agreeableness10	-.251	.224	.331	.009	.304
Agreeableness11	-.036	.373	.353	-.059	.355
Agreeableness12	-.226	.329	.332	.083	.124
Neuroticism1	.140	.444	-.143	.367	.249
Neuroticism2	.052	.502	.158	.122	.214
Neuroticism3	.015	.658	.198	-.124	.065
Neuroticism4	.154	.157	.264	.338	.190
Neuroticism5	.239	-.121	.128	.622	.316

Neuroticism6	-.005	.242	.202	.522	.116
Neuroticism7	.255	.223	.414	.265	.341
Neuroticism8	.094	.335	.285	.147	.280
Neuroticism9	-.033	.268	.526	.136	.247

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 14 iterations.

Leadership Style

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.938
Bartlett's Test of Sphericity	Approx. Chi-Square	3538.057
	df	276
	Sig.	.000

Rotated Component Matrix[a]

	Component		
	1	2	3
Task_Oriented1	.647	.034	.401
Task_Oriented2	.729	-.089	.292
Task_Oriented3	.594	.252	.181
Task_Oriented4	.582	.276	.112
Task_Oriented5	.494	.415	.212
Task_Oriented6	.563	.305	.184
Task_Oriented7	.635	.359	.088
Task_Oriented8	.491	.447	.000
Relations_Oriented1	.477	.537	.151
Relations_Oriented2	.476	.548	.223
Relations_Oriented3	.304	.636	.067
Relations_Oriented4	.301	.626	.277
Relations_Oriented5	.476	.437	.281
Relations_Oriented6	.461	.336	.256
Relations_Oriented7	.430	.476	.289
Relations_Oriented8	.326	.376	.381
Change_Oriented1	.180	.584	.321
Change_Oriented2	.038	.716	.352
Change_Oriented3	.046	.520	.542
Change_Oriented4	.298	.266	.648
Change_Oriented5	.125	.140	.760
Change_Oriented6	.206	.163	.768
Change_Oriented7	.235	.185	.708
Change_Oriented8	.212	.228	.661

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 12 iterations.

Employee Engagement

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.841
Bartlett's Test of Sphericity	Approx. Chi-Square	695.016
	df	66
	Sig.	.000

Rotated Component Matrix[a]

	Component		
	1	2	3
Vigor1	.018	.050	.887
Vigor2	.476	.231	.495
Vigor3	.757	.021	-.147
Vigor4	.636	-.048	.340
Dedication1	.709	.319	.049
Dedication2	.694	.296	.179
Dedication3	.640	.314	.175
Dedication4	.723	.297	.051
Absorption1	.341	.658	.231
Absorption2	.097	.678	-.078
Absorption3	.210	.840	.071
Absorption4	.143	.785	.127

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a. Rotation converged in 4 iterations.

c) SINGLE MEAN T-test

FOR PERSONALITY

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
O	160	3.4250	.52525	.04152
C	160	3.5802	.56480	.04465
E	160	3.4031	.48154	.03807
A	160	2.8352	.54897	.04340
N	160	3.0054	.59171	.04678

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
O	-37.930	159	.000	-1.57500	-1.6570	-1.4930
C	-31.797	159	.000	-1.41979	-1.5080	-1.3316
E	-41.947	159	.000	-1.59688	-1.6721	-1.5217
A	-49.881	159	.000	-2.16484	-2.2506	-2.0791
N	-42.640	159	.000	-1.99464	-2.0870	-1.9023

FOR LEADERSHIP STYLE

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
TO	160	3.5352	.58671	.04638
RO	160	3.4786	.64611	.05108
CO	160	3.4844	.63347	.05008

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
TO	11.538	159	.000	.53516	.4435	.6268
RO	9.369	159	.000	.47857	.3777	.5795
CO	9.672	159	.000	.48438	.3855	.5833

FOR EMPLOYEE ENGAGEMENT

One-Sample Statistics

	N	Mean	Std. Deviation	Std. Error Mean
V	160	3.2953	.58403	.04617
D	160	3.4156	.70816	.05598
Ab	160	3.3125	.72954	.05768

One-Sample Test

	Test Value = 3					
					95% Confidence Interval of the Difference	
	t	df	Sig. (2-tailed)	Mean Difference	Lower	Upper
V	6.396	159	.000	.29531	.2041	.3865
D	7.424	159	.000	.41562	.3051	.5262
Ab	5.418	159	.000	.31250	.1986	.4264

d) CORRELATION TEST
H1a

Correlations

				O	TO
O	Pearson Correlation			1	.269**
	Sig. (1-tailed)				.000
	Sum of Squares and Cross-products			43.865	13.179
	Covariance			.276	.083
	N			160	160
	Bootstrap[c]	Bias		0	.001
		Std. Error		0	.078
		95% Confidence Interval	Lower	1	.116
			Upper	1	.422
TO	Pearson Correlation			.269**	1
	Sig. (1-tailed)			.000	
	Sum of Squares and Cross-products			13.179	54.732
	Covariance			.083	.344
	N			160	160
	Bootstrap[c]	Bias		.001	0
		Std. Error		.078	0
		95% Confidence Interval	Lower	.116	1
			Upper	.422	1

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H1b

Correlations

				O	RO
O	Pearson Correlation			1	.190**
	Sig. (1-tailed)				.008
	Sum of Squares and Cross-products			43.865	10.267
	Covariance			.276	.065
	N			160	160
	Bootstrap[c]	Bias		0	.001
		Std. Error		0	.090
		95% Confidence Interval	Lower	1	-.015
			Upper	1	.353
RO	Pearson Correlation			.190**	1
	Sig. (1-tailed)			.008	
	Sum of Squares and Cross-products			10.267	66.376
	Covariance			.065	.417
	N			160	160
	Bootstrap[c]	Bias		.001	0
		Std. Error		.090	0
		95% Confidence Interval	Lower	-.015	1
			Upper	.353	1

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H1c

Correlations

				O	CO
O	Pearson Correlation			1	.172*
	Sig. (1-tailed)				.015
	Sum of Squares and Cross-products			43.865	9.097
	Covariance			.276	.057
	N			160	160
	Bootstrap[c]	Bias		0	-.002
		Std. Error		0	.085
		95% Confidence Interval	Lower	1	-.006
			Upper	1	.340
CO	Pearson Correlation			.172*	1
	Sig. (1-tailed)			.015	
	Sum of Squares and Cross-products			9.097	63.805
	Covariance			.057	.401
	N			160	160
	Bootstrap[c]	Bias		-.002	0
		Std. Error		.085	0
		95% Confidence Interval	Lower	-.006	1
			Upper	.340	1

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H2a

Correlations

					C	TO
C	Pearson Correlation				1	.274**
	Sig. (1-tailed)					.000
	Sum of Squares and Cross-products				50.721	14.434
	Covariance				.319	.091
	N				160	160
	Bootstrap[c]	Bias			0	-.004
		Std. Error			0	.078
		95%	Confidence	Lower	1	.120
		Interval		Upper	1	.414
TO	Pearson Correlation				.274**	1
	Sig. (1-tailed)				.000	
	Sum of Squares and Cross-products				14.434	54.732
	Covariance				.091	.344
	N				160	160
	Bootstrap[c]	Bias			-.004	0
		Std. Error			.078	0
		95%	Confidence	Lower	.120	1
		Interval		Upper	.414	1

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H2b

Correlations

				C	RO
C	Pearson Correlation			1	.248**
	Sig. (1-tailed)				.001
	Sum of Squares and Cross-products			50.721	14.382
	Covariance			.319	.090
	N			160	160
	Bootstrap[c]	Bias		0	.001
		Std. Error		0	.075
		95% Confidence Interval	Lower	1	.097
			Upper	1	.387
RO	Pearson Correlation			.248**	1
	Sig. (1-tailed)			.001	
	Sum of Squares and Cross-products			14.382	66.376
	Covariance			.090	.417
	N			160	160
	Bootstrap[c]	Bias		.001	0
		Std. Error		.075	0
		95% Confidence Interval	Lower	.097	1
			Upper	.387	1

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H2c

Correlations

				C	CO
C	Pearson Correlation			1	.253**
	Sig. (1-tailed)				.001
	Sum of Squares and Cross-products			50.721	14.419
	Covariance			.319	.091
	N			160	160
	Bootstrap[c]	Bias		0	-.002
		Std. Error		0	.081
		95% Confidence Interval	Lower	1	.091
			Upper	1	.405
CO	Pearson Correlation			.253**	1
	Sig. (1-tailed)			.001	
	Sum of Squares and Cross-products			14.419	63.805
	Covariance			.091	.401
	N			160	160
	Bootstrap[c]	Bias		-.002	0
		Std. Error		.081	0
		95% Confidence Interval	Lower	.091	1
			Upper	.405	1

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H3a

Correlations

					E	TO
E	Pearson Correlation				1	.335**
	Sig. (1-tailed)					.000
	Sum of Squares and Cross-products				36.868	15.026
	Covariance				.232	.095
	N				160	160
	Bootstrap[c]	Bias			0	-.003
		Std. Error			0	.073
		95%	Confidence	Lower	1	.189
		Interval		Upper	1	.472
TO	Pearson Correlation				.335**	1
	Sig. (1-tailed)				.000	
	Sum of Squares and Cross-products				15.026	54.732
	Covariance				.095	.344
	N				160	160
	Bootstrap[c]	Bias			-.003	0
		Std. Error			.073	0
		95%	Confidence	Lower	.189	1
		Interval		Upper	.472	1

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H3b

Correlations

				E	RO
E	Pearson Correlation			1	.243**
	Sig. (1-tailed)				.001
	Sum of Squares and Cross-products			36.868	12.039
	Covariance			.232	.076
	N			160	160
	Bootstrap[c]	Bias		0	-.003
		Std. Error		0	.090
		95% Confidence Interval	Lower	1	.063
			Upper	1	.410
RO	Pearson Correlation			.243**	1
	Sig. (1-tailed)			.001	
	Sum of Squares and Cross-products			12.039	66.376
	Covariance			.076	.417
	N			160	160
	Bootstrap[c]	Bias		-.003	0
		Std. Error		.090	0
		95% Confidence Interval	Lower	.063	1
			Upper	.410	1

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H3c

Correlations

				E	CO
E	Pearson Correlation			1	.231**
	Sig. (1-tailed)				.002
	Sum of Squares and Cross-products			36.868	11.220
	Covariance			.232	.071
	N			160	160
	Bootstrap[c]	Bias		0	.004
		Std. Error		0	.085
		95% Confidence Interval	Lower	1	.066
			Upper	1	.403
CO	Pearson Correlation			.231**	1
	Sig. (1-tailed)			.002	
	Sum of Squares and Cross-products			11.220	63.805
	Covariance			.071	.401
	N			160	160
	Bootstrap[c]	Bias		.004	0
		Std. Error		.085	0
		95% Confidence Interval	Lower	.066	1
			Upper	.403	1

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H4a

Correlations

				A	TO
A	Pearson Correlation			1	-.061
	Sig. (1-tailed)				.223
	Sum of Squares and Cross-products			47.918	-3.112
	Covariance			.301	-.020
	N			160	160
	Bootstrap[c]	Bias		0	.000
		Std. Error		0	.070
		95% Confidence Interval	Lower	1	-.188
			Upper	1	.085
TO	Pearson Correlation			-.061	1
	Sig. (1-tailed)			.223	
	Sum of Squares and Cross-products			-3.112	54.732
	Covariance			-.020	.344
	N			160	160
	Bootstrap[c]	Bias		.000	0
		Std. Error		.070	0
		95% Confidence Interval	Lower	-.188	1
			Upper	.085	1

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H4b

Correlations

				A	RO
A	Pearson Correlation			1	-.017
	Sig. (1-tailed)				.416
	Sum of Squares and Cross-products			47.918	-.958
	Covariance			.301	-.006
	N			160	160
	Bootstrap[c]	Bias		0	-.003
		Std. Error		0	.079
		95% Confidence Interval	Lower	1	-.177
			Upper	1	.129
RO	Pearson Correlation			-.017	1
	Sig. (1-tailed)			.416	
	Sum of Squares and Cross-products			-.958	66.376
	Covariance			-.006	.417
	N			160	160
	Bootstrap[c]	Bias		-.003	0
		Std. Error		.079	0
		95% Confidence Interval	Lower	-.177	1
			Upper	.129	1

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H4c

Correlations

				A	CO
A	Pearson Correlation			1	.044
	Sig. (1-tailed)				.292
	Sum of Squares and Cross-products			47.918	2.408
	Covariance			.301	.015
	N			160	160
	Bootstrap[c]	Bias		0	.001
		Std. Error		0	.071
		95% Confidence Interval	Lower	1	-.095
			Upper	1	.180
CO	Pearson Correlation			.044	1
	Sig. (1-tailed)			.292	
	Sum of Squares and Cross-products			2.408	63.805
	Covariance			.015	.401
	N			160	160
	Bootstrap[c]	Bias		.001	0
		Std. Error		.071	0
		95% Confidence Interval	Lower	-.095	1
			Upper	.180	1

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H5a

Correlations

				N	TO
N	Pearson Correlation			1	.074
	Sig. (1-tailed)				.176
	Sum of Squares and Cross-products			55.669	4.086
	Covariance			.350	.026
	N			160	160
	Bootstrap[c]	Bias		0	.006
		Std. Error		0	.085
		95% Confidence Interval	Lower	1	-.097
			Upper	1	.251
TO	Pearson Correlation			.074	1
	Sig. (1-tailed)			.176	
	Sum of Squares and Cross-products			4.086	54.732
	Covariance			.026	.344
	N			160	160
	Bootstrap[c]	Bias		.006	0
		Std. Error		.085	0
		95% Confidence Interval	Lower	-.097	1
			Upper	.251	1

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H5b

Correlations

				N	RO
N	Pearson Correlation			1	.006
	Sig. (1-tailed)				.468
	Sum of Squares and Cross-products			55.669	.386
	Covariance			.350	.002
	N			160	160
	Bootstrap[c]	Bias		0	.002
		Std. Error		0	.087
		95% Confidence Interval	Lower	1	-.162
			Upper	1	.178
RO	Pearson Correlation			.006	1
	Sig. (1-tailed)			.468	
	Sum of Squares and Cross-products			.386	66.376
	Covariance			.002	.417
	N			160	160
	Bootstrap[c]	Bias		.002	0
		Std. Error		.087	0
		95% Confidence Interval	Lower	-.162	1
			Upper	.178	1

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H5c

Correlations

				N	CO
N	Pearson Correlation			1	.120
	Sig. (1-tailed)				.065
	Sum of Squares and Cross-products			55.669	7.156
	Covariance			.350	.045
	N			160	160
	Bootstrap[c]	Bias		0	.000
		Std. Error		0	.080
		95% Confidence Interval	Lower	1	-.034
			Upper	1	.277
CO	Pearson Correlation			.120	1
	Sig. (1-tailed)			.065	
	Sum of Squares and Cross-products			7.156	63.805
	Covariance			.045	.401
	N			160	160
	Bootstrap[c]	Bias		.000	0
		Std. Error		.080	0
		95% Confidence Interval	Lower	-.034	1
			Upper	.277	1

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H6

Correlations

				O	EE
O	Pearson Correlation			1	.462**
	Sig. (1-tailed)				.000
	Sum of Squares and Cross-products			43.865	21.441
	Covariance			.276	.135
	N			160	160
	Bootstrap[b]	Bias		0	.000
		Std. Error		0	.073
		95% Confidence Interval	Lower	1	.306
			Upper	1	.595
EE	Pearson Correlation			.462**	1
	Sig. (1-tailed)			.000	
	Sum of Squares and Cross-products			21.441	49.067
	Covariance			.135	.309
	N			160	160
	Bootstrap[b]	Bias		.000	0
		Std. Error		.073	0
		95% Confidence Interval	Lower	.306	1
			Upper	.595	1

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

b. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H7

Correlations

				C	EE
C	Pearson Correlation			1	.465**
	Sig. (1-tailed)				.000
	Sum of Squares and Cross-products			50.721	23.219
	Covariance			.319	.146
	N			160	160
	Bootstrap[b]	Bias		0	-.001
		Std. Error		0	.076
		95% Confidence Interval	Lower	1	.307
			Upper	1	.606
EE	Pearson Correlation			.465**	1
	Sig. (1-tailed)			.000	
	Sum of Squares and Cross-products			23.219	49.067
	Covariance			.146	.309
	N			160	160
	Bootstrap[b]	Bias		-.001	0
		Std. Error		.076	0
		95% Confidence Interval	Lower	.307	1
			Upper	.606	1

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

b. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H8

Correlations

				E	EE
E	Pearson Correlation			1	.558**
	Sig. (1-tailed)				.000
	Sum of Squares and Cross-products			36.868	23.738
	Covariance			.232	.149
	N			160	160
	Bootstrap[b]	Bias		0	-.003
		Std. Error		0	.064
		95% Confidence Interval	Lower	1	.424
			Upper	1	.669
EE	Pearson Correlation			.558**	1
	Sig. (1-tailed)			.000	
	Sum of Squares and Cross-products			23.738	49.067
	Covariance			.149	.309
	N			160	160
	Bootstrap[b]	Bias		-.003	0
		Std. Error		.064	0
		95% Confidence Interval	Lower	.424	1
			Upper	.669	1

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

b. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H9

Correlations

				A	EE
A	Pearson Correlation			1	.201**
	Sig. (1-tailed)				.005
	Sum of Squares and Cross-products			47.918	9.727
	Covariance			.301	.061
	N			160	160
	Bootstrap[c]	Bias		0	-.003
		Std. Error		0	.074
		95% Confidence Interval	Lower	1	.049
			Upper	1	.343
EE	Pearson Correlation			.201**	1
	Sig. (1-tailed)			.005	
	Sum of Squares and Cross-products			9.727	49.067
	Covariance			.061	.309
	N			160	160
	Bootstrap[c]	Bias		-.003	0
		Std. Error		.074	0
		95% Confidence Interval	Lower	.049	1
			Upper	.343	1

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H10

Correlations

				N	EE
N	Pearson Correlation			1	.243**
	Sig. (1-tailed)				.001
	Sum of Squares and Cross-products			55.669	12.684
	Covariance			.350	.080
	N			160	160
	Bootstrap[c]	Bias		0	.001
		Std. Error		0	.085
		95% Confidence Interval	Lower	1	.069
			Upper	1	.406
EE	Pearson Correlation			.243**	1
	Sig. (1-tailed)			.001	
	Sum of Squares and Cross-products			12.684	49.067
	Covariance			.080	.309
	N			160	160
	Bootstrap[c]	Bias		.001	0
		Std. Error		.085	0
		95% Confidence Interval	Lower	.069	1
			Upper	.406	1

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H11

Correlations

					TO	EE
TO	Pearson Correlation				1	.298**
	Sig. (1-tailed)					.000
	Sum of Squares and Cross-products				54.732	15.446
	Covariance				.344	.097
	N				160	160
	Bootstrap[c]	Bias			0	-.003
		Std. Error			0	.086
		95% Confidence Interval		Lower	1	.116
				Upper	1	.457
EE	Pearson Correlation				.298**	1
	Sig. (1-tailed)				.000	
	Sum of Squares and Cross-products				15.446	49.067
	Covariance				.097	.309
	N				160	160
	Bootstrap[c]	Bias			-.003	0
		Std. Error			.086	0
		95% Confidence Interval		Lower	.116	1
				Upper	.457	1

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H12

Correlations

				RO	EE
RO	Pearson Correlation			1	.248**
	Sig. (1-tailed)				.001
	Sum of Squares and Cross-products			66.376	14.146
	Covariance			.417	.089
	N			160	160
	Bootstrap[c]	Bias		0	-.005
		Std. Error		0	.097
		95% Confidence Interval	Lower	1	.049
			Upper	1	.426
EE	Pearson Correlation			.248**	1
	Sig. (1-tailed)			.001	
	Sum of Squares and Cross-products			14.146	49.067
	Covariance			.089	.309
	N			160	160
	Bootstrap[c]	Bias		-.005	0
		Std. Error		.097	0
		95% Confidence Interval	Lower	.049	1
			Upper	.426	1

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

H13

Correlations

				CO	EE
CO	Pearson Correlation			1	.269**
	Sig. (1-tailed)				.000
	Sum of Squares and Cross-products			63.805	15.046
	Covariance			.401	.095
	N			160	160
	Bootstrap[c]	Bias		0	.001
		Std. Error		0	.093
		95% Confidence Interval	Lower	1	.091
			Upper	1	.447
EE	Pearson Correlation			.269**	1
	Sig. (1-tailed)			.000	
	Sum of Squares and Cross-products			15.046	49.067
	Covariance			.095	.309
	N			160	160
	Bootstrap[c]	Bias		.001	0
		Std. Error		.093	0
		95% Confidence Interval	Lower	.091	1
			Upper	.447	1

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

c. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

e) REGRESSION TEST

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.389[a]	.151	.123	.54930	.151	5.479	5	154	.000	2.088

a. Predictors: (Constant), N, C, A, O, E

b. Dependent Variable: TO

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
1 (Constant)	2.275	.365		6.233	.000			
O	.096	.117	.086	.825	.411	.269	.066	.061
C	.102	.104	.099	.989	.324	.274	.079	.073
E	.340	.130	.279	2.615	.010	.335	.206	.194
A	-.174	.094	-.163	-1.845	.067	-.061	-.147	-.137
N	-.034	.095	-.034	-.358	.721	.074	-.029	-.027

a. Dependent Variable:TO

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.308[a]	.095	.065	.62469	.095	3.218	5	154	.009	2.048

a. Predictors: (Constant), N, C, A, O, E

b. Dependent Variable: RO

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
1 (Constant)	2.352	.415		5.665	.000			
O	.033	.133	.026	.245	.807	.190	.020	.019
C	.200	.118	.175	1.700	.091	.248	.136	.130
E	.255	.148	.190	1.725	.087	.243	.138	.132
A	-.048	.107	-.041	-.447	.656	-.017	-.036	-.034
N	-.145	.108	-.132	-1.342	.182	.006	-.108	-.103

a. Dependent Variable: RO

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.274[a]	.075	.045	.61903	.075	2.502	5	154	.033	2.082

a. Predictors: (Constant), N,C, A, O, E

b. Dependent Variable: CO

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
1 (Constant)	2.283	.411		5.550	.000			
O	-.032	.132	-.026	-.241	.810	.172	-.019	-.019
C	.209	.117	.186	1.787	.076	.253	.143	.139
E	.181	.147	.138	1.234	.219	.231	.099	.096
A	-.039	.106	-.034	-.365	.715	.044	-.029	-.028
N	.019	.107	.018	.178	.859	.120	.014	.014

a. Dependent Variable: CO

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.311[a]	.097	.079	.53298	.097	5.577	3	156	.001	2.175

a. Predictors: (Constant), CO, TO, RO

b. Dependent Variable: EE

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
1 (Constant)	2.260	.269		8.395	.000			
TO	.232	.126	.245	1.848	.066	.298	.146	.141
RO	-.047	.124	-.055	-.380	.705	.248	-.030	-.029
CO	.122	.104	.139	1.167	.245	.269	.093	.089

a. Dependent Variable:EE

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.591[a]	.349	.328	.45541	.349	16.517	5	154	.000	2.137

a. Predictors: (Constant),N, C, A, O, E

b. Dependent Variable: EE

Coefficients[a]

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Correlations		
	B	Std. Error	Beta			Zero-order	Partial	Part
1 (Constant)	.788	.303		2.606	.010			
O	.123	.097	.116	1.270	.206	.462	.102	.083
C	.173	.086	.176	2.012	.046	.465	.160	.131
E	.453	.108	.393	4.200	.000	.558	.321	.273
A	.069	.078	.068	.885	.378	.201	.071	.058
N	-.075	.079	-.080	-.955	.341	.243	-.077	-.062

a. Dependent Variable: EE

APPENDIX D List of Publications

1. The influence of Project Manager Personality on Project Performance in Construction Industry in Kuantan(Draft)
2. Linkage between Leader's Personality, Leadership Style and Employee Engagement. International Journal of Innovative Research and Advanced Studies, 4(5): 103-110. (2017)
3. Bridging Leader's Personality with Leadership Style. The Social Sciences (Scopus-Indexed), 12(6):1076-1084 (2017)
4. The Relationship between Leadership Style and Employee Engagement: Evidence from Construction Companies in Malaysia. The Social Sciences (Scopus-Indexed), 12(6): 984-988. (2017)
5. The Relationship between Leadership Styles and Employee Engagement: Evidences from Construction Copmpanies in Malaysia. MUCET 2015, 11th -13th Oct. 2015. Johor Bahru. (2015)