Leadership Best Practice for Sustaining Business Excellence in Innovative Organisations

Maan Nadeem Ali Al Afifi

A thesis submitted in partial fulfilment of the requirements of
Sheffield Hallam University
For the degree of Doctor of Philosophy

November 2015

Epigraphs

Quotes from His Highness Sheikh Mohammed bin Rashid Al Maktoum

"Assuming leadership is one thing, explaining it is something completely different."
(My vision, 2012, page 43)

"The leader of a selected group of people is not the same as one leading an army or country. Most of people are well equipped to lead in a limited domain, leading countries and nations requires a lot more. "

(My vision, 2012, Page 43)

"Some may say that leaders are born and not made, which may or may not be true, others say that leadership cannot be learned; because it is something you either have or do not. Based on experience and observation we can say with confidence that leadership is a gift that some people have and others do not."

(My vision, 2012, Page 43)

"Sheikh Zayed earned the love of all those around him, out of their great respect for his hard work and achievements. He was also frank and expected people to be frank with him. This is something he taught me and this is how I came to respect him."

(My vision, 2012, Page 45)

"Sheikh Zayed also thought us that Leadership is all about daily actions and not just theory. Leadership, as he practiced it, is a human and social concept that overtakes speculation. It is also about determination, confidence, far-sightedness and good judgments."

(My vision, 2012, Page 45)

Preface

This thesis is presented as part of the requirements for the award of the degree of Doctor of Philosophy from Sheffield Hallam University in the UK. It reports on the research work conducted by the author under the supervision of Professor Sameh Saad in the Faulty of Arts, Computing, Engineering and Sciences at Sheffield Hallam Univeristy between November 2011 and November 2015.

The oral examination of the thesis was conducted by one external assessor and one internal assessor on 5th February 2016.

Candidate's declaration of originality

This thesis is my own work and contains no material which has been accepted for the award of any other degree or diploma in any university and, to the best of my knowledge and belief, it contains no material previously published by any other person except where due acknowledgement had been made.

Maan Nadeem Al Afifi

Acknowledgements

I would like to thank everyone who has given me their invaluable support, encouragement, and guidance during the lengthy period of preparing this thesis. I would like to express my gratitude to everyone who has supported me during my study. Without you, I would have never been able to complete it.

The professional support and guidance of my project supervisor Professor Sameh Saad has been the key to my success in completing my thesis. He inspired me and took me on this amazing journey. I would also like to thank him for the many opportunities that he given me to improve my academic research in terms of attending international conferences and contributing to publications.

I would like to express my gratitude to the Dubai Executive Council (Dubai Government Excellence Program (DGEP)) for its support. I would also like to thank the president of Mohammed bin Rashid School of Government (MBRSG) for his support and his positive feedback on my research. My deeper gratitude goes to Dubai Electricity and Water Authority management– the CEO and managing director, and to the executive vice president- Generation. My gratitude is extended also to all of my colleagues who helped me and encouraged me to complete my studies; directly and indirectly.

Finally, I would like to thank my entire family for their encouragement and understanding. I would especially like to thank my mother for her support throughout my life and dedicate this thesis to her and my entire family.

Abstract

Innovative organisations are facing exceptional changes and challenges. To meet such changes and challenges, it is recognised that appropriate leadership is essential. This leadership organises and encourages thoughts and good intentions by putting the interests of others as the top priority, energises positive thoughts; loyalty, integrity and determination, and facilitates creative thinking by using all creative methods to solve problems and think outside of the box.

Leadership best practices are the basis and driver for "innovative organisations and excellence" across the world. However, achieving best practice is almost impossible without defining a common understanding of leadership and sustainable business excellence within organisations. For five decades, scholars almost failed to agree on one common definition. This has led to the need for new, agreeable leadership roles to ensure that organisational excellence is sustainable, innovative, and valid for all.

The aims of this research include, firstly, to provide a framework for understanding leadership. Secondly, it aims to provide a methodology to build and validate "business excellence" and "leadership" models and theories. Thirdly, this research will develop a sustainable business excellence framework that integrates quality management and the majority of the necessary components for considering the performance of enterprises in today's environment, taking into consideration the creativity and sustaining excellence in innovation by organisations in this 21st century.

The research methodology used in this thesis includes a literature review of approximately 1000 articles and definitions that were collected from different sources, interviews of carefully selected experts in the field of leadership and business excellence, and different sets of questionnaires. Moreover, a validation tool has been developed, which is a combination of well-known management tools (Deming Cycle, RADAR logic, and Structural Equational Modelling (SEM)). In addition, statistical software (SPSS) and AMOS have been used to carry out the necessary statistical analysis and to facilitate the development of the proposed leadership framework and validation model.

There are four major new outcomes of this thesis: 1) developing a framework for understanding leadership, 2) developing the six essential elements of leadership, 3) developing a model to validate business excellence models, 4) developing a new leadership framework for the 21st Century that is characterised by innovative principles and sustainable business excellence within an organisation.

Published papers

1 Saad, S. & Al Afifi, M. N (2015). ABCD Model Analysis: A Critical Validation Management Tool for Business Excellence Models. *Proceedings of the 9th International Conference on Business Administration, WSEAS Business and Economics Series*, 73-82.

2 Saad, S. & Al Afifi, M. N (2015). An Empirical Test and Validation of Dubai Government Excellence Program (DGEP) using ABCD Model Analysis. *Proceedings of the 9th International Conference on Business Administration, WSEAS Business and Economics Series*, 171-185.

3 Saad, S. & Al Afifi, M. N (2015). The ABCD Validation Management Tool for Business Excellence Models. *WSEAS Transaction on Business and Economics*. Volume 12, 2015, 363-376.

4 Saad, S. & Al Afifi, M. N (2015). ABCD analysis- A New Validation Model for Dubai Government Excellence Program (DGEP), *International Journal of Economics and Statistics*. Volume 3, 2015.128-140.

5 Saad, S. & Al Afifi, M. N (2015). Validation of Continuous process improvement tracking model (CITM). *Advances in Contemporary Management Practices, Proceedings of the International Conference on Contemporary Management Practices (ICCMP'15)*, Canadian Arena of Applied Scientific Research (CAASR), 17-31, ISBN: 978-0-9948937-0-3.

6 Saad, S. & Al Afifi, M. N (2015). ABCD Management Theory. *Advances in Contemporary Management Practices, Proceedings of the International Conference on Contemporary Management Practices (ICCMP'15)*, Canadian Arena of Applied Scientific Research (CAASR), 168-182, ISBN: 978-0-9948937-0-3.

Planned papers

1. Al Afifi, M. N & Saad, S. (2015). A Framework for Understanding Leadership. Volume X. Issue X. N-M. [Under Submission]

2. Saad, S. & Al Afifi, M. N (2015). Development of Sustainable Leadership Framework. Volume X. Issue X. N-M. [Under Submission]

   Saad, S & Al Afifi, M. N (2015). Step by step how to validate a model by using ABCD Model Analysis [Under Submission]

3. Lootah, N., Saad, S. and Al Afifi, M. N. (2015). Development and implementation of a Leading Creative Culture Approach at Dubai Electricity and Water Authority [Under Submission]

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Nomenclature

ABCD	Achievement Because of Continuous Development
DEWA	Dubai Electricity and Water Authority
DGEP	Dubai Government Excellence Program
MBRSG	Mohammed bin Rashid School of Government
MBNQA	Malcolm Baldrige National Quality Award
EFQM	European Foundation for Quality Management
ABEF	Australian Business Excellence Framework
ISO	International Organization for Standardization
U.S.	United State of America
COP	Control, Order and Predict
ACE	Acknowledge, Create and Empower
UAE	United Arab Emirates
TQM	Total Quality Management
NIST	National Institute of Standards and Technology
RTA	Road Transport Authority, Dubai
BEM	Business Excellence Model
SAS	Statistical Analysis System (Statistical Software)
SPSS	Statistical Package for the Social Sciences (Software)
STATA	STATA (Statistical Software)
JMP	JMP (Statistical Software)
MATLAB	Matrix Laboratory (Programming Software)
Simio	Simio (Simulation Software)
Arena	Arena (Simulation Software)
Vortex	Vortex (Simulation Software)
ATLAS.ti5	ATLAS.ti5 (Scientific Software)
MAXqda2	MAXqda2 (Qualitative Data Analysis Software)
NVivo7	NVivo7 (Qualitative Data Analysis Software)
ANOVA	Analysis of variance
R	R (Programming & Statistical Software)
CFA	Confirmatory Factors Analysis
LISREL	LISREL (Statistical Software)
PLS	Partial Least Squares
AMOS	Analysis of Moment Structures
SEM	Structural Equational Modelling
CITM	Validation of Continuous Improvement Tracking Model
AHP	Analytic Hierarchy Process
EFA	Exploratory Factor Analysis
VIF	Variable Inflation Factor
PASW	Predictive Analytics Software (SPSS previous version 18)
CMIN	Chi Square or X^2
Df	Degree of Freedom
RMR	Root Mean Square Residual
RMSEA	Root Mean Square Error of Approximation
GFI	Goodness-Of-Fit

NFI	Normed Fit Index
CFI	Comparative Fit Index
AGF	Adjusted Goodness-Of-Fit
AFI	Adjunct fit indices
ABCD	Analyse, Build, Check and Decide
RADAR	Results, Approaches, Deploys, Assess and Refine
AGFI	Adjusted Goodness-Of-Fit Index
NNFI	Bentler-Bonett Non-Normed Fit Index
N/A	Not available
HR	Human Resources
PDCA	Plan, Do, Check, Act
MD	Doctor of Medicine
JD	Doctor of Jurisprudence
CITM	Continuous Improvement Tracking Model
SWOT	Strengths, Weaknesses, Opportunities, Threads Analysis
KPI	Key Performance Indicators
CMR	Commissioning Management Result
CMR-1	Commissioning Management Review
CMR-2	Commissioning Management Refine
RA1	The CITM report covers the scope and targets
RA2	The Action Plan based on targets are updated
D1	Submission frequency is determined and agreed
D2	CITM reports are submitted on time
A1	Identification of the deviation from the target
A2	Availability of measured action to deviation
R1	Implementation of measurement against the deviation
R2	Positive result of measurement carried out
PDP	Professional Development Plan
ABCD engines	Act, Behaviour, Creativity and Dream
7-C	Creativity Model
A1	Aligning strategy, innovation & interest
B1	Building strategy, process & synergy
C1	Creating clear goals, commitment & contribution
D1	Driving change, monitor & take initiative
A2	Acting powerfully, purposefully & positively
B2	Building culture of excellence, faith & balance
C2	Challenging, conscious & comprehensive
D2	Decision making, know how & determination
A3	Aligning people & adapting leadership styles
B3	Building organisation trust, respect & motives
C3	Creating confidence, consulting & care
D3	Demonstrating role model & developing leaders
A4	Achieving sustaining results & happiness
B4	Building business, personality & leadership skills
C4	Communicating, coaching & continuous learning
D4	Driving extraordinary performance, principles & integrity

P Value	The probability of getting the observed or more extreme results, given that the null hypothesis is true.
T Statistic	A ratio of the departure of an estimated parameter from its notional value and its standard error

Chapter One – Introduction

This chapter will introduce the research problem. It will include a review of the research background, aim, objectives, and expected outcomes. Later in the chapter, the research questions that form the foundation for the investigation will be formulated. The chapter closes with an outline of the thesis.

1.1 Background

Many scholars have attempted to focus on the differences between leaders and managers. Although these difference are obvious and well-known, few are remembered, for example leaders do the right things, while managers do things right (Drucker, 1955).

In this thesis, the one main difference between leaders and managers and other differences are considered as two blocks that complete each other. The only difference acknowledged is that the post of manager has a fixed job title, while a leader is described and found in any job, either titled or untitled.

This thesis will shed light on the differences between a leader and leadership. A leader is an individual who has the ability to lead. Leadership is an organised system that comprises several basic elements that form leadership. There are good and bad leaders; but leadership cannot be assessed as bad or wrong, it only can be measured and described as, for example, less leadership, poor leadership, excellent leadership, or effective leadership.

Many scholars argue that some leaders are born to lead and some learn to lead (Owen, 2012). In fact, effective leaders lead to learn, lead to teach, and lead to model. Effective leadership starts with forming a model of what others need to know and do. Leaders help others to lead. All best practice business excellence models depend on the leadership factor as a driver to push the organisation forward to the excellence level of business. In fact, leaders should pull instead of push. They pull the entire organisation forwards at the start of the journey to excellence. This is why we need to focus on leadership criteria, to continue to revisit it, and to provide leadership models based on best practice worldwide.

In this thesis, a new innovative validation method and two frameworks will be developed, a management tool to guide and implement the validation process, a framework for understanding leadership and its principles, and a novel sustainable leadership framework that enables best practice in innovative organisations. These

two frameworks consist of a set of models and interrelated theories. Out of 36 well-known theories, four groups of theories will be considered in this study as main theories during the development stage of the proposed frameworks.

In order to present or develop sets of models for the second framework, the meaning of leadership must be studied and understood through examining related theories and definitions. This can be achieved through the first framework and an understanding of leadership reached. It is necessary to ensure that agreement on any framework or model is validated to ensure the model or framework is fit for use. This validation method will be developed and implemented throughout this thesis.

Once the leadership framework is created, it should be validated. Validation is significant, as it provides general acceptance and scientific approval based on a systematic approach. Accordingly, a validation management tool is developed in this thesis to guide and implement the validation process through a clear validation methodology called ABCD.

Many organisations argue that validation is not their core business. They do not have smooth ongoing processes in place to test assumptions about the business through which decisions are made. They don't check the original assumption prior to making a decision.

Business model validation is key to innovative organisations that often get the least attention. Incorporating the validation process in an innovative approach will enhance an organisation's chances of sustaining excellence and success.

Business model validation is a never ending process and the end goal is not always clear. Therefore, goals should be determined through well-structured validation tools.

Validation models clarify assumptions in business models by involving stakeholders internally and externally. One of the most prevailing assumptions is that business strategy cascades from organisations' top levels down to execution. This is not always true, as there is a need to validate assumptions in the business model and to

focus on who, what, when, where, why, and how. These are the basic questions for validating business excellence models.

1.2 Aim and objectives of the thesis

The aim of this PhD study is to develop a novel business excellence framework through which organisations can improve services and/or products and promote sustainability in their performance at all levels and become a world-class example of leadership. To meet this challenge, a number of specific objectives are identified as follows:

The objectives of the study are:

1. To develop validation management theory.
2. To develop a new validation model called ABCD.
3. To apply the proposed ABCD validation model to business excellence models and process improvement models.
4. To report on and develop the basic elements of leadership.
5. To develop a new framework for understanding leadership.
6. To develop and validate a conceptual framework structure and integration protocol.

1.3 Expected outcomes

This research is expected to contribute significantly to the development of the leadership framework and its validation and implementation. The expected outcomes can be summarised as follows:

a) The provision of a full definition of leadership that takes into consideration all aspects of leadership.

b) The provision of a framework for understanding leadership that links all relevant major theories to leadership best practice.

c) The provision of a sustainable leadership framework that replaces the leadership component in any business excellence models.

d) The provision of a validation method that can help in validating any model or idea, or decision making.

1.4 Research questions

The main issues addressed in this thesis can be summarised by the following five questions:

1. What is the relevant literature review in business excellence models?
2. Why do we need to validate a business excellence model?
3. What is the procedure for the validation model?
4. How can we understand leadership?
5. What is the best practice and the novelty of the developed leadership framework?

1.5 Thesis structure

Chapter two will cover business excellence model theory, model validation, and leadership. Chapter three will discuss the methodology and tools used in this study. Chapter four will introduce an innovative theory for the management of validation and develop the ABCD validation method for validating business models. Chapter five will provide examples of application of the proposed validation method on the Dubai Government Excellence Program (DGEP) and the process improvement model by using the ABCD validation method. Chapter six will introduce a framework for understanding leadership. In Chapter seven, the proposed leadership framework will be developed and an empirical study for validation of the proposed leadership framework by the ABCD validation method will be explained. Chapter eight will provide the conclusions, discussions on the research, the key contribution to knowledge, and future work.

Chapter Two – Literature Review

As mentioned in the introduction chapter, the aim of this PhD study is to develop a novel, sustainable business excellence framework for the best practice in leadership, through which organisations will be able to improve services and/or products. They will also be able to promote sustainability in their performance at all levels and become world-class leadership examples. In order to have the required depth in the field of business excellence models and leadership, including a detailed understanding of the best methods for research and validation, this chapter covers the literature review and the knowledge required to commence the research. In this chapter, an overview of the theories and recent academic research related to the quality, business excellence models, validation techniques and leadership theories and definitions is presented to capture the latest developments in this field and to identify research gaps.

2.1 Introduction

The literature review covers the business excellence models and the best practice available worldwide. In addition, many books related to leadership were reviewed. The literature review's direction and approach required a starting point, hence the quality theory is discussed first. The following sections cover the definitions of quality, leadership, business models, validation, drawbacks and benchmarking.

2.2 Definitions

It is very important to start mentioning definitions before the thesis begins, in order for the reader to understand the definition of the subject from the perspective of the thesis. For the reason above, the definitions focus on the key words that might have more than one meaning, such as what quality means, theory, approach, method, model, framework, leadership, best practice and validation.

2.2.1 Definition of quality management theory

Most definitions of quality can be found in literature published in the 1970s and 1980s. For example, Crosby (1979) defined quality as "conformance to requirement", while Juran and Gyna (1980) defined quality as "fitness for use". Deming's (1986) definition of quality was "a predictable degree of uniformity and dependability at low cost and suited to the market". The best definition describes quality as the conformance of a specified requirement. Garvin (1984) compiled five major approaches to define quality. These are the transcendent approach of philosophy, the product-based approach of economics, marketing and operation management, manufacturing-based quality and the value-based approaches of operations management.

The first approach is the transcendent approach which defines quality as neither mind nor matter, but a third entity independent of the two (Pirsig, 1974). The second approach is the product-based theory, which defines it as the difference in the amount of quality compared to the difference in the quantity of some desired ingredients or attributes (Abbott, 1955). The third approach is user based which is defined as the quality of the extent to which a specimen (a product-brand-model-seller

combination) possesses the service characteristics that one desires (Maynes, 1976). Another simple definition by Juran et al. (1974) is that quality is fitness for use. The fourth approach addresses the manufacturing-based approach and defines quality as conformance to requirements (Crosby, 1979). Another definition by Gilmore (1974) is that quality is the degree to which a specific product conforms to a design or specification. The fifth approach is based on value. Broh (1982) defines quality as the degree of excellence at an acceptable price and the control of variability at an acceptable cost. Also quality can be defined as being the best for certain customer conditions. These conditions are the actual use and the selling price of the product (Feigenbaum, 1961).

2.2.2 The definition of the business excellence model

A unified defined term for the phrase 'business model' is impossible due to the diversity of the available definitions. Morris et al. (2005) compiled 30 definitions of the term business model in which only six out of 30 showed some similarity in the components of the model. Morris et al. (2005) agreed that the definition of a business model is a standardised set of decisions that can be quantified. Mitchell and Coles (2004) had a simplified definition, they defined the term business model as the combination of the following questions: who (what, when, why, how much) does an organisation use to provide its food and services and develop resources to continue its efforts? Some authors describe the business model widely as "the description of company logic of value creation" (Ghaziani and Ventresca, 2005) or the "method of doing business by which a company sustains itself" (Rappa, 2001). All of these definitions share a common view of the business model as the description of reality within their frame of reference. The best known global models are Malcolm Baldrige National Quality Award Model (MBNQA), the European Foundation for Quality Management (EFQM), the Singapore Award Model, the Japan Quality Award Model, the Australian Business Excellence Framework (ABEF), the Canadian Business Excellence Model Dubai Government Excellence Award and the Shaikh Khalifa Excellence Award, with the latter both depending on EFQM.

The EFQM model is based on the number of EFQM model members, the members of its national partners, and those organisations that they know are using the model in

their business. In addition, the EFQM model has now spread all over the world and covers all the developing countries. For the last 20 years, most of the excellence models and achievements have been supported by and derived from a number of models. Van Assen et al. (2009) shortlisted 60 of the latest cutting-edge business excellence models used for improving performance, management, ISO 9000, ISO 14001 and integrated management systems. Nevertheless, large organisations that adopt highly excellence models need to involve their employees in adopting and understanding the complexity of the built-in model. Another example is the Danish Business Excellence in Denmark. Kristensen et al. (2001) argued that the EFQM model for business excellence has quite a complex picture of a company's position by addressing the interrelation between its components. This is based on self-assessment and addressing the ability to lead, to manage people, to manage systems and to create results.

2.2.3 The definition of leadership

The first question always asked in any topic discussing leadership is whether the leader is born or made. The question has no right or wrong answer but as a debate, it opens up the topic. In this thesis, the leader and leadership are distinguished, and the answer is simplified by the analysis and the research carried out in this section and specifically in Chapter six – a framework for understanding leadership. A leader is born, whereas leadership is made. This agrees with the literature stating that leadership is a combination of nature and nurture.

"Some may say that leaders are born and not made, which may or may not be true, others say that leadership cannot be learned; because it is something you either have or do not. Based on experience and observation we can say with confidence that leadership is a gift that some people have and others do not."

HH Sheikh Mohammed bin Rashid Al Maktoum (2012,p43).

There is no single common definition or universal model for leadership that can be referred to as a standard leadership model which illustrates best practice in leadership. Most business excellence leadership models tend to mix between 'leadership' and 'managership'. However, the lack of consistency in finding a

business excellence leadership model is largely down to the use of varying frameworks that are implemented for either receiving high prestige awards or seeking a quick-fix solution or harvesting the low-hanging fruits.

"Assuming leadership is one thing, explaining it is something completely different."

HH Sheikh Mohammed bin Rashid Al Maktoum (2012, p43)

Henry Kissinger, the ex-US secretary of state, defined leadership as "taking people where they would not have got by themselves" (Owen, 2014). Leadership according to the EFQM model (2012) is "leaders who shape the future and make it happen, acting as role models for its value and ethics and inspiring trust at all times. They are flexible, enabling the organisation to anticipate and react in a timely manner to ensure the ongoing success of the organisation". But according to the glossary of terms in the EFQM 2010 edition, it explains leaders as "the people who coordinate and balance the interests and activities of all who have a stake in the organisation". MBNQA (2012) defined leadership as the organisation's senior leaders' personal action actions that guide and sustain an organisation. Goffee and Jones (2000) argued that it is not true that everyone can be a leader; many executives do not have the self-knowledge and authenticity apart from being not interested in shouldering leadership responsibility. A leader should delegate tasks and maybe some authority but should not delegate away his/her responsibilities (Owen, 2014). It is easy for most leaders, if not all, to take responsibility for success; few have the courage to take responsibility for failure (Owen, 2014).

A leader encourages people to extraordinary levels of achievement which are meaningful (Goffee and Jones, 2006). William (2005) answered the question of what real leadership is, but depending on who is asked the question, the answer will probably be different. As such these answers all have the same theme, showing the way or leading the direction and getting people to follow. Basically, it is letting them to do what they want, and showing the way, which will include, as William (2005) said, crafting vision, motivating people through persuasive communication, being an example and employing a system of punishments and incentives to sustain action.

The definition of leadership in the proposed leadership framework is explained as the leader being a person who leads and guides or directs and carries a group from one point to another. He manages to maintain his leadership through his actions in different situations and his behaviour through different styles by using his leadership skills and his aligned strategy towards a shared vision.

2.3 Introduction to leadership, creativity, innovation and excellence

There is a strong interconnection between leadership, creativity, innovation and excellence. If one is missing then none of them will exist. Leadership drives creativity, innovation and excellence in any organisation.

2.3.1 Leadership theories and approaches

Owen (2014) summarised all the theories about perfect leaders as being visionary and detailed, controlling and empowering, people-focused and task-focused, ambitious and humble, strategic and operational and risk-taking and reliable. Williams (2005) developed sets of theories and best practices, reinforced through excellent historical examples and cases, that strengthen leaders at all levels. His argument was that fake leaders or counterfeit leadership often offers false solutions and sidesteps harsh realities, distracting people from the real work of progress. Real leaders mobilise people to face reality and address the organisation's most common challenges. These challenges include: activists challenge (calling attention to a contradiction in values); development challenge (cultivating the latent capabilities needed to progress); transition challenge (moving from one system of values to another); maintenance challenge (protecting and sustaining what is essential during hard times); creative challenges (doing what has never been done before); crisis challenge (leading in a period of extreme danger).

Ancona et al. (2007) suggested a better way to lead. Rather than leaders trying to endanger their organisations through "exhausting only themselves" they must accept that they are human, with strengths and weaknesses and understand the four leadership capabilities all organisations need. These are making sense in a business environment, building trust relations, envisioning and applying creativity with new ways of doing things. These four capabilities enable them to work with others who

can complete the capabilities that they are missing. Owen (2014) stated that you do not need to be the best leader on the earth, as no leader ticks all the boxes, but you need to be the best with your teams and peers.

Leadership is a behavioural phenomenon in the field of social science studied within a set of methods and assurances to ensure and obtain a valid conclusion on the nature of leadership behaviour. Two main challenges or difficulties are faced in the field of leadership research during the first stage of leadership studies. They did not consider how the stable attributes of a leader accounted for the behavioural diversity necessary for effective leadership. The earliest literature reviews on leadership were concerned almost totally with theoretical issues. They sought to identify different types of leadership to relate them to the functional demand of society and also they sought to consider the emergence of leadership by either examining the qualities of the leader or the factors of the situation they faced (Stogdill, 1974).

The development of leadership theories is divided into the following four stages as per Figure 2.5.

Stage 1: leadership traits found between 1900 and 1940 focus on small sets of individual attributes, such as the great man theory and the big five personality traits. The leadership traits describe leadership as being rooted in the characteristics that certain individuals possess within their personal attributes. These traits do not change from situation to situation, such as intelligence, assertiveness or physical attractiveness like the great man theory. They emphasise leaders' attributes, such as personality, motives, values and skills, with some natural leaders endowed with certain traits not possessed by other people (Stogdill, 1974; Bass and Stogdill, 1990; Yukl 2005; Brymer and Gray, 2006; Dubrin, 2006). The big five personality traits are used to describe human personality and they are openness, conscientiousness, extraversion, agreeableness, and neuroticism (Tupes and Christal, 1961; Gill, 2006). They neglected cognitive abilities, motives, values, social skills, expertise and problem solving skills. They fail to consider multiple attributes and did not distinguish between leaders who had attributes that was not malleable over time from those emerging through situational influences (Zaccaro, 2007). Those leadership traits tended to reinforce the concept that leaders are born and not made.

Stage 2: this leadership style appeared between 1940 and 1960, with the focus changed to the social environment of leadership, which is created from the different styles of leadership. A study carried out by psychologist Kurt Lewin, highlighted three different styles, 1) autocratic, 2) democratic and 3) laissez faire. The lack of a consistent set of leadership traits redirected the focus on organisational goals, efficient methods and associated forced task leadership. In this stage, two directions were established; one was the continuation of Stage 2 overlapping the 1940s and 1960s period and the other one was considered an introduction for Stage 3. The first direction of leadership style was adopted by two studies (Katz et al., 1950; 1951; Gill, 2007). One was from Michigan University, which tried to study the leadership style of supervisors and their relationship to productivity and the effectiveness of teamwork when headed by those supervisors. The studies by Fleishman (1953) Haplin and Winer (1957) Fleishman and Harris (1962) and Gill (2007) of Ohio University focused on the dimensions of leadership behaviour. They suggested a set of dimensions described or expressed in the initiatives, integrity, productivity, organisation, imagination, control, communication, contact and decision making of organisations. Through this study they were able to conclude two additional essential dimensions which are consideration and initiating structure. The second direction, the leadership situation, focuses on the situation's circumstances and that will determine the leader's actions and practices. The managerial grid theory was developed by Blake and Mouton (1964); (Yukl 2005). The managerial grid model is based on a behavioural theory suggesting five different leadership styles, based on the leaders' concern for people and their concern for the achievement of the goal.

Leadership style: this provides direction, implements plans and motivates people. It is the result of the philosophy, personality and experience of the leader. Rhetoric specialists have also developed models for understanding leadership. It effectively achieves the objectives of the group while balancing the interests of its individual members (Hariman, 1995; Miller, 2008; Salazar, 2009). Action-centred leadership is where effective leaders address the requirements at three levels: the task, the team and the individual. In this model, the more overlap and the more balanced the needs of the task, team and individual, the more effective the leadership is (Lewin et al.,

1939; Adair, 1973; 1983; 1984). The normative decision-making model was developed by Victor Vroom. The leader must choose a style that elicits the correct degree of group participation when making decisions. This perspective is sensible; the normative decision-making model views leadership as a decision-making process in which the leader examines certain factors within the situation to determine which decision-making style will be the most effective. There are five decision styles: decide, consult (individually), consult (group), facilitate, delegate (Vroom and Yetton, 1973; Gill, 2006; Dubrin, 2008).

Stage 3: this leadership situation was founded between 1960 and 1980 studying the situational impact on the required leadership qualities by enforcing the relationship between the leader and the followers. The Fiedler model (Fiedler, 1967) was considered to be the first proposing leadership in certain situational conditions that affect the relation between leadership qualities and the style and productivity of the group to identify the leadership's effectiveness. Fiedler (1958; 1967) developed the Fiedler's Contingency Theory, which portrays that effective leadership needs good leader-member relations, tasks with clear goals and procedures, and the ability for the leader to meet out rewards and punishments. Fiedler created the least preferred co-worker (LPC) scale to ensure the leadership situation, suggesting that the effectiveness of a leadership style, either task-oriented or people-oriented, depends on the favourableness of a situation (Yukl 2005). The situational approach/situational leadership model (see Figure 2.1) was developed by Hersey and Blanchard (1969). It emphasises the importance of contextual factors that influence the leadership process, managerial activities and the behaviour patterns or influence of different attributes to be effective in different situations. It is based on the behaviour of the leader.

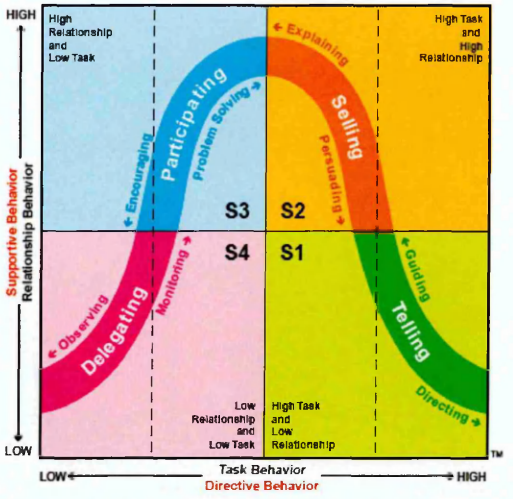


Figure 2.1 Situational Leadership (Hersey and Blanchard, 1977)

The path-goal theory was developed by House (1971). It involves clarifying the path, identifying the goal, removing roadblocks and enhancing personal satisfaction along the way. It specifies what a leader must do to achieve high productivity and morale in a given situation. The manager chooses one of the four leadership styles, depending on the characteristics of the situation and the demands of the tasks (House, 1971).

The situational leadership II was developed by Kenneth Blanchard and his colleagues, and it explains how to match the leadership style to the capabilities of group members in a given task (Hersey and Blanchard, 1969).

Reddin's 3D Theory (see Figure 2.2) involves four styles that are effective in their situations and four ineffective styles. The theory uses situation sensitivity to read situations with style flexibility, overcoming resistance to change (Reddin, 1970; Gill, 2006).

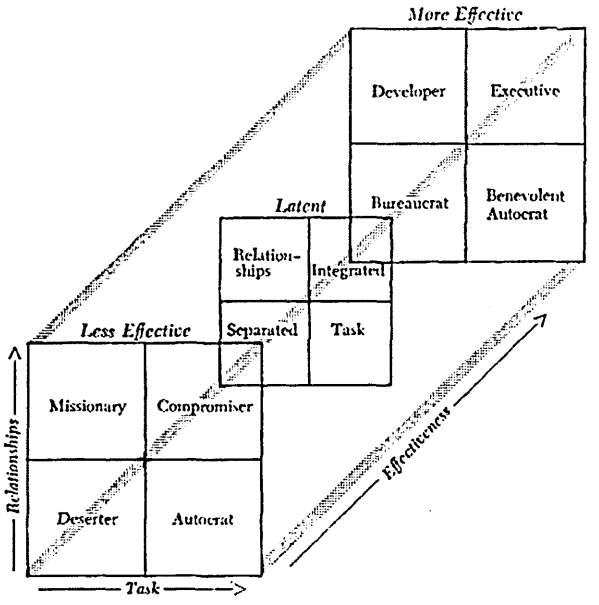


Figure 2.2 Reddin 3D Model (Reddin, 1970)

The cognitive resource theory was developed by Fiedler and Garcia (1987). This theory considers the interaction between the situation (including the stress experienced by the leaders and the group) and the cognitive resources of the leader and how that interaction affects the performance of the group (Fiedler and Garcia, 1987; Dubrin, 2008; Michie and Scott-Jackson, 2014).

Stage 4: the New Leadership that appeared in the 1990s and 2000s comprises the traits of being visionary, charismatic, transformational, transactional, programmatic, strategic (Johnson and Scholes, 2002); laissez faire (Bass, 1985; Bass and Stogdill, 1990a; 1990b; Bass and Avolio, 1994). The emotional intelligence raised by Goleman (2000) extended the leadership style further in Stage 4. It comes from the old theories appearing in earlier stages that have been over-commended in the new emotional intelligence leadership theories. The new emotional intelligence covers emotional knowledge transfer (Dinh et al., 2013), the role of emotions in leadership (Gooty et al, 2011; Nylund and Raelin, 2015), and the emotional sincerity that enforces followers' trust (Caza et al., 2015). The importance of emotional capacity is defined as the ability of a person to comprehend and convey understanding of the emotions and feelings that another person is experiencing (Salovey and Mayer, 1990; Vignemont and Singer, 2006; Gentry et al., 2015). The new leadership also focuses on symbolic leader behaviour: visionary, inspirational messages; emotional feelings;

ideological and moral values; individualised attention; and intellectual stimulation. In fact, the most recent research has taken a step forward in discussing leadership intelligence and the strong relationship between morale and motivation (Downton, 1973; House, 1977; Burns, 1978; Bass, 1996; 2006; Dubrin, 2008). Transformational leadership was first described by Burns and developed by Bernard Bass. Transformational leadership is a process in which leaders and followers help each other to advance to a higher level of morale and motivation. It is transformational because it is based on concern for employees, intellectual stimulation and providing a group vision.

The charismatic leadership theory believes that a charismatic leader is any person who brings about certain outcomes to an unusually high degree. Being charismatic is a special quality for leaders who have purpose, power and extraordinary determination. Transactional leadership was first described by Burns, and developed by Bernard Bass and colleagues and it involves an exchange between leader and followers with an emphasis on correcting any deviation from the requirements and providing rewards for compliance.

Sternberg (2003) has developed a new approach for understanding leadership based on cognitive factor- WICS Model (see Figure 2.3). This WICS model includes and combines wisdom, intelligence, and creativity to explain leadership effectiveness and utilisation. For successful utilisation of these cognitive factors, three different skills are required which are creative skills to generate new ideas, analytical skills to evaluate whether the ideas are good and practical skills to implement the ideas and to persuade others of their value.

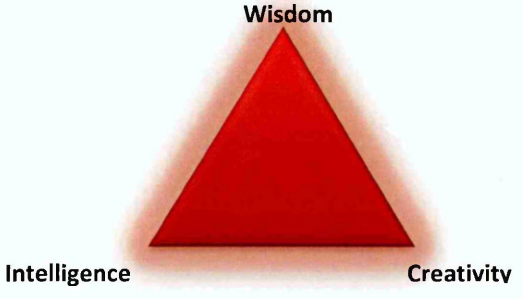


Figure 2.3 WICS theory (Sternberg, 2003)

Zaccaro et al (2004) suggested that effective leadership is derived from an integrated set of cognitive abilities, personality, motives, values, skills, and proximal attributes (social appraisal skills, problem solving and expertise and knowledge), with each set of traits adding to the influence of the others. The model (see Figure 2.4) specifically the interdependence of varying skill sets in determining leadership ability.

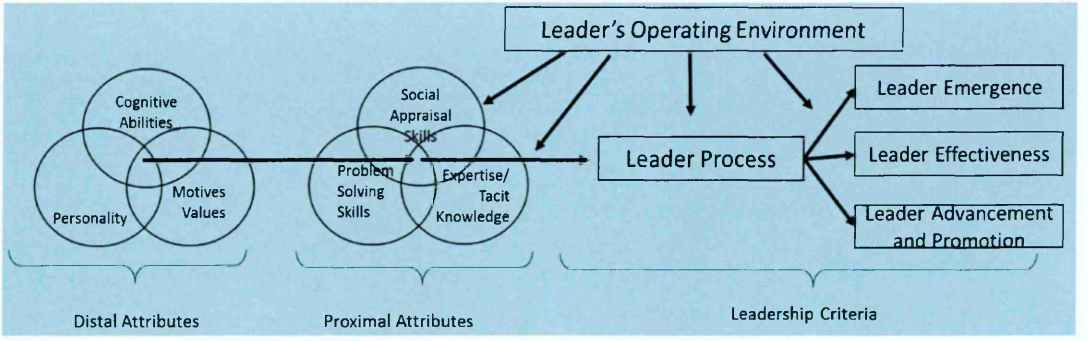


Figure 2.4 Model of Leadership Attributes (Zacarro, 2004)

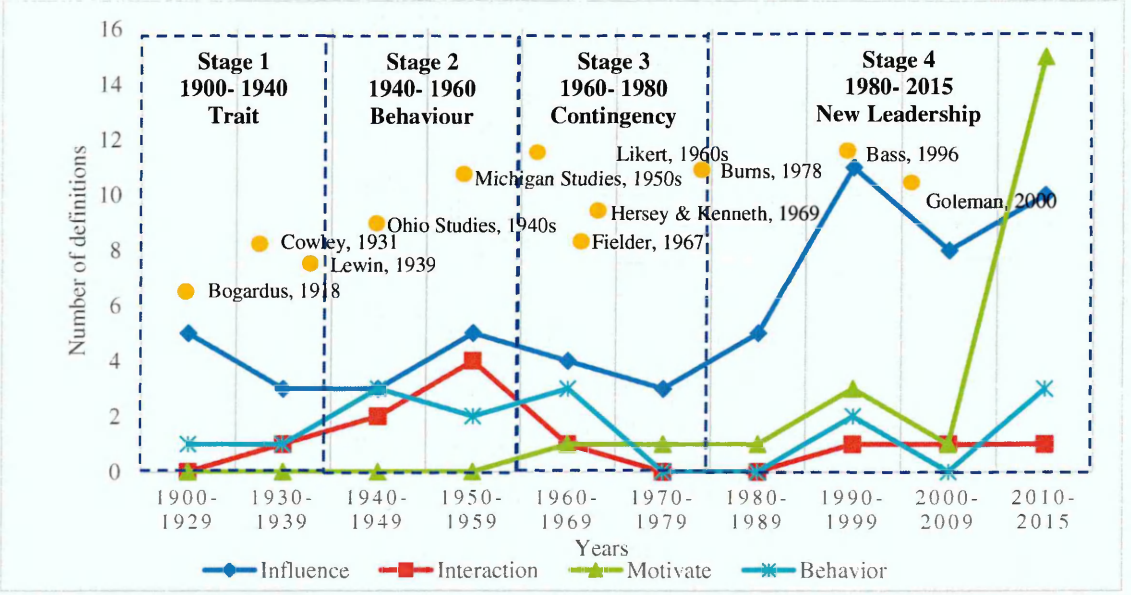


Figure 2.5 Leadership theories development

Goffee and Jones, (2000) claimed that it is a common mistake to link business results with good leadership as many managers with a good strategy can achieve business results without the existence of leadership and in contrast, good leadership sometimes does not achieve business results in the short term. Leaders communicate their vision around them emotionally and enrol others to turn the vision into reality. Bennis & Townsend (2005) described leadership as "a matter of character", leadership is unique in each person, it differs in its settings, skills and thoughts.

2.3.1.1 Leadership personal traits and skills

The characteristics of leadership play an important role in explaining how a leader looks. Many experts such as Owen (2011) believe leaders are creative but disciplined, visionary but detailed, motivating but commanding.

Drucker (2004) mentioned that to have an effective leader, knowledge needs to be obtained by asking what needs to be done and what is right for the enterprise, then converting the knowledge into action, developing action plans and taking responsibility for decisions and for communicating. Then the leader should focus on the opportunities not the problems and ensure companywide accountability through productive meetings by thinking and saying 'we and not I'.

Heifetz and Laurie (1997) pointed out that adaptive challenges require the involvement of people throughout the organisation. Therefore, the adaptive work is counter-intuitive rather than providing solutions. Instead of maintaining norms, leaders must challenge the way of doing business. Adaptive work is painful and requires unfamiliar roles, responsibilities, values and ways of working but to ensure the effectiveness of the adaptive work, there are six principles that need to be followed: 1) get on the balcony to see the picture from the top, 2) identify your adaptive challenges, 3) regulate distress, 4) maintain disciplined attention, 5) give the work back to the employees, 6) protect the leadership voices from below.

Respect has to be earned. Leaders must respect themselves before people will respect them. Respect appears to come with the title but the title will provide a fake or superficial respect because genuine respect has to be earned. Owen (2014) described the key for respect by 1) showing care to the team and colleagues; 2) being positive all times including in tough times, 3) being clear and consistent in expectations, 4) managing difficult conversations with a positive attitude, 5) delivering commitments. Top leaders have the tendency to work around the clock because they love their work and leadership becomes a lifestyle for them. Owen (2014) found that the reason why leaders must love their work is because aspiration comes when leaders truly enjoy what they are doing. Owen (2014) suggested having a work-life balance that

considers enjoyment as a requirement of success. Leaders are rarely found to be great coaches. Great leaders have their ability to excite others through their vision rather through their coaching talents.

Goffee and Jones (2000) commented further that there is nothing worse than seeing a manager return from the latest interpersonal skills training programme with concern for others. Real leaders do not need a training programme to convince their employees that they care. Goffee and Jones (2000) pointed out also that nobody wants to work with a perfect leader; he does not seem to need any help, so showing and revealing the weakness that are tangential, not weaknesses that others see as fatal to the followers. From there Goffee and Jones (2000) listed four leadership qualities: 1) selectively showing their weakness, 2) relying heavily on intuition to gauge the appropriate timing and course of their actions, 3) managing employees with more focus on how to achieve instead what the employees want, 4) revealing their differences and uniqueness from other leaders.

What distinguishes great leaders from good ones is not IQ or technical skills said Goleman (1996) but their emotional intelligence, which is self-awareness, self-regulation, motivation, empathy and social skills. Goleman (1996) believed that each leader is born with certain levels of emotional intelligence skills but these can be strengthened through persistence, practice and feedback from colleagues or coaches.

Leaders should focus on the behaviour and act as a role model, which challenges leaders to bring their best selves to the job day after day (Sharer, 2013). The best role model leader is the leader who is the first one to demonstrate his fellowship to his followers so that others can learn from his style of leadership. Sharma (2010) stated that the lack of leadership is the source of the lack of followership.

Bennis and Thomas (2002) raised the question of why certain people seem to naturally inspire confidence, loyalty and hard work, while others who may have just as much vision and mission fail. Recent research by Bennis and Thomas (2002) concluded that one of the most reliable indicators and predictors of true leadership is an individual's ability to find meaning in negative events and to learn from even the

most trying circumstances. Such transformative events are called crucibles by Bennis and Thomas (2002). Crucibles are intense and often traumatic and unplanned. Crucible experiences force leaders into deep self-reflection to question their assumptions and sharpen their judgment. Bennis and Thomas (2002), listed four essential skills that enable leaders to learn from adversity. 1) Engage others in shared meaning. 2) Have a distinctive compelling voice. 3) Have integrity. 4) Show adaptive capacity such as critical skills including the ability to grasp context, weighing up many factors to see how different people will interpret a gesture.

Owen (2011) listed a positive outlook, such as bringing solutions and opportunities to the table, not problems, and responding to new ideas by looking for the positives, not the negatives of the ideas. Most junior executives try to prove that they are smart by finding all the risks and problems, not by exploring the opportunities. Another example given is taking the initiative to seek opportunities for special projects. Smart emerging leaders volunteer early so that they get a project which suits their strength rather than waiting and then finding out they are assigned the project from hell. The measured risks and going the extra mile will enhance learning even from failure. Bennis and Townsend (2005) presented two ways of leadership transformation. The first way is to embrace risk, making changes and moving away from the traditional practices which often lead others and force the world to adapt to them instead of them adapting to the world. The second way is to avoid control, order and predict (COP) and incorporate acknowledge, create and empower (ACE). One of the most important characteristics of leadership is to pass on credit to the people who really have done the work. However, there are leaders who take all the credit for themselves or even worse for their friends and networks who were not involved in doing the work, and that might lead to damaging their integrity and reputation (Bennis and Townsend, 2005).

Many false leaders try to act like leaders, they talk like leaders, they appear as leaders, they ensure that they resonate like leaders, their presence is like leaders, they even walk and laugh like leaders. In other words, they use short cuts to climb over others (Bennis and Townsend, 2005). Nevertheless, it will not always work. It is not enough to take the risk but it requires paying full attention to the environment and

culture that determines the values and ethics in addition to positive self-regard and self-esteem. A leader needs to first identify the goals and objectives and take the risks, make mistakes, take the blame. Leaders are those who, after a battle to reward their people and make changes and achieve results, put their heads down and enjoy the moment. They will eventually get the opportunity to be involved in higher-ranking responsibilities because of their leadership characteristics in their behaviour to help growing new leaders.

2.3.1.2 The levels of leadership

Owen (2014) supported the idea that leadership has different levels and each level has its own rules and successes that change at each level. Collins (2001) conducted a five-year research study on 11 companies, dividing leadership into five levels. Level 1 was a highly capable individual, level 2 signified a contributing team member, level 3 was a competent manager, level 4 was an effective leader and level 5 represented an executive. Collins (2001) defined level 5 as the highest level in the hierarchy of capabilities. Leaders at the remaining levels can produce a high degree of success but not enough to elevate companies from mediocrity to sustained excellence. In the middle of an organisation, leaders need to learn new skills and they need to learn to manage others and to manage networks, ambiguity and complexity. In addition, they need to master core leadership skills, negotiate targets and deliver against them. At the top of the organisation, the skills of the leader change again. The leader will have to develop an inclusive vision, be a role model for values, build a top team, create the conditions for success, acquire and direct resources to achieve the vision. At entry level the challenge for the emerging leader is to learn the basics of leadership. The leader will need to understand himself, learn the trade of his industry, understand the culture and local rules of the game and perform against known targets. In other words, the leader by now should demonstrate his expertise in his field and master his technical competency to a level deserving enough to go to the next level of responsibilities.

2.3.2 Creativity and innovation

Creativity and innovation are key words to change the world. They are different but have a close and similar relationship. Therefore, the definition of them is necessary in

order to use them in the optimal way. Creativity functions in individual domains while innovation relies on a system or group domains. Innovation manages creativity and creativity drives innovation. The majority of authors like Runco (2004), Piggott (2007), Goodman and Dingli (2013), Bush (2014), Katter (2014), Nair (2014) and Sisk (2014) agree that the definitions of creativity include 'origin', 'useful', 'reason for innovation', 'problem solving', 'natural state of being', 'open attitude', 'joy and interest', 'habit of mind'. Some other authors do not agree with the definitions, such as Boone (1990) who argued that creativity does not mean the act of creation or creating something out of nothing, it is the process of uncovering, selecting, reshuffling ideas and skills. Altier (1988) defined creativity as 'bringing into being', 'causing to exit', 'producing', 'specifically to evolve from one's own thought or imagination'. Stein (1953) stated that creativity is a process that results in a novel work that is accepted as useful by a significant group of people at some point in time. Ackoff and Vergara (1981) defined creativity as the ability of a subject in a choice of situations to modify self-imposed constraints so as to enable him to select or produce courses of action or produce outcomes that he would not otherwise select or produce. These are more efficient or valuable to him than any others he would otherwise have chosen. Trott (2005) defined innovation as the management of all activities involved in the process of idea generation, technology development, the manufacturing and marketing of a new or improved product or manufacturing process. It is the combination of theoretical conception, technical invention and commercial exploitation. Stein (1974) gave a definition of innovation as introducing something new that adds value, which requires many skill sets, usually a team. Creativity is the thinking part of innovation that leads to appropriate ideas, whereas invention is the process of converting intellectual thoughts into a tangible new artefact. The innovation is the sum of those essential parts that leads to and results in successful implementation. William (2005) described leadership as an art that requires creativity and imagination.

Innovation could be also described as copying and adopting or modifying the best practices. Innovation is also a transformation from bad to good and from good to best. Innovation involves the conversion of new knowledge into a new product (Johnson et al., 2008, p.325).

2.3.2.1 Barrier to innovation and creativity

There are very clear and deep interrelations between innovation, progress, growth, productivity and competiveness. Some of the assumed decline in innovation undoubtedly comes from a view which is too closely confined to the short term to the detriment of the long term. We often call it a 'wrong turn' strategy rather than a 'long-term' strategy. This is a barrier to innovation. Innovation often requires long lead times from 10 to 50 years (Piatier, 1984) and the priority task is to reduce the lead time, which comes before the implementation stage or can even be planned during the design and planning stage. Piatier (1984) argued that innovation probably talks about the incremental change in an organisation, because there are many examples where innovation has been implemented in far less time than the 10-year lead time. However, Piatier (1984) successfully identified the barriers to innovation, such as the climate and whether the condition of the firm is favourable to the development of creativity or not. Do pessimistic or defeatist trends discourage actions or is the work of innovation being assessed based on true values? Is the communication between the participants effective? Many barriers within the innovation process are linked deliberately to the output. However, this link should be defined in the outcome instead of in the output. For example, if change starts and the firm begins to move from its old position towards its aim, the output will be the day-to-day or continuous measurement, while the outcome will be the attempted result which the firm will reach for its final steady state. These barriers have to be taken into consideration before moving forward to promote innovation.

Vehar (2011) explained that the brain consists of three parts which get in the way of creative thinking. The first part is the cortex for executive thinking, the second part is the limbic or the emotional brain and the third part is the stem, or primitive survival which is also called "the crocodile brain". The stem performs its basic objective, i.e., to survive. He concludes that there are three reactions of people when new ideas are appearing. He describes the reactions as attacking it, running from it, freezing or ignoring it. He advised people to learn by first looking at what is preferred. It is a challenge to make effective and creative organisations and overcoming the challenge is taming and controlling the crocodile brain.

Both creativity and innovation are strongly related to idea generation. A French philosopher, Chartier (n.d.) pointed out that when facing creativity and innovation "nothing is more dangerous than a new idea, when it is the only one that you have". Figure 2.6 displays the idea quota (Vehar, 2011) which indicates that the generation of ideas has a two in three chance to generate unusual ideas, whereas half of them will be sophisticated. It represents the fact that creativity and innovation are likely to be generated.

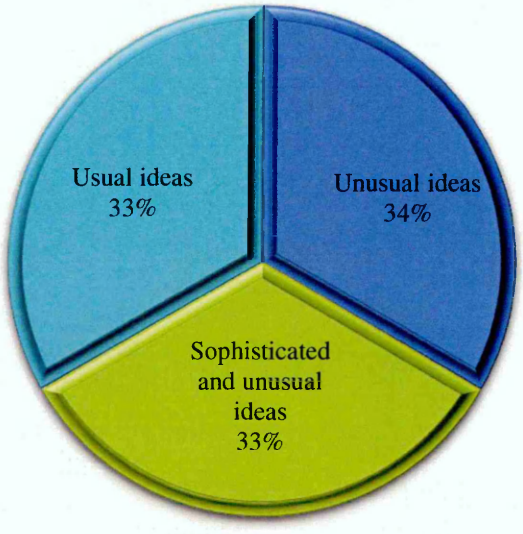


Figure 2.6 The idea quota

To achieve the ideas and to become real, creativity and innovation need certain key processes. Vehar (2011) explained four points to remember. 1) Phrase the problems in a way that they can be solved. 2) Defer judgment and generate many ideas. 3) Evaluate ideas positively by using the plus points, opportunities, issues and new thinking. 4) Take personal responsibility for your creativity.

2.3.3 Review of business excellence and leadership models

Business excellence is described by the European Foundation for Quality Management (EFQM) (EFQM, 2012) as "outstanding practices in managing the organisation and achieving results, all based on a set of eight fundamental concepts", these being "adding value for customers, creating a sustainable future, developing organisational capability, harnessing creativity & innovation, leading with vision,

inspiration & integrity, managing with agility, succeeding through the talent of people and sustaining outstanding results.".

There are currently 94 to 100 national quality/business excellence (BE) awards used in 83 or 84 countries (Mohammad et al., 2011; Talwar, 2011). The United Arab Emirates has three awards programmes, the Dubai Government Excellence Prize, the Sheikh Khalifa Excellence Award and the Emirates Excellence Award. Many countries like the UAE launched their national awards based on the EFQM model but have yet to establish their own business excellence models. The need of establishing business excellence models becomes important as the UAE is aiming to be in the first row of countries that apply and promote excellence.

The EFQM model is one of the most widely-used models in Europe and is an extended version of the TQM based on the nine criteria. Five of these are enablers and four are results. The enablers' criteria cover what an organisation does. The results' criteria cover what an organisation achieves. Feedback from the results are assessed and refined by the enablers, again to achieve the desired results or targets.

Leadership is the most important aspect for successful excellence in any organisation, it is the driver for the excellence to excel and ultimately, commit to obtain excellence organisational results. Therefore leadership is the zenith of an organisation's excellence.

The definition of leadership according to EFQM mode (2012) is "leaders who shape the future and make it happen, acting as role models for its value and ethics and inspiring trust at all times. They are flexible, enabling the organisation to anticipate and react in a timely manner to ensure the ongoing success of the organisation".

There are six sub-criteria in the leadership model according to EFQM (2012).

- Leaders develop the mission, vision, values and ethics and act as role models.
- Leaders define, monitor, review and drive the improvement of the organisation's management system and performance.
- Leaders engage with external stakeholders.
- Leaders reinforce a culture of excellence with the organisation's people.

- Leaders ensure that the organisation is flexible and manages change effectively.

2.3.3.1 EFQM - the eight dimensions of excellence

The EFQM excellence model (see Figure 2.8) is built on the eight dimensions of excellence as mentioned in Figure 2.7. These are adding value for customers, creating a sustainable future, developing organisational capability, harnessing creativity & innovation, leading with vision, inspiration & integrity, managing with agility, succeeding through the talent of people and sustaining outstanding results. The model consists of nine components, five enablers (leadership, strategy, people, partnership and resources and process, service and product) and four results (customer results, people results, society results and business results).

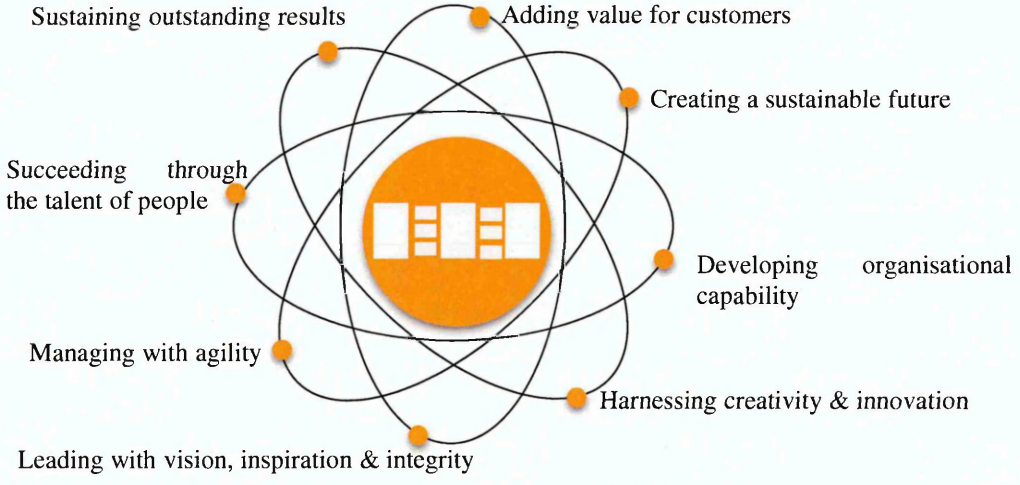


Figure 2.7 The eight dimensions of excellence (EFQM 2012)

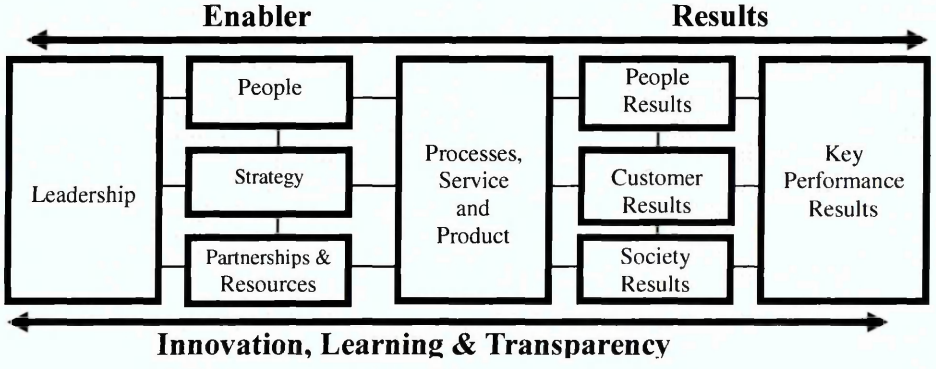


Figure 2.8 The EFQM model 2012

2.3.3.2 Dubai Government Excellence Programme (DGEP)

The Dubai Government Excellence Programme (DGEP) is a pioneer programme established with a clear vision, values and objectives in 1997 by the UAE Vice President, Prime Minister and Ruler of Dubai, aiming at engraving the culture of excellence within the Dubai government and recognising distinguished departments, teams and individuals (Nuseirat, 2012). The programme aims to spread the concept of excellence, innovation, quality, best management and professional practices in the government sector. The DGEP model (see Figure 2.9) for institutional excellence as described by Kahlout (2005) "is built around the European Foundation Quality Management (EFQM) model with an extra emphasis on innovation and transparency".

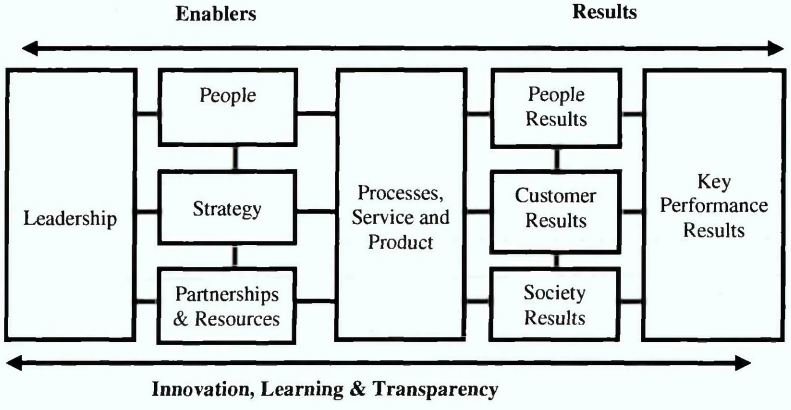


Figure 2.9 the DGEP 2012

2.3.3.3 Malcolm Baldrige National Quality Award (MBNQA)

President Ronald Reagan initiated the Malcolm Baldrige National Quality Improvement Act in 1987 to improve the quality management practice and promote the competitiveness of US companies. Promoting quality awareness, identifying the requirements for quality excellence and sharing successful quality strategies and benefits are the objectives of this award. The National Institute of Standards and Technology (NIST) is an agency of the US Department of Commerce who now administrates the award, assisted by the American Society for Quality. The MBNQA framework consists of seven categories that provide the strategic direction for management. The categories are leadership, strategic planning, customer and market

focus, information and analysis, human resources, process management and business results. The MBNQA used as guide for those interested in implementing proven performance excellence initiatives (Vokurka et al., 2000). The MBNQA criteria are used for self-assessment for the majority of the time (Reimann, 1989; Bemowski and Stratton, 1995; Black and Porter, 1996; Wu et al., 1997; Vokurka, 2001). Self-assessment is important, because it helps an organisation to define its quality system and select customer-driven quality objectives (Reimann, 1989). Currently thousands of organisations have used its criteria for self-assessment. MBNQA-winning organisations are showing distinction in financial perspectives compared to other organisations (Ruben et al., 2007).

Figure 2.10 the MBNQA Model

2.3.3.4 Australia Business Excellence Framework (ABEF)

The Australian Business Excellence Framework (ABEF) was established in 1988. ABEF is a non-prescriptive leadership and management system. It describes the primary elements of an organisation in seven categories. These are leadership, customers and other stakeholders, people, strategy and planning, process management, improvement and innovation, results and sustainability.

The ABEF as shown in Figure 2.11 displays performance and information and knowledge based on 12 quality principles.

Figure 2.11 The ABEF Model

The 12 quality principles are listed below.

1. Clear direction allows organisational alignment and a focus on the achievement of goals.
2. Mutually-agreed plans translate the organisational direction into actions.
3. Understanding what customers value, now and in the future, influences the organisational direction, strategy and action.
4. To improve the outcome, improve the system and its associated processes.
5. The potential of an organisation is realised through its people's enthusiasm, resourcefulness and participation.
6. Continual improvement and innovation depend on continual learning.
7. All people work in a system; outcomes are improved when people work on the system.
8. Effective use of facts, data and knowledge leads to improved decisions.
9. All systems and processes exhibit variability, which impacts on predictability and performance.
10. Organisations provide value to the community through their actions to ensure a clean, safe, fair and prosperous society.

11. Sustainability is determined by an organisation's ability to create and deliver value for all stakeholders.
12. Senior leadership's constant role modelling of these principles and their creation of a supportive environment to live these principles, are necessary for the organisation to reach its true potential.

2.3.3.5 Deming Prize

The Deming Prize was established by the Union of Japanese Scientists and Engineers in 1951. This prize is awarded to distinctive TQM implementers, i.e., organisations or divisions of organisations.

The Deming Prize focused on Japanese organisations in its early days until 1989 when the Florida Power and Light Company, USA, won the prize. The Deming Prize does not provide a model framework for organising and prioritising criteria (Vokurka et al., 2000). Ten equally weighted topics are used to evaluate the applicant's capability that each applicant must address. The categories are policies, organisation, information, standardisation, human resources, quality assurance, maintenance, improvement, effects and future plans. Figure 2.12 shows the relationship between the basic categories and the points within the Deming Prize.

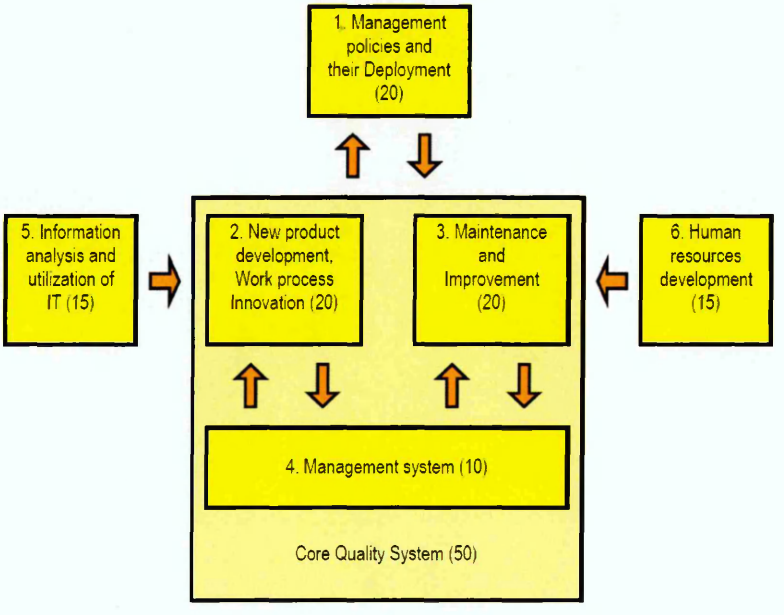


Figure 2.12 Deming Prize: The relationship between the basic categories and the points (Source: The application guide for the Deming Prize 2013, p.33)

2.3.4 A brief benchmarking for the business excellence model

DGEP differs from the other business excellence award programmes that focus on governmental excellence. In Dubai most of the utilities and services are managed by major government sectors such as municipalities, major health sectors, education sectors, utilities such as water and electricity, transportation such as RTA. This is in addition to the core government sectors, such as the executive supreme council and the ruler's office and the police. The degree of uniqueness depends on the following criteria:

a. Number of unique awards
b. Specialty in governmental excellence
c. 100% contribution and participation
d. Impact on the government performance in the short and long term
e. Variety of training programmes, workshops and forums arranged
f. Judgment methods
g. Framework (BEM+ Award+ Programme).

The degree of best practice depends on the following criteria:

a. Evaluation and process time
b. Leader support
c. Customer satisfaction index
d. Innovation.

While the DGEP is basically an award programme that contributes significantly to the development of organisational excellence in Dubai, this research takes the first step towards providing the implementation of a validation process for the DGEP and accordingly allowing a theoretical examination of the relationships between the categories and the overall links among the nine categories. The objective of this study of DGEP and EFQM criteria is to develop a mechanism for the validation process to testify to the suitability of the model and highlight the adoption of western culture and adaption of eastern culture in terms of leadership components. Table 2.1 indicates that most of the results obtained for the customer results through the customer satisfaction index were from Dubai and Georgia. Both cities exceeded 80%.

Table 2.1 Customer satisfaction index from Year 1999 to 2011 in various countries Source: (Nuseirtat, 2012; EPSI, 2012)

Year	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2011
DGEP							63	69	73	80	81	83	84	
Demark	66.3	64	66.5	69.9	72	71.3	71.8	73.7	70.7	67.8	67.6	68.1	68.4	68.4
Finland	72.9	74.4	72.8	74	74.7	73.5	70.7	70.1	73	71.1	74.1	72	71.5	71.5
Norway				67.1	65	65	68.3	67.1	66.6	65.5	66.7	67	67.1	67.1
Sweden	65	65.2	65.9	65.8	66.1	66.6	66.9	67.7	68.4	69.2	69.8	70.7	69.9	69.9
Estonia						72.2	69.5	71	69.8	65.1	66.8	65.8	65.4	65.4
Latvia						72.6	69.4	72.6	73.7	69.5	71.4	70.2	67.1	67.1
Luthuania						81.1	76.5	77.2	78.2	74.9	71.7	71	68.4	68.4
Russia	65.6	66	63.4	65.7		66.3	68.5		67.3	68.5	64.4	62.8	67.2	67.2
Czech Rep							69.4	71.1	68	68.5	69.4		68.1	68.1
Croatia												72.7		
Greece	72.4	68.8	70.3	77.9	76.8	77.7	78.5		78.2	75.2	78.2	67		
Cyprus													77.1	77.1
Spain													60.9	60.9
Azerbaijan											83.5	81.5	82.8	82.8
Georgia											83.6	85.5	87	87
Kazakhstan											74.5	77.6	77.2	77.2

Table 2.2 and subsequently Figure 2.13 and Figure 2.14 show a list of the countries' locations and the award name. It also indicates the number of awards. The DGEP during 2010 contained 20 categories representing 20 excellence award models.

Table 2.2 Business excellence awards and the number of award categories in various locations

Location	Award Name	Category Qty
Dubai, UAE	Dubai Government Excellence Programme	20
South Africa	South African Excellence Award	11
Poland	Polish Quality Award	10
United Kingdom	UK Business Excellence Award	8
Czech Republic	Quality Award of the Czech Republic	5
Spain	Prince Felipe Awards for Business Excellence	5
Abu Dhabi, UAE	Sheikh Khalifa Excellence Award	4
India	CII-EXIM Bank Award for Business Excellence	4
Germany	German National Quality Award (Ludwig-Erhard-Preis)	3
Austria	Austrian Excellence Award	3
Finland	Finnish Quality Award	3
Latvia	Latvian Quality Award	3
Switzerland	Swiss Award for Excellence	2
Sweden	Swidish Quality Award	2
Netherland	Ink Award (Dutch Quality Award)	1
Denmark	Danish Quality Award	1

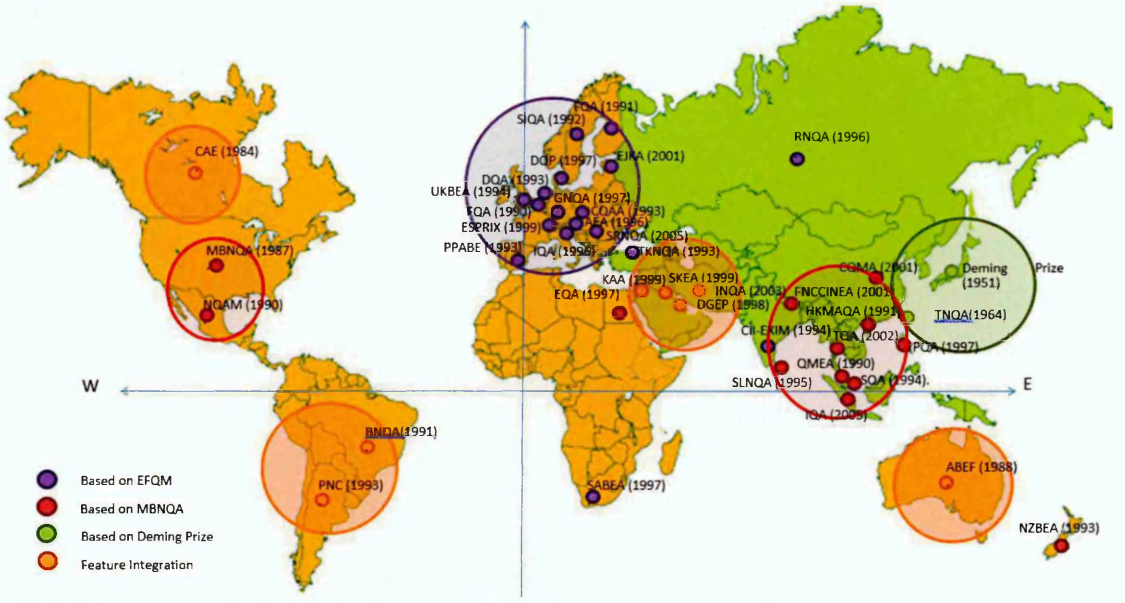


Figure 2.13 Business excellence models and awards worldwide

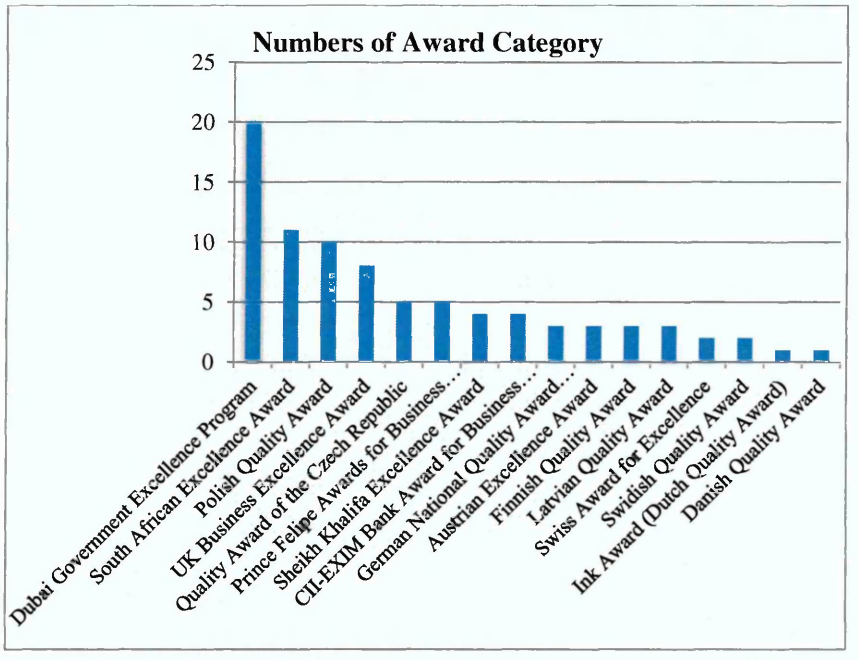


Figure 2.14 Business excellence awards

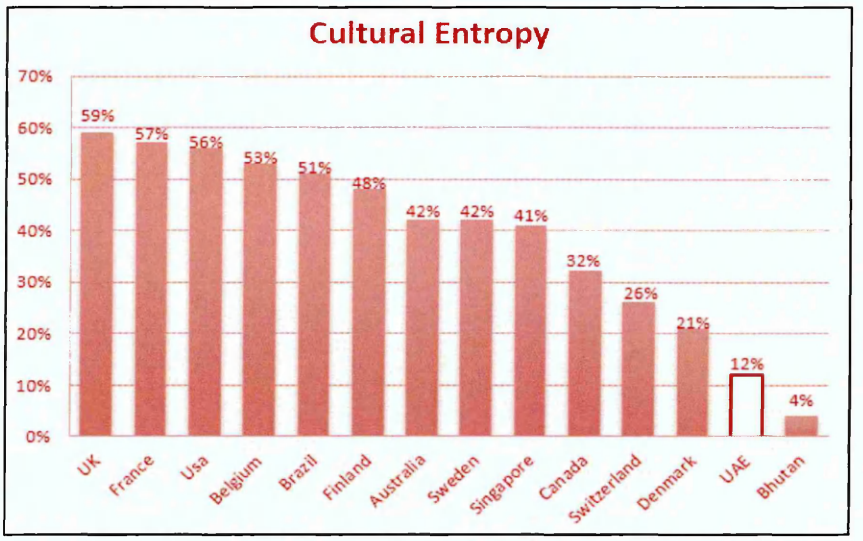


Figure 2.15 Culture entropy. (Source: Watani's public opinion studies centre Rayak in collaboration with Barrett Values Centre, 2012)

2.4 Modelling and validation techniques

Business excellence models were designed and implemented to effectively identify the drivers of the results through enablers. The validation is the process to prove the confirmation of the right causal effects in between the factors or elements in the business excellence model. Validation of the business excellence model is needed to evaluate the relationship connection between the elements. The possibility of a non-related or of a less significant relationship is going to be eliminated, which causes the ineffectiveness of the business excellence model, thus the enhancement of the model.

2.4.1 Review of validation methods and techniques

Two types of research in the study of validation methods can be seen in Table 2.3. The first type is quantitative research generally associated with the positivist/post-positivist paradigm. It usually involves collecting and converting data into numerical form so that statistical calculations can be made and conclusions drawn. The second type, qualitative research, is the approach usually associated with the social constructivist paradigm, which emphasises the socially constructed nature of reality. It is about recording, analysing and attempting to uncover the deeper meaning and significance of human behaviour and experience, including contradictory beliefs, behaviour and emotions. Researchers are interested in gaining a rich and complex understanding of people's experience and not in obtaining information which can be generalised to other larger groups. They can develop a theory or look for a pattern of

meaning based on the data that they have collected. They relate to understanding some specific aspect of social life and its methods, which (in general) generate words, rather than numbers, as data for analysis.

Table 2.3 Type of research overview

Type of research	Purpose	Data collection method	Analysis	Popular Software
Quantitative research	Generation of 1) Models 2) Theories 3) Hypothesis	Questionnaires ; Field observation; Lab experiments ; Interview Survey	Statistical analysis 1) meta-analysis (SAS, SPSS, STATA, JMP) 2) correlational/ regression analysis (MS Excel, SPSS, Minitab)	SAS, SPSS, STATA, JMP
			Computerised simulation	MATLAB, Simio, Arena, Vortex)
Qualitative research	Generation of words rather than numbers	Observation and interaction with the participants Literature review Case study Role playing Simulation Judgment Task	Focus group discussion Historical record analysis Content analysis Computerised simulation Coding Mapping	ATLAS.ti5 MAXqda2 NVivo7

In years of research, distinct validation methods have not yet been found. Most of the literature is trying to generate a clear validation structure to the business excellence model but successful cases are in the minority. Most of the validation processes consist of the construct study model with theory as the foundation, questionnaire or survey performing, regression analysis and lastly the comparison with theory. DiStefano and Hess (2005) highlighted a checklist with systematic steps. Those steps are sequentially from theoretical research, data screening, result estimation, result matching and discussion. At the end of the validation process, the model relationship is discussed with the support team to complete the finalisation and the tie-back to the theory. A validation study was done by setting up a questionnaire survey where a pilot survey was performed prior to full-scale distribution, analysing the survey data by ANOVA (Minitab), comparing the survey results, and performing a two-way ANOVA for confidence level identification. Abdulla Badri et al. (2006) validated the MBNQA model for educational performance in the UAE. The validation process was

done by establishing a measurement model, and then performing confirmation structural equation modelling to show the causal relationship, the sample size study, the data collection through the survey and lastly the regression analysis.

2.4.1.1 Study of the statistical software

The study under this section is to clarify which application software can be used for the purpose of the validation methods. 74 articles were reviewed, 39 articles were from the Leadership Quarterly and the Management Journal and 35 researched papers were from Google Scholar.

In Table 2.4, a total of 75 empirical pieces of research from various journals were reviewed and statistical techniques from 35 articles were identified with the particular statistical software. The information recorded includes the cited frequency. The reviewing summary shown in Figure 2.16 significantly indicates SPSS and AMOS as the most frequent selected software in research studies. Muenchen (2015) searched the number of articles found for each software package for the whole of 2014, which indicated that SPSS is by far the most dominant package, perhaps due to its balance between power and ease of use. SAS has around half as many, followed by a tight grouping of R, STATA and MATLAB.

The review also showed the frequent statistical techniques such as t-test, ANOVA, confirmatory factors analysis (CFA), reliability test, regression/correction analysis, fitness, model building were used in the empirical research (see appendix A).

The t-test statistically assesses the means of two groups and when analysis is due for post-testing (Hiremath, 2011). The analysis of variance, commonly known as ANOVA, can be used in cases where there are more than two groups.

Confirmatory factor analysis (CFA), on the other hand, is theory or hypothesis driven. With CFA it is possible to place substantively meaningful constraints on the factor model. Researchers can specify the number of factors or set the effect of one latent variable on observed variables to particular values. CFA allows researchers to test hypotheses about a particular factor structure (Albright and Park, 2009).

Reliability is the degree to which an assessment tool produces stable and consistent results. If the validity or trustworthiness can be maximise or tested, then the results are more credible. The validity, in turn, may lead to generalisability, which is one concept for doing and documenting high quality qualitative research (Moskal and Leydens, 2000; Pearl, 2000; Patton, 2002).

Regression analysis involves identifying the relationship between a dependent variable and one or more independent variables. A model of the relationship is hypothesised, and estimates of the parameter values are used to develop an estimated regression equation. Correlation and regression analysis are related in the sense that they both deal with any relationships among the variables. The correlation coefficient is a measure of the linear association between two variables (Panwar and Rathore, 2007). The goodness of fit of a statistical model describes how well it fits a set of observations. Measures of the goodness of fit typically summarise the discrepancy between the observed values and the values expected under the model in question (El-Hajjar, 2014).

Model building here means the functionality of drawing a path diagram of the model. Path diagrams play a fundamental role in structural modelling. Path diagrams are like flowcharts, showing variables interconnected with lines that are used to indicate causal flow (Steiger, 2009).

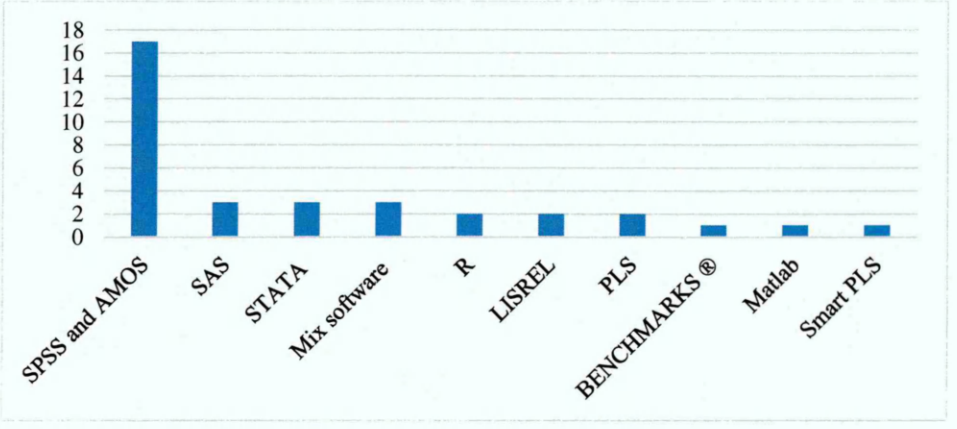


Figure 2.16 Review summary of statistical software used in research studies

Table 2.4 Review summary of statistical software used in research studies

Statistical Software	No. of Articles	Journals (No. of Articles)
SPSS and AMOS	17	Academy of Management Journal (2), The Leadership Quarterly (2), Journal of Advanced Nursing (1), Journal of Computer Information Systems (1), Family Relations (1), Society and Business Review (1), Journal of Engineering and Technology Management (1) Electronic Commerce Research and Applications (1), arXiv preprint arXiv (1), Journal of behavioural medicine (1), European Journal of Innovation Management (1), Computers in Human Behaviour (1), Journal of Business Research (1), Journal of Operations Management (1), Journal of the Academy of Marketing Science (1)
SAS	3	Academy of Management Journal (1), Scientometrics (1), Corporate Social Responsibility and Environmental Management (1)
STATA	3	Management Science (1), Journal of Quantitative Criminology (1), Review of Economics and Statistics (1)
Mix software (SPSS, Minitab, LISREL, etc)	3	International Journal of Operations & Production Management (1), Genetic Epidemiology (1), Atlantis Press (1)
R	2	American Journal of Political Science (1), Evolution (1)
LISREL	2	Academy of Management Journal (1), Journal of Management Information Systems (1)
PLS	2	Journal of Engineering and Technology Management (1), Mis Quarterly (1)
BENCHMARKS ®	1	The Leadership Quarterly (1)
Matlab	1	Oecologia (1)
Smart PLS	1	Journal of Product & Brand Management (1)

* See appendix A

2.4.2 Drawback of modelling and validation techniques

It is beneficial to understand the typical types of drawback when performing the model build-up. The accuracy and right direction of interpreting the estimated model is always required since it plays an important role in the success of the model.

2.4.2.1 Collinearity/multicollinearity

Petraitis et al. (1996) advocated collinearity, which is a well-known problem in regression analysis and path analysis. Collinearity occurs when independent variables are highly correlated and causes estimates of standardised partial regression coefficients and of path coefficients to be less precise, less accurate and prone to

rounding errors. These problems suggest that path coefficients may often mislead ecologists about the relative importance of the ecological processes.

Gupta (2000) indicated collinearity which also called multicollinearity causes a problem in the interpretation of the regression results. If the variables have a close linear relationship, then the estimated regression coefficients and t-statistics may not be able to properly isolate the unique effect/role of each variable and the confidence with which we can presume these effects to be true. The close relationship of the variables makes this isolation difficult.

Carriquiry (2004) stated that if the interest is only in estimation and prediction, multicollinearity can be ignored since it does not affect $\hat{y}$, or its standard error. It is true only if the x_p at which we want estimation or prediction is within the range of the data. If the wish is to establish association patterns between y and the predictors, then the analyst can 1) eliminate some predictors from the model, 2) design an experiment in which the pattern of correlation is broken.

2.4.2.2 Misspecification

Gupta (2000) indicated that misspecification can be of several types: the incorrect functional form and the specification of the regression model is the most severe problem that can befall an econometric analysis. Unfortunately, it is also the most difficult to detect and correct.

Cole and Preacher (2014) demonstrated that even modest amounts of measurement errors can lead to substantial overestimation of some path coefficients, substantial underestimation of other path coefficients, and significant evidence of model misspecification even when the model perfectly represents the true relationship between the underlying constructs.

2.4.2.3 Autocorrelation

Boyd (2000) claimed autocorrelation is a special case of correlation, and refers not to the relationship between two or more variables, but to the relationship between successive values of the same variable.

2.4.3 Model fit indices

Model is acceptable when computed model fit indices indicates within the range of acceptance criterion. The most widely used fitness indices are mentioned and divided into two categories. The two categories of model fit indices i.e. absolute fit indices and incremental fit indices are referred in most of the researches. The absolute fit indices determine how well priori model fits the sample data and demonstrates which proposed model has the most superior fit (McDonald and Ho, 2002; Hu and Bentler (1999). The absolute fit indices are Chi Square with P value, RMSEA, GFI and SRMR. The incremental fit indices are group of indices that uses chi-square to compare it with the baseline model and it is known as relative fit indices (McDonald and Ho, 2002). The Most widely used incremental fit indices are NFI, NNFI or TLI and CFI.

2.4.3.1 Absolute fit indices

Kline (2005), Hayduk et al (2007) and Hooper (2008) recommended the computation of Relative Chi-Square (in AMOS named CMIN/ df,) and P value. Chi square is limited when large number samples are applied in the research. Relative Chi-Square improved of Chi Square's test with minimises the impact of sample size. Acceptable range relative Chi Square value is below 5 (Schumacker & Lomax, 2004). P value is computed to decide acceptance of null hypothesis if the result indicate non-significant. If the P value result indicate significant, then the null hypothesis is rejected.

Hu and Bentler (1999), Kline (2005) and Hooper (2008) suggested Root mean square error of Approximation (RMSEA) should be considered in the research. It indicates how good the model is, with unknown but optimally selected parameter estimates would fit the populations covariance matrix. RMSEA between 0.08 to 0.10 indicates just acceptable fit and below 0.08 shows a good fit (MacCallum et al, 1996).

Goodness-of-fit statistic (GFI) and the adjusted goodness-of-fit statistic (AGFI) are applied to calculate the proportion of variance that is accounted for by the estimated population covariance. It shows how closely the model comes to replicating the

observed covariance matrix. Hu and Bentler (1999) suggested the acceptance GFI and AGFI is more than 0.9.

However, GFI and RMSEA can be considered as acceptable goodness fit according (McCullum et al, 1996; Jo, 2009; Akkucuk, 2014) who reported that variables within 0.05 to 0.1 could be considered fair fit and values above 0.1 considered to be poor fit.

Root mean square residual (RMR) and standardised root mean square residual (SRMR) are applied to compute the square root of the difference between the residuals of the sample covariance matrix and the hypothesised covariance model. RMR value less than 0.08 is generally accepted (Hu and Bentler 1999). Hu a Hu and Bentler, (1999) suggested the combination rule of SRMR less than 0.05 and CFI more than 0.95 to accept the model.

2.4.3.2 Incremental fit indices

Three widely recommended incremental fit indices Normed-fit index (NFI), Non-Normed Fit Index (NNFI) or Tucker Lewis Index (TLI) and Comparative Fit Index (CFI) (McDonald and Ho, 2002). NFI applied to assess the model by comparing the Chi Square value of the model to the Chi Square of the null model. Byrne (1994) suggested NFI exceeds 0.90 to accept the model.

NNFI/ TLI is similar to NFI, which is used to rectify the influence of large sample in NFI. It shows poor fit when the sample size is small and computed value can go to above one. Recommendations as low as 0.80 as a cut-off have been preferred, however, Bentler and Hu (1999) suggested NNFI more than 0.95 as the threshold.

CFI is based on the non-centrality measure and least effected by sample size. It assumes that all latent variables are uncorrelated (null model) and compares the sample covariance matrix with this null model. A cut-off value i.e. more than 0.90 (Bentler, 1990) is recommended.

The following table 2.5 summarises the most widely recommended fitness indices for SEM users, which considered being the best practice approach.

Table 2.5 Summary of widely used fit indices

Researcher	Recommend fit indices	Reason
McDonald and Ho (2002)	CFI, GFI, NFI and the NNFI	Most common use
Kline, 2005; Hayduk et al, 2007	CMIN/df and P value	Essential statistic
Hu and Bentler (1999)	SRMR with the NNFI (TLI), RMSEA or the CFI.	To minimize incorrect rejection of a true null hypothesis and failure to reject a false null hypothesis errors under various conditions
Kline (2005)	Chi-Square test, the RMSEA, the CFI and the SRMR	
Hooper (2008)	Chi-Square statistic, its degrees of freedom and p value, the RMSEA and its associated confidence interval, the SRMR, the CFI and one parsimony fit index such as the PNFI.	Most insensitive to sample size, model misspecification and parameter estimates.

2.5 Conclusion

The conducted review has provided a detailed account of the state of the research, its strengths and its weaknesses. Therefore, this chapter revealed several gaps which are summarised as follows:

The first gap is that many successful stories of validation were published that lacked the details of the validation process.

The second gap is that throughout my research, few articles were found addressing the failed cases on validation. This is a lesson learnt and an area for improvement, which is addressed in Section 2.4.

Based on the literature review, the SPSS and AMOS were the most popular applications that were used in such validation processes and therefore, the next chapter (Chapter 3) covers the SPSS and AMOS through Structural Equation Modelling (SEM).

The possibility of a misinterpretation or misspecification of the model under validation is discussed in this chapter and the theory of the validation method is developed in Chapter 4.

The literature review also revealed that the business excellence models are usually validated. In some cases, some of the business excellence and process improvement models were validated for the first time in this thesis. The validation method is developed in Chapter 4 and applied in Chapter 5 on these models.

The third gap reveals that so far there was no common model to reflect most of the leadership theories established over the past 100 years. In order to fill this gap, it is necessary to develop an understandable and agreeable theory in practice in a form that enables organisations to excel in their business excellence.

The main theories of leadership were studied in this chapter and revealed that there was no single definition or theory that can be presented and used by most of the business excellence organisations and therefore, these findings have led to the need for developing a framework for understanding leadership.

Finally the fourth gap is that the leadership in business excellence models lack the focus on the characteristics of leadership and the integration of all successful theories.

Chapter Three - Research Methodology

In the previous chapter the majority of research work and developed work related to the field of study were reviewed and research gaps were identified. In this chapter, the research methodology and approaches used in the thesis are discussed. In addition the working packages of this study are mentioned in detail.

3.1 Introduction

The literature review in the previous chapter indicated several gaps in the area of validation of the business excellence model in terms of clear and defined procedure. This chapter determines the methodology in which some of the new concepts will be developed. In addition, a selection of the methods will be carefully chosen based on their advantages and disadvantages for validations, as well as the plan to complete this research.

3.2 Overview of research methodology

This section describes the methodology of the thesis and the management of the literature review, linking the thesis objectives and the research questions, and providing data process charts for evidence of actual work carried out, as shown in Table 3.1 and Figure 3.1. In this section the research methods used to develop the thesis objectives in Figure 3.1 will be provided in the following sections.

Table 3.1 Number of research sources in textbooks, journals, and websites

Research Questions	Objective outcome	Number of articles, books & websites
Review recent literature related to business excellence models and validation	To develop the validation management theory	50 articles
What are the validation limitations and drawbacks and how can they be overcome?	To develop a new validation model called ABCD	75 articles
How can the success of the proposed validation method be verified?	To apply the proposed ABCD validation model to business excellence and process improvement models	700 samples
How can leadership be understood and defined?	To report and develop the basic elements of leadership To develop a new framework for understanding leadership	237 definitions 36 theories
What is unique and novel about the developed leadership model?	To develop and validate a conceptual framework structure and integration protocol.	296 articles

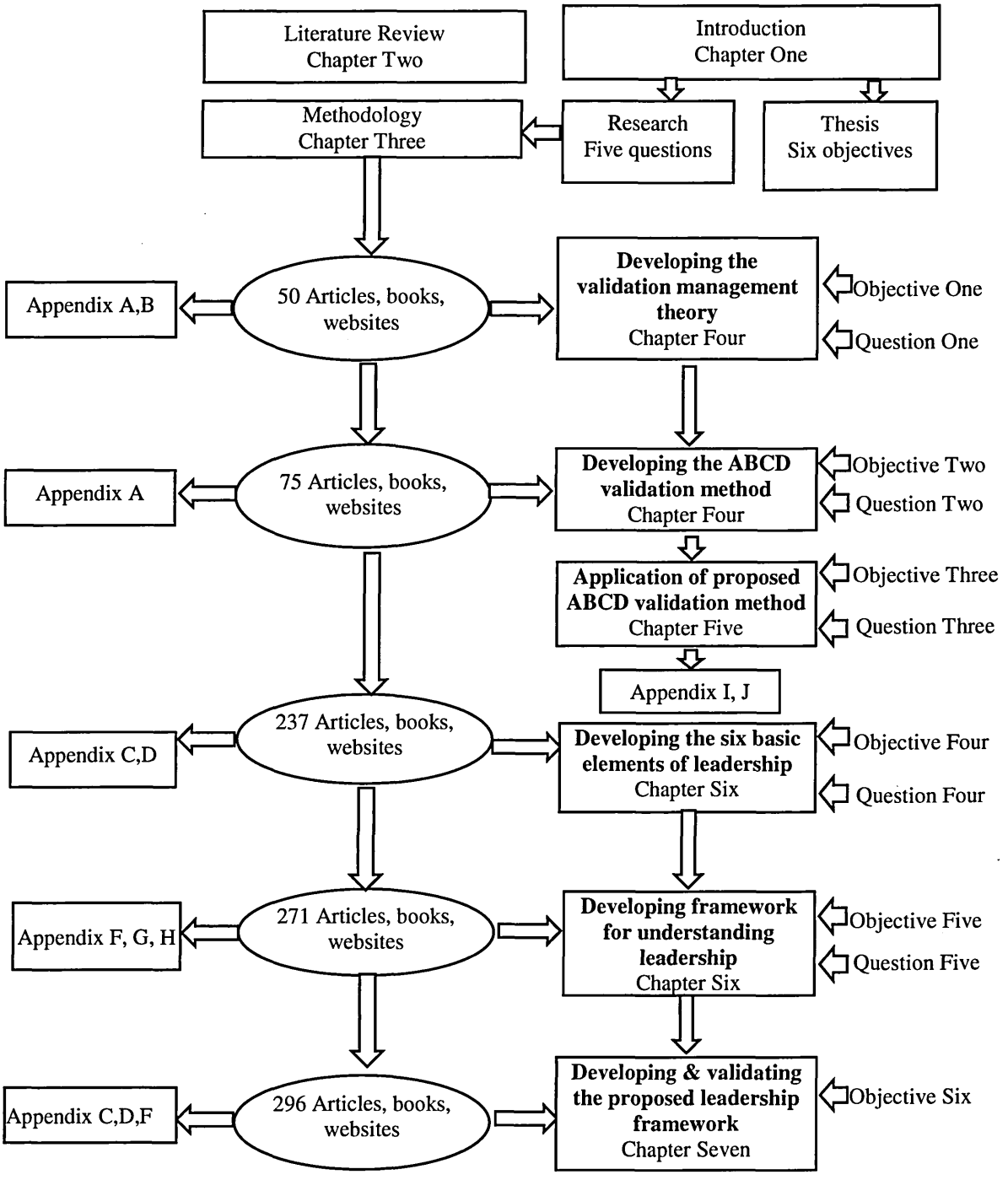


Figure 3.1 Overview of the thesis research methodology

3.3 The deployed research methodology used in this thesis

This section discusses the research methods that will be used in this thesis. It is important to mention this in order to provide a better understanding of the approaches and the order in which the following chapters are arranged. Three main research stages, as shown in Figure 3.2, will occur:

a) Data Collection
    a. Interviews
    b. Questionnaires
    c. Literature survey
b) Data Analysis
    a. Content analysis
c) Construct Validity
    a. SEM

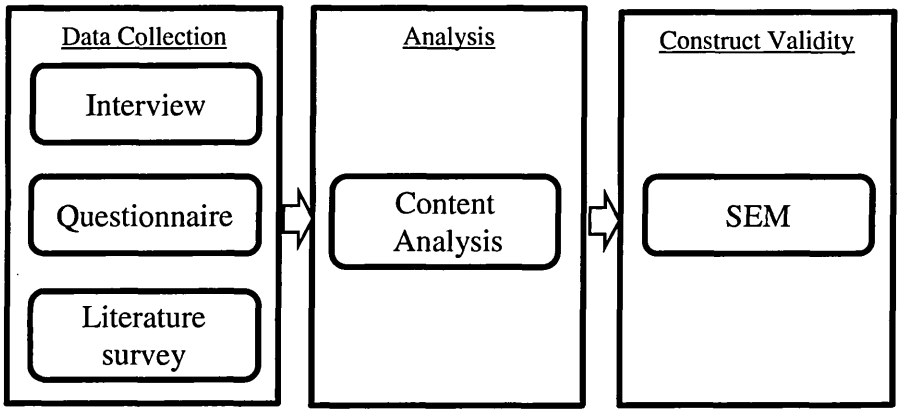


Figure 3.2 Data collection and analysis methodologies in this research

3.4 Data Collection

Data collection is simply how information is gathered. There are various methods of data collection, such as personal interviewing, telephone, mail, and online. Depending on the survey design, these methods can be used separately or together. The data collection strategy, the type of variable, the accuracy required, the collection point, and the skill of the enumerator influence choice of method. Links between a variable, its source, and practical methods for its collection can help in choosing appropriate methods.

In the study, three data collection methods – interview, questionnaire, and literature survey – will be selected to accurately position the grounding of the theory design and to validate the proposed theory.

3.4.1 Individual interview

The individual interviews used in this thesis will be very narrow, even though interviews are the most widely-used data collection strategy in qualitative research (Sandelowski, 2002; Nunkoosing, 2005). Individual interviews are typically chosen to collect feedback, comments, and participants' thoughts about proposed models (Fielding, 1994; Speziale and Carpenter, 2003; Loiselle et al., 2007).

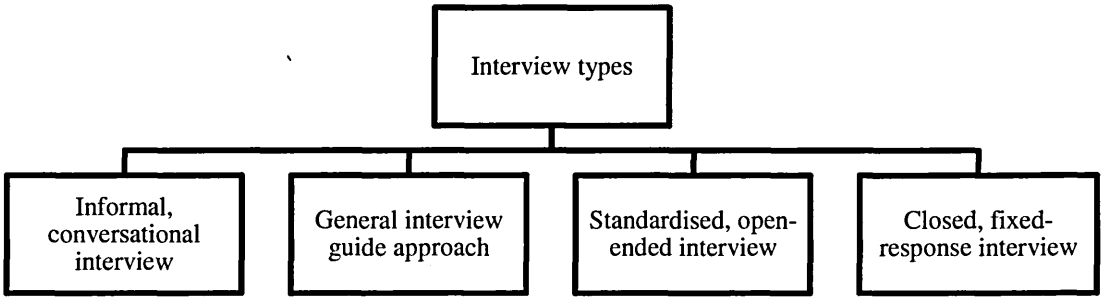


Figure 3.3 Interview types

Interviews are a primary method of data collection. Unlike questionnaires they have a high degree of flexibility during the process. The decision to choose one over another depends on the purpose of the research, the type of data, the phenomenon under study, etc. Merriam (1998) emphasises that choices depend on "determining the amount of structure desired." Patton (1990) divides interviews into four major types: 1) informal, conversational interview – no predetermined questions are asked in order to remain as open and adaptable as possible to the interviewee's nature and priorities; during the interview the interviewer "goes with the flow"; 2) general interview guide approach –intended to ensure that the same general areas of information are collected from each interviewee; this provides more focus than the conversational approach, but still allows a degree of freedom and adaptability in getting information; 3) standardised, open-ended interview – the same open-ended questions are asked to all interviewees. This approach facilitates faster interviews that can be more easily analysed and compared; 4) closed, fixed-response interview –

all interviewees are asked the same questions and asked to choose answers from among the same set of alternatives. This format is useful for those not practiced in interviewing.

75 candidates will be invited for interview in which 50% are managers and the other 50% are mixed of senior managers and consultants. Candidates must be university graduates at least and hold management level positions, because management experience and educational background will enhance the accuracy of the study. They will be given a brief introduction to the project and the purpose of the study to initiate a relaxed environment prior to the interview. The proposed leadership framework, which consists of three models (leadership enablers, leadership engines, and leadership domains) will be presented and discussed, along with the 16 criteria distributed equally in the four enablers and under each domain through the engines and in ABCD manners. All 75 interviews will be recorded on a datasheet. Subjects will then be asked to feedback their understanding of the proposed leadership model.

3.4.2 Questionnaire

Questionnaires are one of the key methods of obtaining data in any research endeavour. Questionnaires can be divided into three types as shown below in Figure 3.4:

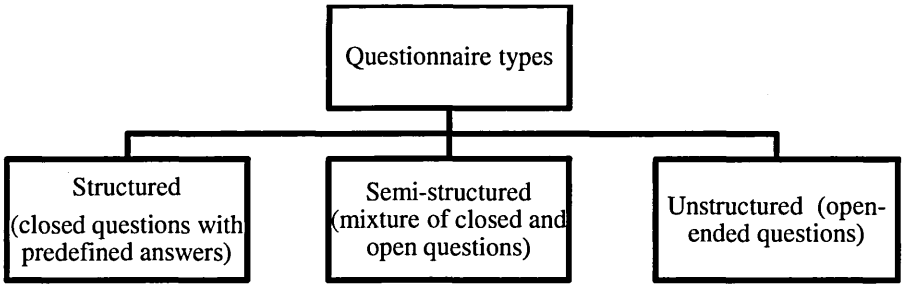


Figure 3.4 Questionnaire types

1) Structured questionnaires consist of closed or prompted questions with predefined answers. The researcher has to anticipate all possible answers with pre-coded responses. They are used in large interview programmes. This type of questionnaire is the most efficient because of ease of analysis (Seliger and Shohamy, 1989). Closed-ended questions include all possible answers in their pre-setting response, from which the respondents are asked to choose; 2) semi-structured questionnaires

comprise a mixture of closed and open questions. They are commonly used in business-to-business market research where there is a need to accommodate a large range of different responses from companies. The use of semi-structured questionnaires enables a mix of qualitative and quantitative information to be gathered; 3) unstructured questionnaires are made up of open-ended questions, which allow respondents to answer in their own words. Blank sections are left for respondents to write their own answers. The questioner can probe or even construct new questions that have not been scripted. This type of questionnaire is used in qualitative research. Gillham (2000, p5) argues that, "open questions can lead to a greater level of discovery", but concedes analysing answers to open-ended questions is difficult.

Web-based questionnaires were first used 15 years ago as a new approach to data collection using the Internet, including Web-based data entry and direct mailing of online questionnaires (Van Gelder et al., 2010; Swoboda et al., 1997; Schleyer and Forrest, 2000). Because of the limitations of conventional survey modes and declining participation rates, these were expected to impact majorly on survey research (McCabe et al., 2002). Thus, the Internet has become an important tool in epidemiologic data collection. Smartphones with the facility to fill out questionnaires are not at all unusual and can be used for recruitment and for following-up large cohorts. Evidence shows that Web-based questionnaires are returned more rapidly. Completing all the questions in a Web-based questionnaire is estimated to take about half the time needed to answer the same number of questions in a telephone interview (Van Gelder et al., 2010; Coyne et al., 2009).

Three different questionnaire surveys will be conducted for different purposes. The first, with the subject "Validation of Dubai Government Excellence Model (DGEP)", will be distributed through the Internet – more than 500 invitations will be sent out via email. Respondents will be capped at 500. The questionnaire will be in two parts: the first will be the background verification and the second the main part of model validation. The background verification will ensure there is a minimum knowledge of the business excellence model.

The second questionnaire, with the subject "Validation of Continuous Improvement Tracking Model (CITM)", will utilise the 200 sets of feedback reports as evidence. These will be measured and answered on a five point Likert scale: comprehensive evidence, clear evidence, marginal evidence, some evidence, no/very little evidence.

The results of both questionnaires will then be utilised as data input in the ABCD validation method.

The third questionnaire, with the subject "Validation of the new purposed leadership framework", will involve 200 respondents from various levels that are mainly engaged in business excellence models. They will be invited to answer ten questions. These 10 questions will be designed to identify the gaps in existing leader business models in practical implementation. The respondents will answer 16 questions that represent the dimensions or criteria of the proposed leadership model, which is divided into four sub-criteria for leadership, situation, style, skills, and strategy in a Likert scale: strongly agree, agree, neither, disagree, strongly disagree. The results will be analysed to confirm the elements of leadership sub-criteria.

3.4.3 Literature survey

A literature survey is termed when the researcher investigates all the literature related to one area of interest, which is then short-listed. A literature survey guides or helps the researcher to define/identify a problem.

Three different literature surveys were conducted and are discussed in detail in Chapters 2, 6, and 7. The first was conducted to identify the best software for validation methods. 75 pieces of empirical research from various journals were reviewed and statistical techniques from 35 articles were identified with the particular statistical software. The information recorded includes the cited frequency. The second literature had 176 sample definitions were selected after an initial search of 237 definitions in published leadership literature material, proper reference citation, and complete descriptions of definitions. The final literature survey was conducted to collect defined key information on the subject "Validation of the new purposed leadership framework – leadership enablers and engines". 296 articles from

different published journals were reviewed and 150 were selected for content analysis.

3.5 Data analysis

Tukey (1962, p2) defined data analysis as: "*Procedures for analyzing data, techniques for interpreting the results of such procedures, ways of planning the gathering of data to make its analysis easier, more precise or more accurate, and all the machinery and results of (mathematical) statistics which apply to analyzing data*".

The above sections discuss data collection through interview, questionnaire, and literature survey. A huge amount of data is required to ensure it is properly interpreted. Content analysis will be conducted to process the data and meet the research objectives.

3.5.1 Content analysis

Content analysis is a useful technique for written or verbal systematic quantitative description and expression. It is used more in research conducted over a long period of time. It is one method of framing the concept and provides a better understanding of it. Content analysis is used as a measurement tool and covers analysis of interviews, focus groups, and questionnaires (Stacks, 2002). The content analysis carried out in this thesis will aim to identify the most frequently mentioned elements for defining leadership and related key words.

3.5.1.1 Interview data

Interview content will be reviewed to identify the necessary improvements to the proposed leadership framework.

3.5.1.2. Questionnaire data

Responses to the questionnaires will be analysed by frequency of response, by category and coding unit. Frequency helps compare and interpret elements in the content universe and is easily depicted with graphs.

3.5.1.3. Literature survey data

The content of all literature was carefully reviewed. All literature surveys were analysed by predetermined "keyword" and the "understanding of the whole paragraph or sentences or overall content". The first literature survey focused on applied software for the data analysis. In the second literature survey, the leadership definitions were classified to six elements (6 "P"); the development of leadership definitions for every decade (1918- 2015) will be discussed in chapter 6. In the third survey, the overall content of 150 articles was examined to ensure the relevance or conjunction of 16 leadership sub-criteria in the articles.

The following steps will be taken in managing data collection and analysis:

1) Search of primary studies.
2) Online literature search using several searching engines such as Google Scholar and top tier online journals.
3) Collect data and develop in table reports from various sources (textbooks, journals, and websites).
4) Use Microsoft Excel 2010 database to accommodate the captured data.
5) Content analysis.

3.6 Construct validity analysis

Construct validity is the second step of the three-step construct validation process, along with content validity and model validity, as shown in Figure 3.5.

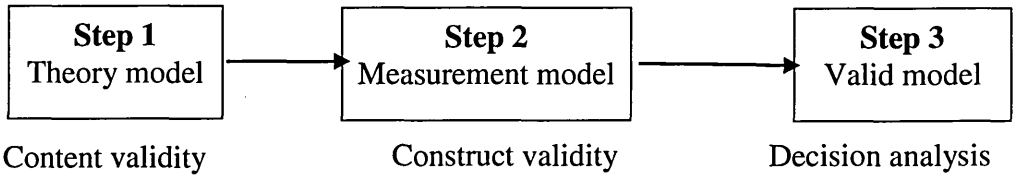


Figure 3.5 Construct validation

Content validity identifies theoretically-based empirical indicators that are expected to measure the construct (O'Leary-Kelly & Vokurka, 1998). The construct validity is the empirical assessment of the extent to which empirical indication measures the construct in uni-dimensionality, reliability, and validity (O'Leary-Kelly and Vokurka,

1998). There are two main methods considered in the development of an ABCD validation method: the structure equation model mentioned in section 3.6.1 and the five types of analysis in section 3.6.2. Further details can be found in appendices H, I, J, K, and L.

3.6.1 Structural equation model (SEM) and analysis of moment structure program (AMOS)

Structural equation modelling (SEM) is a family of statistical procedures that includes techniques such as path analysis and confirmatory factor analysis (CFA). CFA allows the researcher to evaluate hypotheses about construct validity by testing whether a theoretical model of what a test is supposed to measure is consistent with the observed covariance (Cole, 1987: Kline, 1998). The ability to test CFA models across multiple groups also provides a way to evaluate measurement invariance or construct bias, which means the test measures the same constructs with the same accuracy in different samples. Computer programs are essential tools for conducting CFA and other types of SEM. Analysis of Moment Structures (AMOS) is a popular software program (Arbuckle, 1997; Kline, 1998). SEM emerged in the mid 1980s. Common types of SEM include path analysis, CFA, exploratory factor analysis, and structural regression model. Path analysis, also known as causal modelling, focuses on examining the network of relationships among observed variables. CFA is represented again into type; exploratory factor analysis (EFA) is considered the most common type of factor analysis in which factor analysis is performed in order to explore what factors underpin a particular set of measurements. CFA tests whether a pre-defined theoretical model underpins a particular set of observations. To illustrate the relationships in the SEM and AMOS software, Figure 3.6a describes a simple relationship between two variables. In the research methodology, there are latent and manifest variables; the latent variables are the hidden or unobserved variables. As such, latent factor information is gained though observable variables. Factor analysis (exploratory or confirmatory) and SEM are statistical techniques that can be used to reduce the number of observed variables into fewer latent variables by examining the conversation among the observed variables. CFA and SEM are analysis techniques. Observed variables are also termed measured, indicator, and manifest. Unobserved variables are termed latent factors and are described graphically with circles in

AMOS software. Figure 3.6b is another example of the relationship between the observed variable (independent) and the latent variable (dependent), but in a complex form.

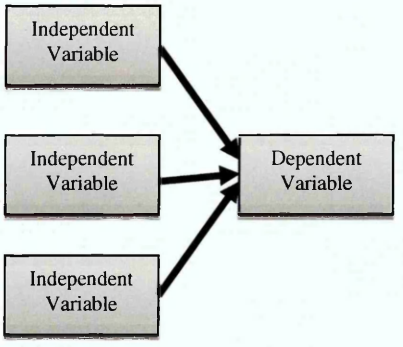


Figure 3.6 (a) Simplex form

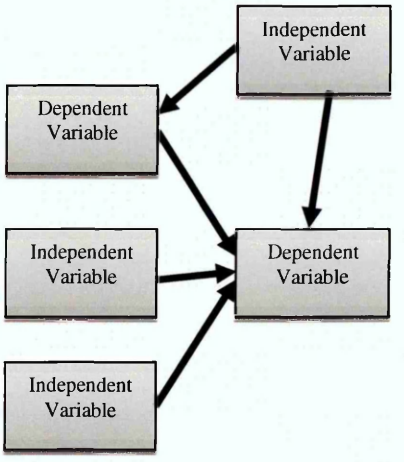


Figure 3.6 (b) Complex (Web) form

CFA is a confirmatory technique. It is theory driven, and therefore, the planning of the analysis is driven by the theoretical relationships among the observed and unobserved variables. When CFA is conducted, the researcher uses a hypothesised model to estimate a population covariance matrix that is compared with the observed covariance matrix. Technically, the researcher wants to minimise the difference between the estimated and observed matrices. SEM is the combination of EFA and CFA. Structural modelling is used to test experimental data where one or more of the variables have been manipulated; SEM tests theoretical propositions regarding how constructs are theoretically linked and the directionality of significant relationships. (Schreiber et al., 2006). Schreiber et al. (2006) listed several drawbacks of path analysis. First, the path analysis requires unidirectional relation and a single indicator that is error free and does not incorporate feedback loops among variables. The second drawback is that it does not permit the possibility of a degree of interrelationship among the residual associated with variables used in the path model. SEM estimates the degree to which a hypothesised model fits the data. With CFA, goodness of fit indexes are estimated for each latent variable as a distinct structural model. SEM is also known as simultaneous equation model or multivariate (multi equation) regression model. These are meant to represent causal relationships among

the variables in the model (Fox, 2002). Table 3.2 contains a summary of all the analysis, each method, and breakdown analysis. AHP, SEM, CFA, and EFA are described in terms of purpose, objective, and limitations.

Table 3.2: Details of analysis methods

Objectives	Method	Limitations	Authors
To determine the casual relationship between the variables	Path analysis	Requires unidirectional relation and a single error free indicator	(Schreiber et al., 2006)
Diagnosis checking the breakdown of classical assumption in statistical analysis	Breakdown analysis	The model perfectly represents the true relations between the underlying constructs that may contain breakdown and cause overestimation	(Gupta, 2000), (Cole and Preacher, 2013)
Determine the weights of performance measures of a business process	AHP	AHP requires expert judgment data	(Bassioni et al 2007)
SEM is a factor analysis technique used for confirmatory factor analysis	SEM-PLS	SEM is not a method for discovering causative relationships	(Fox, 2002)
Given the decision to develop the constructs and scales *a priori,* the use of confirmatory factor analysis (CFA), which deals with precise specifications concerning the factor structure and its loadings, is the logical consequence	Conformity Factor Analysis (CFA)		(Lei and Wu, 2007), (Fox, 2002)
Deriving the dimensions through data analysis techniques such as exploratory factor analysis (EFA), i.e. following a *theory free* approach	Exploratory Factor Analysis (EFA)	Only preferable when little theoretical basis exists and pure EFA items are loaded on to a factor only on statistical grounds, which may be incongruent with existing theory and affect the factor's identity	(Venkatraman, 1989; Sureshchandar et al., 2001), (De Moura & Lopes, 2002), (Fox, 2002)

During the validation, some basic formulas, such as the structural equation formula and the applicable formula for the drawbacks, must be understood in order to explain the result of validation. Table 3.3 explains the type of analysis with examples of how to calculate the path analysis regression, the detection of the breakdown through the Variable Inflation (VIF), and the autocorrelation. Table 3.4 describes the methods used to analyse the breakdown and its drawbacks.

Table3.3: Details of formula for path and breakdown analysis

Objectives	Formula	Example	Author
To formulate the general structural equation of path analysis	$y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots + \beta_n X_{ni} + \varepsilon_i$	*wage* = function (*age*, *work experience*, *education*, *gender*, *sector*) $wage = \beta_1 + \beta_2 * age + \beta_3 * work\ experience + \beta_4 * education + \beta_5 * gender + \beta_6 * sector + \varepsilon$	(Rona-Tas, 2009)
To formulate the common equation of path analysis	$Y = b_0 + b_1 X_1 + b_2 X_2 + \ldots + b_n X_n$	$wage = b_1 + b_2 * age + b_3 * work\ experience + b_4 * education + b_5 * gender + b_6 * sector$	(Rona-Tas, 2009)
Detection of breakdown and collinearity	$VIF = \frac{1}{1-R^2} \geq 10$ **indicate problematic**	Given Y = 0.4917X + 68.102, $R^2 = 0.9803$ VIF = 50.76 indicate collinearity	(Grewal et al, 2004)
Determine the autocorrelation	$e_i = pe_{i-1} + u_i$ $d = \frac{\sum_{i=2}^{n} (\hat{e}_i - \hat{e}_{i-1})^2}{\sum_{i=1}^{n} \hat{e}_i^2}$	Let n = 20 $\sum_{i=2}^{n} (\hat{e}_i - \hat{e}_{i-1})^2 = 8195.2065$ $\sum_{i=1}^{n} \hat{e}_i^2 = 7587.9154$ d = 1.08 If significance level, α = 0.05, then table critical values of the Durbin-Watson Statistic gives the critical values corresponding to n = 20 and one regressor as dL = 1.20 and dU = 1.41. ∵ d = 1.08 < dL = 1.20 ∴ Reject H0 and conclude that the errors are positively autocorrelated	(Durbin and Watson, 1950, 1951) (Montgomery, 2001)

Table3.4 Typical type of breakdown

Breakdown	Description	Consequences	Author
Collinearity	Two or more of the independent/explanatory variables in a regression have a linear relationship	Causes a problem in the interpretation of the regression results. If the variables have a close linear relationship then the estimated regression coefficients and T-statistics may not be able to properly isolate the unique effect/role of each variable and the confidence with which these effects can be presumed to be true. The close relationship of the variables makes this isolation difficult 1. Increased standard error of estimates of the coefficient's (decreased reliability) 2. Often confusing and misleading results	(Mason & Brown, 1975). (Gupta, 2000) (Grewal et al, 2004)
Misspecification	Mis-specification can be of several types: incorrect functional form, omission of a relevant independent variable, and/or measurement error in the variables. Mostly caused by the modelling work done of the researcher	Entire analysis will be biased because 1. Everything hinges on the use of the wrongly calculated residuals (incorrect functional form) or 2. Not including important variables (omission variable) or 3. Measurement error (deviation in the dependent variables)	(Gupta, 2000) (Cole & Preacher, 2013)
Autocorrelation	In time-based series analysis, the value of residual or error terms in the equation is not independent where the error in one period in some way influences the error in another period	1. The parameter estimates will be unbiased 2. The goodness of fit measures such as standard errors will underestimate the variance of the regression and the parameter estimates 3. Standard tests such as T and F will not be valid 4. Ordinary least squares is less efficient than generalised least squares	(Durbin and Watson, 1950, 1951) (Boyd, 2000)

Most SEM analysis is conducted using one of the compatible SEM software programs. However, there are many options. In this study the AMOS was selected as it was commonly used in most of the applications associated with SEM (Lei and Wu, 2007). AMOS is distributed with SPSS (SPSS, 2012). The AMOS program has two components: AMOS Graphics and AMOS Basic. AMOS Graphics permits the specification of models by diagram drawing, whereas AMOS Basic allows specification from equation statements. Imperative is AMOS's in capability for

producing bootstrapped standard error estimates and confidence intervals of parameter estimates. Data can be entered directly or imported from a number of different sources. The processes for reading data are stored in a PASW software program called Predictive Analytics Software (brand name of SPSS-IBM). All statistics data files and database applications such as Microsoft Excel and Access can be used compatibly with the PASW program.

AMOS runs in two modes: AMOS Graphics and AMOS Test. AMOS Graphics provides a graphical interface through which the user conducts an analysis by drawing the model on the screen; AMOS Test is for users who are already familiar with AMOS programming language. AMOS Graphics presents the user with a palette of tools for drawing the model. Some of these tools include shapes for drawing squares for observed variables and circles or ovals for latent variables, disturbance, or measurement. Along with paths such as unanalysed association (<>) or direct cause and effects (>), there is also a template for drawing the latent variables and their indicators. AMOS Graphics attempts to prevent mistakes in the specification of a model in two ways (Kline, 1998). First, the program does not allow the user to make illogical specifications among objects on the screen, for instance, the user is not able to connect the indicators of a factor with the symbol for unanalysed association (<>). The program warns of the omission of certain objects, such as disturbance of an endogenous variable when the analysis is run. When the analysis starts, a separate window appears on the screen reporting on the progress of the estimation. AMOS Graphics allow either un-standardised or standardised solutions to appear in their proper places in the diagram of the model and will also report the values of fit indexes selected by the user in the figure options.

Model fitness criterion

- CMIN = Chi Square/Degrees of Freedom
- Fit criterion CMIN <5
- RMR < 0.05
- AGF > 0.9
- GFI > 0.9

To generate a frequency, report the analysis option must be chosen, then the descriptive statistics and frequencies selected. All observers must be dragged into the

right column, then OK must be pressed. The result will be shown in the output. To generate a reliability test report, an analysis option must be chosen, then the scale, then the reliability test. Then the reliability tests should be set according to the group required. In statistics the scale must be ticked if the item is deleted to analyse which data set is less reliable. Then continue must be pressed.

3.6.2 The five type of analysis

There are five different analyses can be used in the validation process, however, not all of them are necessarily to be used during the analysis stage and purely depends on the case under investigation:

i. ***Exploratory analysis*** can be performed to expand possible further investigation closely related to the research topic. It aims to find research patterns that aren't predicted by the researcher's current knowledge or pre-conceptions. The researcher thus collects the studied data and constructs it into a matrix table. An analysis is established to ensure the cause-effect relation between the components for further research.

   Exploratory analysis is conducted based on each sub-criteria linking for example, leadership sub-critical should be link matched and weighted against the remaining enablers sub-criteria.

ii. ***Synthesis Analysis*** separates the studied model into individual groups for detailed research on particular characteristics.

iii. ***Hypothesis Analysis*** is performed to confirm the outcome of exploratory analysis by making various assumptions. A series of tests will be established based on these assumptions and the data from the testing will be analysed.

iv. ***Correlation Analysis*** is performed to evaluate the relationship between the studied variables. The relationships are commonly described as direct effect, indirect effect, and total effect. It can be used multi-dimensionally in an ABCD validation method. Conventionally it is only conducted by plotting the dataset of dependent and independent variables to find the coefficient of an equation. Those variables represent the causes and effects in quantifying value, which can be obtained during data collection. Alternatively, causes and effects can be estimated or predicted the regression coefficient is known. Therefore, the direct relationship between those variables are considered in

this study. A series of path analysis equations are then formulated to calculate the indirect and total effects of the relationship between those variables. A number of popular statistic software is used to compute the correlation, such as AMOS. (Further description of correlation analysis is in Step D: determine model estimation).

v. ***Breakdown Analysis*** is required to detect existing common limitations in the model. Collinearity, misspecification, and autocorrelation will be minimised in this step. Collinearity or multicollinearity always exist between variables. Collinearity or multicollinearity is defined as two or more independent variables that correlate highly to each other, thus giving an inaccurate regression to the respective dependent variable. The researcher may find interpretation of the model difficult because of this inaccurate regression.

The detection can be conducted using a variance inflation factors (VIF) calculation, i.e.

$$VIF = \frac{1}{1-R^2} \qquad (3.1)$$

The indicative value of problematic collinearity is ten or more, which needs corrective action against it. Corrective action such as removing redundant independent variables and aggregating similar independent variables solves the collinearity efficiently.

Autocorrelation frequently breaks down in time series analysis when the residual term to variables present shows significant coefficient. The appearance of autocorrelation causes the estimated standard errors and coefficient bias to be larger, thus the expected result on the studied model will not be achieved. The residual term to a variable can be formulated as follows:

$$e_i = pe_{i-1} + u_i \qquad (3.2)$$

where e_i is the residual term in period t and e_{i-1} is the residual term in the period $t+1$, p is the autocorrelation coefficient, and u_i is the disturbance i.e. independent over the time t. A strong or significant coefficient is indicated when the p is closed to +1 or -1, whereas 0 is independence over time. The Durbin Watson test is used to identify the autocorrelation, whether requiring

any correction or not. It is applied when positive autocorrelation is found (p>0). Durbin Watson formula

$$d = \frac{\sum_{i=2}^{n} (\hat{e}_i - \hat{e}_{i-1})^2}{\sum_{i=1}^{n} \hat{e}_i^2} \qquad (3.3)$$

Durbin Watson significance tables are needed for this application, where $\hat{e}_i$ is the residual for observation i and $\hat{e}_{i-1}$ is the residual for observation i - *1*.

When the residuals are independent, the $d \approx 2$. When the residuals are positively correlated, $d < 2$.

The decisions for the problem correction are as follows:

Reject Null if: $d <$ dL (α; n; K)

Accept Null if: $d >$ dU (α; n; K)

* α = significant level, n = size of samples, k = number of explanatory variables to regression.

Where dL (α; n; K) and dU (α; n; K) * Durbin Watson Significance Tables.

When dL (α;n;K) $\leq$ d $\leq$ dU(α;n;K), the correction is suggested because of unidentified behaviour.

Several correction methods are suggested:

i) Certain important variables are omitted. Find out the omitted variables to the regression.

ii) Transform the original time-series variables in the regression so that the regression uses independent disturbances.

iii) Add a lagged value of the dependent variable as an explanatory variable. Durbin's h test is required.

3.7 Conclusion

This chapter provided an explanation of the selected validation tools and methods. As such, no models or illustrated methods simplified the validation process. A new validation theory that can be the base design for an innovative validation model that can be used as a generic validation model had to be established. Some of the common validation drawbacks found in many of the literature reviews were also taken into consideration. A new theory of validation management is proposed and described in detail in the next chapter.

Chapter Four– The Validation Management Theory and the Development of the Proposed ABCD Validation Method

This chapter proposes a theory of validation management that is intended to establish a conceptual background based on quality management and business excellence models to produce an end-to-end approach governed by the three principles of the learning curve, analysis, and determination of achievements. This theory led to the development of the proposed ABCD validation management method, which is to be used as a critical management tool. The method includes a systematic approach and step-by-step guidelines for a successful validation process that ensures simplicity and eliminates the difficulties and limitations of previously reported methods. The ABCD validation method given in this chapter was developed in response to the literature review findings concluded in Chapter Two and to the study carried out in the previous chapter.

4.1 Introduction

This chapter introduces a new innovative validation management theory that can be used for developing and validating business models which is mainly focuses on two parts, the first part is to understand the purpose of the model and identify and develop the approach of the validation, second part is to design the validation through four steps: Analyse, Build, Check and Decide (ABCD). In this chapter, the theory of validation quality management is proposed to describe and explain the effects of adopting the quality management theories that combines a quality management method with the analysis and validation process. The ABCD validation method can be defined as "Achievement Because of Continuous Development". The core of the validation tool development is formed by combination of well-known quality management tools: Deming Cycle, RADAR logic and using the application of statistical tools: structural equation modelling, SPSS and AMOS.

As explained in chapter two, in order to ensure the model is developed according to the company logic of value creation (Ghaziani and Ventresca, 2005) or to confirm widely method of doing business by which a company sustain itself. (Rappa, 2001); Validation process was required to ensure that the model is fit for use and it is valid. Schereiber et el. (2006) listed several drawbacks in validation process such as path analysis, for example, the path analysis requires unidirectional relation and a single indicator with error free and it does not incorporate feedback loops among variables, another example, is that it does not permit the possibility of interrelationship degree among the residual associated with variables used in the path model. A numbers of breakdowns and limitation exist in conventional path analysis elevate the difficulty to interpret the models regression such as collinearity, autocorrelation, unidirectional and etc (Cole and Preacher, 2013). Path analysis is only applied with steady progressive causalities as all intervening variables are served as dependent variables thus model has to be tested by straightforward multiple regressions.

4.2 The ABCD management theory

The ABCD management theory is general and comprehensive and it is found to be suitable when integrated with quality management methods as an innovative solution. The ABCD theory involves the three aspects of analysis, learning and determination of achievement. Analysis is the most essential part in any process of quality management, which is defined as the procedure by which a discrete intellectual or substantial whole is organised into parts or components (Ritchey, 2012) and gets beyond simple description into examination and explanation which lead to finding new knowledge. The determination of achievement is knowledge obtained to satisfy management to perform effective decisions based on reliable factual information. Learning is a key factor for management to ensure continuous and sustainable development and improvement. The three main aspects of the ABCD management theory emphasise the importance of identifying the results of analysing problems and determining achievements, while focusing on the learning curve. The Deming Cycle and RADAR logic are both popular quality management tools used in various industries and organisations (Sokovic, et al., 2010) which are possible to use for continuous quality improvement of products, processes and services in organisations, with findings depending on purpose. Every organisation will have to find a proper way forward and use a combination of methodologies in its implementation process. The Deming cycle is a well-known fundamental concept of continuous-improvement processes and project management. In continuous-improvement processes (Boris, et al., 2003), the Deming cycle initiates plan steps which consist of identifying and analysing a problem in terms of project management (Goodpasture, 2010). RADAR logic provides a structured approach assessing organisational performance in conjunction with the EFQM Excellence Model. It permits a standardised assessment of how well enablers of an organisation achieve results. The effectiveness of the Deming Cycle tends to be more at the start of planning and during the execution of the work, whereas the RADAR Model tends to present more after the work is completed and can be used as an assessment tool for evaluation purposes. Jaccard (2013) stated that RADAR logic was inspired by the Deming Cycle. He suggested that an organisation worked sequentially by defining "Results and Approaches" required to achieve its strategy. The criteria of the approaches were assessed in an

integrated and sound approach, whereas in the Deming Cycle planning for results was expected at the present time and in considering a future "plan". Figure 4.1 shows the concept of ABCD Model, Deming Cycle and RADAR logic. ABCD defined the purpose and approach in the first steps (ANALYSE) of the model which included planning and listing the analysis required to be used. RADAR systematically "deploys" these approaches to ensure implementation in full in order to "do" as the Deming Cycle demonstrated; ABCD required to (BUILD) the model that needed to be validated. During the RADAR stage "assess" to those elements which had been done, evaluated them by indicating (CHECK) with a set of tests stated in the Deming Cycle and ABCD. Lastly, RADAR emphasised to "refine" and correct them to "act" as in the Deming Cycle or to (DECIDE) the best from the evaluated options in ABCD.

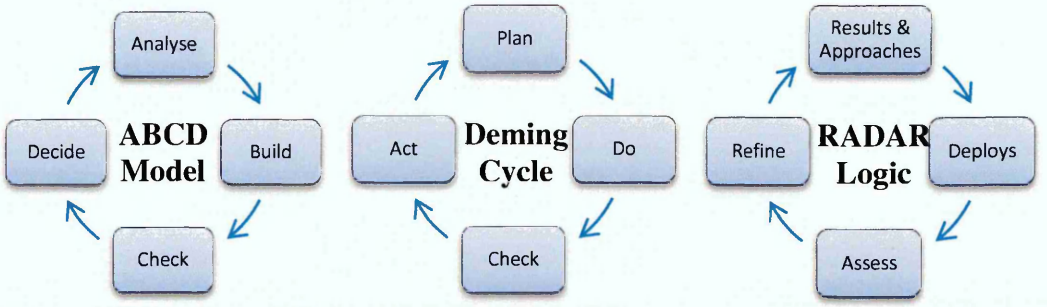


Figure 4.1 ABCD Model, Deming Cycle (Arveson, 1998) and RADAR logic (EFQM, 2013)

The RADAR logic aimed to identify strengths and weaknesses of an organisation and initiated a phase of continuous improvement or ongoing process improvement. It can also be used as a method of problem solving throughout a company. Similarly to the Deming cycle, RADAR logic can be seen as the basic building block of a management system. ABCD management theory takes into consideration both mentioned methods. This includes the steps: Analyse the purpose and approach (Plan/Result and Approach), build the management model (do/deploy), check by carrying out tests (check/assess) and decide the best action (act/refine). As RADAR logic is used as a mechanism to evaluate the "past", the Deming Cycle evaluates the "present", while ABCD combines those quality management tools and methodologies to become an integrated solution which covers advanced features and improves the area of management concerns.

4.3 The fundamental concept of ABCD validation management theory

ABCD theory management is developed from the fundamental concept that achievement is considered to be the best decision that can be obtained in order to validate a model. The process is a continuum of three different cycles and covers three main aspects of analysis, learning and determination of achievement, as shown in Figure 4.2.

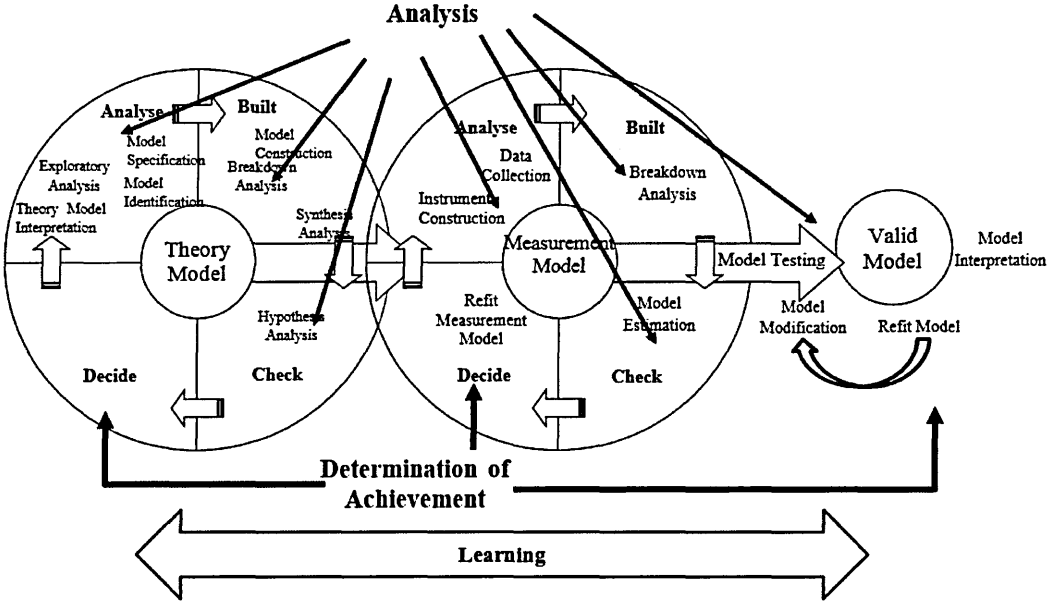


Figure 4.2 Fundamental concept of ABCD validation management theory

The analysis aspect includes three stages: "analyse, build, check". These stages are formed by a series of processes to ensure that the right incoming information goes through standardised examination tests and meets the required criteria. The determination of achievement aspect is represented by the stage "decide".

The learning aspect is represented by three cycles of the model, which is the theory model cycle, the measurement model cycle and the valid model cycle. Each cycle of the models needs to go through the ABCD process and learn new knowledge from each cycle to the next cycle, thus giving continuous and sustainable development. ABCD Validation Method consists of four basic ABCD stages, which are positioned in the outer part of the model, and there are two sub-stages in each. Therefore, there are eight sub-stages in total required to validate a Business Excellence Model.

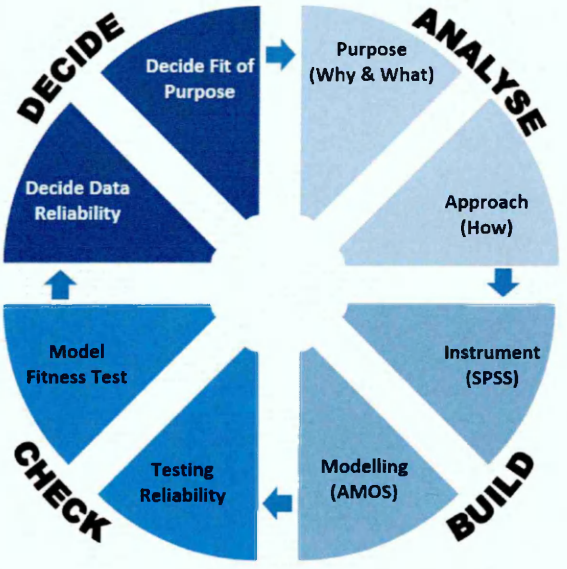
4.4 The proposed ABCD validation method

The ABCD Validation Method consists of four basic ABCD stages which are positioned in the outer part of the model and there are two sub-stages in each. Therefore, there are eight sub-stages in total which are required to validate a business Excellence Model. Figure 4.3 displays the steps that should be followed in order to validate a business excellence model. The four main stages are as follows:

- Analyse of the Business Excellence Model validation by identifying the purpose and approach to perform analysis with minimum time with high accuracy.
- Build the business excellence model according to the purpose and approach.
- Check the fitness of the business excellence model by a series of reliability tests and analysis to determine the validation of the measurement model and to determine the fit of purpose.
- Decide the validity business excellence model for the theory, measurement and final interpretation and determine the correlation values, the regression and Model fitness tests and finally decide the fitness of the model and the fit of purpose.

The purpose of the ABCD validation method is to obtain a successful validation results by following a systematic approach with ease of remembering the steps, implementation and the refinement. Also, it overcomes some of the drawbacks and limitation mentioned by many of previous researchers. The path analysis in ABCD validation method allows direct estimation of the correlation between components with hypothesis analysis. It also allows multi dimension correlation analysis in the regression calculation i.e. data set for dependent variables and independent variables (correlation) or for regression coefficient (prediction) during the real case research analysis. ABCD validation method allows the option of direct study from the regression coefficient that avoids the common breakdowns such as collinearity and autocorrelation. The conventional path analysis is "passively" depending on the calculated parameter that causes the common breakdown. The option is to "actively" control the regression from the coefficient of determination (or "R" value) and

"disturbance of regression" (or residual term or regression) which are the most important parameters to collinearity and autocorrelation.



	ABCD Validation Score	Step	Weight Score
Analyse (40%)	Purpose (What, Why, When) & Approach (How)	1	10%
	Exploratory Analysis	2	5%
	Degree of Well Enabled	3	5%
	Synthesis Analysis	4	5%
	ABCD Path Analysis	5	5%
	Hypothesis Analysis	6	5%
	Measurement Model Specification	7	5%
Build (15%)	Hypothesis Development to questionnaire	8	5%
	Instrument for data collection & processing (SPSS)	9	5%
	Modeling (AMOS)	10	5%
Check (25%)	Reliability Test	11	5%
	Measurement Model Identification (Degree of Freedom)	12	5%
	Breakdown (VIF & others)	13	5%
	Regression Estimation	14	5%
	Fitness Test	15	5%
Decide (20%)	Good Range of Model Fitness	16	5%
	Model Modification and Refitting	17	5%
	Interpretation of Valid Model	18	5%
	Fitness for Purpose	19	5%
	Total ABCD Score 100%		

Figure 4.3 ABCD validation method

As mentioned in Figure 4.3, the ABCD Validation Method starts with defining the purpose of the validation and ends up at deciding the fitness of purpose. The validation is required to determine the criteria in which the measurement model is built on it and the analysis which can be respectively divided into several categories; For example, in business excellence models that contain similar components like European Foundation for Quality Management (EFQM), then a codification in alphabetical ABCD can be used to carry out bidirectional path analysis. The ABCD Validation Method also contains Structure Equation Modelling (SEM), which takes place in several steps; it starts with the tuning of the model. The standardisation and modification operation are carried out to bring up the fitness of the model to a good range of performance. The sequential steps of the ABCD Validation Method is shown in Figure 4.4. An example of Business Excellence Model can be seen in Figure 4.5 which represents the evaluation criteria for the category of the distinguished Government which is similar to EFQM. The EFQM model as shown is an effective model worldwide, comply and in line with the international standards, results oriented, it has 9 criteria, 5 of them are enables and 4 are results. The evaluation based on RADAR of results. The results are combination of performance

outcomes such as trends, targets, comparisons, causes. ABCD validation method was developed to ease the analysis and testing the EFQM Model as mentioned in Figure 4.5.

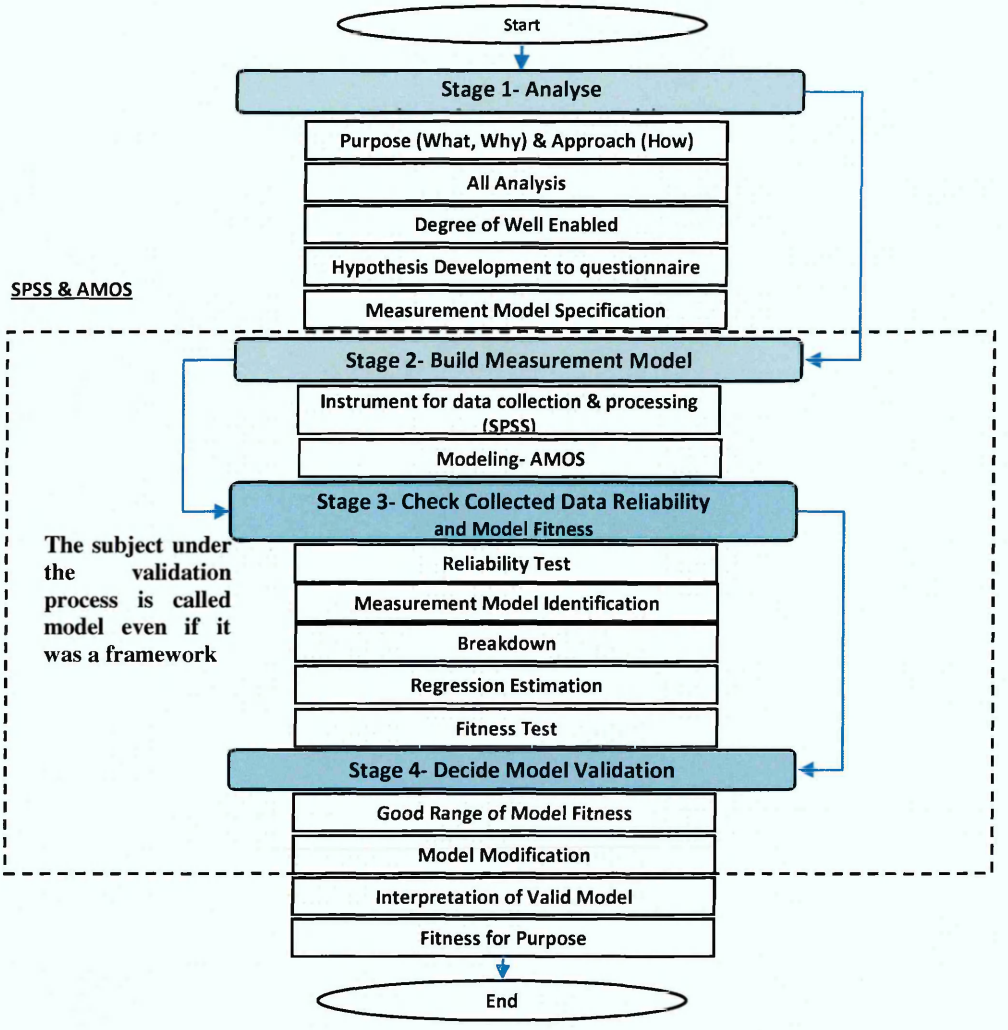


Figure 4.4 Steps in ABCD validation method

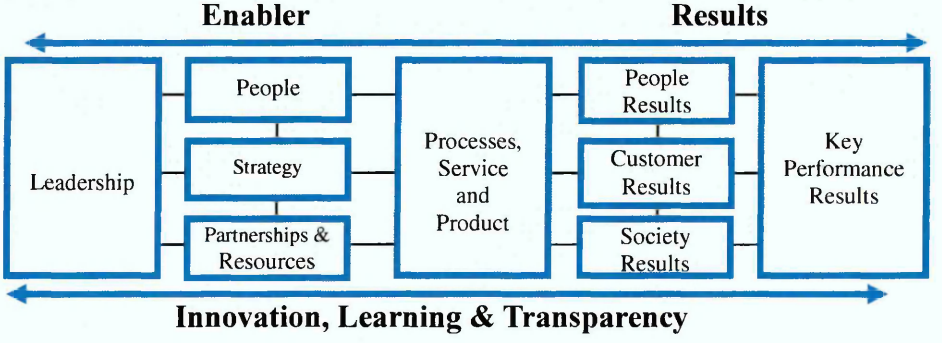


Figure 4.5 The EFQM 2012

4.4.1 Stage 1: ANALYSE

The first stage of validation process is to analyse the business model by identifying the purpose and the approach to perform analysis with minimum time and high accuracy.

4.4.1.1 Purpose

Initially to begin the analysis, it is required to understand exactly what is the purpose? It could be for new model that need a validation or an existing model's validation need to be evaluated or a decision making process to get the right result or even an experiment that requires validation.

4.4.1.2 Approach (How to validate?)

The approach may be varied from case to case. The general approach for the research purpose is suggested to start from theory model construction until the model is validated. The approach of this validation is to codify the business excellence model which is based on EFQM criteria into three ABCD and develop a three vertical models ABCD1, ABCD2 and ABCD3, also horizontal models are required to distinguish between the common enablers and the results.

4.4.1.3 Degree of well enabled

The Degree of well enabled will indicate not only how to validate but how good the validation is. The evaluation of the relationship among the criteria is summarised into three categories i.e. low enabled, marginal enabled and well enabled, as can be seen in Tables 4.1, 4.2 and 4.3. Well enabled means the relationship are well established. Marginal enabled indicate the average relationship and low enabled represent the poor relationship among the criteria. In this stage three analysis methods (Exploratory, Synthesis, and Hypothesis) are deployed in which the selection of these analyses or other analysis should be critically reviewed based on the requirements of the model subject for validation.

Table 4.1 Degree of well enabled evaluation to ABCD1

Category in EFQM	Leadership	Strategy	Partnership & Resources	Process	People Result	Customer Result	Society Result	Degree of Well Enabled
People 3/1	Very Strong	Strong	N/A	Strong	Moderate	N/A	N/A	Well Enabled
People 3/2	Very Strong	Weak	N/A	Very Strong	Very Strong	N/A	N/A	Well Enabled
People 3/3	Very Strong	Moderate	N/A	Very Strong	Strong	N/A	N/A	Well Enabled
People 3/4	Very Strong	Strong	N/A	Strong	Very Strong	N/A	N/A	Well Enabled
People 3/5	Very Strong	Moderate	N/A	Very weak	Very Strong	N/A	N/A	Marginally Enabled
People 3/6	Weak	Weak	N/A	Weak	Very Strong	N/A	N/A	Marginally Enabled

Table 4.2 Degree of well enabled evaluation to ABCD2

Category in EFQM	Leadership	People	Partnership & Resources	Process	People Result	Customer Result	Society Result	Degree of Well Enabled
Strategy 2/1	Strong	Strong	Strong	Very Weak	N/A	Very Weak	N/A	Marginally Enabled
Strategy 2/2	Strong	Moderate	Moderate	Weak	N/A	Strong	N/A	Marginally Enabled
Strategy 2/3	Strong	Moderate	Strong	Weak	N/A	Very Weak	N/A	Marginally Enabled
Strategy 2/4	Very Strong	Very Strong	Strong	Moderate	N/A	Very weak	N/A	Marginally Enabled
Strategy 2/5	Strong	Strong	Strong	weak	N/A	Very Weak	N/A	Marginally Enabled
Strategy 2/6	Weak	Moderate	Very Weak	Weak	N/A	Very Weak	N/A	Low Enabled

Table 4.3 Degree of well enabled evaluation to ABCD3

Category in EFQM	Leadership	People	Partnership & Resources	Process	People Result	Customer Result	Society Result	Degree of Well Enabled
P&R 4/1	Strong	Strong	N/A	Strong	N/A	N/A	Strong	Well Enabled
P&R 4/2	Strong	Weak	N/A	Moderate	N/A	N/A	Weak	Marginally Enabled
P&R 4/3	Weak	Moderate	N/A	Weak	N/A	N/A	Moderate	Marginally Enabled
P&R 4/4	Very Weak	Very Strong	N/A	Strong	N/A	N/A	Weak	Marginally Enabled
P&R 4/5	Moderate	Very Strong	N/A	Weak	N/A	N/A	Strong	Marginally Enabled

4.4.1.4 Exploratory analysis

Exploratory analysis aims to find research patterns that aren't predicted by the researcher's current knowledge or pre-conceptions. Researcher thus collected the studied data and constructed the data into matrix table. An analysis is established to ensure the cause-effect relation in between the components for further research.

4.4.1.5 Synthesis analysis

Synthesis analysis is to discrete the studied model into individual groups for the detail research on the particular characteristics.

4.4.1.6 Hypothesis analysis

Hypothesis analysis is performed to confirm the outcome from the exploratory analysis by making various assumptions. A series of tests is established based on these assumptions and the data from the testing is analysed. To investigate any business excellence model such as EFQM, a model is constructed in AMOS. The EFQM theory model in Figure 4.5 is viewed as three groups as shown in Figure 4.6, the first group called ABCD1 and consist of the leadership, people, process, people result and key result, second group ABCD2 has Leadership, strategy, process, customer result and key results, and the third group is Leadership, Partnership & Resources, process, society result and key results and called ABCD3. "A" Category generally represent the Leadership which is considered to be the driver of the model. As shown in Table 4.4, the leadership represents 10% of weighted criteria, but represent approximately 69% of the inter link of all components. It focus on the importance of the tie-in up from driver to results and ensure that the chain of all excellent practice (sub-criteria) has a great positive influence. "B" Category represent 30% of overall model and consists of three enablers in parallel , people, strategy and resources & partnership and about 69% of the inter link of related components. These three enablers can generally be managed through the Leadership as a driver and a process as a system and a result as an outcome. "C" Category describe the process and represent 10% of overall model and 35% of the inter link of the criteria and its sub criteria, because most activities and approaches need process to implement. "D" Category represents the results of the model and represents 50% of the overall model and around 55% of the inter link of the five enablers (leadership, People, Strategy, Partnership and resources and Process, service and product).

Table 4.4 ABCD path analysis

ABCD Model for PATH ANALYSIS MATRIX (Direct and Indirect Cause-Effect Relation)												
	A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3
A1		Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
B1	Yes		Yes	Yes	Yes	Yes	No	No	No	Yes	No	No
C1	Yes	Yes		Yes	Yes	Yes	No	No	No	No	No	No
D1	Yes	Yes	Yes		Yes	Yes	No	Yes	No	No	No	Yes
A2	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
B2	Yes	Yes	No	No	Yes		Yes	Yes	Yes	Yes	No	No
C2	No	No	No	No	Yes	Yes		Yes	Yes	No	No	No
D2	No	No	No	Yes	Yes	Yes	Yes		Yes	No	No	Yes
A3	No	No	No	No	Yes	Yes	Yes	Yes		Yes	Yes	Yes
B3	No	Yes	No	No	Yes	Yes	No	No	Yes		Yes	Yes
C3	No	No	No	No	Yes	Yes	No	No	Yes	Yes		Yes
D3	No	No	No	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes	
No. of Inter Links	5	6	4	6	11	11	5	6	7	6	4	6
% of Inter links	45%	54%	36%	55%	100%	100%	45%	55%	63%	54%	36%	55%
Overall of Interlink%	**A = 69%**		**B= 69%**		**C= 35%**		**D= 55%**					
Direct and Indirect												

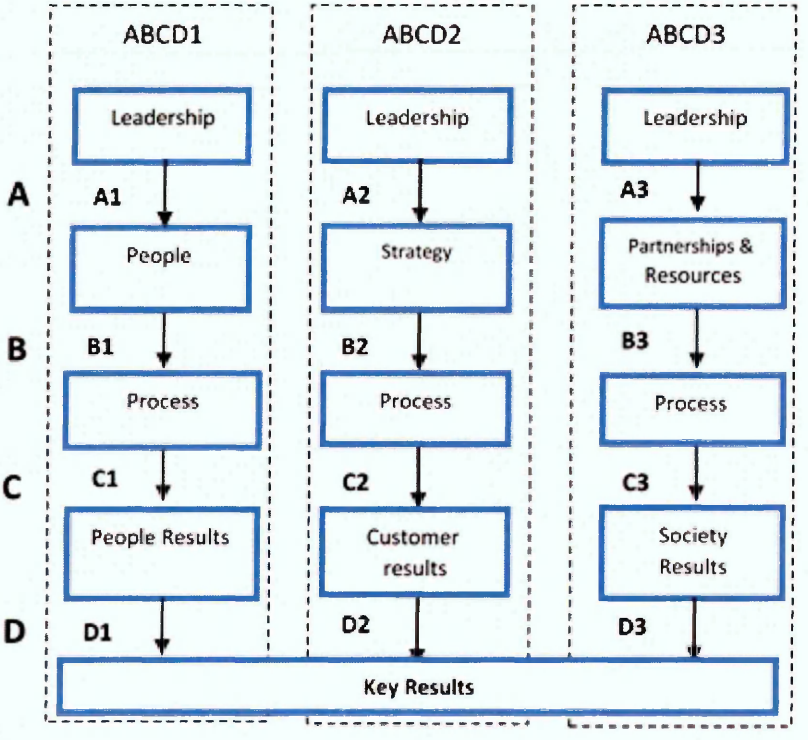


Figure 4.6 EFQM theory breakdown

4.4.1.7 Model specification

Model's parameters should be determined as fixed or free. Free parameter is the one to be estimated from the observed variables and fixed parameters are known parameters used to assist the free parameter estimation. Researcher must understand those parameters characteristic and decide the pathway to be studied. It determines which parameters will be used to compare the hypothesised model with the sample population variance and covariance matrix in testing the fitness of the model. The later step of specification is to insert the decided value to particular parameter in AMOS model. It will decide the degree of freedom which will be discussed in next session. Specification could be re-proposed to meet the model fitness during the model modification.

4.4.2 Stage 2: BUILD

To validate a model, two models needs to be built, theory and measurement model. The behavior of independence of individual groups is considered into hypotheses analysis and also Break and Make should be conducted as and when modification is necessary.

4.4.2.1 Hypothesis development into questionnaire

The observed data is collected through survey questionnaire where are developed from hypothesis analysis. The expectation to collect feedback from the data provider should be estimated. Certain information may be sensitive to the data provider or the reaction from data provider may not be suitable for the study. Alternate channel for the data collection should be ready and the data filtering may be required.

There are numbers of online questionnaires or survey service solutions are provided a low cost, faster and simpler design methodologies. Some of them also provide the solution to convert the collected data into particular statistical analysis software format such as SPSS.

4.4.2.2 Instrument for data collection & processing (SPSS)

SPSS software is utilised to process the collected survey data into a set of database which will be used to check reliability value of the data and then integrate them in

the AMOS modelling. AMOS is one of the popular software programs (Analysis of Moment Structures) (Arbuckle, 1997; Kline, 2005). Structural Equation Model (SEM) emerged in the mid 1980's.

4.4.2.3 SPSS data & variables structure setting

This section introduces the SPSS information structure. The collected data from the questionnaire must be in SPSS data format or otherwise format conversion is required. SPSS consists of two major parts is store the base information, i.e. data views and variable views. The Data view reflects the collected data whereas variable view configures variables. Data view shows the raw data sets. The rows represent individual cases and the columns represent variables.

Variables' configuration is needed to set and determine the results especially "Type, "Value" and "Measure". "Type" of the variables can be set to either "Numeric" or "String". "Numeric" type means the variable may contain number only whereas "String" type may contain letters or numbers. "Value" indicates the label by different numbers. In this research study, the label of answer represent the numerical values are as following

1.00 = "Strongly Disagree"

2.00 = "Disagree"

3.00 = "I don't know"

4.00 = "Agree"

5.00 = "Strongly Agree"

"Measure" indicates the level of measurement. In our case we use "Ordinal".

a. Nominal- A variable can be treated as nominal when its values represent categories with no intrinsic ranking. Examples: brown, blue and green.
b. Ordinal -A variable can be treated as ordinal when its values represent categories with some intrinsic ranking i.e. the highest the value represent the highest rank. Examples: 1 = Strongly Disagree; 5 = Strongly Agree.
c. A variable can be treated as scale when its values represent ordered categories with a meaningful metric. Example three people of heights 1.5m, 1.75m, and 2m.

4.4.2.4 Modelling- AMOS

Measurement Model can be constructed using one of the families of statistical procedures that includes techniques such as path analysis. One available software for this purpose is the Structural equation modelling (SEM) software; it allows to evaluate hypotheses by testing whether a theoretical model of what tests supposed to measure is consistent with the observed covariance (Kline, 2005; Cole and Maxwell 2003). AMOS (Analysis of Moment Structures) is sub-software for SPSS. It is a graphical interface to specify model by illustrating them in drawing. AMOS implements the general approach to data analysis know as structural equation modeling (SEM), also known as analysis of covariance structures, or casual modeling. Measurement models are differed from theory model where they contain the observed variables. Observed variables are designed to accommodate the collected data during questionnaire/ survey to define and infer the connected latent variables.

AMOS modeling estimates various parameters such as regression weight between the variables, covariance and variances of particular variables. The following considerations shall be noted when AMOS is used as it will determine the successful completion of AMOS estimation.

a. Positive degree of freedom
b. Enough number of cases
c. Model fitness indices
d. Avoid missing data/ duplicated data

4.4.3 Stage 3: CHECK

The check covers all the tests required to validate and verify the model fitness. It has two parts; the first part starts with the Reliability tests, and model identification, and the second parts finalise the model fitness tests.

4.4.3.1 Reliability test

Alpha Cronbach Reliability Test normally conducted to evaluate the reliability of a set of measurement data such as questionnaire, survey. Nunnally (1978) indicated

that in the reliability test result should not be less than 0.7 for the further estimation and calculation. The groups of the data from at least two observed variables to the particulate latent variables are needed to be tested in a single reliability test.

In SPSS software, there is a feature to improve the reliability value by estimate "deletion for improvement" between the data. However, this is not the perfect solution. The worst case for unacceptable value is to redo the data collection. The reliability value must reach at least 0.7 or else the data will not be accepted.

4.4.3.2 Check model identification (Degree of freedom)

Before testing the relationship among model components/ variables, the model must be over-identified i.e. the degree of freedom are positive or the numbers of known parameter is more than unknown. The results should determine that the model is over-. If the model is found to be just identified or under-identified, necessary fixing action should be done such as adding the variables to the model. The degree of freedom may be changed during model modification to improve the fitness. Therefore, no further action for "over-identified" condition is required.

4.4.3.3 Breakdown detection

Breakdown test is required to detect the existing common limitations in the model. Breakdown including collinearity, misspecification and autocorrelation will be minimized in this step.

Collinearity or Multicollinearity (Carriquiry, 2004; Rajdeep, 2004; Vijay, 2000; Fernandez, (1997) is always exists between variables. It is defined as two or more independent variables that highly correlated to each other thus given an inaccurate regression to the respective depend variable. Calvo at el (2013) encourages application of variance inflation factor (VIF) to investigate of multi-correlation among more than three variables in order to avoid the violation of basic assumptions for regression analysis. The researcher may face the difficulty in interpretation of the model because of this inaccurate regression.

The detection can be done by using variance inflation factor (VIF) calculation (Belsley et al., 1980; Greene, 1993) i.e.

$$VIF = \frac{1}{1-R^2} \quad (4.1)$$

R^2 is the coefficient of determination. The indicative value of problematic collinearity is 10 or more which need corrective action against it. Corrective action such as removing redundant independent variables and aggregating similar independent variables will effectively solve the collinearity.

Autocorrelation is a frequent breakdown in time series analysis when the residual term to a variables present is showing significant coefficient. The appearance of autocorrelation will cause the estimated of standard errors coefficient biased and larger thus the expected result from the studied model will not be achieved.

4.4.3.4 Regression estimation

Regression estimation is performed to evaluate the relationship between the studied variables. The relationship is commonly described as direct effect, indirect effect and total effect relationship. It can be used with multi-dimensional ways in ABCD validation method. In conventional, it is only conducted by plotting the dataset of dependent variables and independent variables to find the coefficient of an equation. Those variables are representing the causes and effects in quantifying value which can be obtained during data collection. Alternatively, causes and effects can be estimated or predicted if we know the regression coefficient. A series of path analysis equations are then formulated to calculate the indirect and total effects of the relationship between those variables. A numbers of popular statistic software is used to compute the correlation such as AMOS (Analysis of Moment Structures). In AMOS, the regression and correlation between the variables are calculated. All values are meaning full to the model. However, the result may be influenced by breakdown. Therefore breakdown analysis should go through to minimize the influence.

For the model estimation, the equation 4.2 developed (Greene, 2007) were defined in two ways which mentioned in the step of Correlation Analysis. . Aleš at el (2013)

compared two type of correlations; Pearson and Spearman and suggested that spearman's correlation is more suitable for non-linearity related variables over the Pearson's correlation which is a statistical measure of the strength of a linear relationship between paired data. The targets are defined as dependent variables, y_i and the n numbers of predicting factors which are observerable as independent variables, X_{ni}. How the X_{ni} to affect the y_i which much rely on the certain unknown coefficient, β_n or correlation values/ regression is our concern in this section. The common structural equation is described as follow (Vijay, 2000; Kline, 2005; Greene, 2007):

$$y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots + \beta_n X_{ni} + \varepsilon_i \qquad (4.2)$$

Where β_0 is intercept and ε_i is the disturbance that is not correlated to the regression. In Normal equation, it is written as

$$Y = b_0 + b_1 X_1 + b_2 X_2 + \ldots + b_n X_n \qquad (4.3)$$

Note: The Roman letters (the b's) are estimates of the corresponding Greek letters (the **β's**). It also can be intrepreted as Total effect, **Y** = sum of direct effect, b_0 and indirect effect of $\mathbf{b_n X_n}$.

4.4.3.5 Model fitness

The ability to test measurement model across multiple groups also provide a way to evaluate measurement invariance or construct bias, which means that the fitness test measures the same constructs with the same accuracy in different samples. Computer programs are essential tools for conducting analysis and other type of SEM.

There are common type of SEM such as Path Analysis (Barbara, 2001), Confirmatory Factor Analysis (CFA) (Schereiber, 2006), Exploratory Factor Analysis (EFA) (Ullman, 2001) and Structural Regression Model. The path analysis, which also known as causal modelling, focuses on examining the network of relationships among the observed variables.

Fitness measure is designed to evaluate how the model fits the data in dataset. In most of the research literatures, 5 or more than 5 fitness criteria are measured. The

popular fitness criteria are Ratio between X2 and degree of freedom, Adjunct fit indices (AFI), Goodness-Of-Fit (GFI), Root Mean Square Error of Approximation (RMSEA), Root Mean Square Residual (RMR), Adjusted Goodness-Of-Fit (AGFI), Bentler-Bonett Non-Normed Fit Index (NNFI/ TLI), Comparative Fit Index (CFI) and etc.

Various empirical researches (Chen and Lee, 2008 ; Shih et al, 2009; Wong and Tsai, 2010) applied a set of goodness of fit indices in their studies which are popular such as are Ratio between X2 and degree of freedom, Adjunct fit indices (AFI), Goodness-Of-Fit (GFI), Root Mean Square Error of Approximation (RMSEA), Root Mean Square Residual (RMR), Adjusted Goodness-Of-Fit (AGFI), Bentler-Bonett Non-Normed Fit Index (NNFI/ TLI), Comparative Fit Index (CFI) and etc. However Daire at el (2008) states fit indices are a useful guide, a structural model should also be examined with respect to substantive theory.

4.4.4 Stage 4: DECIDE

The last stage of validation is when analysis is completed, building the model is successfully achieved and all the necessary checks carried out to verify the model fitness, the last stage is to decide the fitness for purpose by a clear set of criteria. During the decision it is understood that any changes and modification can take place to bring the results up to the satisfactory levels of validation.

4.4.4.1 Decide model validation

It is important to verify and determine the correlation values, the regression and Model fitness tests. This step is mainly focus on decision making process for every test and the final decision of model validation. At least 5 fitness criteria to be met in the test or else the model should be modified with theory justification.

4.4.4.2 Model modification and refitting

This is required when the model fitness is not satisfied. Hypotheses or the model structure can be adjusted and the model to be retested. Most of the solutions such as re-specify the fixed and free parameters, adding paths or covariance are the common practices in such cases. The modification should meet with the theory interpretation

or else the modification is not recommended. Every single parameter or path modification require single test on it until the fitness achieved. Trim the unwanted variables or insignificant variables or adding a possible connection to variables may contribute significant relationship.

4.4.4.3 Interpretation of the valid model

All valid models should be interpreted. It must be carried out for both theory model and valid measurement model, the comparison for both maybe different due to the realistic factors. The popular fitness criteria are as follow:

- Ratio between X2 and degree of freedom < 5
- Adjunct fit indices (AFI) > 0.9
- Goodness-Of-Fit (GFI) >0.9
- Root Mean Square Error of Approximation (RMSEA) < 0.05
- Root Mean Square Residual (RMR) < 0.05
- The Adjusted Goodness-Of-Fit (AGFI) > 0.8
- Bentler-Bonett Non-Normed Fit Index (NNFI/ TLI) >0.9
- Comparative Fit Index (CFI) > 0.9

4.4.4.4 Fitness for purpose

The conclusion to announce the validity of the model when the model is tested with reliable data, good model fitness and able to be interpreted.

4.5 Conclusion

In this chapter, the conceptual background required to establish the theory of validation management was developed. That was followed by the development of the proposed ABCD validation method as a management tool to enable researchers and practitioners to study and validate step-by-step a business excellence model with a systematic approach. The ABCD validation method also verifies the links between the components and their practices that enable the business model to achieve its results. These enablers were verified through the "Degree of well enabled" that represent the effectiveness of the enablers in the model. The ABCD validation method is simple, direct, focused, accurate, logical, informative and practical. It also complies with the best practices of most validation techniques and overcomes the

drawbacks and limitations associated with the current validation methods. The ABCD validation method is not just a validation tool, and it is not restricted to indicating how one might validate. It also tells one how good his or her validation is through the ABCD validation score.

The next chapter demonstrates the application of this proposed validation method in one of the well-known business excellence models, and a new process improvement model is described.

Chapter Five – Application of the Proposed ABCD Validation Method

This chapter examines the effectiveness of the proposed ABCD validation method and demonstrates its implementation to validate the DGEP Model Version 2009. In addition, this chapter shows how the proposed ABCD method can be applied to validate a process improvement model.

5.1 Introduction

In order to ensure the proposed ABCD validation method is effective and fit for use, two different applications were used, the first step was to look for a successful model to validate and compare the results, this will allow the ABCD validation model to be tested and obtained any necessary improvements required. The second is to carry out validation on a new proposed process improvement using the ABCD validation method and achieve and determine the fitness model for it.

5.2 Validation of Dubai Government Excellence Model (DGEP)

Most business excellence models especially the European foundation quality management (EFQM), has developed from continuous improvement and verification process. This process is called validation. Validation is needed to sustain the development and to gain overall acceptance by all concerns. In other words, testing the goodness fit of the structure model is called validation. The EFQM and all other business excellence has evolved from a means of recognizing and promoting excellence service based on the eight excellence dimensions and based on total quality management as can be seen in Figure 5.1. As such, it determines the theoretical platform for world class performance. The Dubai government excellence program is one unique business excellence model that allocates substantial resources towards improvement of the participated organizations process based on the best practice excellence models such as European Foundation Quality management (EFQM) and Malcolm Baldridge National Quality award (MBNQA). As per the best practice approach, all business excellence models that are under proposal or revision need to be validated to sustain the development, obtain the comments and feedback and gain overall acceptance by all concerns. In other words, testing the goodness fit of the structure model is called validation process for business excellence model validation.

Figure 5.1 The eight dimensions of excellence (EFQM 2008)

To assess the validity of the DGEP between the leadership dimension and each of the remaining four enablers, a set of regression analyses were conducted. The relationships between each of all the five enablers in three groups were strong and statistically significant. It was concluded that the leadership requirement for people may not be the same for Partnership and Resources and verse versa. The strategy was found to be the heart of the model and should be embedded in each of the enablers. The inter link between the three groups were found to be lack of direct effect on the results. When the three groups were trimmed, the test was showing an acceptable level of goodness of fit with the data. While the DGEP has captured the attention of validation, there has been little or no empirical research examining the usefulness of the award program criteria to guide the actions of organization that seek improvement. This research takes the first step in providing scientific approach to test and validate it. This study seeks to examine the model in its larger context as a theoretical model for organizations in Dubai.

5.2.1 Background to the Dubai Government Excellence Program (DGEP)

Figure 5.2 DGEP roles (DGEP Power Point, 2012)

Dubai Government Excellence Program (DGEP) is a pioneer program established with a clear vision, values and objectives (Figure 5.2) in 1997 by the UAE Vice President, Prime Minister and Ruler of Dubai, aiming at engraving the culture of excellence in Dubai government and recognizing distinguished departments, teams and individuals (Nuseirat, 2012). The program aims at spreading the concept of excellence, innovation, quality, best management and professional practices in the Government Sector. The DGEP Model for institutional excellence as described by Kahlout (2005) "is built around the European Foundation Quality Management (EFQM) model with an extra emphasis on innovation and transparency". Calvo-Mora Schmidt, Picón Berjoyo, Ruiz Moreno & Cauzo Bottala, (2013) indicate the direction of the arrows in EFQM model shows the model's dynamic nature i.e. innovation, learning or creativity boost and empower the impact that the model's agents have on the results and continuous improvement for excellence. In other words, adaption of UAE culture ensures the most vital subjects such as risk management, contingency plans, emiratisation, governance, environmental management and Integrated Management System are addressed. The DGEP model for institutional excellence uses RADAR concept (results, approach, deployment, assessment and refine) in principle along with the other well-known continuous improvement like Deming

cycle and PDCA cycle. DGEP has many other excellence programs other than the institutional excellence, which is also backed up with additional criteria for assessing and rewarding distinguished projects, initiatives and employees, customer satisfaction, employees' satisfaction and mystery shoppers' surveys.

"This program is the force behind improvements of the public sector. It propagated a spirit of competition not known by governmental departments before. All managers, officials, and employees seek to compete to provide the best and win one of the awards".

HH Sheikh Mohamed Bin Rashid Al Maktoum, P141)

The DGEP Process, as shown in Figure 5.3, consists of 6 steps, developing the model, communicating, carrying on the assessment, recognizing achievement, feedback and documenting it.

Figure 5.3 DGEP process cycle (DGEP Power Point, 2012)

While the DGEP is basically an award program that contributed significantly to the development of organization excellence in Dubai Emirate, this research takes the first step toward providing the implementation of validation process on the DGEP and accordingly allowing a theoretical examination of the relationships between categories and overall linkages among the nine criteria as can be seen in Figure 5.4 below.

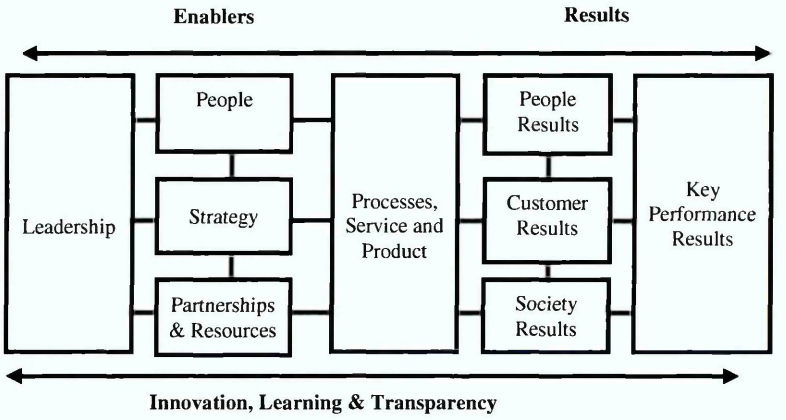


Figure 5.4 The DGEP 2012

Figure 5.4 is the DGEP model in its 2012 version which indicates the evaluation criteria for the category of the distinguished Government which is similar to EFQM. The DGEP is an effective model worldwide. It complies and is in line with the international standards, results oriented, it has 83 sub-criteria, 179 areas of enablers and 112 measures/indicators of results. The evaluation is based on RADAR of results. The results are a combination of performance outcomes such as trends, targets, comparisons, causes, appropriateness of use such as scope and relevance, integrity and segmentation.

5.2.2 Assessment mechanism

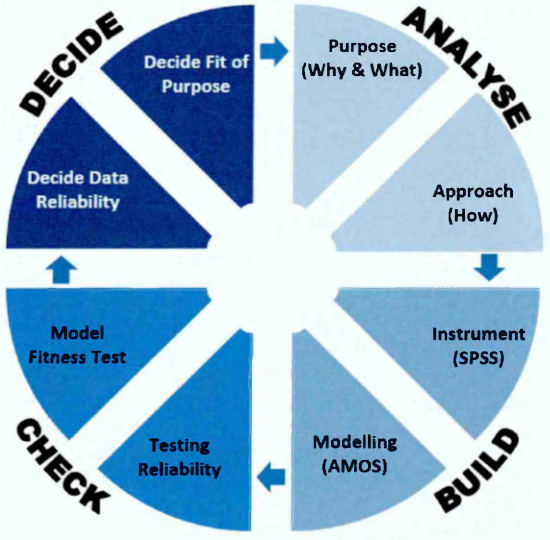
The mechanism of the assessment passes through four phases, interviews, site visit, winner recommendations and the jury. The first phase (interviews), interviewing all candidates at The Executive Council. The second phase is the (site visit) where the interviewing short listed candidates with the highest results not less than 40% at their respective work. The third phase (Winner recommendation) is recommending a winner based on the site visit results. And the fourth phase (The jury) conducting specialized sessions with assessment teams to verify reports awarded to each Government entity.

5.2.3 DGEP categories

There is at least a total of 20 categories award, each one of them represents Business excellence model, and these categories are divided into two parts: Organization Excellence and Employee Excellence.

5.2.4 ABCD validation method

The validation process for DGEP is based on ABCD Method for validation and analysis. The validation processes were described and addressed in the model. Most of the steps were covered in this section.



	ABCD Validation Score	Step	Weight Score
Analyse (40%)	Purpose (What, Why, When) & Approach (How)	1	10%
	Exploratory Analysis	2	5%
	Degree of Well Enabled	3	5%
	Synthesis Analysis	4	5%
	ABCD Path Analysis	5	5%
	Hypothesis Analysis	6	5%
	Measurement Model Specification	7	5%
Build (15%)	Hypothesis Development to questionnaire	8	5%
	Instrument for data collection & processing (SPSS)	9	5%
	Modeling (AMOS)	10	5%
Check (25%)	Reliability Test	11	5%
	Measurement Model Identification (Degree of Freedom)	12	5%
	Breakdown (VIF & others)	13	5%
	Regression Estimation	14	5%
	Fitness Test	15	5%
Decide (20%)	Good Range of Model Fitness	16	5%
	Model Modification and Refitting	17	5%
	Interpretation of Valid Model	18	5%
	Fitness for Purpose	19	5%
	Total ABCD Score 100%		

Figure 5.5 ABCD validation method- complete steps for model validation

There are four basic ABCD steps:

a. Analyse the Business Excellence Model validation by identifying the purpose and approach.

b. Build the business excellence model according to the purpose and approach.

c. Check the fitness of the business excellence model by a series of tests and analyses to determine the validation of the measurement model and to determine the fitness of purpose.

d. Decide the validity of business excellence model for the theory, measurement and final interpretation, and determine the correlation values, the regression and Model fitness tests and finally decide the fitness of the model and the fitness of purpose.

The analysis was conducted first by dividing the model into three parts instead of 9

components; Drive, System/ Process and Results, which corresponds to components of leadership for the drive, people, strategy, partnership and process as the system and the results which covers the four results (people result, customer result, society result and key results). Then further the system was re-arranged into three main components, (see Figure 5.6 and Figure 5.7) each component merged with its own related process. Finally, each one of the three main components was thoroughly checked by means of linkage and satisfactory level of correlation to the driver (leadership) and results (all the four) and against each of the other two main components (People, Strategy and Partnership & Resources).

The DGEP Model which was analysed, is 2009 version, follows EFQM 2008/9 and a further revision will be issued on October 2012 following update of the latest EFQM.

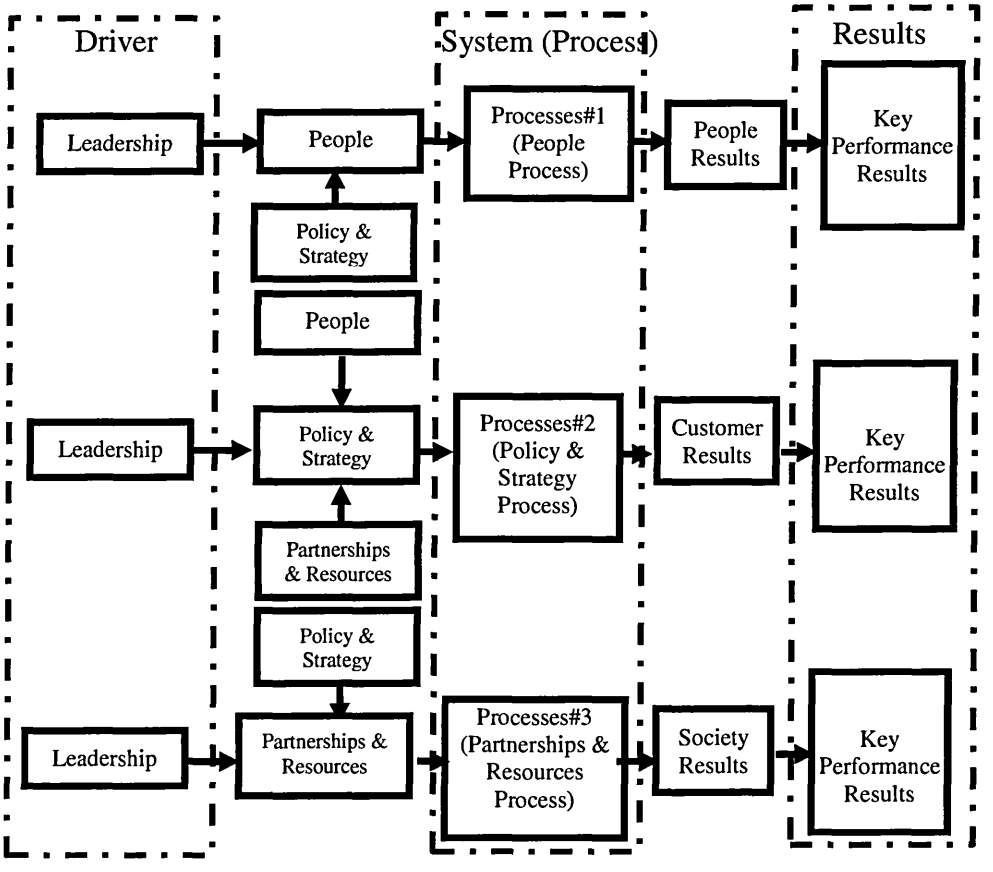


Figure 5.6 DGEP (Driver, system/ process and results)

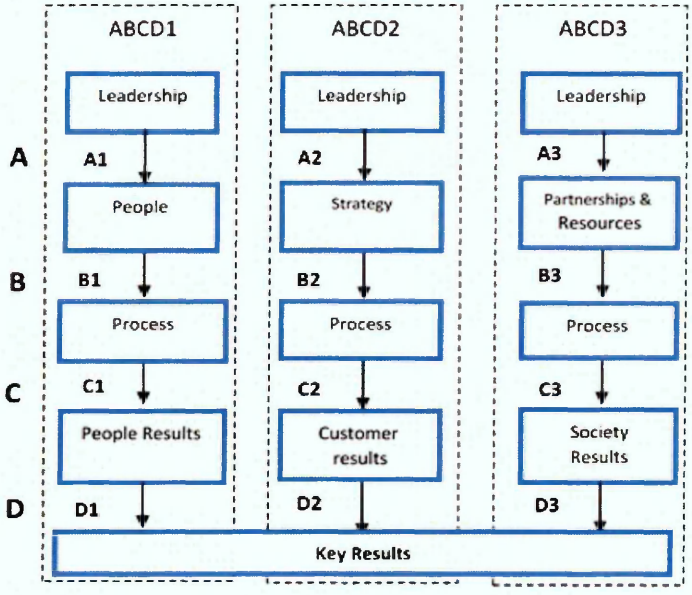


Figure 5.7 Testing the DGEP model

5.2.5 Questionnaire design and develop

ABCD validation method was developed to ease the analysis and testing of the model as in Figure 5.5. To investigate the DGEP criteria, a model is constructed in AMOS separating three groups; the leadership, people, process, people result and key result as one group called ABCD1, second group is Leadership, strategy, process, customer result and key results as ABCD2, and the third group is Leadership, Partnership & Resources, process, society result and key results as ABCD3 as illustrated in Figure 5.7.

Most of the changes, differences and additions from the EFQM basic old version are due to either elaboration or detailed explanation. However, certain areas are being changed to adapt to the culture setting in UAE. However, DGEP 2009 is based on EFQM 2003 to 2008; from 2009 onwards, EFQM has changed significantly which cannot be compared with the earlier version. EFQM 2009 version or 2010 is reflecting the recent global business environment. The findings in these studies provided statistical support for the EFQM model relationships. Most of the studies found that the Leadership dimension is classified as a driver of quality (Winn and Cameron, 1998), (Meyer and Collier, 2001), (Pannirselvam and Ferguson, 2001) and (Flynn and Saladin, 2001) the remaining enablers are considered to be the system and all the four outcomes are results.

Since this is the first validation process applied on the DGEP model, this research addresses two questions:

a. Is the proposed relationship between the categories in the DGEP which based on EFQM model a valid relationship?

b. Are the driver (Leadership), System (Process) and Results for each of People, Strategy and Partnership & resources common?

The questionnaires are divided into three groups; the first group is called the ABCD vertical direct path which focuses on the strength of each of the three parallel lines, see Figure 5.8, which indicates a flowchart of the overall design validation model. The second group is the horizontal indirect path, which is studying the relationship between the leadership A1, A2, A3 and Process B1, B2 and B3. The third group is the overall validation model which confirms and validates further the vertical direct path. In the first attempt when the questionnaires were tested with a scale of either yes or no, it was found that the reliability scale was so poor due to uncertainty in obtaining the predicted calculation in the model so it was recommended to use a scale of 1 to 5 to get accurate results and obtain a model fitness test. The study defines the DGEP as three parts.

The first one is the driver, the second one is the system which consists in the combination of the three processers of the middle enablers. The third part is the results of the three enablers and the key performance results Analysis that can be carried out backwards; results of each processer, what process we need to obtain the results from, what enabler we need to process and then link it with the driver source. For instance, selecting the people enabler sub criteria plan and manage HR, how the organisation processes it, then look into the process enabler and study the most appropriate sub criteria indicating this purpose, then, looking at the strategy and finding which part of the strategy sub criteria supports this purpose "plan & Manage HR" , then, looking at the leadership and finding which criteria can drive the purpose of People enabler, and finally, look at the people results and study how strong the results are measured from the purpose of the plan. This lengthy exercise was carried out in full and was weighed by very strong, strong, moderate, weak and very week.

From this analysis we can see that there are some weak relations that need to be enhanced. Therefore, for validation purposes, the numbers of repeated questionnaires were chosen carefully based on researchers' opinions which calls for a pre-check before validating the complete framework so it fulfils two purposes, to validate DGEP model and to test the response and the questionnaires for further improvement in future questionnaires.

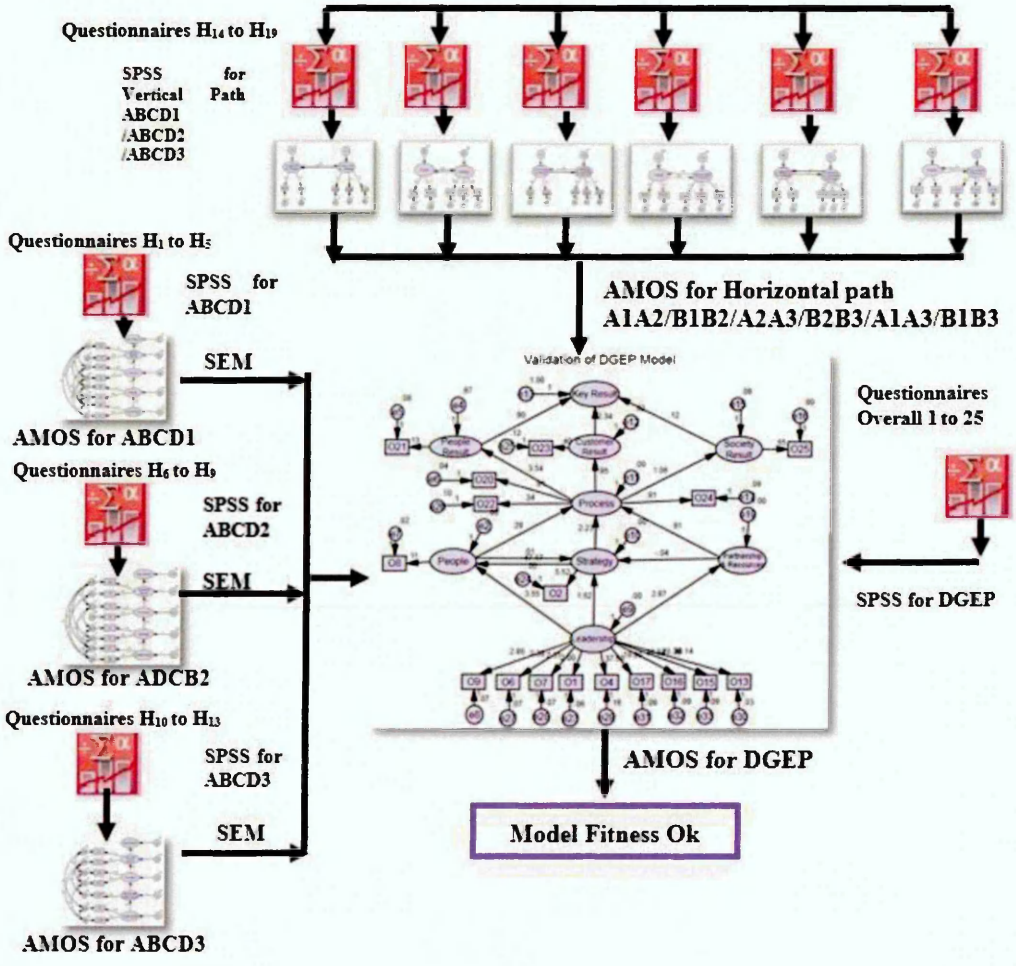


Figure 5.8 Flow chart of DGEP process validation

The flow chart of the validation shown in Figure 5.8, contains the steps of building the instrument for questionnaire processed in SPSS then build it in AMOS to conduct all necessary checks to verify the model fitness. Figure 5.8 shows two levels of validations, one with the details questionnaires distributed in horizontal path and vertical path namely ABCD1, ABCD2, ABCD3 in vertical path processed with13 question in SPSS, and horizontal path indicated as A1A2/ B1B2/ A2A3/ B2B3/

A1A3/ B1B3 processed with 6 questions. The ABCD Critical Path is conducted in both directions as shown in Table 5.1.

Table 5.1 ABCD path analysis matrix

ABCD PATH ANALYSIS MATRIX (Direct and Indirect Cause-Effect Relation)												
	A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3
A1		Yes	Yes	Yes	Yes	Yes	No	No	No	No	No	No
B1	Yes		Yes	Yes	Yes	No	No	No	No	No	No	No
C1	Yes	Yes		Yes	Yes	No	No	No	No	No	No	No
D1	Yes	Yes	Yes		Yes	No	No	No	No	No	No	Yes
A2	Yes	Yes	Yes	Yes		Yes	Yes	Yes	Yes	Yes	Yes	Yes
B2	Yes	No	No	No	Yes		Yes	Yes	Yes	No	No	No
C2	No	No	No	No	Yes	Yes		Yes	Yes	No	No	No
D2	No	No	No	Yes	Yes	Yes	Yes		Yes	No	No	Yes
A3	No	No	No	No	Yes	Yes	Yes	Yes		Yes	Yes	Yes
B3	No	No	No	No	Yes	No	No	No	Yes		Yes	Yes
C3	No	No	No	No	Yes	No	No	No	Yes	Yes		Yes
D3	No	No	No	Yes	Yes	No	No	Yes	Yes	Yes	Yes	
Direct and Indirect												

5.2.6 Questionnaire distribution and feedback

The Questionnaire was distributed through internet survey; 700 invitations were called for answering through email. The answering was limited to maximum 500 respondents. The structure of the questionnaire was designed in two parts; the first part is the background verification whereas the second part was the main part of model validation (see appendix J). The background verification is to ensure the answers are given within the consideration of minimum knowledge of Business Excellence Model.

99% of the interviewees are having a good education background (see Table 5.2) and approximately 80% having more than 5 years working experiences (see Table 5.3). 98% of them know business excellence model and 83% were involved in the implementation of EFQM or DGEP (see Table 5.4). It can be concluded that the information received was reliable.

Table 5.2 Education background of interviewees

What is the highest level of education you have completed?		
Answer Options	**Response Percent**	**Response Count**
High school or equivalent	0.0%	0
Some college	0.5%	3
Bachelor's degree	61.3%	305
Master's degree	37.7%	187
Doctoral degree	0.5%	3
Professional degree (MD, JD, etc.)	0.0%	0
	answered question	**498**
	skipped question	**2**

Table 5.3 Work experience of interviewees

Please indicate your work experience with below categories.		
Answer Options	**Response Percent**	**Response Count**
Less than 2 years	3.0%	15
Between 2 to 5 years	17.1%	85
Between 5 to 10 years	26.6%	133
More than 10 years	53.3%	265
	answered question	**498**
	skipped question	**2**

Table 5.4 Involvement of interviewees in EFQM or DGEP

Have you been involved in EFQM or DGEP?		
Answer Options	**Response Percent**	**Response Count**
No. Never heard and never involved in any business excellence models	1.0%	5
No. Never heard but involved in other business excellence models.	1.0%	5
No. But I have learnt the knowledge before.	15.1%	75
Yes. I am involving in certain parts.	35.7%	178
Yes. I am involving in overall models.	47.2%	235
	answered question	**498**
	skipped question	**2**

The feedback from interviewees in the second part was not perfectly covered. Missing values occurred as the answers were not adequately filled by the interviewees. The majority of the participants (470) of total 500 properly replied. In AMOS modeling, missing values in the data input will lead the data analysis with the explicitly intercepts and mean estimation. It will lead to the risk of unable to compute by the AMOS program. To resolve the problem of missing value, SPSS feature provides a solution- Replace missing value with estimates computed with one of

several methods and it is applied to this situation. Method of "Linear Trend at point" in replacing missing value is used. Results Questionnaire Collection for Model ABCD1, ABCD2 and ABCD3 can be found in Table 5.5, Table 5.6, Table 5.7 and Table 5.8.

Table 5.5 Pre-questionnaire result

Pre-Questionnaire - Your understanding							
	Answer Options	Strongly Agree	Agree	I Don't Know	Dis-agree	Strong Disagree	Count
1	RADAR logic is a self assessment tool for sustaining excellence	390	70	40	0	0	500
2	Organizations shall indentify important processes in each enabler with clear approach that provides the guidelines for deployment	400	60	40	0	0	500
3	The approach shall have specific target and an action plan and defined resources (sound) and linked with the strategy of the organization (integrated)	413	45	38	2	0	498
4	The approach shall be breaking down into mechanisms which take place in the deployment	403	50	45	0	0	498
5	The deployment consists of (implementation) phase of the action plan and shall be (systematic) and (measurable)	408	52	37	3	0	500
6	Refinement and assessment shall be linked with each approach and mechanisms	402	55	40	3	0	500
7	Refinement and assessment reflects in to learning growth, change management, continuous improvement, creativity and innovation	400	62	35	3	0	500
					answered question		**500**
					skipped question		**0**

Table 5.6 Result of questionnaires for ABCD1, ABCD2 and ABCD3

Vertical ABCD: (Are the proposed relationship between the categories in the DGEP model is valid?)

	Answer Options	Strongly Agree		Agree		I Don't Know		Disagree		Strong Disagree		Response Count
		Quantity	%	Quantity	%	Quantity	%	Quantity	%	Quantity	%	
H1	Leadership for people has strong influence on people (A1)	420	90.00 %	50	10.00 %	0	0.00 %	0	0.00 %	0	0.00 %	470
H2	People has strong influence on people process (B1)	294	58.80 %	134	32.80 %	0	0.00 %	42	8.40 %	0	0.00 %	470
H3	People process has strong influence on People results (C1)	418	89.60 %	52	10.40 %	0	0.00 %	0	0.00 %	0	0.00 %	470
H5	People results has strong influence on key results (D1)	396	59.20 %	132	32.40 %	0	0.00 %	42	8.40 %	0	0.00 %	470
H6	Leadership for strategy has strong influence on strategy (A2)	420	90.00 %	50	10.00 %	0	0.00 %	0	0.00 %	0	0.00 %	470
H7	Strategy has strong influence on strategy process (B2)	248	49.60 %	222	50.40 %	0	0.00 %	0	0.00 %	0	0.00 %	470
H8	Strategy process has strong influence on customer results (C2)	235	47.00 %	193	44.60 %	0	0.00 %	42	8.40 %	0	0.00 %	470
H9	Customer results has strong influence on key results (D2)	287	57.40 %	139	33.80 %	2	0.40 %	42	8.40 %	0	0.00 %	470
H10	Leadership for partnership & resources has strong influence on Partnership & Resources (A3)	374	80.80 %	96	19.20 %	0	0.00 %	0	0.00 %	0	0.00 %	470
H11	Partnership & recourses has strong influence on Partnership & Resources Process (B3)	236	47.20 %	192	44.40 %	0	0.00 %	42	8.40 %	0	0.00 %	470
H12	Partnership & Resources process has strong influence on Society results (C3)	194	38.80 %	232	52.40 %	2	0.40 %	42	8.40 %	0	0.00 %	470
H13	Society results has strong influence on key results (D3)	292	58.40 %	134	32.80 %	2	0.40 %	42	8.40 %	0	0.00 %	470
									answered question			**470**
									skipped question			**30**

Table 5.7 Result of questionnaires for A1A2, A1A3, A2A3, B1B2, B1B3, B2B3

Horizontal ABCD: (Are the proposed relationship between the categories in the DGEP model is valid?)												
	Answer Options	**Strongly Agree**		**Agree**		**I Don't Know**		**Disagree**		**Strong Disagree**		**Response Count**
		Quantity	**%**	**Quantity**	**%**	**Quantity**	**%**	**Quantity**	**%**	**Quantity**	**%**	
H14	Leadership for people has exactly same sub criteria as leadership for strategy (A1 - A2)	2	0.40 %	86	17.20 %	0	0.00 %	278	61.60 %	104	20.80 %	470
H15	Leadership for people has exactly same sub criteria as leadership for Partnership & Resources (A1 - A3)	0	0.00 %	88	17.60 %	0	0.00 %	278	61.60 %	104	20.80 %	470
H16	Leadership for strategy has exactly same sub criteria as leadership for Partnership & Resources (A2 - A3)	0	0.00 %	88	17.60 %	0	0.00 %	278	61.60 %	104	20.80 %	470
H17	Process for People can be used for process for strategy (B1 - B2)	0	0.00 %	88	17.60 %	0	0.00 %	278	61.60 %	104	20.80 %	470
H18	Process for People can be used for process for partnership& Resources (B1 - B3)	0	0.00 %	44	8.80%	2	0.40 %	316	69.20 %	108	21.60 %	470
H19	Process for strategy can be used for process for partnership& Resources (B2 - B3)	0	0.00 %	46	9.20%	2	0.40 %	316	69.20 %	106	21.20 %	470
									answered question			**470**
									skipped question			**30**

Table 5.8 Result of questionnaires for overall model

	Answer Options	Strongly Agree		Agree		I Don't Know		Disagree		Strong Disagree		Response Count
		Quantity	%	Quantity	%	Quantity	%	Quantity	%	Quantity	%	
1	Does leadership require strategy to lead? (A2)	436	92.77 %	34	7.23%	0	0.00%	0	0.00%	0	0.00 %	470
2	Do we need strategy to design process? (B2)	348	74.04 %	122	25.96 %	0	0.00%	0	0.00%	0	0.00 %	470
3	Do we need strategy to make a strategy? (ABCD)	192	40.85 %	131	27.87 %	99	21.06 %	6	1.28%	42	8.94 %	470
4	Do we need process to implement strategy ?(ABCD2)	305	64.89 %	123	26.17 %	0	0.00%	42	8.94%	0	0.00 %	470
5	Do leadership involve in making the process? (ABCD)	256	54.47 %	214	45.53 %	0	0.00%	0	0.00%	0	0.00 %	470
6	Do we need leadership to focus on people?(ABCD1)	430	91.49 %	40	8.51%	0	0.00%	0	0.00%	0	0.00 %	470
7	Do people need leadership to make a strategy (ABCD1)	428	91.06 %	42	8.94%	0	0.00%	0	0.00%	0	0.00 %	470
8	Do we need people to design process?(B1)	344	73.19 %	126	26.81 %	0	0.00%	0	0.00%	0	0.00 %	470
9	Do we need leadership to focus on people?(A1)	428	91.06 %	42	8.94%	0	0.00%	0	0.00%	0	0.00 %	470
10	Do leadership need strategy to focus on people?(A1A2)	390	82.98 %	80	17.02 %	0	0.00%	0	0.00%	0	0.00 %	470
11	Do leadership needs people to make strategy (A2A1)	204	43.40 %	226	48.09 %	0	0.00%	40	8.51%	0	0.00 %	470
12	Do we need leadership to focus on partnership & resources?(A3)	204	43.40 %	222	47.23 %	2	0.43%	42	8.94%	0	0.00 %	470
13	Do partnership & Resources needs leadership to make process?(ABCD3)	202	42.98 %	224	47.66 %	44	9.36%	0	0.00%	0	0.00 %	470
14	Do leadership need people to focus on partnership & resources?(A3A1)	160	34.04 %	266	56.60 %	2	0.43%	42	8.94%	0	0.00 %	470
15	Do partnership & resources need process to achieve society results?(ABCD3)	214	45.53 %	254	54.04 %	2	0.43%	0	0.00%	0	0.00 %	470
16	Does process of partnership & recourse need leadership and strategy to obtain society results?(ABCD3)	246	52.34 %	182	38.72 %	0	0.00%	42	8.94%	0	0.00 %	470
17	Does partnership & resources leads directly to society results?(ABCD3)	214	45.53 %	256	54.47 %	0	0.00%	0	0.00%	0	0.00 %	470
18	Do leadership need strategy to focus on partnership & Resources?(A2A3)	202	42.98 %	224	47.66 %	2	0.43%	42	8.94%	0	0.00 %	470
19	Do leadership need partnership & resources to focus on strategy?(A3A2)	160	34.04 %	209	44.47 %	59	12.55 %	42	8.94%	0	0.00 %	470
20	Do people need process of people to achieve people results?(C1)	204	43.40 %	224	47.66 %	0	0.00%	42	8.94%	0	0.00 %	470
21	Do we need people results to obtain key results?(D1)	216	45.96 %	250	53.19 %	4	0.85%	0	0.00%	0	0.00 %	470
22	Does strategy need dedicated process to achieve customer results?(C2)	342	72.77 %	128	27.23 %	0	0.00%	0	0.00%	0	0.00 %	470
23	Do we need customer results to obtain key results?(D2)	164	34.89 %	300	63.83 %	6	1.28%	0	0.00%	0	0.00 %	470
24	Do partnership & resources need dedicated process to achieve society results?(C3)	248	52.77 %	178	37.87 %	2	0.43%	42	8.94%	0	0.00 %	470
25	Do we need society results to obtain key results?(D3)	206	43.83 %	214	45.53 %	50	10.64 %	0	0.00%	0	0.00 %	470
									answered question			**470**
									skipped question			**30**

5.2.7 Analysis methods

Questionnaires for the main project were formed based on the critical analysis that was carried out and will be addressed by experts in the field. First, a questionnaire study was launched with data population of 500 selected scientifically to test the model. The collected answers will be processed into the SPSS, in which it will statistically verify the accurate values and the confidence level and the variance and fed to the built-in software AMOS in the validation stage. In the final part of the research, methodology, there are two main terms latent variables and manifest variables, the latent variables describe the hidden or unobserved variables.

5.2.8 Reliability test

Reliability refers to the consistency and stability in the results of a test or scale. A test is said to be reliable if it yields similar results in repeated administrations when the attribute being measured is believed not to have changed in the interval between measurements, even though the test may be administered by different people and alternative forms of the test are used (Gebotys, 2003).

A reliable instrument or test must meet two conditions: it must have a small random error; and it must measure a single dimension (Gebotys, 2003). Cronbach's Alpha-Internal consistency reliability is more complicated, because in this measure of reliability we are establishing how well each item in a scale measures the same construct. Internal consistency reliability often is measured with a statistical test called a Cronbach's alpha coefficient (Munro, 2005).

Split-Half Method- Split-half reliability compares one half of a test to the other half based on the assumption that all items should be comparable in measuring one construct and the results should be similar. If there were 20 items on a measure, the first 10 items would be compared to the second 10 items. The Spearman Brown correlation formula is used to determine split-half reliability (Buelow and Hinkle, 2008). Even/Odd Method is similar to split-half method, with the exception that the estimation of reliability for the entire test/scale is no longer based on correlating the first half of the test/scale with the second half, but instead it is based on correlating even items with odd items (Gebotys, 2003). The Alpha Cronbach Reliability Test

normally conducted to evaluate the reliability of a set of measurement data such as questionnaire, survey. Nunnally, (1978) indicated that in the reliability result there should be more at least 0.7 to accept it for the further estimation and calculation. The results in Table 5.9 indicates reliability of the data where marginal reliability values for model A1A2 and model A2A3 is noticed.

Table 5.9 Reliability results of measurement data

Model	**Item**	**Reliability- Cronbach's Alpha**
	Vertical Path	
ABCD1	8	0.890
ABCD2	8	0.866
ABCD3	7	0.966
	Horizontal Path	
A1A2	5	0.619
A1A3	5	0.732
A2A3	5	0.656
B1B2	5	0.727
B1B3	5	0.797
B2B3	5	0.817

5.2.9 Model identification

Before test, the relationship among model components/ variables, the model must be over-identified i.e. the degree of freedom are positive or the numbers of known parameter is more than unknown. As shown in Table 5.10, that is only over-identified model able to be evaluated in the modelling. If the model is found just identified or under-identified, necessary fixing action should be done such as adding the variables to the model. The degree of freedom may be changed during model modification to improve the fitness. Therefore maintaining it with "over-identified" status is required.

Table 5.10 Model identification

	Unmodified		After Modification	
Model	Degree of Freedom	Status	Degree of Freedom	Status
ABCD1	2	Over identified	1	Over identified
ABCD2	3	Over identified	2	Over identified
ABCD3	2	Over identified	1	Over identified
A1A2	6	Over identified	4	Over identified
A1A3	6	Over identified	5	Over identified
A2A3	6	Over identified	4	Over identified
B1B2	6	Over identified	4	Over identified
B1B3	6	Over identified	4	Over identified
B2B3	6	Over identified	4	Over identified

5.2.10 Regression analysis and modification

The regression results determine and calculate the correlation between the variables considered in the model, the modification of the model is only required if the model needs to be improved to obtain a better fitting model (Figure 5.9). It was clearly seen that the regression weight was improved in vertical models: ABCD1, ABCD2 and ABCD3 modified versions in Table 5.11. Modifications in horizontal models (Table 5.12) were not significant because the allowance of changes between parameters were not enough.

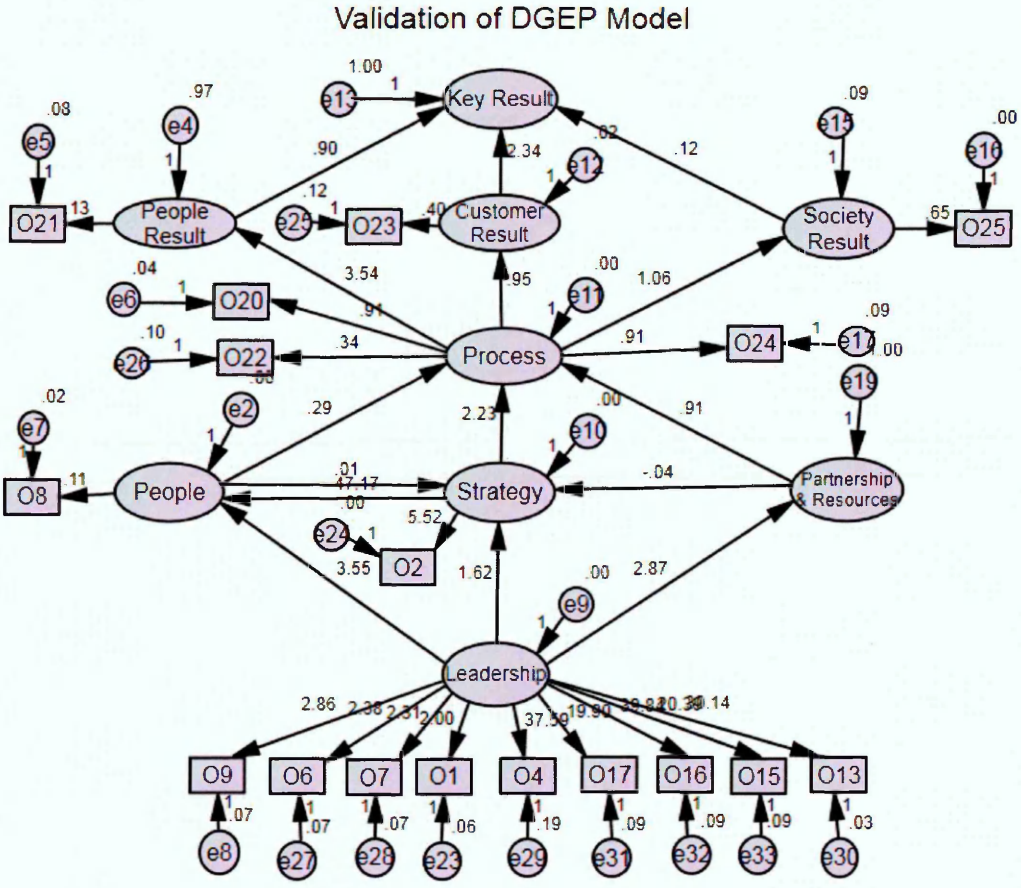


Figure 5.9 Flow chart of DGEP process

Table 5.11 Regression estimation of vertical models

	Factors	Unmodified Regression		Modified Regression	
		Unstandardized Estimates	Standardize Estimates	Unstandardized Estimates	Standardize Estimates
		Model ABCD1			
A1	Leadership for People People	3.476	1	3.547	1
B1	People Process for People	0.296	1	0.290	1
C1	Process for People People Result	3.419	1	3.536	1
D1	People Result Key Result	0.116	0.098	0.104	1
		Model ABCD2			
A2	Leadership for Strategy Strategy	1.616	1	1.616	1
B2	Strategy Process for Strategy	2.232	1	2.232	1
C2	Process for Strategy Customer Result	0.952	1	0.952	1
D2	Customer Result Key Result	11.718	0.980	0.255	1
		Model ABCD3			
A3	Leadership for Partnership & Resources Partnership & Resources	2.896	1	2.871	1
B3	Partnership & Resources Process for Partnership & Resources	0.938	1	0.913	1
C3	Process for Partnership & Resources Society Result	1.078	1	1.062	1
D3	Society Result Key Result	0.113	1	0.157	1

Table 5.12 Regression estimation of the horizontal models

Factors	Regression (Unmodified)		Regression (Modified)	
	Unstandardized Estimates	Standardize Estimates	Unstandardized Estimates	Standardize Estimates
	Model A1A2			
Leadership for People→Leadership for Strategy	0.398	0.397	0.397	0.397
Leadership for Strategy→Leadership for People	0.396	0.397	0.397	0.397
	Model A1A3			
Leadership for People→Leadership for Partnership & Resources	0.430	0.430	0.429	0.430
Leadership for Partnership & Resources→Leadership for People	0.429	0.429	0.429	0.430
	Model A2A3			
Leadership for Strategy→Leadership for Partnership & Resources	0.363	0.363	0.363	0.363
Leadership for Partnership & Resources→Leadership for Strategy	0.363	0.363	0.363	0.363
	Model B1B2			
People →Strategy	0.742	0.739	0.753	0.741
Strategy→People	0.734	0.737	0.723	0.735
	Model B1B3			
People →Partnership & Resources	0.495	0.490	0.490	0.489
Partnership & Resources→ People	0.483	0.488	0.489	0.489
	Model B2B3			
Strategy → Partnership & Resources	0.741	0.739	0.740	0.736
Partnership & Resources→ Strategy	0.735	0.737	0.738	0.738

5.2.11 The DGEP criteria excellence model fit

Various empirical researches (Chen & Lee, 2008), (Shih et al, 2009), (Wong & Tsai, 2010) applied a set of goodness of fit indices in their studies which are popular such as are Ratio between X2 and degree of freedom, Adjunct fit indices (AFI), Goodness-Of-Fit (GFI), Root Mean Square Error of Approximation (RMSEA), Root Mean Square Residual (RMR), Adjusted Goodness-Of-Fit (AGFI), Bentler-Bonett Non-Normed Fit Index (NNFI), Comparative Fit Index (CFI) and etc. However Hooper et al (2008) states fit indices are a useful guide, a structural model should also be examined with respect to substantive theory.

At least 5 fitness criteria out of 7 listed above to be met in the test or else the model should be modified with theory justification as in Table 5.13. Decide model interpretation is the last step in the modeling stage.

In AMOS, the chi-square value is called CMIN which is the goodness of fit and it is sometimes called discrepancy function, the second criterion is the Chi Square/df it also should be < 5, which is the minimum discrepancy and it is divided by the degree of freedom df, the third criterion is the Root Mean Square (RMR) should be < 0.05. The fourth criterion is, Root Mean Square Error of Approximation (RMSEA) also < 0.05, the fifth criterion is the Goodness-of-Fit Index (GFI) should be > 0.9, the sixth criterion is Normed Fit Index (NFI) should be also >0.9 and the seventh criterion is CFI should be also >0.9. The results from AMOS revealed a large variation of model fit indices and out of range of the model fit criteria which confirms with many published papers such as Bollen, (1989); Ahmed and Rafiq (1998); Hu and Bentler (1999); Abdulla Badri et al (2006); Bassioni et al (2008).

Table 5.13 Model fit index

Before Modification							
Model	Chi Square	CMIN/df	RMR	RMSEA	GFI	NFI	CFI
ABCD1	740.880	370.440	0.060	0.860	0.681	0.736	0.736
ABCD2	323.918	107.973	0.015	0.463	0.789	0.853	0.854
ABCD3	54.403	27.201	0.008	0.229	0.948	0.975	0.976
A1A2	997.412	166.235	0.168	0.575	0.583	0.705	0.706
A1A3	1541.142	256.857	0.220	0.716	0.542	0.593	0.594
A2A3	357.489	59.582	0.123	0.343	0.842	0.782	0.784
B1B2	884.034	147.339	0.071	0.542	0.755	0.810	0.811
B1B3	317.499	52.916	0.128	0.323	0.811	0.750	0.752
B2B3	428.648	71.441	0.070	0.376	0.811	0.888	0.889
After Modification							
Model	Chi Square	CMIN/df	RMR	RMSEA	GFI	NFI	CFI
ABCD1	0.008	0.008	0.000	0.000	1	1	1
ABCD2	59.501	29.750	0.008	0.240	0.947	0.973	0.974
ABCD3	0.175	0.175	0.000	0.000	1	1	1
A1A2	581.167	145.292	0.153	0.538	0.779	0.828	0.829
A1A3	834.374	166.875	0.193	0.577	0.741	0.780	0.780
A2A3	315.697	78.924	0.136	0.395	0.828	0.808	0.809
B1B2	154.888	38.722	0.075	0.275	0.899	0.967	0.967
B1B3	197.123	49.281	0.105	0.311	0.895	0.845	0.846
B2B3	46.903	11.726	0.024	0.147	0.965	0.988	0.989

5.2.12 Discussion

Despite the fact that the DGEP is not a model but a framework consists of many models and categories one of these models is organisation excellence which is studied in this paper. The DGEP model "Organisational Excellence" can be considered in terms of structure only, similar to EFQM with several adoptions captured from the UAE culture and environment settings.

The model can be divided into three phases or parts; driver, system and results. As the DGEP is result oriented, it is also leadership focused; the success of the model can be found with the amount of criteria attached to the leadership. The leadership has 45 sub criteria in addition to the 7 main sub criteria.

The difference between the leadership in the West and in the East is that the leadership prepare, submit, explain, present and finalize whereas in the West, the leadership only support and create the environment for people to do the work. The study conducted in vertical and horizontal paths analysis as mentioned before; there were some difficulties in arranging models in the software. Many errors and unknown results were foreseen during the design testing. Many or almost all published cases were presenting a 2 latent variables model which had difficulty to find out a similar 9 main latent variables if not more. However, this was overcome by dividing the model into vertical and horizontal path analysis. The vertical was tested by regression factor whereas the horizontal was analyzed by covariance factor.

5.2.13 Model fit indices discussion

Reliability tests were carried out for the vertical models (ABCD1, ABCD2 and ABCD3) and horizontal models (A1A2, A1A3, A2A3, B1B2, B1B3, B2,B3) .The reliability of the data input to vertical models was positive i.e more than 0.8 (Kline, 2005). Horizontal models had acceptable reliability data input i.e. more than 0.7(Nunnally, 1978). Two sets data in the model A1A2 and A2A3 were showing less than 0.7. Chi Square, Chi Square/df, RMR, RMSEA, GFI, NFI, CFI for the evaluated model were chosen to identify the model fitness. It was found that the studied models revealed a large variation of model fit indices and out of range of the model fit

criteria which confirms with many published papers , Bollen, (1989); Ahmed and Rafiq (1998); Hu and Bentler (1999); Badri, Selim, Alshare, , Grandon, Younis, Abdulla, (2006); Bassioni, Hassan, and Price (2008).

Vertical Models ABCD1, ABCD2 and ABCD3 found to be meeting most of the model fitness indices after the model has been modified. The poor fitness indicated the model stability should be improved. Thus modifications are completed by inserting the covariance between the latent variables. This mean the relation between the variables must be closed enough to achieve the expected results. The horizontal models were showing poor fitness even after modification, which in this case trimming theory may need to be applied to achieve good fitness of the model.

5.2.14 Remarks

In this chapter a new techniques called ABCD validation model was developed for validation purposes. The validation process was tested on the Dubai Government Excellence Program (DGEP). The validation is carried out in three vertical and horizontal paths analysis. The three vertical models ABCD1/2/3 were considered to be fit model after necessary modification. However, the horizontal models could not be validated successfully due to poor fitness. The objective of the design of a fit model is to standardise the model to evaluate future data with highly consistent and does not require further re-specification. The final model used in the existing study focus only on the explanation of casual effect and the correlation between the studied factors. The overall conclusion indicates that the ABCD validation method used for validation process on DGEP model was successful and can be used as a reference for further improvements. The importance of the validation process determines the sensibility, feasibility and acceptability of the validated model.

5.3 Validation of Continuous Improvement Tracking Model (CITM)

Nasser Lootah (2014), the Executive Vice President in the Generation division at the Dubai Electricity and Water Authority (DEWA), has developed three components of creative culture: Principles & Engines, Mechanism & Tools and Feedback. Mechanism and tools are defined as the ways in which people approach problems. Mechanism and tools are often a function of creativity and work style. Feedback is

induced from the mechanism and tools and has a great impact on creativity. The Continuous Improvement Tracking Model plays an important feedback role in practice, based on the core concept of the 10-step Continuous Improvement Process, as can be seen in Figure 5.10.

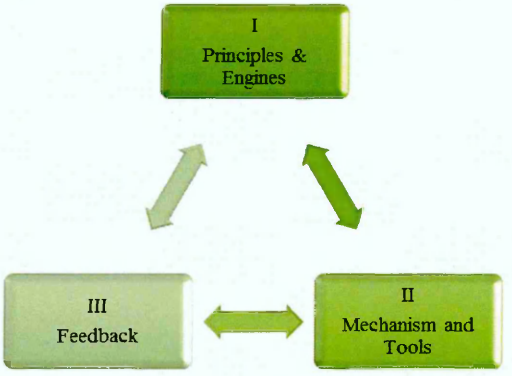


Figure 5.10 Three components of creative culture

5.3.1 Continuous Improvement Tracking Model (CITM)

The Continuous Improvement Tracking Model (CITM) was developed to guide process owners to systematically identify process performance deviations and other feedback systems (suggestions/complaints, benchmarking/best practice, stakeholder survey/feedback, innovation, internal & external assessments, SWOT analysis, etc) that could trigger continuous process improvements, in line with an organisation's policy/rules & regulations/strategic objectives & initiatives.

This model is shared with all DEWA divisions/departments and is an example of the realisation of a comprehensive deployment of the Process Management Approach adopted within the Organisational Excellence Model. This model satisfies the following requirements:

- Complies with Process Management Criteria adopted by DEWA.
- Consistent with RADAR assessment logic.
- Ensures that process design and improvement is aligned with the organisation's strategy.

As can be seen in Figure 5.11, CITM is a control system model that is based on a set point and a deviation error that compares the set point with the feedback. The size of deviation determines the type of action required. For example, if the deviation is

zero, it means that the target set point is met and the colour will be indicated as green; in the case of a large positive deviation, this indicates that the target is set very low and needs to be reviewed. The colour coding in this case is blue. In the case of a small negative deviation, the yellow indication will be shown as an alarm for an early response. Greater deviation will cause the colour to change from orange and red, depending on the size of the negative deviation.

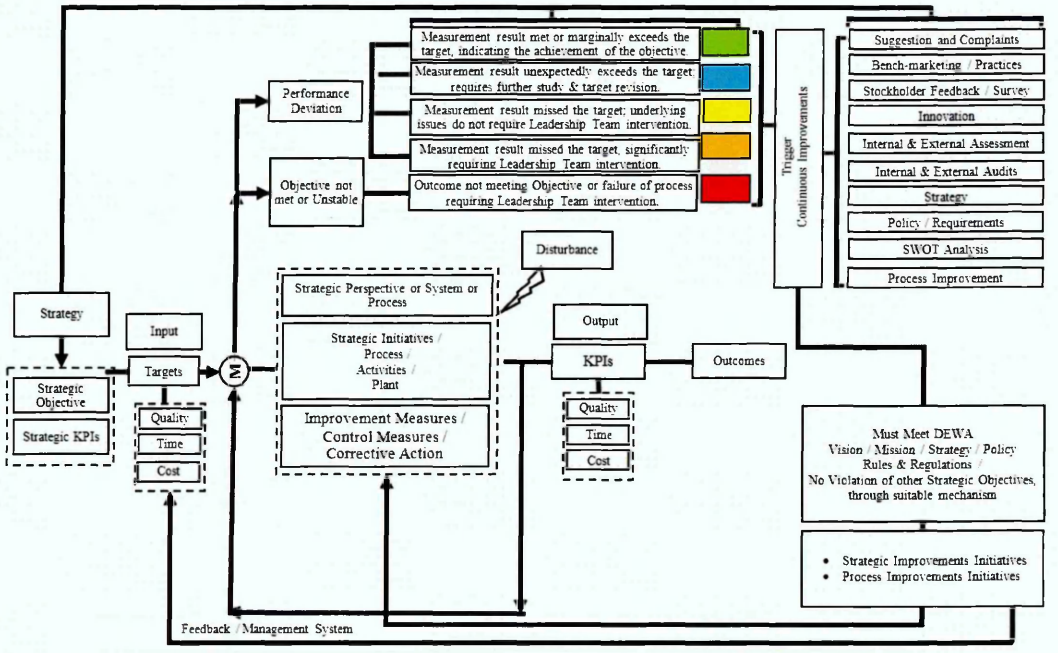


Figure 5.11 Continuous Improvement Tracking Model, CITM (DEWA,2011)

CITM can be applied to any engineering or business management system in any organisation.

As can be seen, CITM consists of the strategy and the defined strategic objectives that set the targets, in the form of Key Performance Indicators or KPIs (Quality, Time, and Cost). These are then fed as an input into the CITM; the target setting is either by the strategic prospective or system or process.

This is measured through an output feedback, to measure the KPI of any deviation. Depending on the degree of the deviation, the corrective action can be elevated from just a performance deviation to an objective deviation, as shown in the right side of Figure 5.11. Four-colour coding is used for the performance deviations to trigger the

process of improvement, while one colour code is used for objective deviation which will lead to serious review by the management to reconsider new and different strategic objectives. There are ten methods suggested in the CITM model for process improvement: 1) Suggestion scheme and complains; 2) Benchmarking; 3) Stakeholder feedback/survey; 4) Innovation; 5) Internal and External Assessments; 6) Internal and External Audits; 7) Strategy; 8) Policy/Requirements; 9) SWOT Analysis; 10) Process Improvement. All these process improvements should meet the company mission and vision, and policy and regulations, and there should be no contradiction or violation of any existing rules. The changes will be in the form of management feedback.

In summary, there are two measurement feedbacks: one is feedback for strategic improvement initiatives; and the second is feedback for process improvement initiatives.

Continuous improvement is ensured through a set of mechanisms or processes that are derived from the ten steps of process improvement shown in Figure 5.12. These sets of processes are aligned with the RADAR tool for assessment as per the European Foundation for Quality Management (EFQM) and Dubai Government Excellence Program (DGEP) Models. RADAR, which stands for results, approach, deployment, assess and refine, which correspond to the following six processes. The first process is to design and understand the process; it includes identification of strategic objectives, initiatives and major processes pertaining to the divisional or departmental level, determination of input as form of strategic objectives and targets (quality, time and cost), and the output in the form of Key Performance Indicators (KPIs) such as quality, time and cost, or associated with strategic objectives for major processes. The first process (design and understanding) also covers the identification of control measures and drivers that impact strategic and process performance, in addition to brainstorming, conducting techno-economic feasibility studies, and providing initiates to spread creativity and innovation culture among employees.

The second process is planning; it consists of detailed analysis of the selected improvement initiatives, determination of the required resources including budget, if required, and preparation of a proposal for management approval, highlighting the benefits based on a techno-economic feasibility study. In this process the required resources for implementation must be in place.

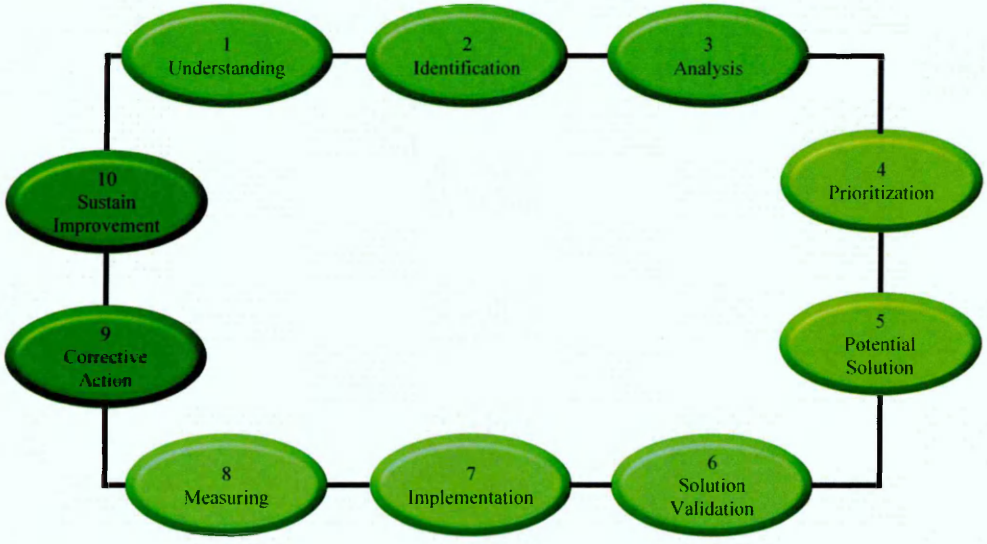


Figure 5.12 10-Step continuous improvement process

The third process is the implementation of initiatives as per the approved plan, in compliance with the rules and regulations.

The fourth process is monitoring and review, which is important, to confirm that the actual results are in line with the expected output. In this process any deviations are identified.

The fifth process is corrective action to ensure the projected target is met by the implemented initiatives. The main step is to identify/develop initiatives to spread creativity and innovation culture among division and other division/department employees.

The sixth process is feedback; it is based on a closed loop system that depends on the feedback process, which can be determined by the periodic progress and lessons learned.

5.3.2 ABCD validation method

The analysis uses ABCD validation method as a guide in order to carry out the validation process for the Continuous Improvement Tracking Model (CITM). There are four basic ABCD steps: Analyse, Build, Check and Decide.

The first requirement of ABCD validation method is to identify the purpose and the approach. The purpose of validation with the Continuous Improvement Tracking Model (CITM) (that is developed to track the management implementation towards the set targets and identify the deviation with the measurement) is to see whether this system is effective or not. The selected approach is to validate the implementation process and verify its suitability of use.

The commissioning management teams used a developed management model based on RADAR that defined the results and the approach through Commissioning Management Result (CMR), and monitored the progress based on Commissioning Management Review (CMR-1), identified the deviations and provided corrective measures on each deviation at Commissioning Management Refine (CMR-2) as shown in Figure 5.13.

ABCD validation method is used to ease the analysis and testing with the CITM model as shown in Figure 5.13.

The business excellence model is built according to the purpose and approach. The building of a measurement model structure is a simple way to visualise causal information between variables and latent variables. Figure 5.14 shows the measurement model of CITM implementation.

Figure 5.13 Integration of CMR and CITM

We define the targets as dependent variables (y_i), and the (n) numbers of predicting factors which are observed variables as independent variables, x_{ni}. How the x_{ni} to affect the y_i which rely on the specific unknown coefficient, βn or correlation values/regression is our concern in this section. The common structural equation is described as follows (Gupta, 2000) (Kline, 2005) (Greene, 2007):

$$y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots + \beta_n X_{ni} + \varepsilon_i \quad (5.1)$$

where β_0 is the intercept and ε_i is the disturbance that is not correlated with the regression.

Therefore, we express the relationship of the measurement model in structural equations as follows:

$$Deploy = X_{deploy-approach} Approach + e \quad (5.2)$$

$$Assess = X_{assess-deploy} Deploy + e \quad (5.3)$$

$$Refine = X_{refine-assess} Assess + e \quad (5.4)$$

$$Effectivenss = X_{effetivenss-refine} Refine + e \quad (5.5)$$

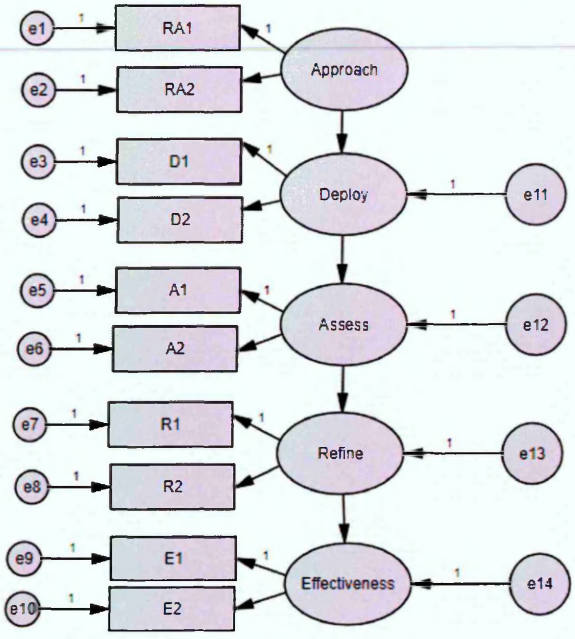


Figure 5.14 Measurement model of CITM implementation

5.3.3 Data collection and feedback

The fitness of the business excellence model is tested by a series of tests and analysis to validate the measurement model and the fit for purpose.

Table 5.14 shows total of 200 sets of CMR- CITM reports were collected from the department managers in a determined frequency within 50 days (see appendix J). The reports were primarily evaluated based on the documented evidence with the following RADAR concept:

Approach:

a) The CITM report covers the scope and targets (RA1)

b) The Action Plan based on targets are updated (RA2)

Deploy:

a) Submission frequency is determined and agreed (D1)

b) CITM reports are submitted on time (D2)

Assess:

a) Identification of the deviation from the target (A1)

b) Availability of measured action to deviation (A2)

Refine:

a) Implementation of measurement against the deviation (R1)

b) Positive result of measurement carried out (R2)

Effectiveness:

a) The outcome of CITM is as per expectation (E1)

b) The latest outcome is improved when compare with the previous outcome (E2)

Table 5.14 Evaluation of CITM reports

	Evidence Evaluation	Comprehensive evidence (scale 5)	Clear evidence (scale 4)	Marginal evidence (scale 3)	Some evidence (scale 2)	No evidence/ very less evidence (scale 1)
RA1	Quantity	186	5	9	0	0
	%	93	2.5	4.5	0	0
RA2	Quantity	187	4	9	0	0
	%	93.5	2	4.5	0	0
D1	Quantity	164	10	26	0	0
	%	82	5	13	0	0
D2	Quantity	163	11	26	0	0
	%	81.5	5.5	13	0	0
A1	Quantity	150	1	7	42	0
	%	75	0.5	3.5	21	0
A2	Quantity	162	4	18	16	0
	%	81	2	9	8	0
R1	Quantity	165	3	14	18	0
	%	82.5	1.5	7	9	0
R2	Quantity	166	8	21	5	0
	%	83	4	10.5	2.5	0
E1	Quantity	159	10	13	18	0
	%	79.5	5	6.5	9	0
E2	Quantity	159	19	17	5	0
	%	79.5	9.5	8.5	2.5	0

The evaluated data is processed into the SPSS, in which it statistically verifies the accurate values, the confidence level and the variance, and fed to the built-in software AMOS in the validation stage. In the final part of the research methodology, there are two main terms, latent variables and manifest variables: "latent variables" describes the hidden or unobserved variables.

5.3.4 Reliability test

Cronbach's Alpha Reliability Test is normally conducted to evaluate the reliability of a set of measurement data such as from a questionnaire or survey. Nunnally (1978) indicated that in the reliability result should be at least 0.7 to be accepted for further estimation and calculation. The results in Table 5.15 indicate the high reliability of the data.

Table 5.15 Reliability test results (CITM)

Factor	Item	Reliability-Cronbach's Alpha
Approach	2	0.9799
Deploy	2	0.9812
Assess	2	0.8667
Refine	2	0.9475
Effectiveness	2	0.9563

5.3.5 Model identification

Before testing the relationship among model components/variables, the model must be over-identified, i.e. the degrees of freedom are positive or the number of known parameters is more than unknown, as shown in Table 5.16, which is the only over-identified model able to be evaluated. If the model is merely identified or under-identified, a necessary fixing action should be carried out, such as adding variables to the model. The degrees of freedom may be changed during model modification to improve the fit. Therefore it is necessary to maintain an "over-identified" status.

Table 5.16 Model identification- degree of freedom (CITM)

Unmodified		**After Modification**	
Degree of Freedom	Status	Degree of Freedom	Status
34	Over identified	32	Over identified

5.3.6 Regression analysis and modification

The regression results determine and calculate the correlation between the variables considered in the model. The modification of the model is only required if the model needs to be improved to obtain a better fitting one. Figure 5.15 and Table 5.17 indicate the regression estimation result from AMOS.

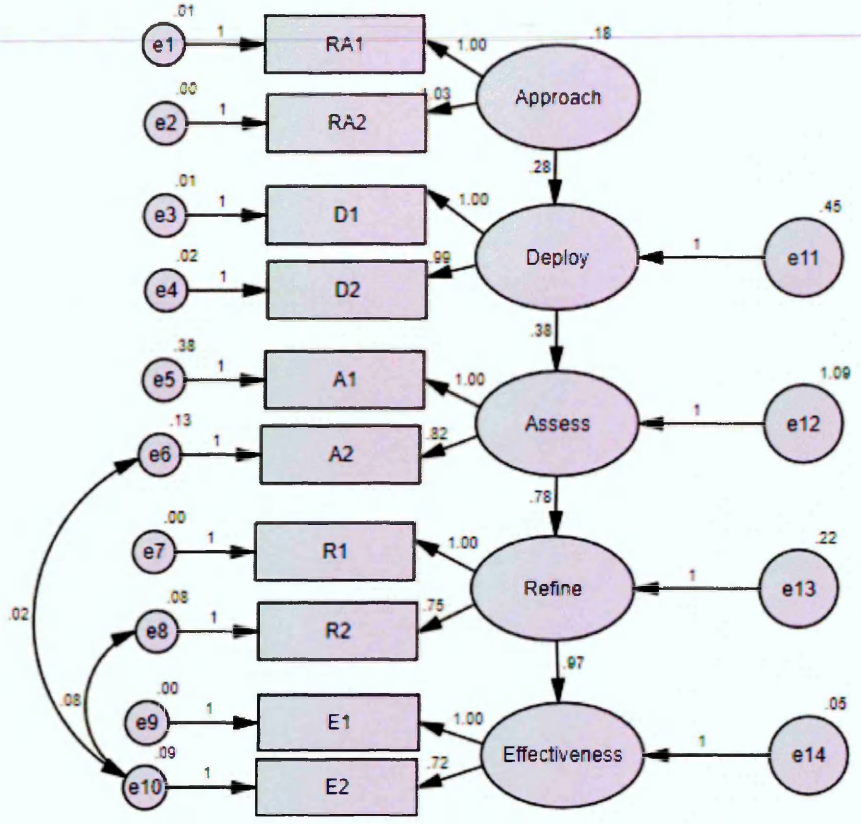


Figure 5.15 Regression estimate (CITM) in AMOS.

Table 5.17 Regression analysis (CITM)

	Before modification		**After modification**	
	Unstandardised estimate	Standardised estimate	Unstandardised estimate	Standardised estimate
Deploy ← Approach	0.281	0.174	0.281	0.174
Assess ← Deploy	0.373	0.237	0.379	0.239
Refine ← Assess	0.789	0.878	0.778	0.871
Effectiveness ← Refine	0.967	0.97	0.967	0.97
RA1← Approach	1	0.961	1	0.961
RA2← Approach	1.03	1	1.03	1
D1← Deploy	1	0.988	1	0.988
D2← Deploy	0.989	0.975	0.989	0.975
A1← Assess	1	0.862	1	0.868
A2← Assess	0.82	0.921	0.824	0.924
R1← Refine	1	1	1	1
R2← Refine	0.732	0.925	0.745	0.927
Effectiveness1← E1	1	1	1	1
Effectiveness2← E2	0.705	0.915	0.721	0.917

5.3.7 Fitness criteria

Measurement models achieve most of the fitness criteria listed in Table 5.18, therefore no further modification is required.

Table 5.18 Model fitness (CITM)

Before Modification							
Model	Chi Square	CMIN/ df	RMR	RMSE A	GFI	NFI	CFI
CITM	402.72	11.845	0.051	0.233	0.826	0.874	0.883
Good Fitness		<5	<0.05	<0.05	>0.9	>0.9	>0.9
After Modification							
Model	Chi Square	CMIN/ df	RMR	RMSE A	GFI	NFI	CFI
CITM	52.390	1.637	0.051	0.057	0.953	0.984	0.994
Good Fitness		<5	<0.05	<0.05	>0.9	>0.9	>0.9

5.3.8 Decide model interpretation

The validity of the business excellence model is decided for the theory, measurement and final interpretation, and determined the correlation values, the regression and Model fitness tests, and finally decided that the fitness of the model.

The regression in the present implementation of CITM indicates the success of improvement feedback. The interpretations are shown as following:-

$$\boldsymbol{Deploy = 0.28\, Approach + e} \quad \textbf{(5.6)}$$

$$\boldsymbol{Assess = 0.38\, Deploy + e} \quad \textbf{(5.7)}$$

$$\boldsymbol{Refine = 0.78\, Assess + e} \quad \textbf{(5.8)}$$

$$\boldsymbol{Effectivenss = 0.97\, Refine + e} \quad \textbf{(5.9)}$$

5.3.9 Discussion

It is noted in this validation, as mentioned in the previous section, that the validation could not be carried out in all the six processes, but was based on the effectiveness of the use of, and the direct relation to the outcome of, the model involved. The

difficulty of training the managers about the CITM was the first challenge in this exercise. Once the managers understood the importance and the seriousness of the issue, they positively reported the use of the CITM day-to-day. The CITM was used as a process by the teams to commission a 2000 MW power plant, and to provide an accurate tracking system to monitor and control the major issues that relate to the safety, quality, availability and reliability of the power plant. The teams use commissioning management review (CMR), which is based on the RADAR instrument used for review and improvement. The validation process used (ABCD Validation Model) to carry out the validation did not cover each part of the CITM which consist of the six processes. Other findings were that the CITM lacks a clear description of the main process, even though the CITM has proved its validity and fitness of use based on the results obtained in the analysis section.

The study conducted a vertical path analysis; there were some difficulties in arranging models in the software. Many errors and unknown results were foreseen during the design testing. Many or almost all of the published cases presented a 2 latent variables model; we had difficulty finding a similar 9 main latent variables model, if not more. However, this was overcome by limiting the process to one vertical path that includes five latent variables, covering the four parts of RADAR, and linked with the effectiveness of the CITM model.

5.3.10 Remarks

The validation of CITM revealed that the model is considered fit after necessary modification. However, the horizontal models could not be validated due to the difficulty of the design of the CITM (which is considered a complex model). A complete validation is only possible if the CITM under goes further improvement. To ensure a model fitness it is necessary to standardise the model to evaluate future data, and does not require further re-specification. The final models used in the existing study focus on the explanation on causal effect and the correlation between the factors studied. The overall conclusion indicates that the CITM model validation process was successful, and can be used as a reference for further improvements. The importance of the validation process will determine the sensibility, feasibility and acceptability of the modified model to be introduced.

5.4 Conclusion

In this chapter, the proposed ABCD validation method was applied to validate two existent models, the Dubai Government Excellence Model (DGEP) and the Continuous Improvement Tracking Model (CITM). The results showed that the ABCD method demonstrated its effectiveness and ability to carry out the validation process in a systematic way that is unique. It should be considered one of the important contributions to knowledge from this thesis.

The implementation also showed that the DGEP is valid; however, the results indicated that the CITM needs further improvements. This leads us to conclude that the ABCD Validation Method can develop and validate the new proposed leadership framework that is discussed in Chapter Seven.

Chapter Six– A Proposed Framework for Understanding Leadership

This chapter focuses on understanding leadership though developing a framework of interrelated theories and traits, including the new series of leadership models of the 21st century. The framework discusses and addresses four main leadership aspects. To understand leadership we need 1) to identify the differences in the definitions of leadership, 2) to know how ethical leadership can be defined, 3) to know the fundamental elements in the definitions of leadership, and 4) to know how to interrelate the theories and definitions to arrive at a common understanding of leadership through the proposed framework.

6.1 Introduction

Understanding the theories, approaches and models of leadership firstly requires an understanding of how the theories were placed in a conceptual context, whether as a theory, approach or model. It was found that 'model' and 'theory' have been used interchangeably most of the time. Model and theory are described in this chapter with the chicken and the egg approach; which comes first depends on the circumstances, facts, judgement and timelines of both subjects. In some cases, theories are the originators of models and vice versa. This thesis defines the model as an illustration of a theory. On the other hand, a theory can be tested and validated by using a model. For example a theory can be validated by using a measurement model or sometimes called construct model.. There are theories and traits, types and styles, models and approaches, even definitions of leadership, but unfortunately, it is far from possible to understand the concepts straightaway, as each of them is presented from a different perspective. It is difficult to create a general theory of leadership. Sorenson (2006) said, "We can barely agree on what a theory is in the first place", regardless of the fact that theories must undergo validation steps in which a hypothesis is tested by new sets of data, and therefore, information has to be essential and valid. However, the aim in this chapter is to produce a framework for understanding leadership and being able to move forward with the meaning of leadership and to implement the leadership best practices in to day-to-day lives.

Although the rising diversity of leadership theories and definitions has helped recognise an academic trend for leadership research over the past hundred years, there are several challenges that accompany the rapid propagation of new theoretical perspectives. This chapter provides a critical review of leadership theories and definitions that have been in existence since the 1900s. The thesis search includes 34 theories and 237 definitions from various sources according to a specific academic approach that ensured the content and resources were valid and citable. This allowed a wider and further comprehensive review of the topics that have captured the attention of leadership scholars. Instead of providing a detailed summary of the theories that have been identified, this chapter focuses on addressing six fundamental elements of leadership that are relevant to all of the theories that reflect how

leadership theories have contributed towards defining leadership throughout the past 100 years.

The intention is to frame the understanding of leadership in a simple and agreeable way by analysing all theories and recent leadership models for the following reasons. First, it allows developing leadership models while considering the most viable factors associated with leadership effectiveness in all the reviewed literature. These factors are associated with the leadership system that comprises leader, followers, goals, process and values. These five factors are considered the fundamental elements in the definition of leadership. Second, a leader is defined as anyone who leads another person or more than one person to the development and improvement of a shared goal. Leading effectively is related to leadership and not merely to the leader. Without these elements, leadership can be neither effective nor defined. Leadership operates effectively when responsibility coincides with the presence of wisdom, skills and a far-sighted vision.

Third, leadership can be defined in terms of being a great obligation and responsibility. Great obligation comes from the leader's care and support to perform his/her task. Great obligation means good values and immense care towards others, which fulfils the meaning of the term 'sponsorship' of groups or individuals. With great obligation comes equal responsibility. Responsibility normally refers to the duty or decision making to make things happen or to put the vision into action. Responsibility is relevant to the leadership situation during the time of the leader's plan and how he/she acts and responds to each situation. This includes his/her determination to face and overcome challenges and make effective decisions. A good leader accepts responsibility willingly. Responsibility is usually attached to accountability; when things fail, the leader takes the blame. This will take us back to the first reason to find a more in-depth and wider definition not only of leadership but also of ethical leadership in this context.

i. Leadership "principles": principles and values
ii. Leadership "people": persons or followers
iii. Leadership "purpose": vision and shared goal
iv. Leadership "personality" or "personal abilities": abilities inherited and acquired

v. Leadership "power": power in terms of influence, inspiration, motivation, etc.
vi. Leadership "processes": tasks and actions

Note that the first element of leadership strongly implies that leadership depends on values and principles. This suggestion can easily be interpreted to mean that leadership values can be measured indirectly by a set of scales representing four effective leadership domains: responsibility, tasks, attributes and far-sighted vision. Note also that principles cannot be easily found directly in most of the definitions due to their focus on how a leader uses his/her skills and power of influence and the process of executing his/her leadership for a common shared goal. The definitions do not consider whether the leader is good or bad. The second reason why principles are not seen in the definitions is that they sometimes overlap with other elements, such as a leader's personality traits or a leader's purpose. Many scholars include principles under the personality traits of the leader, such as trust, goodness, truth, loyalty, respect, obligation and commitment. Normally leaders emerge based on their principles and not based on their processes. As such, the desire to serve people is both a principle and a purpose. The principle governs and enforces the purpose of the leader with a higher level of values (Richards and Engle, 1986; Trevisani, 2009), which is more likely to be called spiritual leadership (Trevisani, 2009). The leadership principle is the spirit of the leadership that is embodied in the leader. Through his/her acts and the common principles, a leader is known to be good or bad. Kevin Burns (2010), president and CEO of BGI Consultants, said that leadership is an attitude and management is position. Marcus (2013) said: *"leadership is about values and priorities. A leader's values are measured on how they act, not by what they say, and a true leader will communicate priorities that match the values he or she espouses."* Lombardi (2003) said: *"leadership is based on spiritual quality, the power to inspire others to follow"* (Lombbardi, 2003; Phillips, 2007). Burns (1978) linked the values and principles to leadership as a motive for realising goals.

The second element of leadership is people; we do not restrict leadership to the leading of an organised group, but we do need to acknowledge that people are an essential part of leadership. A good follower intends to be a good leader later on. Mason (2015), founder of RLM Planning and Leadership said:

"leadership is simply causing other people to do what leaders want. Good leadership, whether formal or informal, is helping other people rise to their full potential while accomplishing the mission and goals of the organisation. All members of the organisation who are responsible for the work of others have the potential to be good leaders, if properly developed".

The third element broadens the scope of leadership by defining the purpose and the shared common goals. Many scholars indicated that the purpose of leadership is to produce more leaders, not more followers (Maxwell, 1993). Leadership is about understanding the purpose (Stanfield, 2009). The purpose could be contributing to the success of the organisation (House *et al.*, 1999), or achieving a common goal (Northouse, 2004), a shared objective (Yukl, 2005, 2006), a shared direction (Dubrin, 2006) or empowering vision (Strock, 2015). These principles can be seen as the moral dimension of leadership (Burns, 1978; Gardner, 1990).

The fourth element of leadership is the abilities that can be found in the leadership attributes, whether inherited or acquired, that reflect the leader's ability and power to inspire or motivate. Many scholars consider that leaders' and managers' roles are different in the things they do and the matters they focus on. Kotter (1990) stated that the most destructive half-truth about leadership is that it is just a matter of charisma and vision; you either have it or you don't. As Kotter clarifies, leadership skills are not inborn or inherited; they can be acquired and sharpened, but they have to be differentiated from management skills. Management is about coping with complexity and bringing it to order, but not being able to succeed needs an adaptation to change. Management involves planning and budgeting and setting directions. Leadership is about how to cope with rapid change. Management provides control and solves problems; leadership provides motivation.

Howell (2012) suggested that the personal traits could be divided into two groups: determination and drive. The former group includes traits such as initiative, energy, assertiveness, perseverance, masculinity and sometimes dominance, while the second group has cognitive capacity including intelligence, analytical and verbal ability,

behavioural flexibility and good judgment. Individuals with these traits are able to formulate solutions to difficult problems, work well under stress or deadlines, adapt to changing situations and create well-thought-out plans for the future.

The leadership traits can be characterised as intelligence, self-confidence, dominance, sociability and cognitive ability (Charan and Colvin, 1990; Kotter, 1990; Northhouse, 1997; Levicki, 1998; Yukl, 2005). They can also be characterised as extraversion, agreeableness, conscientiousness, effective decision-making and the power to control and motivate (Burns, 1978).

Table 6.1 Personality traits and personality skills

Leadership Personality Traits	Leadership Personality Skills
1. Self confidence	1. Vision
2. Humility	2. Masterful communication skills
3. Trustworthiness	3. Ability to inspire trust
4. Extraversion	4. Ability to make group members feel capable
5. Assertiveness	5. Energy and action orientation
6. Emotional stability	6. Emotional expressiveness and warmth
7. Enthusiasm	7. Romanticize risk
8. Sense of humor	8. Unconventional strategies
9. Warmth	9. Self-promoting personality
10. Passion	10. Dramatic and unique
11. Emotional intelligence	11. Energy
12. Flexibility and adaptability	
13. Internal locus of control	
14. Courage	

The fifth element of leadership is the positive power of influence on people to act towards a shared goal, the power to inspire, to motivate, to move others forward to a shared or common goal (House et al., 1999; Northouse, 2004; Yukl, 2005; Kearns, 2005 , cited in Adeoye, 2009; Dubrin, 2006; Strock, 2015). The sixth element of leadership is the process of executing the task required through a plan. Most of the theories and definitions tell us less about how leaders effectively lead their organisations. We believe this is because of the directions of the theories that emerged during the last 100 years, from being focused on leadership traits during the 1900s to cognitive traits such as intelligence and social emotions in 2010 and onwards. To address these issues in leadership research and theory, this chapter expands upon the existing classification scheme that is based on the six basic elements of leadership. The advantage of these classification schemes is that they offer a unique insight into understanding and defining leadership and integrating

leadership theories over a 100-year span. This allowed the study in this chapter to submit several contributions to leadership literature through a framework for understanding leadership.

To achieve the thesis objective, this chapter is divided into three main sections.

1. Description of the data collection method, conclusions regarding the major theories, and overview of the trends from 1900s to 2015.
2. A thorough description of a proposed developing framework for understanding leadership.
3. Conclusions regarding the overall literature and recommendations for developing more innovative leadership theories, addressing implications of this research and of future research.

6.2 Research methodology

The research began in search of primary studies that included leadership definitions, traits and theories. An online literature search was conducted using search engines that provided full access to all top-tier journals. Besides that, Google Scholar was used. Reference lists from the reviews of the leadership theories, traits and definitions were also searched and are cited in all tables.

The following leadership definitions were categorised into six basic elements for understanding leadership. Related keywords were used to locate articles including alternatives to these main words and phrases. The key words related to personality included 'skills', 'ability', 'emotional', 'intelligence'; the key words related to power included 'influence', 'motivate', 'inspire', 'move'. The key words related to people were 'individuals', 'group', 'team', 'others', while those related to purpose were 'vision', 'goals', 'objectives'. The key words related to principles were 'values', 'ethics', 'moral', and those related to process were 'steps', 'plan', 'process'.

The leadership theories were divided into four stages based on a timeline to interrelate them with the definitions raised during the same stage. The development of this classification was based on several factors. First, the criteria to specify the study identifying the best theories and for a better understanding of leadership were

developed. Second, the data was developed and given the required analysis. Table 6.2 reports the number of definitions found in each source (text books, journals and websites). A Microsoft Excel 2010 database was used that we designed to accommodate the captured data. The content analysis method was used as the research methodology in this chapter.

Table 6.2 Number of leadership research sources published

Source	Number of definitions
Text Books	160
Leadership: Theory and Practice	
Leadership: The Key Concepts	
An integrative theory of leadership	
Human Potential Methods and Techniques for Coaching, Training, and Performance Development	
Consider the Lobster: And Other Essays	
Handbook of leadership: A survey of the literature	
Journals	9
Administrative Science Quarterly	
Journal of applied behavioral science	
Sociology and Social Research	
Personnel Journal	
Fortune	
Advances in global leadership	
Forbes ASAP	
Journal of Management studies	
The Leadership Quarterly	
Websites	68
https://www.legacee.com/potpourri/leadership-definitions/	
http://leadwithgiantscoaching.com/21-quotable-definitions-of-leadership-and-leaders/	
http://www.businessnewsdaily.com/4069-business-leaders-define-leadership.html	
http://www.businessnewsdaily.com/3647-leadership-definition.html	
http://www.forbes.com/sites#/sites/kevinkruse/2013/04/09/what-is-leadership/	
http://sbinfocanada.about.com/od/leadership/g/leadership.htm	
http://www.informationweek.com/strategic-cio/it-strategy/our-definitions-of-leadership-are-mostly-wrong/a/d-id/1279113	
http://www.teamtechnology.co.uk/leadership/management/definitions-of-leadership-and-management/	
http://adeoyemayowaleadership.blogspot.ae/	
http://www.iwise2.com/leadership	
http://www.learn-to-be-a-leader.com/what-is-leadership.html	
Total	237

Notes: The total frequency exceeds the number of books, journals and website because these sources often contain more than one definition.

The specific data were categorised based on a series of steps. First, a nomenclature that groups similar phrases corresponding to one of our subjected elements was identified for ease of the content analysis process. Second, the definitions were collected; the counting of words or phrases was qualitative in order to produce a

quantitative dataset for analysis. Third, the definitions were categorised in ascending order from the years 1900 to 2015.

The analysis began by studying 176 samples after initially searching a total of 237 definitions in published leadership literature material, proper citing references and complete descriptions of definitions. Those with low reliable resources or lacking the author's name or those used in interviews were rejected. A description of the data collection method, and conclusions regarding the major theories that have remained at the forefront of scholars' research, conversations or dialogues, was provided. The identified definition must have consisted of at least one of the basic elements of leadership from purpose, personality, power, people, process and principles. 176 definitions were found for the basic elements of leadership. The next step was focusing on the power element to segregate the definitions into three classifications, i.e., influence, interaction and motivation, which assisted the researcher to identify the relationships between leadership definitions and the development of leadership theories.

Those that failed either or both of these selection criteria (90 definitions) were rejected from inclusion. This finally left 86 definitions that correlated leadership to the power element. Table 6.3 reports the number of definitions found in each literature material, classified in every decade from the 1900s to the 2015.

Leadership is a behavioural phenomenon in the field of social sciences studied with a set of methods and assurances to ensure and obtain or reach a valid conclusion on the nature of leadership behaviour. Two main challenges or difficulties were faced in the field of leadership research and studies during the first stage of the leadership studies. The researchers did not consider how a stable leader's attributes accounted for the behavioural diversity necessary for effective leadership. The earliest literature reviews on leadership were concerned with the theoretical issues, seeking to identify different types of leadership to relate them to the functional demands of society. They also sought to consider the emergence of leadership by either examining the qualities of the leader or the factors of the situation (Stogdill, 1974).

Table 6.3 The six basic elements of leadership

Years	People	Purpose	Power	Process	Personality	Principle
1900-1929	13	6	10	3	14	1
1930-1939	8	5	5	4	8	0
1940-1949	10	5	8	2	10	1
1950-1959	18	13	12	7	18	0
1960-1969	11	6	9	1	12	0
1970-1979	5	4	4	2	4	0
1980-1989	12	12	6	6	12	4
1990-1999	22	21	18	10	27	0
2000-2009	16	11	11	4	17	2
2010-2015	36	31	25	5	39	1
Total frequencies	151	114	108	44	161	10
% to total definitions	85.80%	64.77%	61.36%	25.00%	91.48%	5.68%

* see Appendix C and D

Most definitions observed in the early years of the 1900s described leadership as the superiority of one or more in a group with the control of power. This definition is in agreement with Mumford (1906), who talked about the ability to handle men (Munson and Miller, 1921), face-to-face contact (Allport, 1924), more desirable traits and having more superiority than others (Mumford, 1906; Bernard, 1926; Bingham, 1927), and the influence of power (Bowden, 1926; Bernard, 1927; Moore, 1927; Nash, 1929; Tead, 1929; Bundel, 1930; Tead, 1935; Copeland, 1942). These definitions were aligned with the current trait theories of that time (see Figure 6.1). Figure 6.1 describes the leadership theories over the 100 years divided into four stages, as explained in the earlier section. During stage one, Bogardus (1918) suggested four types of leaders, autocratic, democratic, executive and reflective. Stage 1 ended in 1940, when the trait theories also ended. Lewin, developed three leadership styles in 1939 (autocratic, democratic and laissez faire) and he was considered to be the first who contributed to the behavioural theories in Stage 2. Likert (1960) developed a top-down model in which four leadership qualities were derived: exploitive authoritative, benevolent authoritative, consultative and participative. In addition, there were two studies from Michigan and Ohio contributing to productivity and the effectiveness of teamwork and behaviour as the

main directions. As we can see from Figure 6.1, the number of samples from the definitions recorded between 1940 and 1960 showed a tendency to adopt the behavioural approach. The definitions recorded between 1960 and 1980 (stage 3) were affected by the contingency theories raised during that stage; the definitions focused on the effectiveness of the influence attributes in different situations. It is also important to mention that after Lewin, definitions that called for interaction between a leader and the people were raised as a consequence of the behaviour theory in the years 1940 to 1960. In 2000, Goleman (2000) addressed six emotional intelligence requirements for a leader: authoritative, coercive, democratic, coach, pacesetter and affiliate. Stage 4 shows emergent definitions that carry and verify diversified power in terms of influence, motivation or inspiration. The majority of the definitions contain the power of inspiration and motivation while maintaining all other elements within the definitions.

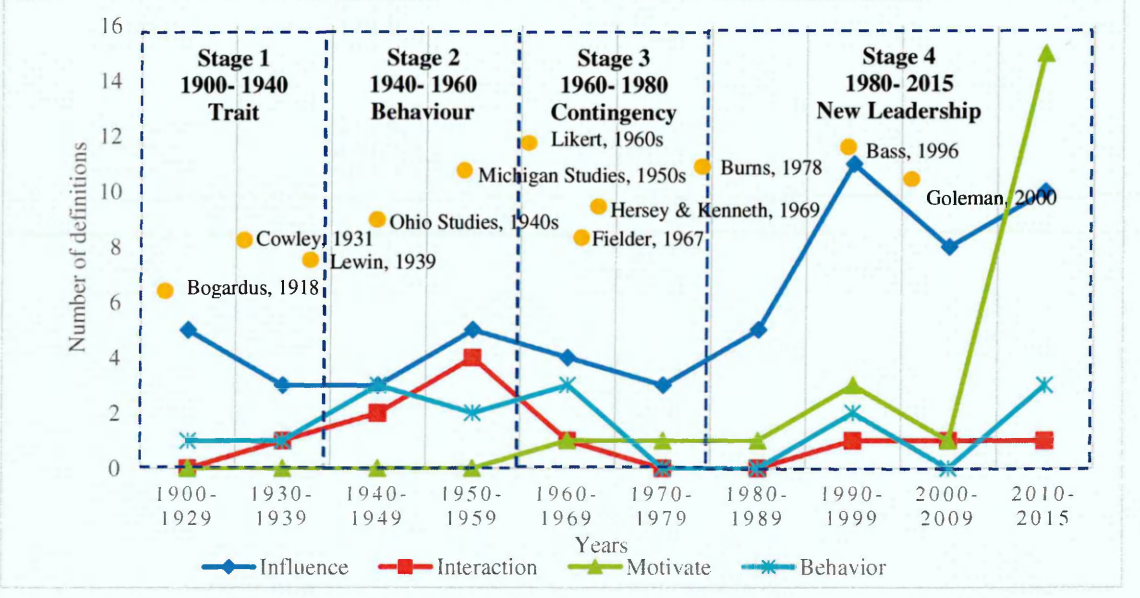


Figure 6.1 Leadership theories development

Table 6.4 Major leadership theories

S/ N	Theory/ Model/ Approach	Researchers	Description
1	The Trait Theory (Leadership Skills)	(Stogdill, 1974) (Brymer and Gray, 2006), (Bass & Stogdill, 1990), (Yukl 2005), (Dubrin, 2008), (Gill, 2006); (Tupes & Christal ,1961	Leadership is rooted in the characteristics that certain individuals possess personal attributes. These Traits do not changes from situation to situation such as intelligence, assertiveness, or physical attractiveness like great man theory. Emphasizes leaders attributes such as personality, motives, values and skills, some natural leaders endowed with certain traits not possessed by other people The five big personality traits Theory The traits are five broad domains or dimensions of personality that are used to describe human personality. The five factors model are openness, conscientiousness, extraversion, agreeableness, and neuroticism.
2	Behaviour Theory (Leadership Style)	(Ohio State Studies, 1940s) (Michigan University Studies, 1950s) (Yukl 2005); (Blake & Mouton,1964) (Miller, 2008); (Hariman, 1995) (Salazar, 2009) (Lewin, Lippitt, & White,1939); (Adair, 1973, 1983, 1984) (Gill, 2006); (Vroom, & Yetton, 1973). (Dubrin, 2008)	Overall behavior pattern of researches' results suggested effective leaders use a pattern of behaviour that is appropriate for the situation and reflects the high concern for task objectives and high concern for relationship. **Managerial grid Theory**: Developed by Robert Blake and Jane Mouton 1964 The managerial grid model is based on a behavioral theory. Suggests five different leadership styles, based on the leaders' concern for people and their concern for goal achievement **Leadership Style**: Providing direction, implementing plans, and motivating people. It is the result of the philosophy, personality, and experience of the leader. Rhetoric specialists have also developed models for understanding leadership. Effectively achieves the objectives of the group while balancing the interests of its individual members. **Action Centred Leadership**: Effective leaders address needs at three level: the task, the team and the individual. In this model, the more there is overlap and the more balanced the needs if the task, team and individual, the more effective is leadership. **The Normative Decision Making Model**: Developed by Victor Vroom. Leader must choose a style that elicits the correct degree of group participation when making decision. This perspective is sensible, the normative decision model views leadership as a decision making process in which the leader examines certain factors within the situation to determine which decision making style will be the most effective. There are five decision styles: 1. Decide, 2. Consult (individually), 3.Consult (Group), 4. Facilitate, 5.Delegate

(continued on next page)

(continued)

S/ N	Theory/ Model/ Approach	Researchers	Description
3	Contingency Theory (Leadership Situation)	(Yukl 2005); (Hersey & Blanchard, 1969) ; (Reddin, 1970) (Gill, 2006); (Fiedler, 1958, 1967); (House, 1971); (Fiedler & Garcia, 1987); (Dubrin, 2008); (Michie & Scott-Jackson, 2014)	**Situational Approach/ Situational leadership model:** Developed by Hersey & Kenneth. Emphasizes the importance of contextual factors that influences leadership process, managerial activities and behaviour patterns or influence different attributes will be effective in different situations. Based on the behaviour of the leader **Situational leadership II:** Developed by Kenneth H. Blanchard and his colleagues, explains how much to match leadership style to the capabilities of group members on a given task. **Reddin's 3D Theory:** four styles that be effective on their situation and four ineffective styles, it uses situation sensitivity, to read situation with style flexibility, overcoming resistance to change **Fiedler's Contingency Theory:** Effective leadership needs good leader-member relations, task with clear goals and procedures, and the ability for the leader to meet out rewards and punishments. Fiedler created the least preferred co-worker (LPC) scale to ensuring the leadership situation. Suggests that the effectiveness of a leadership style- task oriented or people oriented- depends on the favourableness of a situation **Path-gaol theory:** Developed by Robert House (1971). Clarify the path, identifying the goal, removing roadblocks, enhancing personal satisfaction along the way. It specifies what a leader must do to achieve high productivity and morale in a given situation. The manager chooses one of the four leadership styles, depending on the characteristics of the situation and the demands of the tasks. **Cognitive resource theory**: Developed by Fiedler and Garcia. This theory considers the interaction between the situation (including the stress experienced by leaders and the group, and the cognitive resources of the leader and how that interaction affects the performance of the group.
4	New Leadership Theory (Strategic Leadership)	(Downton 1973); (Burns, 1978); (Bass, 1996, 2006); (House, 1976); (Dubrin, 2008);	**Transformational Leadership:** First described by Burns, and developed by Bernard Bass. Transforming leadership is a process in which leaders and followers help each other to advance to a higher level of morale and motivation. Ttransformational which is based on concern for employees, intellectual stimulation, and providing a group vision. **Charismatic Leadership Theory:** Charismatic leader is any person who brings about certain outcomes to an unusually high degree. Charismatic is a special quality leaders who purposes, power, extraordinary determination. **Transactional Leadership:** First described by Burns, and developed by Bernard Bass and colleagues Involves an exchange between leader and followers with an emphasis on correcting deviation from requirements and providing rewards for compliance.

* see Appendix B

Figure 6.2 indicates that the definitions addressing personality traits and skills were in the majority, at 91.48%, and then definitions that covered both personality and people were recorded at 85.80%. The definitions that covered the third and fourth elements (purpose and power) were present 64.77% and 61.36% of the time respectively. The definitions that contain process were in 25% of the total definitions collected. The definitions that contained or covered the values and principles are minimum and are, therefore, ignored.

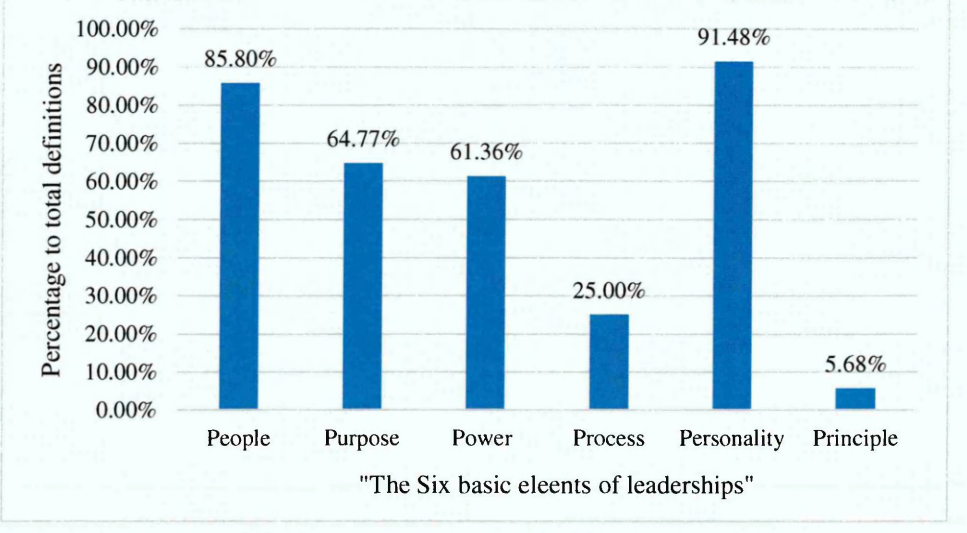


Figure 6.2 The six basic elements of leadership

6.3 The framework

The author believes that paying attention to the framework is important for the understanding of the leadership phases that will help us illustrate the main part of the leadership journey and assist us in developing a new concept for a leadership model. The framework starts with the assumption that leadership does not exist in a vacuum but rather in a nurturing environment and contains a spirit that drives the leader's personality to effective leadership. The leadership approaches can be seen in the strategy and vision of the leaders measured by results and by the amount of effective leadership as a solution to different situations. This means matching the suitable styles and building up the skills required to obtain the results on time. The leader who has a far-sighted vision to shape the future and make it happen is a combination of a visionary and transformational leader type. Finally, the leadership model should

contain the qualities and properties that the leader needs to obtain and develop to exercise his/her real leadership successfully and effectively. The following are the five prospective frameworks for understanding leadership; also see Figure 6.3.

- The first perspective: a leader is by nature 'born', and is the source, the base and the cause of leadership. 'The seeds', whether or not he was born a leader, determine whether or not he is leader.
- The second perspective: a leader is 'made' by nurture, that is, whether the leader found a nurturing environment or lacked a nurturing environment.
- The third perspective: 'the six elements' are the basic elements for understanding the theories and definitions of leadership that provide the full meaning of leadership and cover all of its important parts.
- The fourth perspective: 'the leadership theories' are the major theories of leadership that were commonly used for developing the best practices of leadership.
- The fifth perspective: 'the leadership models' are the collective leadership qualities that were brought out from all the previous perspectives.

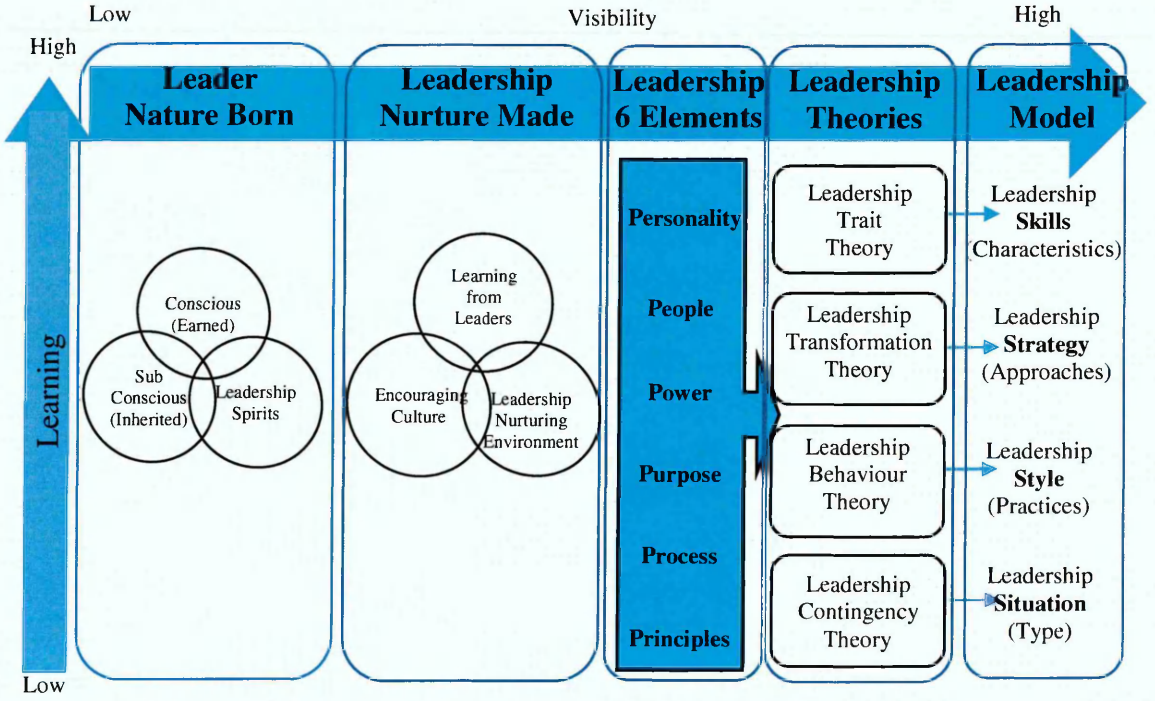


Figure 6.3 The proposed framework for understanding leadership

To understand the framework, as mentioned earlier, there are four perspectives considered (nature and nurture, the six elements, theories and the leadership model). The framework is scaled by two measures, the degree of learning and the degree of visibility. It shall be noted that as the scale goes from down to up, the components in the framework are contained within direct learning and acquiring new skills and knowledge. When the scale goes down, it means the components are inherited and embedded in the personality traits of the leader. The second scale is the visibility scale; it displays how the degree of appearing to others as a leader increases with time, experience and practice. The leadership spirit is at the heart of the framework, as it contains the morals and values that the leader believes in. The framework for understanding leadership presented here is based on the idea that the leadership system is a function of the leader and other situational variables, which are called in this paper the six elements of leadership.

According to the framework, leadership can best be understood by examining its key variables: the leader's characteristics (known as personality traits and personality skills), the followers, the leader's behaviours (known as leadership style), group member characteristics and the internal and external environments. Leadership skills can be developed by followers as a general learning model that involves acquiring conceptual knowledge by reading examples, doing experimental exercises, obtaining feedback and practising in natural settings. Being an effective leader will need good followers with characteristics such as self-management, commitment, competence, focus and courage. A key role for the followers is to collaborate with leaders in achieving organisation, which requires a new kind of alliance between leaders and those being led. Leadership effectiveness is dependent on all five sets of variables/perspectives.

The definition of leadership in the proposed leadership framework is explained as the term 'leader', a person who leads and guides or directs and carries a group of people from one point to another. He/she acts as a leader through his/her attitude and adapts him-/herself in different situations according to his/her responsibility. He/she maintains behaviour and behaves while balancing different styles depending on his/her wisdom. He/she creatively uses and focuses on his/her leadership skills

depending on his/her ability. He/she turns the dream into a shared vision and develops a strategy to drive the change.

A study of leadership role occupancy by a group of scientists from London University revealed that leadership ability is associated with a genotype called rs4950. This gene has carried leadership abilities down through generations (De Neve, 2013). Sorcher and Brant (2002) said: "our experience has led us to believe that much of leadership is hardwired in people before they reach their early or mid-twenties". Therefore, born leadership is a valid component for understanding leadership from a framework context.

Born leadership has two factors, 1) conscious (earned and learned), 2) subconscious (inherited). The first factor is the subconscious (inherited); this part goes to genealogy and instinct. The instinct is filled with leadership qualities and certain behaviours carried from individual roots. The second factor, conscious (earned and learned) is the most critical and essential factor that interacts with genealogy. It is like a child learning in an environment where he/she can earn and acquire knowledge during his/her conscious time.

The leadership spirit is the source or the backbone of the leadership traits, as it expands over the entire life span of a leader, from the day he is born to the day he dies. In other words, leadership spirit is the unique IP address of each leader. The spirit of leadership comes from a combination of learning experiences with deliverable power for leadership development, expertise, skills, contact networking, science, team building, personal and career growth, behavioural knowledge, and the understanding of team dynamics and creative approaches to conflict and change (Sheikh Mohammed bin Rashid, 2012). The leadership spirit is based on upbringing, genealogy and instinct. An honest and enthusiastic relationship is a credible relationship and shows commitment for engaging teamwork to achieve the desired goals (Sheikh Mohammed bin Rashid, 2012).

Experts such as Cecil Rhodes (1853-1902), who was known for his contribution to shaping notions of leadership by creating the Rhodes Scholarships in 1903

(Markwell, 2013), believed that the leadership spirit could by nurtured by identifying young people with a moral force of character and instincts to lead and develop them. Leadership spirit is experiencing loyalty and promoting the meaning of belonging and trust, standing for and upholding supreme values, principles and shared visions. Facing challenges by collaboration, cooperation, courage, creativity and with core competence requires engaging the leadership spirit and building up the organisational spirit that is based on trust. All leaders must have a model to follow and deploy. The model needs to be developed from learning from leaders, experiences and careers and from observation and discovery. The leadership spirit describes the real leader's approach towards his/her people. The leadership spirit is the software of the leader's character and is the beating heart of leadership and the source of leadership discipline.

"Leadership spirits cannot be implanted or removed. The leader has instincts that drive him to adopt his approach and reject others. This is a result of accumulation of knowledge, life experience and political, social and economic data, subconscious mind. Every leader is endowed with scores of characteristics, qualities and powers in his conscious and subconscious mind, and their surrounding realms"

(Sheikh Mohammed bin Rashid, 2012, p44).

The leadership made is the stage where the journey continues towards its destination; during this time, individuals with different degrees of leadership quality are shaped and flourish.

Learning from leaders is the way to lead successfully. One of the most successful skills for leaders is learning abilities, especially when they learn from other leaders. From observations, they will know what things need to be followed and what other things need to be avoided. Leaders learn from their mistakes; they understand their shortcomings and try to improve them (Goodwin, 1998). Preskill *et al.* (2009) listed nine learning tasks of leadership: the first is learning how to be open to the contributions of others, the second is learning how to reflect critically on one's practice, the third is learning how to support the growth of others. Fourth is learning how to develop collective leadership; this task is important to capture the benefits

and the available support in a nurturing environment as a collective leadership engagement. Fifth is learning how to analyse experience; the sixth task is how to question oneself and others. The seventh is learning democracy, the eighth task is learning to sustain hope in the face of struggle, and the ninth task is learning to create a community.

The environment, such as society, government sectors, school, colleges, sport clubs and most importantly, the family, are all considered responsible for crafting leadership candidates into emergent leaders. With proper and suitable development plans, healthcare, good role models, developing learning skills and ethics encourage leadership throughout all levels of society.

The new leadership model consists of four enabling components. Each component is associated with the most significant and approachable leadership qualities in the leadership literature reviews.

We addressed the four dimensions from the leadership literature to ensure our model is comprehensive and practical: these are leadership type, leadership characteristics, leadership approach and leadership practices.

These four dimensions helped us relate with the proposed leadership enabler. The leadership approach is associated with leadership strategy, leadership practice is associated with leadership style, the characteristics of leadership are associated with leadership skills, and the leadership type is associated with the leadership situation.

Leadership strategy: a leader acts through aligning the strategy, believing in building a shared vision, being focused and consistent in his communication and the team's commitment to the vision in order to drive change to make dreams come true. Strategy is based on understanding the needs and expectations of both stakeholders and the external environment.

Leadership situation: a leader acts in different situations where he/she can demonstrate his/her actions in terms of adapting them to the situation. A leader

believes in being bold and behaving as a role model. He/she should be consistent in continuing to learn and should be able to drive change to turn the dream into reality.

Leadership style: leadership style is the method of providing delegation, motivation, directing, building teams, in addition to being professional and focused. The leadership style also involves spreading a culture of excellence and being a disciplined leader.

Leadership skills: a leader should act towards achievement, sustaining achievement and becoming results-oriented. He/she should believe in building his/her skills and concentrate on communication skills through a complete and integrated network and developing leaders who can influence other leaders to ensure a sustainable leadership model.

6.4 Summary

In summary, the leadership model explains how to apply an understandable and agreeable theory in practice. No common definition explains leadership, since leaders' situations, styles, skills and visions are not the same.

6.5 Findings and Discussions

Personality, power, purpose, process and people share a common link with the sixth element, principles. Leaders can be identified by their influence (power and process) in which the leader influences people towards the achievement of a goal or a purpose. However, what if the goals were not ethical or not good for mankind? Therefore, there should be an element in leadership that decides good leadership through a set of principles.

In the end, the author arrived at the starting point when we began the discussion of the ethical responsibilities of leaders, realising that not all leaders, based on the definitions, have used their power in positive or ethical ways. As such we confirm from our framework for understanding leadership that the main important element of leadership is the ethical responsibility that comes with the great obligation of the leader.

The solution is to fit the situation according to the individual's responsibilities, act with attitude, choose the right style with wisdom and balance, build the right skills to improve leadership abilities with consistency, and align strategy with a shared vision to turn the dream into reality.

6.6 Conclusion

The aim of this chapter was to study and identify the effectiveness of the definitions of leadership, which was part of the developed framework for understanding leadership. Based on these aims, we tried to understand whether the six elements could contribute to redefining leadership through an understanding framework. The outcomes of this belief revealed that the common understanding of leadership started to seem unified at the beginning of Stage 1; during Stages 2 and 3, the activities of the developing theories and definitions dramatically rose, which led to a diversification of definitions. This contributed to the problem of the inability of having a common definition. In contrast, the focus on theories in Stage 4 was on two main elements, the leader him/herself and his/her people, which are governed by interaction and emotional intelligence.

As a conclusion, we suggest that there are four leadership models that can cover the selected top theories in this thesis. These are 1) leadership strategy (transformational and transactional leadership from the new leadership), 2) leadership situation (contingency theories), 3) leadership style (behavioural theories), and 4) leadership skills (personality traits). It is proposed that future leadership models should be assessed and judged based on a framework of leadership values and qualities. It is also noted that by studying the trends and patterns of theories along with the definitions, we found that every ten years, the theories on leadership were renewed and redefined.

Future work can explore these four recommended models into workable models that can be used as one of the best alternative theories that consider and that agree and are compliant with most of the current and past theories.

Chapter Seven– The Development of the Proposed Leadership Best Practice Framework

The purpose of this chapter is to develop a leadership best practice conceptual framework that can sustain business excellence through its main components, such as leadership situations, styles, skills, and strategy, and can replace the leadership component in previously reported business excellence models.

7.1 Introduction

The proposed leadership framework in this chapter is developed based on the outcomes of a mixture of four sources: selected role model leadership worldwide, European Foundation of Quality Management EFQM research, Dubai Government Excellence Program DGEP research, and a literature review on leadership with the aid of several analytical and critical analysis to raise the author's confidence in the new proposed leadership framework. The leadership framework places emphasis on vision, responsibility, sponsorship, and abilities. The framework has been inspired by the knowledge of the great leader His Highness Sheikh Mohammed bin Rashid Al Maktoum from his book *My Vision*.

The proposed sustainable leadership framework combines three main components that are developed in this chapter as follows:

1) A leadership enablers (stands for strategy, situation, style and skills) that enables the leader to exercise and process his/her leadership,

2) A leadership domains (vision, responsibility, sponsorship and ability) that identifies the levels of leadership and describes the phase shifts towards the leadership cycle.

3) A leadership engines (stands for act, behaviour, creativity and dream) to drive the process of leadership in a continuous and sustainable manner.

The existing leadership criteria in European business excellence models focus on leadership management, as shown on the left-hand side of Figure 7.1, rather than on leadership characteristics. In addition, the dimensions of leadership in terms of interconnection with best practice are bounded with the remaining EFQM components. Leadership therefore needs to be described in terms of the essential and critical scope of the leaders to execute their leadership within their domains. The leadership domain is bounded by the ability of the leader and the responsibility given to him or her. Greater responsibility with stronger capability or adequate ability will lead to a larger and wider domain of leadership. The boundary of the domain is capped by the least level domain, which varies from one leader to another.

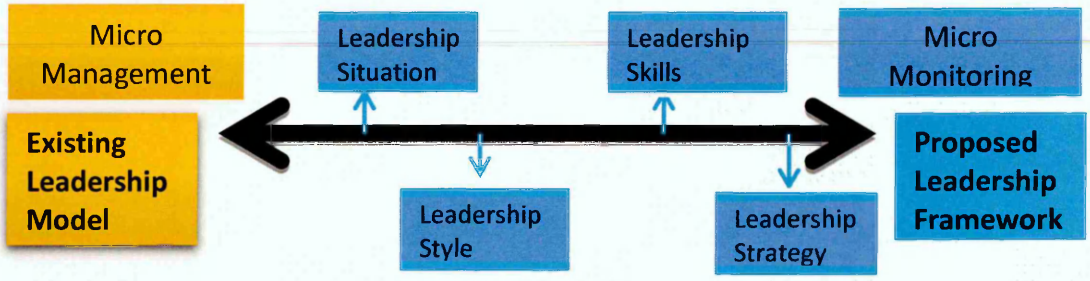


Figure 7.1 The new conceptual leadership enabler model

Effective leadership starts with forming a model of what others need to know and do which will model behaviour and give others clear expectations of what they should know and do. Leaders help others to lead, and they succeed by enabling others to do the work right. Modelling the rules of leadership ensures that the leader will lead well. Leaders must help others to master rules of leadership for sustainable improvement and success.

Leadership is about rules and following them; knowing and following the leadership rules will result in leading well, helping others to learn and follow the rules. Leaders are learners from success and failure, from people and life, and from books and classes (Ulrich et al., 2013). They expend enormous personal energy and attention on whatever matters to them. Effective leaders inspire loyalty and goodwill in others because they themselves act with integrity and trust.

As mentioned in chapters two and six, there is no one common definition or universal model for leadership that can be referred to as standard leadership model that illustrates leadership best practice. Most business excellence models tend to mix "leadership" and the "managership", and because the lack of consistency in findings on business excellence leadership model is largely owed to the use of varying frameworks and models, it was decided to devise a common framework that would act as a reference base for the comparative aspect of this section. In the current research, leadership is treated as a multi-level construct and standalone framework that will affect sustainable business excellence. First, the framework entails four leadership dimensions and four domains that leaders are likely to employ in their work. In the current study, a leadership dimension is defined as "the main component

of all actions, behaviours, creativity, and dreams that a leader uses to influence the sustainability of business excellence". These four factors are called the ABCD engines. Therefore, across the leadership radius, leadership enablers may be distinguished:

1. Leadership strategy: a leader's vision to shape the future
2. Leadership situation: a leader's responsibility to act and react in different situations
3. Leadership style: a leader's sponsorship to give care and guide people
4. Leadership skills: leadership abilities and knowledge

Each leadership enabler consists of the four ABCDs, action, behaviour, creativity, and dream that are likely to be exhibited by leaders. A more in-depth and detailed examination of these leadership dimensions is presented in the following sections of this chapter.

In the framework, however, it is acknowledged that leaders do not operate in a vacuum. On the contrary, their actions greatly depend on their domains in the particular context in terms of responsibility, sponsorship, abilities, and vision.

As shown in the existing leadership criteria in the EFQM model explained in chapter two, first, the model is focused on management leadership rather than on leadership focus. Second, the dimensions of leadership in terms of interconnection with best practice are bounded with the remaining EFQM components. Third, business excellence models' criteria are not easy to memorise, which is one of the common difficulties faced.

The leadership therefore needs to be described in terms of the essential and critical scope of the leaders to execute their leadership within their domains. Furthermore, the researcher was interested in investigating how leadership variables affect leadership outcomes. Some of the most prominent mediating variables include the following:

- A simple, easy-to-memorise model;
- Leadership personal achievement orientation;
- Leadership evaluation and feedback practices;
- Leadership levels from 1 to 5 presented in the leadership domain;
- Leader/follower interactions through leadership style;
- A sustainable model through creativity, development, and opportunity to learn through leadership engines;
- Explicit leadership strategies; and
- People's involvement.

These variables that operate at the leadership level are hypothesised and influenced by the leadership situation, styles, skills, and strategy and, in turn, affect business excellence outcomes; that is, they mediate the impact of leadership styles on organisations as well as leader outcomes. Finally, the framework presents in detail the dependent variables in the current research project. These variables entail both leadership business excellence and a sustainable model through innovation and creativity.

7.2 The proposed leadership framework

The proposed leadership framework is used as a guide to obtain a sustainable leadership best practice framework through the four domains, four engines, and four enablers. The framework clarifies and explains the requirements of leaders to think, learn, assess, build, implement, improve, develop, and lead while the organisation sustains its strength and power from the leadership life cycle with new generations of leaders. There are rules to be followed when implementing the proposed leadership framework.

As learnt from His Highness Sheikh Mohammed bin Rashid Al Maktoum (2012, p35-36), there are four steps for deploying the vision (operational plan, implementation, mobilising resources, teamwork, and timing).

The leader is in this thesis is defined as "a person who has the ability to sponsor with responsibility another person or more to achieve a shared goal", the Leadership, however,

is defined as the system that consists of six basic elements (powerful leader, people, purpose, process, principles and personality) that contribute to the effectiveness of the leadership.

In the proposed leadership framework shown in Figure 7.2, the leader should be able to match his style to his situation and achieve his vision through his strategy, and deploy his strategy through his skills.

The leadership can be seen from this framework as a process which involves creating a vision and setting the operational plan, implementation, meeting the need to mobilise resources, whilst solving problems and making decisions, sponsoring his team and motivating them whilst being a role model and achieving the goals in a timely and effective manner.

To understand the framework, the reading starts from the leadership strategy enabler (explained in detail in section 7.3.1), which is divided into four alphabetical steps that describe their type of involvement whether it is an 'act' or 'behaviour' or 'creativity' or towards achieving a 'dream'. These four steps are called sub-criteria and they are the abilities that it is suggested to have during practicing leadership. The direction of steps is in alphabetical order and clockwise rotation. The next enabler is the leadership situation (explained in detail in section 7.3.2), it has four sub-criteria; the same are repeated for the remaining two enablers, which are leadership style and leadership skills.

The leadership domains, (responsibility, sponsorship, ability, and vision) are shown in the Figure 7.2 around the framework to indicate that these are common elements that should be focused during the implementation of the leadership framework, there are four engines driving the framework based on its position. The engines are act, behaviour, creativity, and dream. Figure 7.2 offers a framework of leadership that demonstrates the connectedness and interdependence in three dimensions, leadership domains, leadership enablers, and leadership engines.

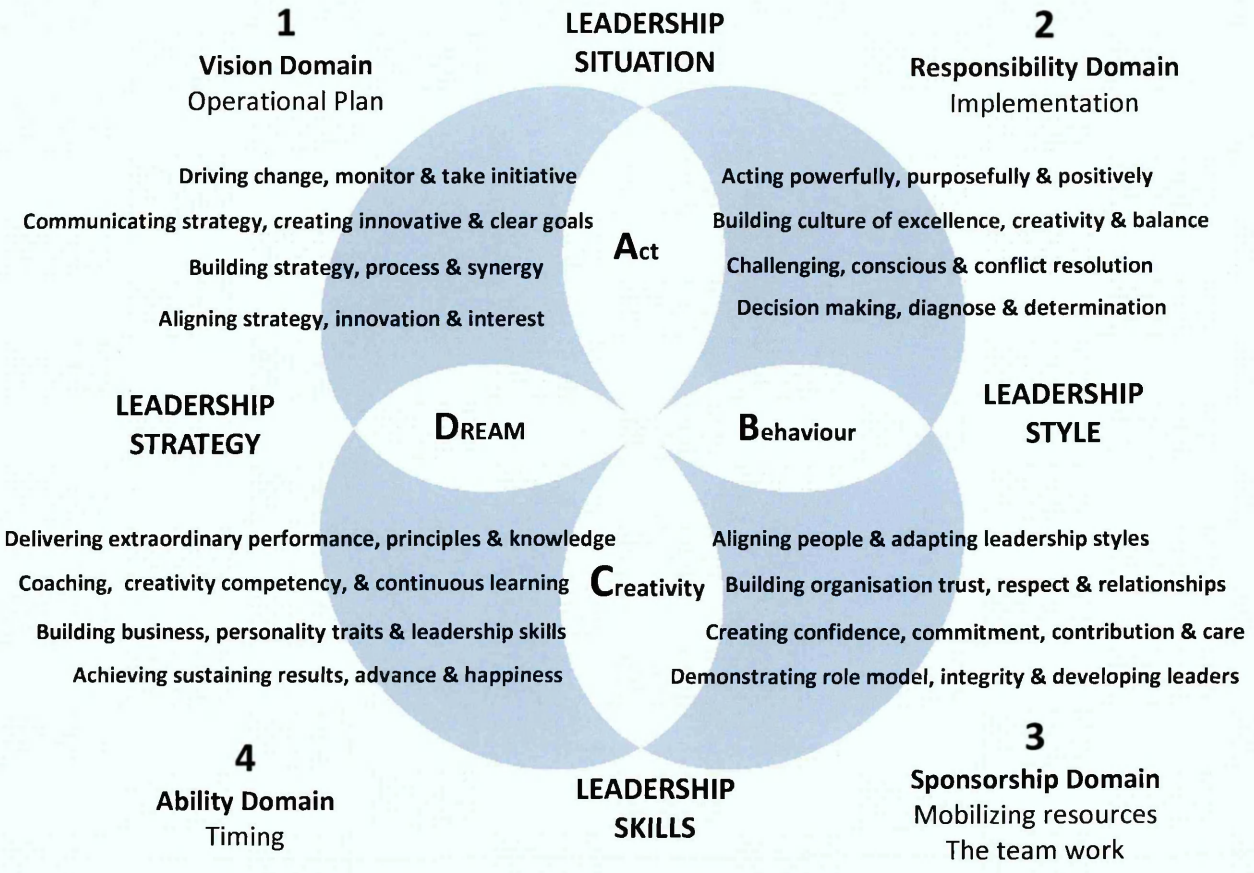


Figure 7.2 The proposed leadership framework

7.3 The leadership enablers

The new leadership framework proposes the following elements which are divided into four main enablers in series and in order (strategy, situation, style and skills) the enablers are divided into 16 criteria.

7.3.1 Leadership strategy

Leaders should be to align strategy, innovation and interest, believe in building strategy, process, and synergy, create clear goals, and obtain commitment and contribution from the team. They drive the change, monitor and take initiatives. The chosen strategy is based on understanding the needs and expectations of both stakeholders and the external environment, as shown in Figure 7.3.

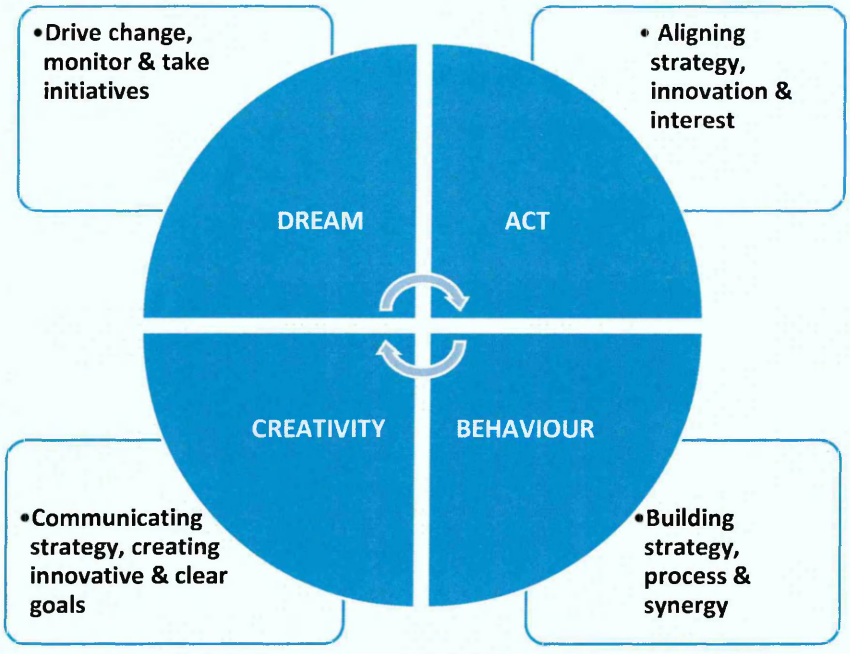


Figure 7.3 Leadership strategy

7.3.1.1 Aligning strategy, innovation and interest

Strategy alignment means aligning the organisation's goals and objectives to supports its structure, process, human skills, resources, innovation and strategic objectives. Leaders should ensure that the future vision is shared by all those who follow and should align the vision with the interest of the people under their leadership to generate trust, loyalty, and commitment. Leaders should adopt effective mechanisms to understand future scenarios and manage strategic risks. They should deploy strategies and supporting policies in a systematic manner to achieve the desired results, balancing short- and long-term objectives. This consists of following up on the implementation of the policies, strategies, and their executive plans through the adoption of a comprehensive mechanism for reporting and achievement progress.

7.3.1.2 Building strategy, process and synergy

Building the strategy will require people with the skills, resources, and attitude to make the strategy work. Building the strategy is the process of teamwork action that needs commitment from all members of the organisation such that everyone has an important role in the organisation. Building the strategy will ensure commitment and synergy from the team to implement an agreed-upon strategy.

7.3.1.3 Communicating strategy and creating innovative and clear goal

Creating innovative and a clear goals (vision) inspires people to contribute and take action. Leaders need to know how to create a vision that creatively adds value to the meaning and purpose. The strategy is the first implementation of an action plan that describes the concrete measures that translate strategic intent into actions that produce results.

7.3.1.4 Driving change, monitor and take initiatives

Choice comes before change, so there will be no choice after a change is made. Leaders need to make strategic choices, decide on the change required, and drive the change. Sheikh Mohammed bin Rashid (2013) said, *"If you will not change, you will be changed*". We need a chance to choose the best way to reach the destination, and this will be possible only if we align the strategy, build it together, communicate it, and drive change through guidance and empowerment. Leaders monitor their people from a distance; it is not a form of control but means being visible everywhere, obtaining feedback, and making corrections. Facilitating others to deliver while the leader monitors to ensure a driving mechanism is effective through proactive monitoring.

Sheikh Mohammed bin Rashid Al Maktoum (2012) said, "*A leader who wants to introduce change must start by embracing it before asking others to do the same*". The leader should be able to drive changes to make the dream come true; he should be able to drive change and move the situation forward towards the dream. Leaders today recognise the imperative to change, yet only a handful are equipped with the right tools and techniques to create effective change within their teams, divisions, and organisations. Leaders should lead change plans in the organisation; change or be changed. Leaders take initiatives and don't wait for others actions.

7.3.2 Leadership situation

A leader acts in different situations within his/her own domains (ability, responsibility, sponsorship and vision) where he can demonstrate his/her actions in terms of acting powerfully, purposefully and positively subject to each situation. In addition to that, his behaviour can be seen from being effective, courage, consciousness and challenge and should be able to carry out the decision-making, diagnose and determination to turn the dream into reality, as shown in Figure 7.4.

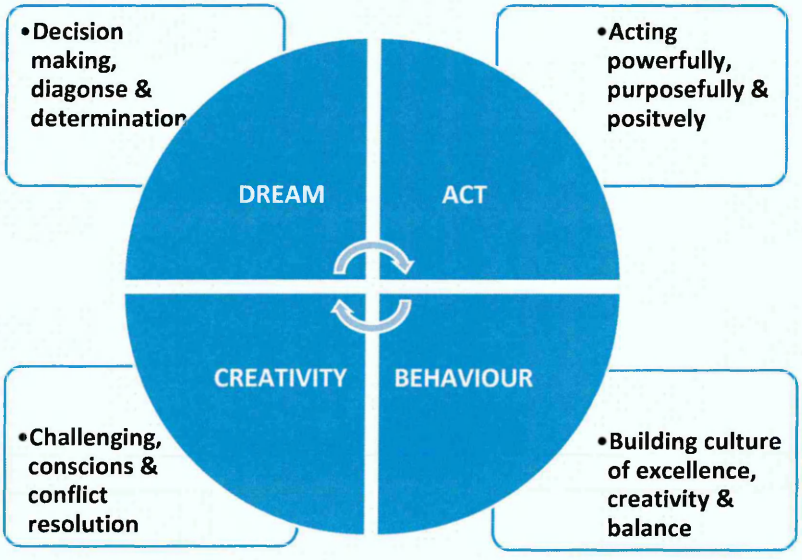


Figure 7.4 Leadership situation

7.3.2.1 Acting powerful, purposefully and positively

Leaders should be able to act powerfully, purposefully and positively. Those who cannot look powerful are likely to risk looking unimportant, and leaders who cannot act with purpose cannot survive or coexist with their societies. If we agree that everything in the universe is undergoing change, we must also agree that we need to change to adapt. Adapting to a situation requires positive act, self-confidence and self-awareness. The situation is associated with actions, and leadership is all about daily actions, not just theory. Leaders need to have willpower, determination, confidence, far-sightedness, and good judgment.

7.3.2.2 Building culture of excellence, creativity and balance

Building culture of excellence and creativity to create opportunities to come.. The leader should balance the needs of task, teamwork and individual to achieve organisation goals.

7.3.2.3 Challenging, conscious and conflict resolution

A leader must have the courage to learn, to take risks, and to face challenges with consciousness that keep him/her fully aware. The leader should be able to resolve conflicts and problems.

7.3.2.4 Decision-making, diagnose and determination

Leaders are responsible for making decisions. Making the right decision at the right moment is one of the most important factors for success. Leaders should be able to diagnose and be able to fulfil their responsibilities as true leaders by making timely decisions and having a deep awareness of the consequences of the decisions they make to fit the strategy and the vision. Determination is a key word for the success of any leader; as such the word failure does not exist in the dictionary of the leader.

7.3.3 Leadership style

Leadership style is aligning people and adapting leadership style through delegation & empowerment, motivation, direction, and team-building, in addition to building organisation trust, respect and motives. Leadership style is also involved in creating confidence, consulting and care, demonstrating a role model, integrity and develop leaders that develop other leaders, as shown in Figure 7.5.

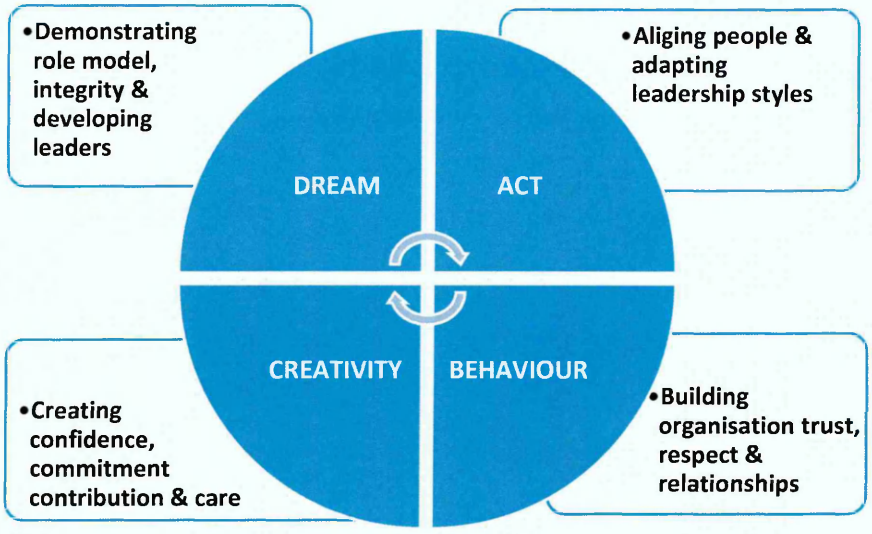


Figure7.5 Leadership style

7.3.3.1 Aligning people and adapting leadership styles

A leader should align people and be able to adapt his style according to the conditions. There are four styles, assigning, building (participating and facilitating), convincing, and directing styles, and a leader should act by assigning and delegating his/her people through empowerment, building his/her team, encouraging creativity in people, and convincing them and selling the vision and strategy to make them work for themselves. Finally, the leader should work on his/her dream to make it come true by directing the people and instructing them to ensure that all resources will be utilised and the targets will eventually be accomplished.

Assigning style has a strong recognition in empowerment of the staff and providing them with the confidence and trust though delegation the improvement of the quality of leadership. Acting to delegate and provide the trust to the team is the key for the success of the leader style. This style works with people who have the skills, ability and the confidence to do the tasks, the ability to motivate and encourages the team.

The building style is a participative style that recognises that leaders can organise their management activities through others in many different ways according to their own preferences, the types of people with whom they are working, and the culture of the

organisations in which they work. They have some skills and abilities but lack enough experience. This type of leadership is concerned with the leader's behaviour and responsibilities towards others. The convincing style concerns the creative utilisation of people's skills and abilities and focuses on the selling them the vision and providing resources to aid in the implementation of the mission. This style focuses on external awareness and empathy to ensure that the team will be fully committed to perform its duty to accomplish the goals and objectives. Teams that have the needed skills and abilities but lack confidence or acceptance need full attention from the leader. The directing style of leadership concerns the aspects of providing direction and coordination. This style proposes that the leader's vision positively affects his/her instructional and strategic behaviour through the ability to establish standard procedures and routines to secure order and discipline, which are positively associated with an increase in achievement. In other words, directing the team will facilitate the vision implementation and achievement of the dream. This leadership style should be used when the team lacks the needed skills, ability, and confidence.

7.3.3.2 Building organisation trust, respect and relationships

One of the most important areas that the leader needs to focus on is the self in terms of abilities, self-confidence, being proactive, reliability, and ambition, as well as on the organisation trust, such as the vision, purpose, and change leadership, and on people in development and influence.

7.3.3.3 Creating confidence, commitment contribution and care

Leaders must develop social conduct and confidence to become an integral part of people's behaviour and spirit. The care lies in linking it to the interests of people and their future and coaching them to develop their performance and social status. Leaders should constantly encourage creative initiatives and the development of new ideas. Leaders seek commitment from all relevant stakeholders for their contribution to the sustainable success of the organisation and any changes necessary to ensure their success. The corporate culture should value best practice leadership, and people develop the culture that creates that leadership.

7.3.3.4 Demonstrating role model, integrity and developing leaders

To be a role model, a leader should be honest with himself before being honest with others. Integrity comes from the heart of the leader, which should pass through his thoughts, be converted into words, be reflected in actions, be formed into a character, and ultimately shape the future. The leader should first demonstrate self-discipline and then spread the culture of discipline among his people. Collins (2014) emphasised the importance of the culture of discipline and divided it into three parts: disciplined people, disciplined thoughts, and disciplined actions. When thoughts are disciplined, a chain of command and a bureaucracy are not needed. When action is disciplined, extreme controls are needed. Brent and Dent (2014) include the reputation of the leader as a vital factor, in addition to reflection, discipline, professionalism, being focused, and learning. They also list 10 components that build and develop leadership reputation: integrity, credibility, tenacity, self-assurance, empathy, openness, energy, reliability, courage, and commitment. Leaders should be able not only to develop leaders but also to develop leaders who develop leaders, too.

7.3.4 Leadership skills

A leader should act to achieve sustain results and happiness while building the business, personality traits and leadership skills such as communication skills, motivation skills, etc., and creatively continue to undertake coaching and learning that adds value to his knowledge and enable him/her to drive extraordinary performance, principles and knowledge, as shown in Figure 7.6.

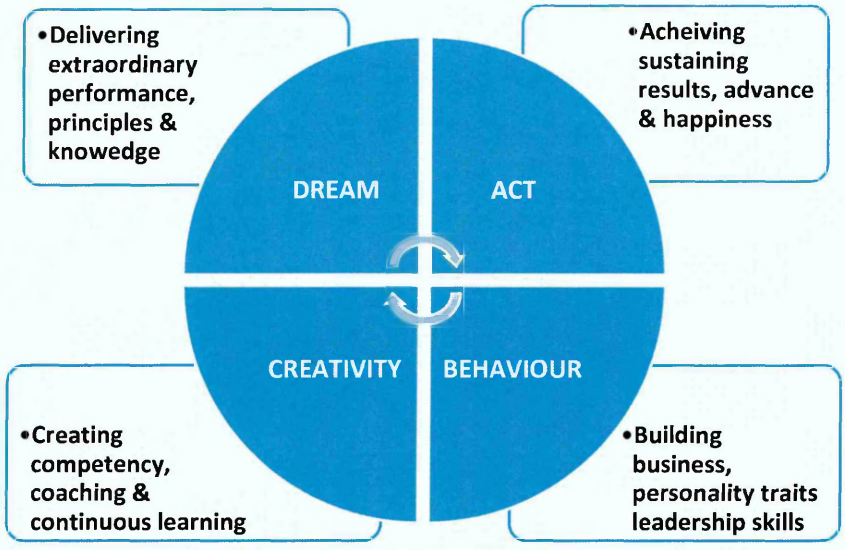


Figure 7.6 Leadership skills

7.3.4.1 Achieving sustaining results, advance and happiness

Effective and skilful leaders are known by their results because they do not merely achieve results but sustain them. Achieving results, completion on time, fulfil promise through communication skills, negotiation skills, advance (managing the movement and advance the people to higher level of morality and motivation) and other associated leadership skills are one of the most important quality-driven leadership skills. One of the main successful leader is able to focus on results as well as on people interest through happiness.

7.3.4.2 Building business, personality traits and leadership skills

Leaders must build business and should understand marketing forces and other factors that drive their business. To enable them to do that, they need to build their skills. Building skills keeps the leader relevant in a continuously evolving working environment. Building skills can be effective by developing a professional development plan (PDP) that covers the skills required to perform the tasks. The PDP should include an evaluation of skills and an action plan for developing those skills continuously.

7.3.4.3 Coaching, creativity competency, & continuous learning

Leaders create creativity skills and competency to generate, evaluate and implement ideas. They should be creative in learning to develop their experience and expertise, focus

on lessons learnt, and continue to learn. Leaders need to make a list of personal continuous learning goals and what professional certifications or additional value-added education, including learning a new language. Leaders should develop a reflection plan to recognise their understanding and enhance their knowledge. Leaders should maintain continuous learning through reading and networking at events, seminars, and workshops. Leaders should experiment with new processes and look at things from different angles, learn from mistakes, and seek honest feedback from others. They should learn how use skills for different situations and for identifying and developing strategies and deploying them.

7.3.4.4 Delivering extraordinary performance, principles and knowledge

Delivering extraordinary performance requires extensive development skills that requires passion and patience. A leader without passion or patience is not a leader. Passion and patience drive development toward the dream with inspiration and enthusiasm. Self-assessment and continuous learning process and personal development plan are key factors for emerging leaders.

7.4 Leadership domains

The leadership domain is bounded by the ability of the leader and the responsibility given to him or her. Greater responsibility with stronger capability or adequate ability will lead to a larger and wider domain of leadership. The proposed best practice leadership framework has four domains, vision, responsibility, sponsorship, and ability, and four dimensions, situation, style, skills, and strategy.

The ABCD engines are distributed across the four enablers. The enablers consist of defined criteria for leadership excellence. The four domains that are integrated together (the ability, sponsorship, responsibility, and vision domains) draw the boundaries of the leader and ensure an effective role are executed within the boundary of the domain. A true leader can ensure that these domains are not exceeded and reflect the role leadership model for others and his ethical professional commitment to his role; in other words, a leader who has a high leading ability, a large domain of followers (sponsorships), and a large vision but does not have higher responsibilities should continue to execute his

leadership role only at his designated level. These domains define the five levels of leadership; as a leader steps up through the levels, the requirements of the domains will be needed to match his vision, responsibility, sponsorship, and ability.

Leadership capabilities are learned cumulatively. The learning curve starts from the first level of the individual leadership domain, and as leaders climb, they drive their leadership forward and add to the skills they have developed during their practice of the styles of leadership. When they reach the top, they have developed all the required skills and capabilities on their way.

7.4.1 Vision

Eleven conditions are stated and advised by Sheikh Mohammed bin Rashid Al Maktoum (2012) for defining the true leader's vision. The vision must be excellent in form, essence, and implementation, farsighted and comprehensive, straightforward, challenging, high impact, creative, not easy to implement, mature in all its elements, beneficial to all, and positive, and it must promotes people's trust in their leadership.

7.4.2 Ability

Many leadership qualities that are considered to be leadership abilities can be learnt from Sheikh Mohammed bin Rashid Al Maktoum (2012), such as the capabilities and the competences that enable the leader to lead, foresee the future, provide advice and guidance, lead from the front, spark people's interests, fulfil the aims of his vision, shoulder his responsibilities, face difficulties and remove obstacles, consult with others, engage in dialogue, set clear goals, draw his power from his faith, be self-confident by nature, have expertise, clearly define his message, persuade his people to accept his visions, exhibit devotion, trust, and respect for his team, motivate and encourage them, and be a symbol of society and a living example to the younger generation.

7.4.3 Sponsorship

Sponsorship is the act of sponsoring individuals and teams, as well as assuming responsibility. It requires the leader to take care of his people and make promises on

their behalf. For the leader to be a good sponsor, he needs to have wisdom. Wisdom is the ability to learn disciplined thoughts and master them, transform them into disciplined words and master them, convert them into disciplined actions and master them, and then shape the future and master it. Wisdom leads to the spread of morals, improving productivity, raising ownership of responsibilities, and driving change with positive energy. The best ways of sponsorship are serving as role model for others, being a nurturer and being a mentor. Being a nurturer means nurturing people, contributing to their growth and development, and having genuine concern for the welfare of individuals, investing substantial time in listening to the work problems and personal matters of individuals. Being a mentor is an influencing process driven by expertise and wisdom and by the care of the leader to help the individuals in taking their career forward. The best way to be a role model is to begin sensing the importance of varying leadership one's style. This is possible through a "leadership audit" (Sharma, 2010), which audit is going deeper into the heart and reflects one's strengths and weakness. Simple ideas and steps such as the discipline of taking regular walks around the work area and talking with workers will enable leaders to learn what to see and learn new things, ultimately improving the business.

7.4.4 Responsibility

Leaders should have the ability to shoulder their responsibilities and to discharge them as best they can. Sheikh Mohammed bin Rashid (2012, 48) said, "*True leaders take the blame for wrong decisions and, on the other hand, credit success to their team*".

1. Leaders should be ready to take responsibility for their own decisions and actions and for those whom they empowered.
2. The leader shall lead at work, fulfil his obligations, improve performance and productivity, and follow up.
3. A leader should not try to convince his people that he is working for their good just by taking decisions that eventually benefit them.
4. A leader should focus on enabling his people to see tangible results through projects that do just that.

7.4.5 Leadership levels

The four leadership domains are the criteria for each of the five leadership levels, as shown in the Figure 7.7. The following questions should be answered to verify which level of leadership is suitable:

1. What competencies and abilities are presently available?
2. What are you more likely to be responsible for?
3. How is the leader's sponsorship measured in the organisation?
4. What is the vision?

Then, abilities, responsibilities, a culture of excellence, and the vision should be matched with the leadership levels from 1 to 5. The leadership journey can be divided into five major levels.

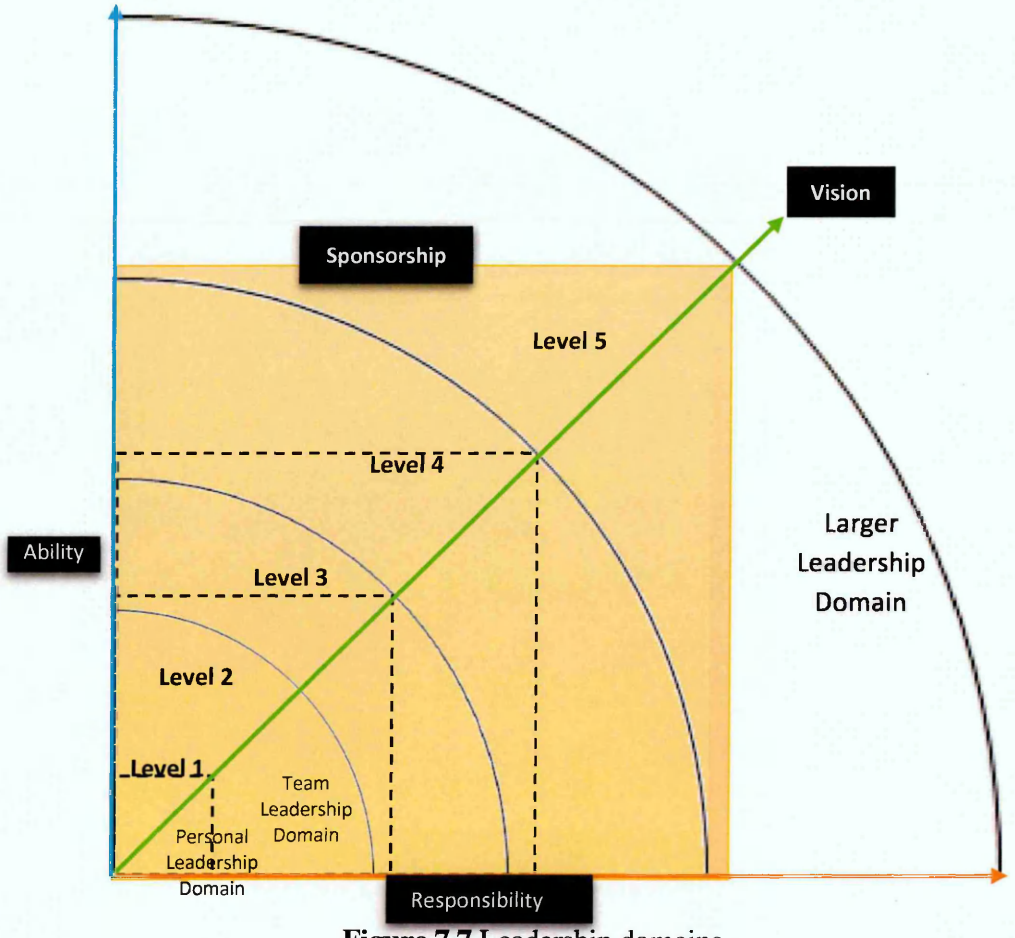


Figure 7.7 Leadership domains

Leadership level 1

An individual domain leader concentrates on self-growth and his professional career, and the individual should be dynamic, talented, disciplines, a quick learner, and hard working. The expectations are clear; promising leaders may not have much responsibility and power, but they have clarity about what they must do. To succeed, they must show that they have mastered their field.

Leadership level 2

A limited domain leader demonstrates responsibility, contributes to the achievement of group objectives, participates in a culture of excellence, and uses leadership skills to work effectively with others in a group setting. At level 2, all the rules change; it is no longer about being the best individual in the field. Leadership is about getting things done through other people; managing people becomes essential. Many aspiring leaders do not realise that the rules of the game have changed and their careers are effectively disembowelled.

Leadership level 3

A group domain leader seeks higher responsibilities by demonstrating successful actions in leadership situations involving a culture of excellence, higher leadership skills, and leading people, managing resources, and managing change towards the effective and efficient objectives and a shared vision. The leader inspires, motivates, trains, and coaches the group to high performance standards and become change agents. Level 3 is similar to level 2 but with a large group and senior position; managing change is the most common characteristic at this level.

Leadership level 4

A large domain leader is committed to a clear and agreeable vision. He inspires and motivates a large group to high performance standards in addition to the activities of level 3. He has high responsibilities, high abilities to lead, create, and drive a culture of excellence, and a wide vision. A leader at level 4 is rising to more senior positions, and the rules change again. Managing people and change is not enough; a leader at this level should have the ability to drive change, make alliances, build organisational trust, and align the strategy.

Leadership level 5

A larger domain leader makes decisions, creates and communicates a clear and agreeable vision, and builds and ensures a sustainable business excellence model through real and true leadership best practice. Such leaders have the highest responsibilities, abilities to lead, create and drive a culture of excellence, and a wider vision. Level 5 is the top leadership. Matters become easier and simpler, as the leader's authority and responsibility are more in balance and any ambiguity is entirely of his own making.

7.5 The four ABCD leadership engines

Leadership "engines" drive the process of leadership in a continuous and sustainable manner. These engines depend on the fact that there is no action without a dream and without behaviour and creativity in it and that a leader's dream no meaning without an act. These engines are distributed across the four enablers, as shown in Figure 7.8.

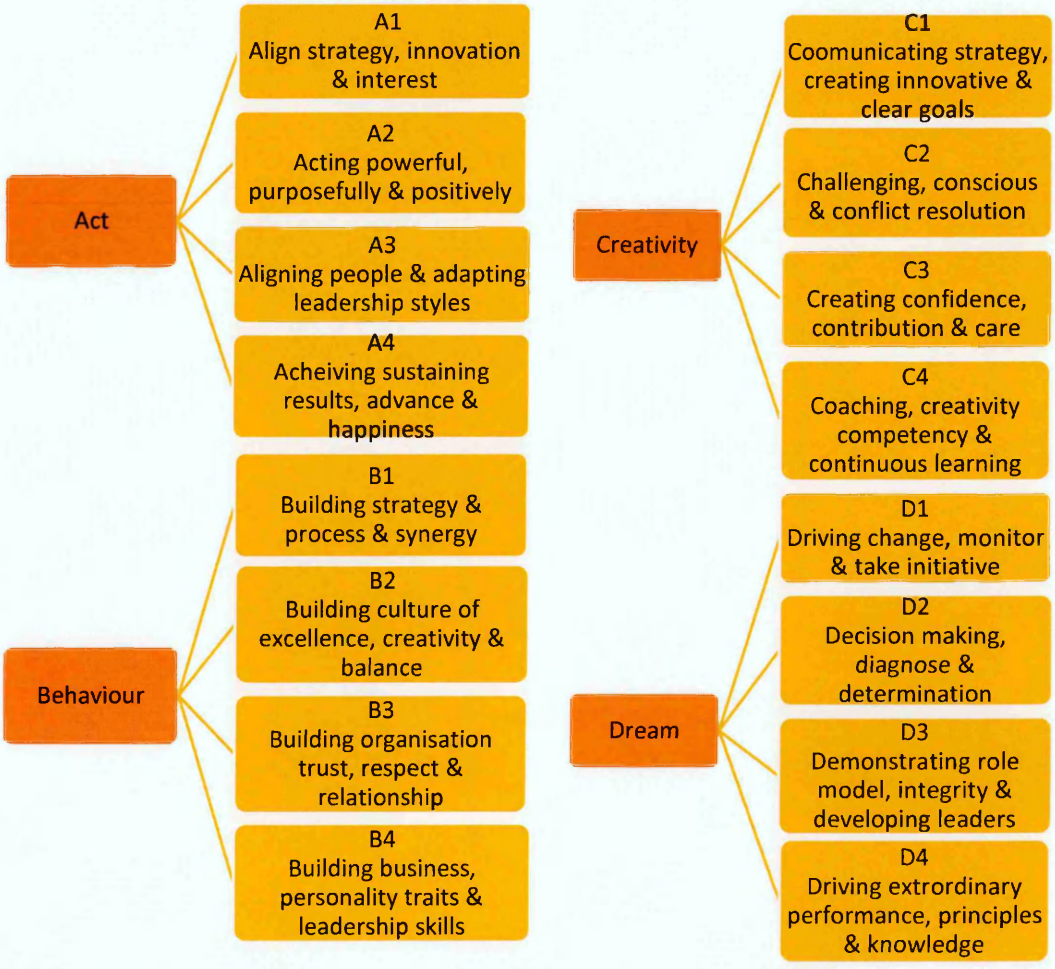


Figure 7.8 Leadership "engines" integrated with the four enablers

7.5.1 Leadership act

Leadership is not about a "position" or, for that matter, a title. It is about action. It is about who we are and our actions, our deeds, how we treat others, how we make decisions, how we listen to others, how we accept responsibility for our actions and hold ourselves accountable; this is who we really are. As leaders, we must realise that every action is a reflection of our character, our integrity, and our ability to be noble, caring human beings. Action elements include acting powerfully and purposefully in different situations, adopting an approachable and adaptive style, achieving and sustaining results, having full attention, and being the first to align the strategy.

7.5.2 Leadership behaviour

The early leadership research emphasised two general, broadly defined behaviour categories that are best described as relations-oriented behaviour and task-oriented behaviour. Examples include consideration and initiating structure (Fleishmen, 1953; Halpin & Winer, 1957) in early research on leader behaviour and concern for people and concern for production in the managerial grid model (Blake & Mouton, 1982). For three decades, research on leader behaviour was dominated by a focus on these two broadly defined categories of behaviour. Many studies were conducted to see how measures of consideration and initiating structure were correlated with criteria of leadership effectiveness, such as subordinate satisfaction and performance.

Leadership behaviour includes building strategy and commitment, being effective and bold, being professional and focused, and building business and leadership skills.

7.5.3 Leadership creativity

A creative model with the "7Cs" elements leads to success in creativity and innovation:

1. Communicating strategy: The strategy need to be communicated to all and ensure that the creativity initiatives are focusing on the vision and the overall strategy of the organisation.

2. Creating clear goals: Establish innovative goals for the team and develop an enabling atmosphere. The total involvement of team members includes idea generation, deep research, demonstration, implementation, and improvement in the same direction.
3. Creating commitment & contribution: Create the commitment and obtain it from every one before ensuring the involvement of the team members. This will ensure effective and successful achievements.
4. Creating confidence & care: Confidence to tackle complex issues bravely. Each issue is always different from the last issue. In particular, complex issues will hide unforeseen elements. If a leader is ready to face those unforeseen elements, he has confidence. The care will enable positive atmosphere among the team. Accepting partially developed ideas will enhance the confidence and indicate the care in the team.
5. Creating creativity competency: it compromises with three creativity skills, skills for generating ideas, skills for evaluating ideas and skills for implementing ideas. From the initiation of ideas until their execution in practice, know-how is the key to reduce the failure rate. This is not only for idea generation but also for all related detailed knowledge and experience. The total involvement of team members includes idea generation, deep research, demonstration, implementation, and improvement in the same direction.
6. Challenging, Conscious & Conflict resolution: All untested ideas have possibilities to fail or barriers to be surmounted. Creative personnel treat these challenges as chances to make the ideas preponderant. That is why courage is needed to accept partially developed ideas and reward success, to make quick decisions, and to challenge the consequences. Consciousness has more to do with directions. The same understanding of directions among the team members will ease the consolidation of different ideas (awareness).
7. Coaching & Continuous learning to sustain creativity: Creativity must be sustained to build a better environment in the future. Coaching will enable the next generation to access the creative culture easily through knowledge

transfer from experienced personnel. Giving feedback and rewards will ensure the movement of the creativity process for further success.

An illustration of these 7Cs that form the creativity model is shown in Figure 7.9.

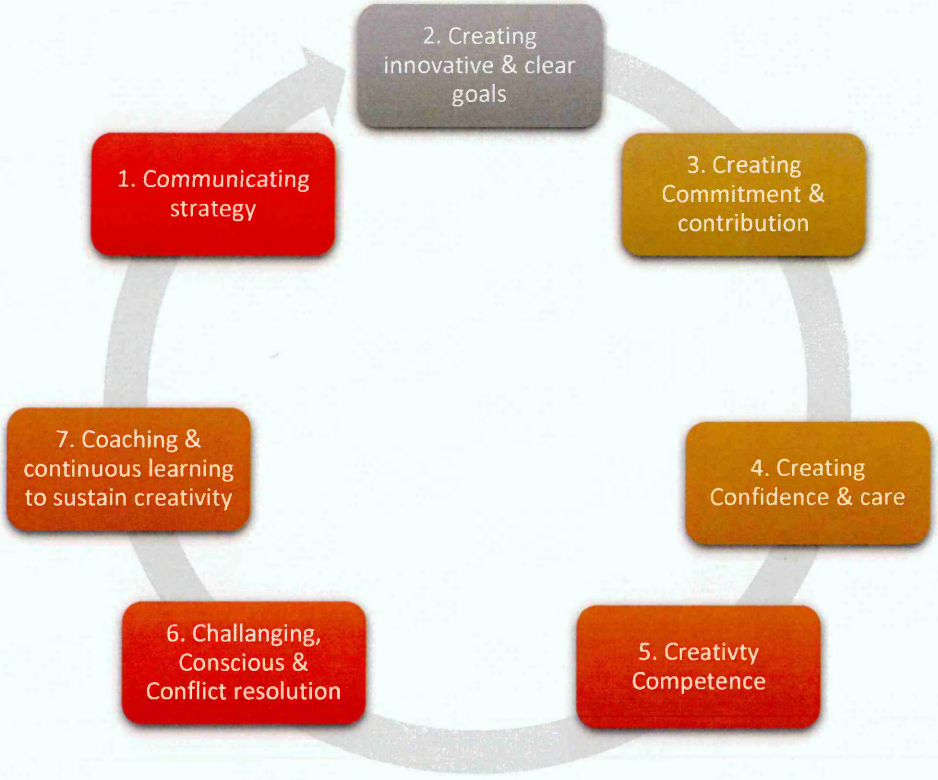


Figure 7.9 Creative model

7.5.4 Leadership dream

The dream is the desired goal for the leader as well as for the team. The importance of translating the dream into a vision is a critical pre-requisite for effective leadership. However, most leaders overlook the critical component of translation into simple words that can be understood by the people. Goals are the results towards which efforts are directed. The direction is the realisation of leadership action to turn the dream into reality.

To achieve the dream, a leader drives and monitors change in each situation, directs the team in the right directions, promotes a culture of discipline, and develops leaders who can develop additional leaders and drive change.

7.5.5 The ABCD rules

- All leaders must be capable and competent to perform individual basic proficiency that includes knowledge, experience, contact, wisdom, trust, and credibility.
- All leaders must have an equal balance of strength among the four domains (responsibility, sponsorship, ability, and vision). If a leader is at a leadership level 1 in the responsibility domain and level 5 in the remaining three domains, he should remain at level 1 to avoid confusion and conflicts and improve the discipline of the leaders.
- All leaders are bounded by their four domains and capped by the lowest.
- Higher levels will require development of the leadership excellence model in all four domains.
- The leader moves from his current leadership situation to higher levels according to his responsibility, vision, abilities, and sponsorship.
- The leader must use leadership styles wisely when allocating people to take them into a new situation.
- The leader only can achieve results if he considers the four leadership enablers (strategy, situation, style and skills) in his implementation.
- The leader must use his skills and focus on developing these skills to ensure that he has the ability to achieve the new situation.
- The leader must align the strategy with a shared vision to reach the new situation.

7.5.6 The leadership lifecycle

Existing leadership models follow a bell shape; at a certain time and after reaching its maturity, it will start declining. The life cycle leadership is ensured sustaining the rise of the cycle through continuous attention and alignment of strategy to obtain a higher level of results. This is illustrated in Figure 7.10.

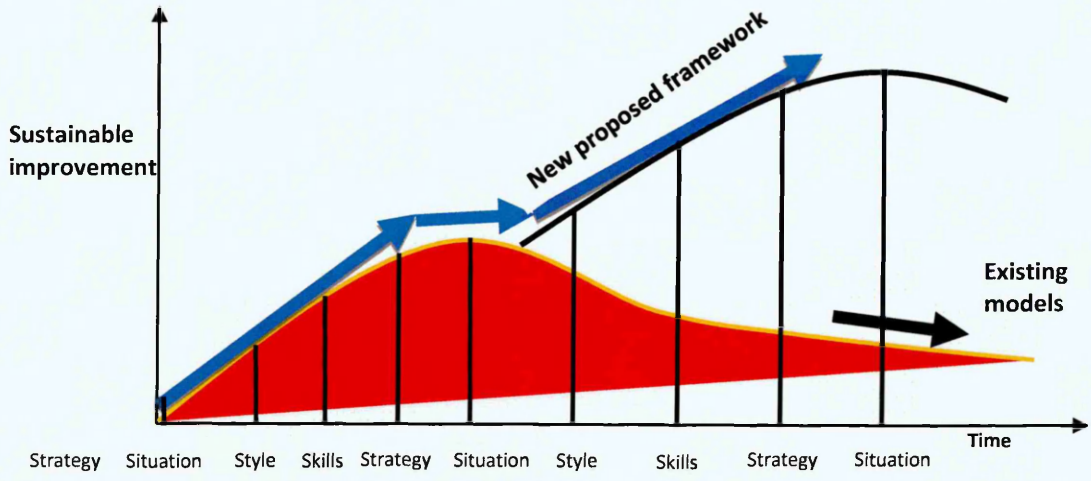


Figure 7.10 Leadership life cycle

First, the framework entails four leadership dimensions and four domains or styles that leaders are likely to employ in their work. In our case, a leadership dimension is defined as the four main components that leaders use to influence the sustainability of business excellence. These four components are called the ABCD engines (act, believe, consistency, and dream). Across the leadership radius, four enablers of the leadership may be distinguished (situation, style, skills, and strategy).

In the framework, however, it is acknowledged that leaders do not operate in a vacuum (Murray, 2013). On the contrary, their actions greatly depend on their domains in the particular context in terms of ability and responsibility – apart from that, four domains are shared between two dimensions of leadership.

7.6 Remarks on the gaps in existing business leadership models

Based on the aforementioned innovative 21st-century leadership framework, a series of statistical analyses were carried out to find out whether the gaps identified from the literature review and subsequent questionnaires support this theoretical framework. Second, some descriptive statistics are presented to acquaint the reader with the type of data used to describe the 16 leadership criteria that form the proposed leadership framework that is offered through the analyses conducted to develop the framework based on the relevant leadership theories. Following this, content analysis was conducted to cover the leader domains and the leadership engines. The analyses and the validation were carried out by using the developed

ABCD validation method. Finally, an in-depth discussion and interpretations of the main findings are offered in the later sections in this chapter.

A sample of 200 respondents was selected to complete a 10-item questionnaire distributed to various levels of people who are mainly engaged in business excellence models. The results shown in Figure 7.11 indicate that none of them remembers or memorises all the leadership aspects of any business excellence model. 90% indicates that they are convinced that the sub-criteria fall into a defined and clear function. 50% believes that the existing leadership model is based on best practice. 90% agrees that studying a great leadership example and role model leadership will enhance and improve the leadership model. A majority of 80% prefers simple and focused components of the leadership model for smooth implementation. 100% agrees that leadership is reflected in how leaders act in different situations. 90% believes that leadership style determines behaviour and is a key component of leadership. 100% agrees that leadership skills lead to excellence and to competence that leads to achievements. 80% agrees that the leadership strategy is to try to make the dreams of the leader and his people come true. Finally, 80% agrees that a leadership model that encompasses situation, style, skills, and strategy would make a promising model.

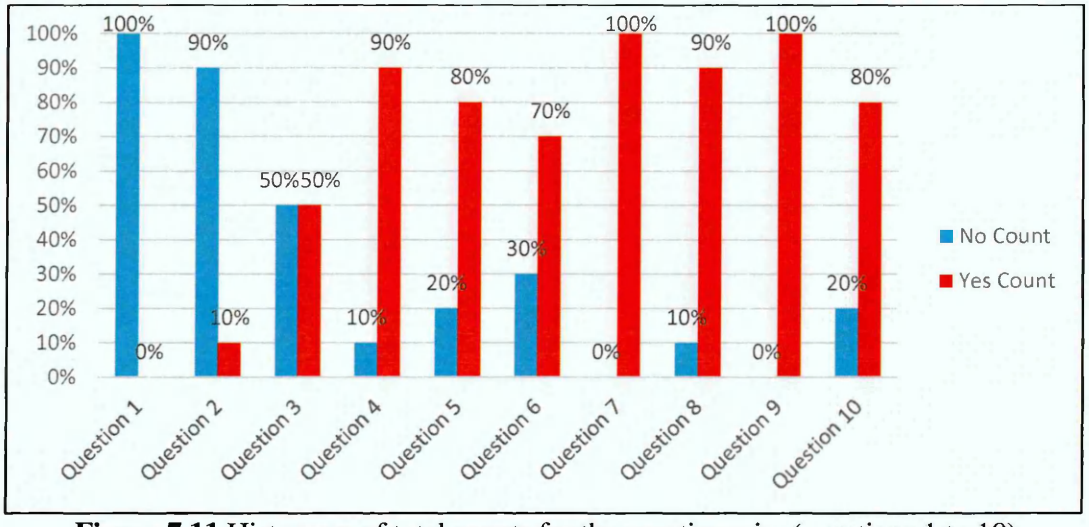


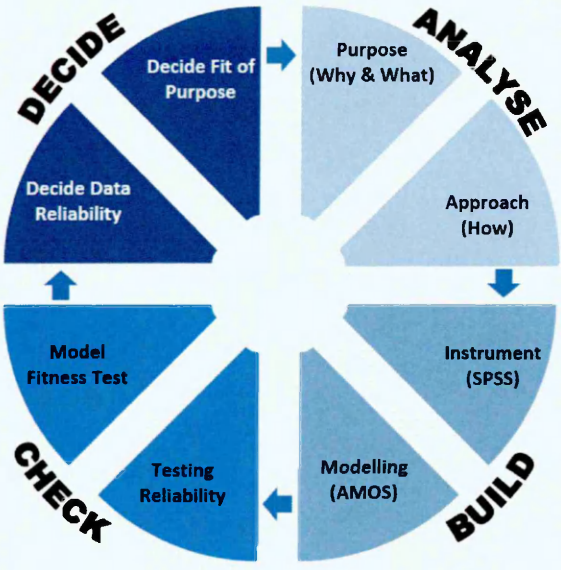
Figure 7.11 Histogram of total counts for the questionnaire (questions 1 to 10)

Table 7.1 Total counts for the questionnaire (question 1 to 10)

Question 1-10		No Count	Yes Count
1	Do you remember or memorise all leadership criteria in any excellence model?	**200**	**0**
2	Have you found that all leadership criteria fall into defined groups and functions?	**180**	**20**
3	Do you think that the present leadership criteria are based on best practice leadership that fits your field and culture?	**100**	**100**
4	Do you believe that studying great leadership examples and learning from them will be advantageous when developing a leadership model?	**20**	**180**
5	Are you in agreement that a simple focus on the main parts of leadership should be included in the model for easy and smooth implementation?	**40**	**160**
6	Do you agree that leadership is reflected in how leaders act in different situations?	**60**	**140**
7	Do you believe that a leadership style that determines how leaders behave and build trust within the organisation is one of the key components of leadership?	**0**	**200**
8	Do you agree that leadership skills such as communication, competence, and creativity are important?	**20**	**180**
9	Are you in agreement that the leadership strategy, how leaders set a vision, lead change, and determine directions, is important in the criteria?	**0**	**200**
10	If a leadership model contains criteria for situation, style, skills, and strategy, would it make the model more structured and defined?	**40**	**160**

7.7 Validation of the new purposed Leadership framework

After the framework is developed, it is necessary to ensure that the proposed framework is valid and fit for use. To reach a conclusion about framework fitness, the ABCD method shown in Figure 7.12 which is described in details in chapter four (Figure 4.2 and 4.3) is used to validate and deliver a framework that is workable and agreeable. The validation of the framework is carried out through four steps: analyse, build, check, and decide. It is important to set the purpose and the approach before the framework is built and to identify the analysis required and the approach to be used to carry out the validation work. It is important to note that the terms "model" and "framework" are used interchangeably as the framework is subjected to model validation. The term "model" is used for validation and testing throughout the structure equation modelling. Whenever there are interconnections and integration between more than two models, the term "framework" is used.



	ABCD Validation Score	Step	Weight Score
Analyse (40%)	Purpose (What, Why, When) & Approach (How)	1	10%
	Exploratory Analysis	2	5%
	Degree of Well Enabled	3	5%
	Synthesis Analysis	4	5%
	ABCD Path Analysis	5	5%
	Hypothesis Analysis	6	5%
	Measurement Model Specification	7	5%
Build (15%)	Hypothesis Development to questionnaire	8	5%
	Instrument for data collection & processing (SPSS)	9	5%
	Modeling (AMOS)	10	5%
Check (25%)	Reliability Test	11	5%
	Measurement Model Identification (Degree of Freedom)	12	5%
	Breakdown (VIF & others)	13	5%
	Regression Estimation	14	5%
	Fitness Test	15	5%
Decide (20%)	Good Range of Model Fitness	16	5%
	Model Modification and Refitting	17	5%
	Interpretation of Valid Model	18	5%
	Fitness for Purpose	19	5%
Total ABCD Score 100%			

Figure 7.12 ABCD validation method

7.7.1 Analyse

In this section the purpose and the approach used to validate the proposed leadership framework are identified.

7.7.1.1 Purpose

The purpose of this section is to test the proposed leadership framework that consists of four major theories reflected in four main enablers (four main criteria) and 16 criteria of leadership enablers driven by the ABCD engines and covered by the leadership domains.

7.7.1.2 Approach

The approach was to validate the main framework, which includes the main model of leadership enablers strategy, situation, style, and skills, while the other two models, the leadership domains, were subjected to exploratory analysis well enabled analysis. section The validation processes are described and addressed in this section. All the main steps of ABCD validation method are covered in this section. The following sections describe the five analyses carried out.

7.7.1.3 Exploratory analysis

In this section, a qualitative research method, i.e., content analysis, was applied to explore and review the historiometric definitions used in descriptions of leadership for the last century, which also allows us to identify the content of leadership domains in the definitions that characterise outstanding leadership –leadership ability and the responsibility given to a leader. Table 7.2 summarises the ranking of domains over the previous 100 years; the analysis indicates that the weights (the percentage of applied domains in definitions) of all domains are with a mean range of 62.04% to 90.78%, as shown at the bottom of the table.

Table 7.2 Identified leaderhip domains

Years	**Responsibility**		**Vision**		**Sponsorship**		**Ability**	
	Frequency	% in total definition	Frequency	% in total definition	Frequency	% in total definition	Frequency	% in total definition
1920-1929	13	92.86%	6	42.86%	10	71.43%	14	100.00%
1930-1939	8	100.00%	5	62.50%	5	62.50%	8	100.00%
1940-1949	10	90.91%	5	45.45%	8	72.73%	10	90.91%
1950-1959	18	90.00%	13	65.00%	12	60.00%	18	90.00%
1960-1969	11	84.62%	6	46.15%	9	69.23%	12	92.31%
1970-1979	5	71.43%	5	71.43%	4	57.14%	4	57.14%
1980-1989	12	80.00%	11	73.33%	7	46.67%	13	86.67%
1990-1999	22	84.62%	20	76.92%	17	65.38%	26	100.00%
2000-2009	16	94.12%	11	64.71%	11	64.71%	17	100.00%
2010-2015	36	83.72%	31	72.09%	25	58.14%	39	90.70%
Total frequencies	**151**	**Mean 87.23%**	**113**	**Mean 62.04**	**108**	**Mean 62.79%**	**161**	**Mean 90.78%**

Note: Data summarised from Appendix B

It is important to start with exploratory analysis, as this is the basis of the conceptual and cause-effect relationship in which the model is designed. Table 7.3 shows the link between leadership engines and leadership enablers.

Table 7.3 Leadership engines linked with leadership enablers.

		Leadership Engines			
		Act	**Behaviour**	**Creativity**	**Dream**
Leadership Enablers	**Strategy**	Aligning strategy, innovation & interest, A1	Building strategy, process & synergy, B1	Communicating strategy & creating innovative & clear goals C1	Drive change, monitor & take initiative, D1
	Situation	Acting powerfully, purposefully & positively, A2	Building culture of excellence, creativity & balance, B2	Challenging, conscious & conflict resolution C2	Decision-making, diagnose & determination, D2
	Style	Aligning people & adapting leadership style, A3	Building organisation trust, respect & relationships, B3	Creating confidence, commitment, contribution & care, C3	Demonstrating role model, integrity & developing leaders, D3
	Skills	Achieving sustaining results, advance & happiness, A4	Building business, personal traits & leadership skills, B4	coaching, creativity competency & continuous learning, C4	Delivering extraordinary performance, principles & knowledge, D4

Tables 7.4 shows the leadership theories linked with the theories enablers. The four main enablers, situation, style, skills, and strategy, shown in Figure 7.13 a, b, c, and d, respectively, are linked with the four major theories, contingency, behavioural, personality traits, and new leadership.

The situation model is compatible with the concept of contingency theories, as the action and response are based on the best interest of the people and the organisation. The skills model is linked with personality theory and personality traits. The strategy model complies with new leadership, starting with transformational, transactional, emotional intelligence, and charismatic leadership.

Figure 7.13 Exploratory analysis of leadership enablers

Table 7.4 Leadership theories linked with leadership enablers

s/n	Theory	Theory keywords	linkage	Proposed leadership framework Keyword
1	Great Man Theory	Intelligence and characteristic	B4 B4	Personality Traits Personality Traits
2	The Big Five Personnel Traits	Openness Conscientiousness Extraversion Agreeableness Neuroticism	B4 B4 B4 B4 B4	Personality Traits Personality Traits Personality Traits Personality Traits Personality Traits
3	WICS	Wisdom Intelligence Creativity Creative skills Analytical skills Practical skills	B4 B4 B2 B4, B2 B2 B2	Personality Traits Personality Traits Building Creativity Leadership Skills, Building Creativity Leadership Skills Leadership Skills
4	Model of Leadership Attributes	cognitive abilities Personality Motive value Social appraisal skills Problem solving skills Expertise/ Tacit knowledge Leader process Emergence Effectiveness Advancement & promotion	B4 B4 D4 B4 B4, C2 D4 B1 A4	Personality Traits Personality Traits Principles Leadership Skills Leadership Skills, Conflict resolution Knowledge Building process Advance

(continued on next page)

(continued)

s/n	Theory	Theory keywords	linkage	Proposed leadership framework Keyword
6	Managerial Grid/ Leadership Grid	Initiative Decision Making Conflict Resolution	D1 D2 C2	Take initiative Decision making Conflict resolution
7	Action Centred Leadership	Balance	B2	Balance
8	Normative Decision Making Model	Decision making	D2 A3	Decision making Leadership styles
9	Fiedler Contingency Theory	Leadership style	A3	Leadership styles
10	Hersey & Blanchard's Situational Leadership Model	Relationship behaviour Task behaviour (amount of guidance and direction)	B3 A3	Building relation Leadership style
11	Situational leadership II	Coaching	C4	Coaching
12	Reddin's 3D Theory	Task Orientation Relationship orientation Effectiveness	A3 B3 A4	Leadership style Building relationship Achieving sustaining result
13	Path Goal Theory	Defines goals Clarifies path Removes obstacles Provides support	C1 B1 C2 C3	Creating clear goal Building the process Conflict resolution Care
14	Charismatic Leadership		B4	Personal trait
15	Transactional Leadership	Bureaucratic Knowledge Reward	A3 D4 A1	Adapting leadership style Knowledge Aligning interest
16	Transformational Leadership	Accomplishment Advance Positive change Trust Goal Drive change Creating vision Communicating vision	A4 A4 A2 B3 C1 D1 A1 C4	Sustaining result Advance Acting positively Trust Creating clear goal Drive change Aligning strategy, Innovation Communicating
17	LEADERS methods	All 7 skills	B4	Leadership skills

7.7.1.4 Degree to which a model is well enabled

The degree to which a model is well enabled indicates not only how to validate but how good the validation is. The evaluation of the relationship among the criteria is summarised into three categories, i.e., poorly enabled, marginally enabled, and well enabled, as shown in Table 7.5 and Table 7.6. "Well enabled" means that the relationships are well established. Marginally enabled indicates an average relationship and poorly enabled represents poor relationship among the criteria.

Table 7.5 Degree of well enabled (leadership enablers and domains)

	Act	**Behaviour**	**Creativity**	**Dream**
Strategy		Well Enabled	Well Enabled	Well Enabled
Situation	Well Enabled		Well Enabled	Well Enabled
Style	Well Enabled	Well Enabled		Well Enabled
Skills	Well Enabled	Well Enabled	Well Enabled	

Table 7.6 Degree of well enabled (leadership enablers)

	Strategy	**Situation**	**Style**	**Skills**
Strategy		Well Enabled	Well Enabled	Well Enabled
Situation	Well Enabled		Well Enabled	Well Enabled
Style	Well Enabled	Well Enabled		Well Enabled
Skills	Well Enabled	Well Enabled	Well Enabled	

7.7.1.5 Synthesis analysis

The common characteristics (the 16 criteria) of the research elements were identified and classified into groups of different leadership categories, i.e., situation, styles, skills, and strategy. The variables of the study were categorised into four enablers (situation, style, skills, and strategy) and their associated 16 criteria. Then the influence of respective models was analysed. By modelling relationships among the four engines and 16 criteria, the model statistically tests a priority theoretical assumptions (need to be statistically tested as per research's theoretical assumption) against empirical data through regression estimation. With the assistance of the AMOS program, a path diagram was developed.

7.7.1.6 ABCD path analysis

A path diagram as shown in Figure 7.14 was constructed and the leadership criteria were connected and coded with A, B, C, and D, which represent leadership engine criteria and leadership enabler criteria, respectively. The interlinks/paths between the model components/variables in the form of A1-A4, B1-B4, C1-C4, and D1-D4 were identified as shown in Table 7.7.

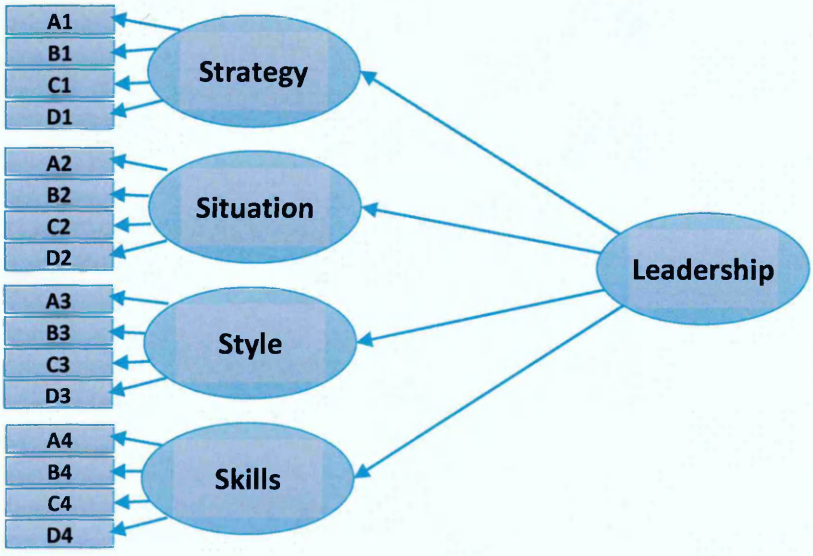


Figure 7.14 Model path diagram

The ABCD path analysis shown in Table 7.7 shows that the initial ideas of connecting criteria are truly related to the connected factor (proposed causal relationship between leadership to the criteria). It will also remind the user of both directions of influence between factors and criteria if required. For example, A1 has a single-direction influence on B1 (from A1 to B1 = Yes), and B1 also influences A1 (B1 to A1 = Yes, or it can be "No" for single-direction influence).

Table 7.7 ABCD path analysis –leadership enablers model

Strategy	A1	B1	C1	D1	Style	A3	B3	C3	D3
A1		Yes	Yes	Yes	**A3**		Yes	Yes	Yes
B1	Yes		Yes	Yes	**B3**	Yes		Yes	Yes
C1	Yes	Yes		Yes	**C3**	Yes	Yes		Yes
D1	Yes	Yes	Yes		**D3**	Yes	Yes	Yes	

Situation	A2	B2	C2	D2	Skills	A4	B4	C4	D4
A2		Yes	Yes	Yes	**A4**		Yes	Yes	Yes
B2	Yes		Yes	Yes	**B4**	Yes		Yes	Yes
C2	Yes	Yes		Yes	**C4**	Yes	Yes		Yes
D2	Yes	Yes	Yes		**D4**	Yes	Yes	Yes	

7.7.1.7 Hypothesis analysis

The main hypothesis for validating the proposed leadership framework is as follows:

Is there a strong relationship between the selected enablers and their criteria with the best practice keywords?

There will be eight different tests that will be carried out in the following sections If these tests pass successfully, this means that there is a high level of relevance and should lead to the following conclusion:

The proposed leadership framework and all its elements are valid and fit the innovative organisation

The relevance judgment, as shown in Table 7.9 (refer to Appendix F for more details), was carried out to assess whether the keywords searched are relevant to the 16 criteria developed in the proposed leadership framework. This will ensure that the analysis will discern relevant from irrelevant searches and provide transparent and trustworthy results.

7.7.1.8 AMOS measurement model specification

As explained in section 7.7, the use of a model is followed for any validation process and techniques; for the study of interconnection and integration, the framework is used. There are two reasons for these interchangeable terms. First, the major model in the framework, the four enablers, is subjected to full validation according to the ABCD validation method, and the remaining components in the framework are tested partially and theoretically in the analysis stage. The AMOS model is used in building and testing the model for the leadership enablers (strategy, situation, style, and skills).

The model's parameters are determined as fixed or free. Free parameters are estimated from the observed variables, and the fixed parameter is estimated to be 1. In this section, the characteristic parameters are identified and the pathway is studied. The AMOS model specification determines which parameters are used to compare

the hypothesised AMOS model with the sample population variance and covariance matrix in testing the fitness of the model. The next step of the specification is to decide the value for each parameter in the measurement model constructed in AMOS. The degree of freedom is discussed in the next section. Specifications can be re-proposed to meet the model fitness during the model modification. Before any modification, all regression weights are set to 1.

7.7.2 Build the AMOS model

This section uses first, the content analysis method to identify the frequency of correlated keywords as positively relevant to the 150 research articles (Table 7.8), and construct validity is determined by using a wide literature review of various sources, such as journals, books, and websites, converting the qualitative analysis to a quantitative analysis, and developing the measurement model. The scale used to conduct the analysis was from 1 to 5 (strongly disagree to strongly agree). A reliability test was carried out using the SPSS software to ensure that the data population is valid, then construct validity is carried out by structural equation model in AMOS.

Table 7.8 Journals used for content analysis

Journal	Total number of reviewed articles	Selected articles
Leadership Quarterly	**126**	**108**
Academic of Management Journal	**120**	**19**
Administrative Science Quarterly	**50**	**18**
Journal of Leadership & Organizational Studies	**10**	**5**
Total	**296**	**150**

(Summarized from Appendix F)

7.7.2.1 Instrument for data collection and processing (SPSS)

The data were collected via content analysis, and SPSS was applied to convert the qualitative information into quantitative data using the same scale from 1 to 5 to describe the positive relevance to the defined research question. The SPSS software was utilised to process the collected survey data into a database that is used to check the reliability of the data and integrate them into the AMOS modelling. This part covers the 16 leadership enabler's criteria identification from the literature survey

that represents the dimensions or the criteria of the proposed leadership framework, which is divided into four sub-criteria for leadership: situation, style, skills, and strategy. The 150 studies are summarised in Table 7.9 with the rating results.

Table 7.9 The relevance judgment of 16 leadership enabler's criteria

Answer Options		Highly Relevant		Relevant		I don't know		Irrelevant		Highly Irrelevant		Mean*
		Quantity	%	Quantity	%	Quantity	%	Quantity	%	Quantity	%	
1	Aligning strategy, innovation & interest, A1	97	64.7%	40	26.7%	10	6.7%	2	1.3%	1	0.7%	4.537
2	Building strategy, process & synergy, B1	106	70.7%	30	20.0%	11	7.3%	2	1.3%	1	0.7%	4.587
3	Communicating strategy, creating innovative & clear goals , C1	94	62.7%	38	25.3%	16	10.7%	1	0.7%	1	0.7%	4.489
4	Driving change, monitor & take initiative, D1	110	73.3%	31	20.7%	5	3.3%	4	2.7%	0	0.0%	4.646
5	Acting powerfully purposefully & positively, A2	124	82.7%	17	11.3%	7	4.7%	2	1.3%	0	0.0%	4.754
6	Building culture of excellence, creativity & balance, B2	128	85.3%	18	12.0%	3	2.0%	1	0.7%	0	0.0%	4.819
7	Challenging, conscious, conflict resolution, C2	117	78.0%	28	18.7%	5	3.3%	0	0.0%	0	0.0%	4.747
8	Decision making, diagnose & determination, D2	117	78.0%	24	16.0%	9	6.0%	0	0.0%	0	0.0%	4.720
9	Aligning people & adapting leadership styles, A3	116	77.3%	30	20.0%	0	0.0%	0	0.0%	0	0.0%	4.665
10	Building organisation trust, respect & relationships, B3	120	80.0%	23	15.3%	5	3.3%	2	1.3%	0	0.0%	4.737
11	Creating confidence, commitment, contribution & care, C3	122	81.3%	24	16.0%	2	1.3%	2	1.3%	0	0.0%	4.770
12	Demonstrating role model, integrity & developing leaders D3	118	78.7%	25	16.7%	5	3.3%	1	0.7%	1	0.7%	4.723
13	Achieving sustaining results, advance & happiness, A4	133	88.7%	15	10.0%	1	0.7%	1	0.7%	0	0.0%	4.870
14	Building business, personality traits & leadership skills, B4	118	78.7%	27	18.0%	3	2.0%	2	1.3%	0	0.0%	4.741
15	Coaching, competency, & continuous learning, C4	118	78.7%	30	20.0%	1	0.7%	1	0.7%	0	0.0%	4.770
16	Delivering, extraordinary performance, principles & knowledge , D4	74	49.3%	50	33.3%	24	16.0%	2	1.3%	0	0.0%	4.303

** Formula for mean = Total summation of relevant scale x respective %*

Mean = 4.001-5, highly relevant; 3.001-4, relevant; 2.001-3, neither; 1.001-2, irrelevant; 1, highly irrelevant

* see appendix H

7.7.2.2 Modelling (AMOS)

The measurement model is built in AMOS (Analysis of Moment Structures) as shown in Figure 7.15. AMOS is sub-software for SPSS. It is a graphical interface to specify models by illustrating them in drawings. (see appendix H)

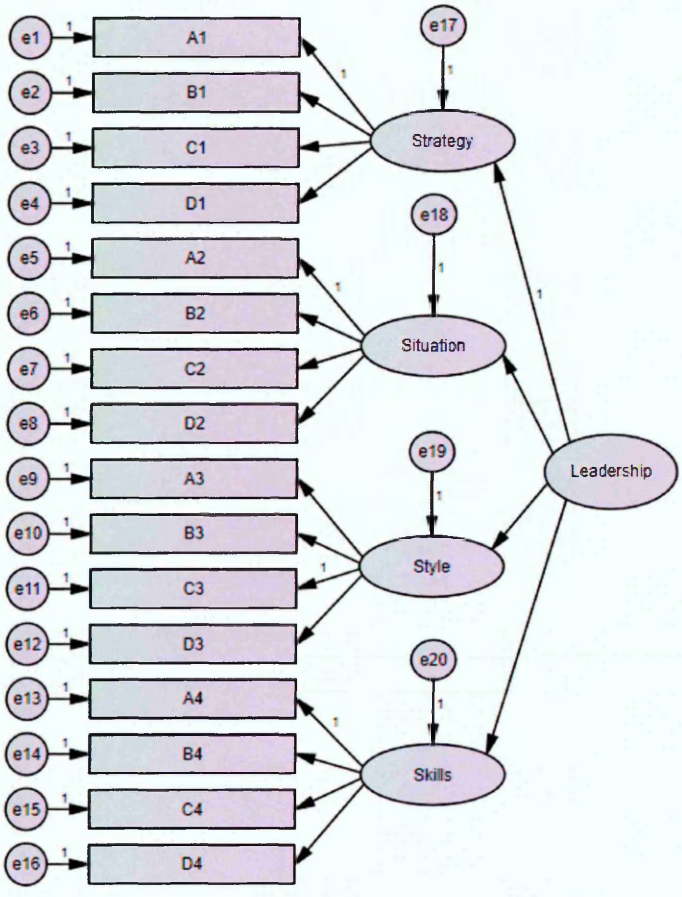


Figure 7.15 Leadership enablers in AMOS model

7.7.3 Check the AMOS model

7.7.3.1 Reliability test

The Cronbach's α coefficient was employed to validate reliability, as shown in Table 7.10. None of the variables was found to score low, and they were highly correlated with each other. The Cronbach's α coefficients ranged from 0.785 to 0.861; when the reliability value of the data sets reaches at least 0.7, data can be accepted for further validation.

Table 7.10 Reliability tests result

Factor	Item	Reliability - Cronbach's Alpha
Strategy	4	**0.829**
Situation	4	**0.831**
Style	4	**0.861**
Skills	4	**0.785**

7.7.3.2 Measurement model identification (Degree of freedom)

As shown in Table 7.11, the model is over-identified; i.e., the degree of freedom is positive and the number of known parameters is more than the number of unknown ones.

Table 7.11 Degree of freedom and model identification

Unmodified			After Modification	
Model	**Degree of Freedom**	**Status**	**Degree of Freedom**	**Status**
Leadership	100	Over identified	74	Over identified

7.7.3.3 Breakdown (Variance Inflation Factors [VIF] and others)

In this section, a breakdown analysis is carried out by using variance inflation factors (VIF) to detect multicollinearity (Carriquiry, 2004; Grewal, 2004; Gupta, 2000; Fernandez (1997), as multicollinearity exists only between two or more independent variables that are highly correlated to each other, which results in inaccurate regression.

7.7.3.4 Regression estimation, model modification, and refitting

The regression results determine and calculate the correlation between the variables considered in the model, the modification of the model is required only if the model needs to be improved to obtain a better fit (Figure 7.16). It was clearly indicated that the regression weight was improved only after the model was modified. Table 7.13 provides a summary of the measurement model parameters. The standardised regression weights for situation, style, skills and strategy were 0.94, 0.98, 0.95 and 0.74 respectively. In addition, the recorded P- values were <0.001 (see Table 7.12) for all mentioned variables which means that situation, style, skills, and strategy are significant at 95% confidence level.

Table 7.12 Computed P- value in AMOS and Chi Square distribution table

	Chi Square	Df	Computed P Value in AMOS	Referred Chi Square	Referred Df	Referred P Value
				In Distribution Table		
Before modification	503.987	100	< 0.001	149.452	100	0.001
After modification	186.460	74	< 0.001	112.319	70	0.001
				124.842	80	0.001

	Level of Significance α							
df	0.200	0.100	0.075	0.050	0.025	0.010	0.005	0.001
60	68.972	74.397	76.411	79.082	83.298	88.380	91.952	99.609
70	79.715	85.527	87.680	90.531	95.023	100.425	104.215	112.319
80	90.405	96.578	98.861	101.880	106.629	112.329	116.321	124.842
90	101.054	107.565	109.969	113.145	118.136	124.117	128.300	137.211
100	111.667	118.498	121.017	124.342	129.561	135.807	140.170	149.452

(See Appendix K)

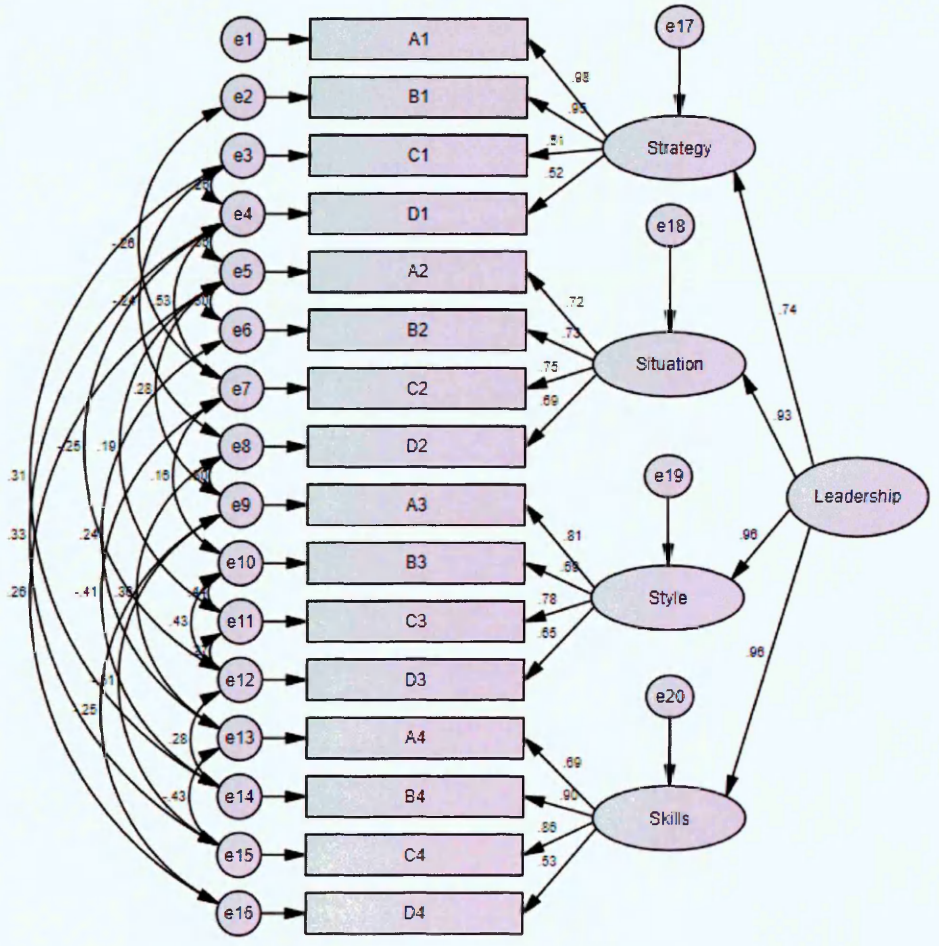


Figure 7.16 Leadership enablers in AMOS model – (after modification)

Table 7.13 Regression analysis

		Before Modification			After modification		
		Unstandardised estimate	P Value	Standardised estimate	Unstandardised estimate	P Value	Standardised estimate
Strategy	← Leadership	1.000		0.732	1.000		0.737
Situation	← Leadership	0.776	< 0.001	0.860	0.727	< 0.001	0.935
Style	← Leadership	0.910	< 0.001	0.918	0.860	< 0.001	0.957
Skills	← Leadership	0.538	< 0.001	0.948	0.570	< 0.001	0.957
D2	← Situation	0.768	< 0.001	0.644	0.963	< 0.001	0.689
C2	← Situation	0.814	< 0.001	0.766	0.865	< 0.001	0.745
B2	← Situation	0.827	< 0.001	0.824	0.844	< 0.001	0.73
A2	← Situation	1.000		0.794	1.000		0.717
A1	← Strategy	1.000		0.978	1.000		0.977
B1	← Strategy	0.976	< 0.001	0.948	0.970	< 0.001	0.948
C1	← Strategy	0.530	< 0.001	0.500	0.573	< 0.001	0.514
D1	← Strategy	0.497	< 0.001	0.530	0.482	< 0.001	0.517
D4	← Skills	1.521	< 0.001	0.549	1.400	< 0.001	0.533
C4	← Skills	1.464	< 0.001	0.834	1.416	< 0.001	0.86
B4	← Skills	1.943	< 0.001	0.921	1.757	< 0.001	0.897
A4	← Skills	1.000	< 0.001	0.647	1.000	< 0.001	0.692
D3	← Style	0.878	< 0.001	0.736	0.855	< 0.001	0.649
C3	← Style	1.000		0.860	1.000		0.783
B3	← Style	0.994	< 0.001	0.796	0.939	< 0.001	0.688
A3	← Style	0.738	< 0.001	0.739	0.895	< 0.001	0.811

* see appendix G and H

7.7.3.5 Fitness test and good range of model fitness

In this section, six fitness tests were carried out successfully. The initial CMIN for the model was 503.987 (CMIN/df = 5.040, RMR = 0.047, RMSEA = 0.165, GFI = 0.730, NFI = 0.748, TLI = 0.742 and CFI = 0.785). According to these values and criteria for Goodness of fit shown in Table 7.14, not all the model fit indices meet the fit criteria; therefore, the modification was required. The final model after modification improved the overall fitness of CMIN/df = 2.451, RMR = 0.038, RMSEA = 0.097, GFI = 0.895, NFI= 0.911, TLI = 0.907 and CFI=0.944)(See Appendix G). All tests mentioned in the Table 7.13 shows good fitness except two tests which are GFI and RMSEA. However, both of them can be considered as acceptable goodness fit according (McCullum et al, 1996; Jo, 2009; Akkucuk, 2014)

who reported that variables within 0.05 to 0.1 can be considered fair fit and values above 0.1 considered to be poor fit.

Table 7.14 Model fitness

Model	Chi Square	CMIN/df	RMR	RMSEA	GFI	NFI	TLI	CFI
Good fitness criteria		<5	<0.05	<0.05	>0.9	>0.9	>0.9	>0.9
Before Modification	503.987	5.040	0.047	0.165	0.730	0.748	0.742	0.785
After Modification	178.684	2.415	0.038	0.097	0.895	0.911	0.907	0.944

* see appendix I and J

7.7.4 Decide the fitness model

As mentioned in previous chapters, regression estimation is performed to evaluate the relationship between studied variables. The relationships are commonly described as direct effect, indirect effect, and total effect relationships. It can be used in multi-dimensional ways in the ABCD validation method. Conventionally, it is only conducted by plotting the dataset of dependent variables and independent variables to find the coefficient of an equation. These variables represent the causes and effects in quantifying value that can be obtained during data collection. Alternatively, causes and effects can be estimated or predicted if we know the regression coefficient.

A series of path analysis equations are then formulated to calculate the indirect and total effects of the relationship between the variables. Statistics software such as AMOS (Analysis of Moment Structures) is used to compute the correlation. In AMOS, the regression and correlation between the variables are calculated. All values are meaningful to the model. However, the result may be influenced by a breakdown. Therefore, a breakdown analysis should be conducted to minimise the influence.

For the model estimation, the equation (Greene, 2007) should be defined in two ways in the correlation analysis. Aleš et al. (2013) compares two types of correlations, Pearson and Spearman, and suggested that Spearman's correlation is more suitable for non-linearly related variables than Pearson's correlation, which is a statistical

measure of the strength of a linear relationship between paired data. We define the targets as dependent variables or correlation values; regression is our concern in this section. The common structural equation is described as follows (Gupta, 2000; Kline, 2005; Greene, 2007):

$$y_i = \beta_0 + \beta_1 X_{1i} + \beta_2 X_{2i} + \ldots + \beta_n X_{ni} + \varepsilon_i \quad (7.1)$$

where β_0 is the intercept and ε_i is the disturbance that is not correlated to the regression.

The normal equation is written as follows:

$$Y = b_0 + b_1 X_1 + b_2 X_2 + \ldots + b_n X_n \quad (7.2)$$

Note: The Roman letters (the b's) are estimations of the corresponding Greek letters (the **β's**). It also can be interpreted as follows: Total effect, **Y** = sum of direct effect, b_0, and the indirect effect of $\mathbf{b_n X_n}$.

7.7.4.1 Interpretation of a valid model

Figure 7.15 suggests that leadership and the four enablers are influenced significantly for both latent and the selected observed variables. Using the regression weights or estimates, the standardised structural equation model can be presented with the following set of regression equations. Based on the results of the regression estimation (Table 7.12), the relationship is presented as follows:

Standardised equation (the equation for the leadership model):

$$Leadership = X_{leadership-situation} Situation + X_{leadership-style} Style + X_{leadership-skills} Skills + X_{leadership-strategy} Strategy + e \quad (7.3)$$

Standardised regression equation (the equation for the leadership model after the regression is estimated):

$$Leadership = 0.94\, Situation + 0.98\, Style + 0.95\, Skills + 0.74\, Strategy + e \quad (7.4)$$

7.7.4.2 Fitness for purpose

After a minor modification was carried out to validate the model, the evaluation met the purpose of validation, based on the results that summarised in Table 7.13 and Table 7.14, it can be concluded that AMOS model has passed all the seven fitness tests successfully. Therefore, with confidence, the results proved the hypothesis:

There is a strong relationship between the selected enablers and their sub-criteria with the best practice keywords

That led to the following conclusion:

The proposed leadership framework and all its elements are valid and fit the innovative organisation

In addition to that, this validation carried out using ABCD validation method with a 95% score as shown in the Table 7.15.

Table 7.15 ABCD validation method checklist

		Applied Step	Weight Score
1	**Purpose (What, Why, When) & Approach (How)**	Yes	10%
2	**Exploratory Analysis**	Yes	5%
3	**Degree to Which the Model Is Well Enabled**	Yes	5%
4	**Synthesis Analysis**	Yes	5%
5	**ABCD Path Analysis**	Yes	5%
6	**Hypothesis Analysis**	Yes	5%
7	**Measurement Model Specification**	Yes	5%
8	**Hypothesis Development for Questionnaire**	Yes	5%
9	**Instrument for Data Collection & Processing (SPSS)**	Yes	5%
10	**Modelling (AMOS)**	Yes	5%
11	**Reliability Test**	Yes	5%
12	**Measurement Model Identification (Degree of Freedom)**	Yes	5%
13	**Breakdown (VIF & Others)**	No	0%
14	**Regression Estimation**	Yes	5%
15	**Fitness Test**	Yes	5%
16	**Good Range of Model Fitness**	Yes	5%
17	**Model Modification and Refitting**	Yes	5%
18	**Interpretation of Valid Model**	Yes	5%
19	**Fitness for Purpose**	Yes	5%
		Total Score	**95%**

7.8 Conclusion

The leadership best practice framework was developed because of the need to find a platform to encompass many leadership models in one framework. This framework is a set of three main components, leadership enablers, leadership domains, and leadership engines. The leader enablers are aligned with 17 major leadership theories grouped in this thesis into four major theories (traits, behaviour, contingency, and new leadership) and corresponding to skills, style, situation, and strategy, respectively. Each model was developed according to four basic literature resources: business excellence models, leadership role model, best practice leadership, and the Dubai Government Excellence Program (DGEP). The next step was to verify the gaps identified in the literature review through a set of questionnaires distributed to 200 people at various levels who are mainly engaged in business excellence models. The results showed that a majority of the respondents agrees regarding the need to find a model or framework that can address problems such as difficulty in memorising the criteria, complexity in assessments and implementation, and failure to cover leadership abilities at all levels of the organisation.

A survey was conducted to collect defined key information for the validation of the new proposed leadership framework – leadership enablers and engines. 296 articles from various published journals were reviewed and 150 were selected for content analysis. The content analysis was used in this thesis to identify the most frequently mentioned elements for defining leadership and related key words in the 150 published journal articles. Then, the construct validity was determined to measure the construct of the proposed leadership best practice framework in terms of reliability and validity. The construct validity was carried out in AMOS and all subsequent tests were generated from the AMOS software, which is based on SEM. Before building the framework in AMOS, the reliability test was carried out successfully by using the Cronbach's α coefficient, which was found to be above 0.7. Then the AMOS model (the proposed framework) was tested by SEM and verified by the seven fitness indexes, which were carried out successfully; a minimum of five is required to declare that the framework is fit and valid.

The proposed leadership framework was validated using the ABCD validation method. The results showed that the proposed leadership framework was fit for use. The ABCD method demonstrated its effectiveness and ability to carry out the validation process in a systematic and unique way. This should be considered an important contribution to knowledge.

Chapter Eight – Conclusion, Discussion, Contribution to Knowledge and Future Work

This chapter provides the concluding discussions of the thesis. It includes a review of the relevant literature on leadership and validation. It also comprises a discussion of the research findings and their wider implications. Later in the chapter, the limitations of the research methods and findings are deliberated. Then, the contributions of the research to knowledge in the field of 21st century leadership best practice in an innovative organisation are summarised. Lastly, the chapter ends with the future work that will be carried out after my PhD.

8.1 Conclusions

Since the 1900s, the amount of literature on leadership has grown rapidly. During the last 100 years, this increased amount of information has led to a decrease in the understanding of the topic of leadership. As a result of this growing confusion and misunderstanding, many theories have emerged; some of them overlap, or are contradictory, repetitious or supportive. Among the most promising and well-known theories, there are four main theories, classified in chapter six, that cover more than twenty theories. The first of these four theories is leadership skills, which comes from the big five personality traits. Secondly, there is leadership style, which relates to behaviour theories such as the managerial grid, style, action-centred and decision-making. Thirdly, there is the leadership situation that comes from contingency theories such as situational I, situational II, Fiedler, Reddin's 3D, path goal and cognitive resources. Finally, there is the leadership strategy that is based on new leadership theories, such as transformational, transactional and charismatic. Although the potential of these theories has been used in business excellence models such as EFQM, MBNQA, DGEP and other well-known models, there were gaps and a lack of leadership characteristics that determine leadership qualities. The characteristics of leadership are seen as a key part of leadership best practice. The proposed leadership framework in this thesis addresses the characteristics of leadership, which are governed by the domains of responsibility, sponsorship, ability and vision; enabled by the leadership situation, style, skills and strategy; and driven continuously by action, behaviour, creativity and dream. Since Mumford (1906) suggested the first leadership definition, the definitions have been focused on leadership as the pre-eminence or superiority of one or more persons in a group who have the power of control. Later, the definitions started to be influenced by the theories that emerged at the same time as each definition. The 100-year period of study was divided into four stages. The concept of personality traits influenced the first stage, and personality traits continued to be influential throughout all the stages despite the increased number of voices arguing that leaders are made and not born. The last stage covers a variety of theories and definitions, causing confusion about how to apply each theory in its own context. This, perhaps, drew the attention of scholars and authors who had shown more interest in emotional intelligence as the main element in understanding leaders and the leadership system.

The literature review related to models and theories and covered comprehensively business excellence, model validations and leadership theories and approaches. This review encompassed hundreds of articles and books, and provided highlights on the best practice for the methodology that was adopted in this thesis (full references are available in the appendices). The research concluded that the justification for the selected tools and methods for validation was properly addressed.

The main focus of this research was to develop a leadership best practice framework that was validated according to grounded theoretical principles. The ABCD validation method, which was developed based on a combination of PDCA (Deming cycle) and RADAR (EFQM), can be considered to be a very innovative validation method because it combines quality in the validation method with an instrument to assess the validation quality.

The thesis concluded that the developed leadership framework is a simple set of best practice models that can be implemented in any organisation that is seeking innovative and sustainable business excellence.

8.2 Discussion

The main objective of this work was to research the best business excellence models and the validation process. The review in the previous section of the conducted research identified several gaps in the area of validation of business excellence models in terms of clear and defined procedures; the literature review revealed that the business excellence models are all validated except for the case study selected. A methodology was developed in which some new concepts were considered. The proposed leadership framework has been developed through genuine transformation from theories and traits into action. Leadership is not about theories, or books and papers, but about practices. As long as the leader is practising his leadership according to the proposed framework, he must ensure that his leadership is based on the best practice for sustaining success in his field, and is progressing towards an innovative organisation. There are many theories, but only a few of the models were used frequently. The work carried out in this thesis intensively reviewed leadership theories and approaches, and categorised them into four major types of leadership

theories: trait theories, behaviour theories, contingency theories and new leadership theories such as transformational leadership. These four major theories were adopted and integrated in such a way that they became the four enablers of the proposed framework.

The newly developed validation model was required to provide a simple validation tool called ABCD. It proved to be a successful validation method that can be used as a critical management tool. It includes a systematic approach and step-by-step guidelines for a successful validation process that ensures simplicity and eliminates the difficulties and limitations of other methods. The ABCD model is innovative, and it integrates various best practice techniques and methods for different steps in the validation process.

The ABCD validation method is a valuable tool that has structured and defined steps, and enables researchers to study business excellence models. Most common breakdown errors can be avoided or minimised when the ABCD validation steps are followed. The regression or correlation between the components can be easily interpreted with the establishment of a standard limit. The ABCD validation method is easy to compute by using estimated values to predict the results. Most importantly, the critical path of the model can be identified with this easy solution. Since the ABCD validation method needed to be verified by implementation, the method was applied to two case studies. The first case was the validation of one of the UAE's Excellence Business Programmes and the second case was the validation of a process improvement model. A simple form was used to gain an understanding of leadership, and this understanding was supported by all theories and recent leadership models because it allows us and others to develop leadership models by considering the most viable factors associated with leadership effectiveness in all literature reviews. These factors are associated with a leadership system comprised of a leader, followers, goals, processes and values, which are referred to as the six essential elements of leadership.

The new leadership framework consists of four enabling components. Each component is associated with one of the most significant and approachable leadership qualities found in the leadership literature review (i.e. leadership type, leadership

characteristics, leadership approach and leadership practices), which can be viewed through the proposed leadership enablers (i.e. strategy, situation, style and skills). These four enablers help us to relate them to the proposed leadership enablers. For example, the leadership approach is associated with the leadership strategy, the leadership practice is associated with the leadership style, a characteristic of leadership is associated with leadership skills and the leadership type is associated with the leadership situation. In fact, the framework has been extended to interact with two other models: leadership domains and engines. The leadership domains define the level of leadership from 1 to 5 with respect to the four domains (vision, responsibility, sponsorship and abilities) and the four engines that drive the leadership framework forward for a sustainable, innovative and creative approach.

8.3 Contribution to Knowledge

The research has established a platform that can be used as the base for best practice leadership models constructed on new validation techniques. The research results indicate that the present understanding of leadership and the existing practice of leadership in business excellence models can be improved by using the proposed framework as an arrangement to provide a framework for leadership that is sustainable and innovative for the 21st century. This proposed framework comprises three parts: 1) the leadership enablers (leadership situation, strategy, style and skills); 2) the leadership domains (responsibility, sponsorship, ability and vision); and 3) the ABCD engines (action, behaviour, creativity and dream). The main three key contributions of my research are as follows:

1) ABCD validation method: this will help organisations to validate their decisions and their business models to ensure that the assumptions they predict are reflected and confirmed to be valid. Any level in the organisation can apply this method due to its simplicity and step-by-step guidelines. Incorporating the validation process in an innovative approach will enhance the chances for an organisation to sustain excellence and success.
2) Framework for understanding leadership: this will allow those who seek leadership knowledge in depth to use the framework as the foundation for their knowledge building in leadership.

3) The conceptual leadership framework structure and integration protocol: this is a novel business excellence framework that will enable the organisation to promote sustainability in their performance at all levels and promote their leadership example worldwide. This framework provides a state-of-the-art design for a practical working model that focuses on individual, personal development and, as team development, to obtain effective leadership by compiling the strengths of the best theories into a best practice approach and provid·; step-by-step storytelling in the ABCD manner.

8.4 Future Work

The research work covered in this thesis gives a good understanding of new leadership in the 21st century that will sustain business excellence for innovative organisations. However, it is possible to identify several areas for future study within the scope of the research. Some of the most significant areas that need more development are as follows:

1. Future work could be developed by thoroughly validating the DGEP using the ABCD validation method.
2. Coordinating with the Mohammed bin Rashid School of Government (MBRSG) in Dubai may benefit from the research and contribute to a best practice leadership model.
3. To facilitate the application of the proposed ABCD validation method, the development of a commercial software application would be very beneficial. In addition, more advanced development would be needed to make this software available online using Java or Netweaver as a platform. The development of a software prototype for this particular recommendation for future work is currently taking place, and the construction of the website is in progress and can be found at www.abcdmodel.com in the near future.
4. The 16 leadership abilities, which are all equally associated with the four enablers (strategy, situation, style and skills), are expandable and could be explored further to cover a wide range of leadership cognitive resources and emotional intelligence.
5. An assessment scale could be developed to measure leadership effectiveness.
6. The leadership framework could be detailed specifically to cope with the nature of each organisation.

References

A note about honorific citations in this thesis

While it is the usual practice to refer the authors by their sir names for example (Adair, 1973) and subsequent citation in the reference as Adair, J. E (1973), etc... It was decided to use the reference for the author His Highness Sheikh Mohammed bin Rashid Al Maktoum, Vice President and prime minister of United Arab Emirates and ruler of Dubai differently as a sign of honour and respect. His highness is cited in the first reference list.

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Appendices

Appendix A: Statistical software and techniques applied in various studies

	Year	Reference	Cited	Statistical Software	Statistic Techniques
1	2004	He, Z. L., & Wong, P. K. (2004). Exploration vs. exploitation: An empirical test of the ambidexterity hypothesis. Organization science, 15(4), 481-494.	1858	Not mentioned	Anova, CFA, Reliability Test, Fitness Regression/ Correction Analysis, Modelling
2	1988	Friend, I., & Lang, L. H. (1988). An empirical test of the impact of managerial self-interest on corporate capital structure. Journal of finance, 271-281.	1099	Not mentioned	Regression/ Correction Analysis
3	2014	Kershenbaum, A., Blank, L., Sinai, I., Merilä, J., Blaustein, L., & Templeton, A. R. (2014). Landscape influences on dispersal behaviour: a theoretical model and empirical test using the fire salamander, Salamandra infraimmaculata. Oecologia, 175(2), 509-520.	2	Matlab	Anova, Regression/ Correction Analysis
4	2013	Gallan, A. S., Jarvis, C. B., Brown, S. W., & Bitner, M. J. (2013). Customer positivity and participation in services: an empirical test in a health care context. Journal of the Academy of Marketing Science, 41(3), 338-356.	42	AMOS	CFA, Reliability Test, Regression/ Correction Analysis, Modelling
5	2013	Xu, J. D., Benbasat, I., & Cenfetelli, R. T. (2013). Integrating service quality with system and information quality: an empirical test in the e-service context. Mis Quarterly, 37(3), 777-794.	36	PLS-Graph 3.0	Reliability Test, Modelling
6	2012	Chari, M. D., & David, P. (2012). Sustaining superior performance in an emerging economy: An empirical test in the Indian context. Strategic Management Journal, 33(2), 217-229.	45	Not mentioned	Reliability Test, Modelling
7	2011	Hong, W., Thong, J. Y., Chasalow, L. C., & Dhillon, G. (2011). User acceptance of agile information systems: a model and empirical test. Journal of Management Information Systems, 28(1), 235-272.	49	LISREL 8.7	Anova, CFA, Reliability Test, Regression/ Correction Analysis, Modelling
8	2013	Hough, M., Jackson, J., & Bradford, B. (2013). Legitimacy, trust and compliance: An empirical test of procedural justice theory using the European Social Survey.New Haven: Yale University Press	44	Not mentioned	Reliability Test, Modelling
9	2011	Rubin, J. (2014). Printing and Protestants: an empirical test of the role of printing in the Reformation. Review of Economics and Statistics, 96(2), 270-286.	15	STATA	Regression/ Correction Analysis
10	2013	Chen, D. Q., Preston, D. S., & Xia, W. (2013). Enhancing hospital supply chain performance: A relational view and empirical test. Journal of Operations Management, 31(6), 391-408.	25	SPSS	Anova, CFA, Reliability Test, Regression/ Correction Analysis, Modelling
11	2012	Kim, A. J., & Ko, E. (2012). Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brand. Journal of Business Research, 65(10), 1480-1486.	165	SPSS and AMOS	CFA, Reliability Test, Regression/ Correction Analysis, Modelling
12	2012	Verhagen, T., Feldberg, F., van den Hooff, B., Meents, S., & Merikivi, J. (2012). Understanding users' motivations to engage in virtual worlds: A multipurpose model and empirical testing. Computers in Human Behavior, 28(2), 484-495.	51	AMOS	CFA, Regression/ Correction Analysis, Modelling
13	2011	Baumgarth, C., & Binckebanck, L. (2011). Sales force impact on B-to-B brand equity: conceptual framework and empirical test. Journal of Product & Brand Management, 20(6), 487-498.	25	SmartPLS software	CFA, Reliability Test
14	2014	Czarnitzki, D., Etro, F., & Kraft, K. (2014). Endogenous market structures and innovation by leaders: an empirical test. Economica, 81(321), 117-139.	9	Not mentioned	Regression/ Correction Analysis

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	Year	Reference	Cited	Statistical Software	Statistic Techniques
15	2012	Imai, K., & Tingley, D. (2012). A statistical method for empirical testing of competing theories. American Journal of Political Science, 56(1), 218-236.	43	Flexmix (Add on in R)	Regression/ Correction Analysis
16	2012	Turanovic, J. J., & Pratt, T. C. (2013). The consequences of maladaptive coping: Integrating general strain and self-control theories to specify a causal pathway between victimization and offending. Journal of Quantitative Criminology, 29(3), 321-345.	30	STATA	Reliability Test, Regression/ Correction Analysis
17	2013	Fu, J., & Yang, H. (2013, December). An Empirical Study of the Tourism Management Undergraduates' Learning Burnout. In 2013 International Conference on the Modern Development of Humanities and Social Science. Atlantis Press.	2	SPSS, Minitab	T Test
18	2011	Pätäri, S., Jantunen, A., Kyläheiko, K., & Sandström, J. (2012). Does sustainable development foster value creation? Empirical evidence from the global energy industry. Corporate Social Responsibility and Environmental Management, 19(6), 317-326.	17	SAS	T Test
19	2012	Wu, C., Chang, J., Ma, B., Miao, X., Zhou, Y., Liu, Y., ... & Kraft, P. (2013). The Case-Only Test for Gene–Environment Interaction is Not Uniformly Powerful: An Empirical Example. Genetic epidemiology, 37(4), 402-407.	6	PLINK, SAS, and R	Regression/ Correction Analysis
20	2013	Chen, S. C., Liu, M. L., & Lin, C. P. (2013). Integrating technology readiness into the expectation–confirmation model: An empirical study of mobile services. Cyberpsychology, Behavior, and Social Networking, 16(8), 604-612.	9	Not mentioned	CFA, Reliability Test, Modelling
21	2014	Avkiran, N. K. (2013). An empirical investigation of the influence of collaboration in Finance on article impact. Scientometrics, 95(3), 911-925.	6	SAS	Regression/ Correction Analysis
22	2013	Doumayrou, J., Avellan, A., Froissart, R., & Michalakis, Y. (2013). AN EXPERIMENTAL TEST OF THE TRANSMISSION-VIRULENCE TRADE-OFF HYPOTHESIS IN A PLANT VIRUS. Evolution, 67(2), 477-486.	12	JMP, R	Anova, Regression/ Correction Analysis
23	2011	Coles, J. L., Lemmon, M. L., & Meschke, J. F. (2012). Structural models and endogeneity in corporate finance: The link between managerial ownership and corporate performance. Journal of Financial Economics, 103(1), 149-168.	349	Not mentioned	Regression/ Correction Analysis
24	2009	Li, Y., Tarafdar, M., & Subba Rao, S. (2012). Collaborative knowledge management practices: Theoretical development and empirical analysis. International Journal of Operations & Production Management, 32(4), 398-422.	17	SPSS, LISREL	CFA, Reliability Test, Regression/ Correction Analysis, Modelling
25	2011	Kam-Sing Wong, S. (2012). The influence of green product competitiveness on the success of green product innovation: Empirical evidence from the Chinese electrical and electronics industry. European Journal of Innovation Management, 15(4), 468-490.	17	SPSS, AMOS	CFA, Reliability Test, Regression/ Correction Analysis, Modelling
26	2011	Taylor, M. K., Pietrobon, R., Taverniers, J., Leon, M. R., & Fern, B. J. (2013). Relationships of hardiness to physical and mental health status in military men: a test of mediated effects. Journal of behavioral medicine, 36(1), 1-9.	22	SPSS	T Test, Reliability Test, Regression/ Correction Analysis, Modelling
27	2012	Alshehri, M., Drew, S., Alhussain, T., & Alghamdi, R. (2012). The Effects of Website Quality on Adoption of E-Government Service: AnEmpirical Study Applying UTAUT Model Using SEM. arXiv preprint arXiv:1211.2410.	22	SPSS, AMOS	CFA, Reliability Test, Fitness, Regression/ Correction Analysis, Modelling

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	Year	Reference	Cited	Statistical Software	Statistic Techniques
28	2002	Hung, S. Y., Ku, C. Y., & Chang, C. M. (2003). Critical factors of WAP services adoption: an empirical study. Electronic Commerce Research and Applications, 2(1), 42-60.	511	AMOS	T Test, CFA, Reliability Test, Fitness, Regression/ Correction Analysis, Modelling
29	2003	Mohrman, S. A., Finegold, D., & Mohrman, A. M. (2003). An empirical model of the organization knowledge system in new product development firms. Journal of Engineering and Technology Management, 20(1), 7-38.	96	AMOS	Reliability Test, Fitness, Regression/ Correction Analysis, Modelling
30	2006	D'Souza, C., Taghian, M., Lamb, P., & Peretiatkos, R. (2006). Green products and corporate strategy: an empirical investigation. Society and Business Review, 1(2), 144-157.	134	AMOS	CFA, Fitness, Regression/ Correction Analysis, Modelling
31	2003	Bowen, G. L., Mancini, J. A., Martin, J. A., Ware, W. B., & Nelson, J. P. (2003). Promoting the Adaptation of Military Families: An Empirical Test of a Community Practice Model*. Family Relations, 52(1), 33-44.	138	AMOS	Reliability Test, Fitness, Regression/ Correction Analysis, Modelling
32	2008	Wang, W., Hsieh, J. J., Butler, J. E., & Hsu, S. H. (2008). Innovate with complex information technologies: A theoretical model and empirical examination. Journal of Computer Information Systems, 49(1), 27-36.	39	AMOS	Reliability Test, Fitness, Regression/ Correction Analysis, Modelling
33	2008	Dong, L., Neufeld, D. J., & Higgins, C. (2008). Testing Klein and Sorra's innovation implementation model: an empirical examination. Journal of Engineering and Technology Management, 25(4), 237-255.	36	PLS	T Test, ANOVA, Reliability Test, Modelling
34	2013	Suarez, F. F., Cusumano, M. A., & Kahl, S. J. (2013). Services and the business models of product firms: An empirical analysis of the software industry. Management Science, 59(2), 420-435.	42	STATA	Regression/ correlation Analysis
35	2015	Wong, C. A., & Laschinger, H. K. (2013). Authentic leadership, performance, and job satisfaction: the mediating role of empowerment. Journal of Advanced Nursing, 69(4), 947-959.	66	SPSS and AMOS	CFA, Reliability Test, Fitness, Regression/ Correction Analysis, Modelling
36	2015	Jordan, P. J., & Lindebaum, D. (2015). A model of within person variation in leadership: Emotion regulation and scripts as predictors of situationally appropriate leadership. The Leadership Quarterly, 26(4), 594-605.	0	Not mentioned	
37	2015	To, M. L., Herman, H. M., & Ashkanasy, N. M. (2015). A multilevel model of transformational leadership, affect, and creative process behavior in work teams. The Leadership Quarterly, 26(4), 543-556.	0	Not mentioned	
38	2015	Gentry, W. A., Clark, M. A., Young, S. F., Cullen, K. L., & Zimmerman, L. (2015). How displaying empathic concern may differentially predict career derailment potential for women and men leaders in Australia. The Leadership Quarterly, 26(4), 641-653.	0	BENCH MARKS ®	CFA, Reliability Test, Fitness
39	2015	Caza, A., Zhang, G., Wang, L., & Bai, Y. (2015). How do you really feel? Effect of leaders' perceived emotional sincerity on followers' trust. The Leadership Quarterly, 26(4), 518-531.	0	Not mentioned	Fitness, Modelling
40	2015	Koning, L. F., & Van Kleef, G. A. (2015). How leaders' emotional displays shape followers' organizational citizenship behavior. The Leadership Quarterly.	3	Not mentioned	ANOVA, Reliability Test, Fitness
41	2015	Griffith, J., Connelly, S., Thiel, C., & Johnson, G. (2015). How outstanding leaders lead with affect: An examination of charismatic, ideological, and pragmatic leaders. The Leadership Quarterly.	0	Not mentioned	CFA

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	Year	Reference	Cited	Statistical Software	Statistic Techniques
42	2015	Joseph, D. L., Dhanani, L. Y., Shen, W., McHugh, B. C., & McCord, M. A. (2015). Is a happy leader a good leader? A meta-analytic investigation of leader trait affect and leadership. The Leadership Quarterly.	0	Not mentioned	
43	2015	Tenzer, H., & Pudelko, M. (2015). Leading across language barriers: Managing language-induced emotions in multinational teams. The Leadership Quarterly, 26(4), 606-625.	0	Not mentioned	
44	2015	Menges, J. I., Kilduff, M., Kern, S., & Bruch, H. (2015). The awestruck effect: Followers suppress emotion expression in response to charismatic but not individually considerate leadership. The Leadership Quarterly, 26(4), 626-640.	0	Not mentioned	ANOVA, Fitness
45	2015	Tee, E. Y. (2015). The emotional link: Leadership and the role of implicit and explicit emotional contagion processes across multiple organizational levels. The Leadership Quarterly, 26(4), 654-670.	0	Not mentioned	
46	2015	Wang, G., & Seibert, S. E. (2015). The Impact of leader emotion display frequency on follower performance: Leader surface acting and mean emotion display as boundary conditions. The Leadership Quarterly, 26(4), 577-593.	0	Not mentioned	
47	2015	Nylund, P. A., & Raelin, J. D. (2015). When feelings obscure reason: The impact of leaders' explicit and emotional knowledge transfer on shareholder reactions. The Leadership Quarterly, 26(4), 532-542.	0	Not mentioned	Reliability Test, Regression/ correlation Analysis
48	2015	Collins, M. D., & Jackson, C. J. (2015). A process model of self-regulation and leadership: How attentional resource capacity and negative emotions influence constructive and destructive leadership. The Leadership Quarterly.	1	Not mentioned	ANOVA, Fitness
49	2015	Marcy, R. T. (2015). Breaking mental models as a form of creative destruction: The role of leader cognition in radical social innovations. The Leadership Quarterly.	1	Not mentioned	
50	2015	Daly, M., Egan, M., & O'Reilly, F. (2015). Childhood general cognitive ability predicts leadership role occupancy across life: Evidence from 17,000 cohort study participants. The Leadership Quarterly.	1	Not mentioned	
51	2015	Mumford, M. D., Steele, L., McIntosh, T., & Mulhearn, T. (2015). Forecasting and leader performance: Objective cognition in a socio-organizational context. The Leadership Quarterly.	2	Not mentioned	
52	2015	Santos, J. P., Caetano, A., & Tavares, S. M. (2015). Is training leaders in functional leadership a useful tool for improving the performance of leadership functions and team effectiveness?. The Leadership Quarterly.	2	Not mentioned	T Test
53	2015	Partlow, P. J., Medeiros, K. E., & Mumford, M. D. (2015). Leader cognition in vision formation: Simplicity and negativity. The Leadership Quarterly.	2	Not mentioned	
54	2015	Serban, A., Yammarino, F. J., Dionne, S. D., Kahai, S. S., Hao, C., McHugh, K. A., ... & Peterson, D. R. (2015). Leadership emergence in face-to-face and virtual teams: A multi-level model with agent-based simulations, quasi-experimental and experimental tests. The Leadership Quarterly.	1	Not mentioned	
55	2015	Combe, I. A., & Carrington, D. J. (2015). Leaders' sensemaking under crises: Emerging cognitive consensus over time within management teams. The Leadership Quarterly.	1	Not mentioned	

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	Year	Reference	Cited	Statistical Software	Statistic Techniques
56	2013	Sy, T., Choi, J. N., & Johnson, S. K. (2013). Reciprocal interactions between group perceptions of leader charisma and group mood through mood contagion. The Leadership Quarterly, 24(4), 463-476.	11	SPSS	Reliability Test, Regression/ Correction Analysis, Modelling
57	2014	Collins, B. J., Burrus, C. J., & Meyer, R. D. (2014). Gender differences in the impact of leadership styles on subordinate embeddedness and job satisfaction. The Leadership Quarterly, 25(4), 660-671.	4	SPSS and AMOS	CFA, Reliability Test, Fitness, Regression/ Correction Analysis, Modelling
58	2015	Dóci, E., & Hofmans, J. (2015). Task complexity and transformational leadership: The mediating role of leaders' state core self-evaluations. The Leadership Quarterly.	3	Not mentioned	CFA, Reliability Test
59	2015	Zaccaro, S. J., Connelly, S., Repchick, K. M., Daza, A. I., Young, M. C., Kilcullen, R. N., ... & Bartholomew, L. N. (2015). The influence of higher order cognitive capacities on leader organizational continuance and retention: The mediating role of developmental experiences. The Leadership Quarterly.	1	Not mentioned	Reliability Test, Regression/ Correction Analysis
60	2015	Liu, C., Eubanks, D. L., & Chater, N. (2015). The weakness of strong ties: Sampling bias, social ties, and nepotism in family business succession. The Leadership Quarterly.	1	Not mentioned	
61	2015	van Gils, S., Van Quaquebeke, N., van Knippenberg, D., van Dijke, M., & De Cremer, D. (2015). Ethical leadership and follower organizational deviance: The moderating role of follower moral attentiveness. The Leadership Quarterly, 26(2), 190-203.	3	Not mentioned	ANOVA, Reliability Test, Regression/ Correction Analysis
62	2015	Goodall, A. H., & Pogrebna, G. (2015). Expert leaders in a fast-moving environment. The Leadership Quarterly, 26(2), 123-142.	9	Not mentioned	Regression/ correlation Analysis
63	2015	Bendahan, S., Zehnder, C., Pralong, F. P., & Antonakis, J. (2015). Leader corruption depends on power and testosterone. The Leadership Quarterly, 26(2), 101-122.	11	Not mentioned	Reliability Test, Regression/ Correction Analysis
64	2015	Chng, D. H. M., Rodgers, M. S., Shih, E., & Song, X. B. (2015). Leaders' impression management during organizational decline: The roles of publicity, image concerns, and incentive compensation. The Leadership Quarterly, 26(2), 270-285.	1	Not mentioned	Regression/ correlation Analysis
65	2015	Deichmann, D., & Stam, D. (2015). Leveraging transformational and transactional leadership to cultivate the generation of organization-focused ideas. The Leadership Quarterly, 26(2), 204-219.	1	Not mentioned	CFA, Fitness, Regression/ Correction Analysis
66	2015	Li, X. H., & Liang, X. (2015). A Confucian Social Model of Political Appointments among Chinese Private-Firm Entrepreneurs. Academy of Management Journal, 58(2), 592-617	2	SAS and AMOS	CFA, Reliability Test, Fitness, Regression/ Correction Analysis
67	2015	Jia, L., Shaw, J. D., Tsui, A. S., & Park, T. Y. (2014). A Social–Structural Perspective on Employee–Organization Relationships and Team Creativity. Academy of Management Journal, 57(3), 869-891.	10	Not mentioned	CFA, Reliability Test, Fitness, Regression/ Correction Analysis
68	2014	Carton, A. M., Murphy, C., & Clark, J. R. (2014). A (blurry) vision of the future: How leader rhetoric about ultimate goals influences performance. Academy of Management Journal, 57(6), 1544-1570.	10	Not mentioned	Regression/ correlation Analysis
69	2014	Lian, H., Brown, D. J., Ferris, D. L., Liang, L. H., Keeping, L. M., & Morrison, R. (2014). Abusive supervision and retaliation: A self-control framework. Academy of Management Journal, 57(1), 116-139.	27	AMOS and SPSS	CFA, Fitness, Regression/ Correction Analysis

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	Year	Reference	Cited	Statistical Software	Statistic Techniques
70	2014	Priesemuth, M., Schminke, M., Ambrose, M. L., & Folger, R. (2014). Abusive Supervision Climate: A Multiple-Mediation Model of its Impact on Group Outcomes. Academy of Management Journal, 57(5), 1513-1534.	9	LISREL	CFA, Reliability Test, Fitness, Regression/ Correction Analysis, Modelling
71	2014	de Vries, T. A., Walter, F., Van der Vegt, G. S., & Essens, P. J. (2014). Antecedents of individuals' interteam coordination: Broad functional experiences as a mixed blessing. Academy of Management Journal, 57(5), 1334-1359.	5	Not mentioned	Reliability Test, Regression/ Correction Analysis
72	2015	Yang, H., Zheng, Y., & Zaheer, A. (2015). Asymmetric Learning Capabilities and Stock Market Returns. Academy of Management Journal, 58(2), 356-374.	0	Not mentioned	Regression/ correlation Analysis
73	2014	Kim, H., & Jensen, M. (2014). Audience Heterogeneity and the Effectiveness of Market Signals: How to Overcome Liabilities of Foreignness in Film Exports?. Academy of Management Journal, 57(5), 1360-1384.	6	Not mentioned	Regression/ correlation Analysis
74	2014	Crossland, C., Zyung, J., Hiller, N. J., & Hambrick, D. C. (2014). CEO career variety: Effects on firm-level strategic and social novelty. Academy of Management Journal, 57(3), 652-674.	10	Not mentioned	Reliability Test, Regression/ Correction Analysis
75	2015	Barrick, M. R., Thurgood, G. R., Smith, T. A., & Courtright, S. H. (2015). Collective Organizational Engagement: Linking Motivational Antecedents, Strategic Implementation, and Firm Performance. Academy of Management Journal, 58(1), 111-135.	5	SPSS	CFA, Reliability Test, Fitness, Regression/ Correction Analysis

Appendix B: Popular leadership theories and description

S/ N	Theory/ Model/ Approach	Researchers	Description
1	The trait theory/ approach of leadership	(Stogdill, 1974) (Brymer and Gray, 2006), (Bass & Stogdill, 1990), (Gary Yukl 2005), (Dubrin, 2008), (Gill, 2006)	Leadership is rooted in the characteristics that certain individuals possess personal attributes. These Traits do not changes from situation to situation such as intelligence, assertiveness, or physical attractiveness like great man theory. Emphasizes leaders attributes such as personality, motives, values and skills, some natural leaders endowed with certain traits not possessed by other people
2	LEADERS Method	(Dean, 2005)	The seven learnable skills in the L.E.A.D.E.R.S. Method are: Listen to Learn, Empathize their Emotions, Attend to their Aspirations, Diagnose the Details, Engage with Ethics, Respond with Respectfulness, Speak with Specificity
3	The five big personality traits Theory	(Tupes, E. C., & Christal, R. E. ,1961)	The traits are five broad domains or dimensions of personality that are used to describe human personality. The five factors model are openness, conscientiousness, extraversion, agreeableness, and neuroticism.
4	Trait Approach	(Gary Yukl 2005)	Emphasizes leaders attributes such as personality, motives, values and skills, some natural leaders endowed with certain traits not possessed by other people
5	Behaviour Approach	(Ohio State Studies, 1940s) (Michigan University Studies, 1950s) (Gary Yukl 2005), (Dubrin, 2008)	Overall behavior pattern of researches' results suggested effective leaders use a pattern of behaviour that is appropriate for the situation and reflects the high concern for task objectives and high concern for relationship.
6	Power Influence approach	(Gary Yukl 2005)	Examines influence process between leaders and other people
7	Situational Approach/ Situational leadership model	(Gary Yukl 2005), (Hersey & Kenneth, 1969)	Developed by Hersey & Kenneth. Emphasizes the importance of contextual factors that influences leadership process, managerial activities and behaviour patterns or influence different attributes will be effective in different situations. Based on the behaviour of the leader
8	Situational leadership II	(Hersey, P., & Blanchard, K. H., 1969). (Dubrin, 2008)	Developed by Kenneth H. Blanchard and his colleagues, explains how much to match leadership style to the capabilities of group members on a given task.
9	The Normative Decision Making Model (Formerly known as the leader participation model)	(Vroom, V. H., & Yetton, P. W. 1973). (Dubrin, 2008)	Developed by Victor Vroom. Leader must choose a style that elicits the correct degree of group participation when making decision. This perspective is sensible, the normative decision model views leadership as a decision making process in which the leader examines certain factors within the situation to determine which decision making style will be the most effective. Have five decision styles, each reflecting a different degree of participation b group members: 1. Decide, 2. Consult (individually), 3.Consult (Group), 4. Facilitate, 5.Delegate
10	Goal Theory	(Locke, E. A., & Latham, G. P. 1990). (Dubrin, 2008)	In 1960's, Edwin Locke put forward the Goal-setting theory of motivation. The premise underlying goal theory (or goal-setting theory) is that behavior is regulated by values and goals. A goal is what a person is trying to accomplish.
11	Managerial grid Theory	(Blake et al. ,1964) (Miller. K, 2008)	Developed by Robert Blake and Jane Mouton 1964 The managerial grid model is also based on a behavioral theory. suggests five different leadership styles, based on the leaders' concern for people and their concern for goal achievement.
12	The expectancy theory of motivation	(Vroom, V. H., 1964) (Dubrin, 2008)	The belief that people will be motivated and expend effort if they expect the effort to lead to performance and the performance to lead to a reward.
13	The componential theory of individual creativity	(Amabile, 1983) (Dubrin, 2008)	First articulated by Teresa Amabile in 1983. Three main components determine individual creativity: task motivation, domain-relevant skills, and creativity-relevant process. Creativity in Group, Elizabeth A. Mannix 2009

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S/ N	Theory/ Model/ Approach	Researchers	Description
14	Implicit leadership theory (ILTs)	(Eden, D., & Leviatan, U. 1973). Lord, RG (1977) (Gill, 2006)	Develop by Robert Lord. ILTs are the concept of leader that different people have in mind. These implicit leadership theories about leaders and follower affect the relation between them. An ILT may be about instrumental, inspirational, or informal leadership. ILTs are beliefs about how leaders behave, in general and what is expected of them
15	Managerial Leadership	Burke and Day (1986) Spillane (2004) Horton, T (1992)	a set of behaviors, evaluating the behavior of successful leaders, determining a behavior taxonomy, and identifying broad leadership styles.David McClelland, for example, posited that leadership takes a strong personality with a well-developed positive ego. To lead, self-confidence and high self-esteem are useful, perhaps even essential.
16	Reddin's 3D Theory	(Reddin, 1970) (Gill, 2006)	four styles that be effective on their situation and four ineffective styles, it uses situation sensitivity, to read situation with style flexibility, overcoming resistance to change
17	Integrated Psychological theory	Scouller, J. (2011)	Scouller proposed Three Levels of Leadership model] aims to summarize what leaders have to do, not only to bring leadership to their group or organization, but also to develop themselves technically and psychologically as leaders.The three levels in his model are Public, Private and Personal leadership.
18	Emergent leadership	(Mitchell, 1974) (Gill, 2006)	Emphasize on the importance of the followers. Postulate that leader may emerge who have the characteristics and skills to meet the needs of their group, organization or society at a given time
19	Fiedler's Contingency Theory	(Fiedler, F 1958, 1967) (Dubrin, 2008),	Effective leadership needs good leader-member relations, task with clear goals and procedures, and the ability for the leader to mete out rewards and punishments. Fiedler created the least preferred co-worker (LPC) scale to easuring the leadership situation. Suggests that the effectiveness of a leadership style- task oriented or people oriented- depends on the favourableness of a situation.
20	Path-gaol theory	(House, R. 1971) (Dubrin, 2008)	Developed by Robert House (1971). Clarify the path, identifying the goal, removing roadblocks, enhancing personal satisfaction along the way. It specifies what a leader must do to achieve high productivity and morale in a given situation. The manager chooses one of the four leadership styles, depending on the characteristics of the situation and the demands of the tasks.
21	Situational Leadership	(Hersey & Kenneth, 1969)	Based on the behaviour of the leader
22	Leadership Style	(Hariman, 1995) (Salazar, 2009) (Lewin, K.; Lippitt, R.; White, R. K. ,1939)	Providing direction, implementing plans, and motivating people. It is the result of the philosophy, personality, and experience of the leader. Rhetoric specialists have also developed models for understanding leadership. Effectively achieves the objectives of the group while balancing the interests of its individual members.
23	Action Centred Leadership	(Adair, 1973, 1983, 1984) (Gill, 2006)	Effective leaders address needs at three level: the task, the team and the individual. In this model, the more there is overlap and the more balanced the needs if the task, team and individual, the more effective is leadership.
24	Psychodynamic Theory	(Freud, S, 1938) (De Vries, M. F. R., 1977) (Gill, 2006)	Leader member exchange. Leaders provide directions and guidance through influences permitted by the followers
25	Leader- Member Exchange (LMX)	(Dansereau, Graen, and Haga 1975) (Burke, R. J., & Cooper, C. L. 2006).	Focus on the interaction between leaders and individual followers. Similar to the transactional approach. The LMX assumes equal rights for followers, and builds theoretical implication if those 'rights' are not met.
26	Charismatic Leadership Theory	(House, RJ 1976) (Dubrin, 2008)	Charismatic leader is any person who brings about certain outcomes to an unusually high degree. Charismatic is a special quality leaders who purposes, power, extraordinary determination.
27	Transformational Leadership	(Downton 1973) (Burns, 1978) Bernard Bass, B (1996, 2006)	First described by Burn, and developed by Bernard Bass. Transforming leadership is a process in which leaders and followers help each other to advance to a higher level of morale and motivation. Transformational which is based on concern for employees, intellectual stimulation, and providing a group vision.

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S/N	Theory/ Model/ Approach	Researchers	Description
28	Transactional Leadership	(Burn, 1978) (Bass, B 1996)	First described by Burn, and developed by Bernard Bass and colleagues Involves an exchange between leader and followers with an emphasis on correcting deviation from requirements and providing rewards for compliance
29	Universal Theory of leadership	(Dubrin, 2008)	Personal characteristics and skills contribute to leadership effectiveness in many situations,
30	General Personality trait of leaders	(Dubrin, 2008)	Associated with effective leadership includes: Self confidence, Humility, Trustworthiness, Extraversion, Assertiveness, Emotional stability, Enthusiasm, Sense of humor, Warmth
31	Task related personality traits of leaders	(Dubrin, 2008)	Associated with task accomplishment, Passion, Emotional intelligence, Flexibility and adaptability, Internal locus of control, Courage
32	Attribution theory	(Mumford et al, 2000) (Dubrin, 2008) (Foti & Hauenstein 2007). (Zaccaro, 2008) (Gershenoff, & Foti 2003)	If people perceive a leader to have a certain characteristic, such as being a visionary, the leader will more likely be perceived as charismatic. Attributions of charisma are important because they lead to other behavioural outcomes such as commitment to leaders, self-sacrifice and high performance.
33	Halpert's Dimensions of charisma	(Halpert, 1990) (Dubrin, 2008)	Jane A. Halpert factor analysed the 9 effects of charisma into three dimensions, the power exerted by leader (expert power), referent power and expert power.
34	Cognitive resource theory	(Fiedler & Garcia, 1987) (Dubrin, 2008) (Michie, J 2014)	Developed by Fiedler and Garcia. This theory considers the interaction between the situation (including the stress experienced by leaders and the group, and the cognitive resources of the leader and how that interaction affects the performance of the group

Appendix C: Leadership "6P" definition reference list

Elements		%	Rank	Authors/ Researchers
				1920s and before
People	13	92.86	2	(Mumford, 1906); (Munson & Miller, 1921); (Allport, 1924); (Bernard, 1926); (Bowden, 1926); (Bernard,1927); (Moore, 1927); (Bogardus, 1928); (Schenk, 1928); (Cowley, 1928); (Tead, 1929); (Nash, 1929); (Bogardusm 1929)
Purpose	6	42.86	4	(Munson & Miller, 1921); (Bernard, 1927); (Moore, 1927); (Cowley, 1928); (Tead, 1929); (Bogardus, 1929)
Power	10	71.43	3	(Mumford, 1906); (Bernard, 1926); (Bowden, 1926); (Bernard, 1927); (Moore, 1927); (Bogardus, 1928); (Schenk, 1928); (Cowley, 1928); (Tead, 1929); (Nash, 1929)
Process	3	21.43	5	(Mumford, 1906); (Cowley, 1928); (Bogardus, 1929)
Personality	14	100.00	1	(Mumford, 1906);(Munson & Miller, 1921); (Allport, 1924); (Bernard, 1926); (Bowden, 1926); (Bernard, 1927); (Bingham, 1927); (Moore, 1927); (Bogardus, 1928); (Schenk, 1928); (Cowley, 1928); (Tead, 1929); (Nash, 1929); (Bogardus, 1929)
Principle	1	7.14	6	(Moore, 1927)
				1930s
People	8	100.00	1	(Bundel, 1930); (Smith, 1934); (Bogardus, 1934); (Cleeton and Mason, 1934); (Tead, 1935); (Pigors, 1935); (Smith, 1935); (Barnard, 1938)
Purpose	5	62.50	3	(Smith, 1934); (Cleeton and Mason, 1934); (Tead, 1935); (Pigors, 1935); (Barnard, 1938)
Power	5	62.50	3	(Bundel, 1930); (Bogardus, 1934); (Cleeton and Mason, 1934); (Tead, 1935); (Barnard, 1938)
Process	4	50.00	4	(Bogardus, 1934); (Pigors, 1935); (Smith, 1935); (Barnard, 1938)
Personality	8	100.00	1	(Bundel, 1930); (Smith, 1934); (Bogardus, 1934); (Cleeton and Mason, 1934); (Tead, 1935); (Pigors, 1935); (Smith, 1935); (Barnard, 1938)
Principle	0	0.00	6	
				1940s
People	10	90.91	1	(Anderson, 1940); (Copeland, 1942); (Jennings, 1944); (Krech and Crutchfield, 1948); (Knickerbocker, 1948); (Odier, 1948); (Smith, 1948); (Hemphill, 1949)
Purpose	5	45.45	4	(Anderson, 1940); (Davis, 1942); (Krech and Crutchfield, 1948); (Knickerbocker, 1948)
Power	8	72.73	3	(Anderson, 1940); (Copeland, 1942); (Davis, 1942); (Jennings, 1944); (Odier, 1948); (Smith, 1948); (Hemphill, 1949)
Process	2	18.18	5	(Copeland, 1942)
Personality	10	90.91	1	(Anderson, 1940); (Copeland, 1942); (Davis, 1942); (Jennings, 1944); (Krech and Crutchfield, 1948); (Knickerbocker, 1948); (Odier, 1948); (Smith, 1948); (Hemphill, 1949)
Principle	1	9.09	6	(Odier, 1948)
				1950s
People	18	90.00	1	(Stogdill, 1950); (Shartle, 1951); (Haiman, 1951); (Cattelll, 1951); (Gerth and Mills, 1953); (Gibb, 1954); (Drucker, 1955); (Knootz and O'Donnel, 1955); (Warriner, 1955); (Shartle, 1956); (Sherif and Sherif, 1956); (Hemphill & Coons, 1957); (Montgomery, 1958); (Allen, 1958); (Bennis, 1959); (Bellows, 1959)
Purpose	13	65.00	3	(Stogdill, 1950); (Haiman, 1951); (Cattelll, 1951); (Drucker, 1955); (Knootz and O'Donnel, 1955); (Warriner, 1955); (Gordon, 1955); (Shartle, 1956); (Sherif and Sherif, 1956); (Hemphill & Coons, 1957); (Montgomery, 1958); (Bellows, 1959)
Power	12	60.00	4	(Stogdill, 1950); (Shartle, 1951); (Haiman, 1951); (Gerth and Mills, 1953); (Gibb, 1954); (Hemphill, 1954); (Knootz and O'Donnel, 1955); (Warriner, 1955); (Gordon, 1955); (Montgomery, 1958); (Bennis, 1959)
Process	7	35.00	5	(Stogdill, 1950); (Haiman, 1951); (Gibb, 1954); (Hemphill, 1954); (Knootz and O'Donnel, 1955); (Bennis, 1959); (Bellows, 1959);
Personality	18	90.00	1	(Stogdill, 1950); (Shartle, 1951); (Haiman, 1951); (Cattelll, 1951); (Gerth and Mills, 1953); (Hemphill, 1954); (Drucker, 1955); (Knootz and O'Donnel, 1955); (Warriner, 1955); (Gordon, 1955); (Shartle, 1956); (Sherif and Sherif, 1956); (Hemphill & Coons, 1957); (Montgomery, 1958); (Allen, 1958); (Bennis, 1959); (Bellows, 1959)
Principle	0	0.00	6	

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Elements		%	Rank	Authors/ Researchers
				1960s
People	11	84.62	2	(Seeman, 1960); (Janda, 1960); (Bass, 1960); (Bavelas, 1960); (Prentice, 1961); (Bass, 1961); (Davis, 1962); (Holander and Julian, 1965); (Fiedler, 1967); (Merton, 1969)
Purpose	6	46.15	4	(Seeman, 1960); (Bass, 1960); (Tannenbaum,Weschler & Massarik, 1961); (Prentice, 1961); (Davis, 1962); (Katz and Kahn, 1966)
Power	9	69.23	3	(Seeman, 1960); (Janda, 1960); (Bass, 1960); (Tannenbaum,Weschler & Massarik, 1961); (Bass, 1961); (Davis, 1962); (Holander and Julian, 1965); (Katz and Kahn, 1966); (Fiedler, 1967)
Process	1	7.69	5	(Tannenbaum,Weschler & Massarik, 1961)
Personality	12	92.31	1	(Seeman, 1960); (Janda, 1960); (Bass, 1960); (Bavelas, 1960); (Prentice, 1961); (Bass, 1961); (Davis, 1962); (Holander and Julian, 1965); (Katz and Kahn, 1966); (Fiedler, 1967); (Merton, 1969)
Principle	0	0.00	6	
				1970s
People	5	71.43	1	(Massie, 1973); (Burns, 1978); (Hollander, 1978)
Purpose	5	71.43	1	(Massie, 1973); (Stogdill, 1974); (Katz & Kahn, 1978); (Burns, 1978)
Power	4	57.14	3	(Katz & Kahn, 1978); (Burns, 1978); (Hollander, 1978)
Process	2	28.57	5	(Burns, 1978) ; (Hollander, 1978)
Personality	4	57.14	3	(Katz & Kahn, 1978); (Burns, 1978)
Principle	0	0.00	6	
				1980s
People	12	80.00	2	(Cribbin, 1981); (Smircich & Morgan, 1982); (Rauch & Behling, 1984); (Donelly, Ivancevich, & Gibson, 1985); (Bennis, 1985); (Bryman, 1986); (Hopper, 1987); (Loden, 1987); (Bennis, 1988); (Hersey & Blanchard, 1988); (Bennis, 1989); (Batten, 1989)
Purpose	11	73.33	3	(Cribbin, 1981); (Rauch & Behling, 1984); (Donelly, Ivancevich, & Gibson, 1985); (Richards & Engle, 1986); (Bryman, 1986); (Bennis, 1988); (Hersey & Blanchard, 1988); (Bennis, 1989); (Batten, 1989)
Power	7	46.67	4	(Cribbin, 1981); (Rauch & Behling, 1984); (Donelly, Ivancevich, & Gibson, 1985); (Loden, 1987); (Hersey & Blanchard, 1988); (Vecchio, 1988); (Bennis, 1989)
Process	6	40.00	5	(Cribbin, 1981); (Smircich & Morgan, 1982); (Rauch & Behling, 1984); (Donelly, Ivancevich, & Gibson, 1985); (Hersey & Blanchard, 1988); (Bennis, 1989)
Personality	13	86.67	1	(Cribbin, 1981); (Smircich & Morgan, 1982); (Rauch & Behling, 1984); (Donelly, Ivancevich, & Gibson, 1985); (Bennis, 1985); (Hopper, 1987); (Loden, 1987); (Bennis, 1988); (Hersey & Blanchard, 1988); (Vecchio, 1988); (Bennis, 1989); (Batten, 1989)
Principle	3	20.00	6	(Richards & Engle, 1986); (Bryman, 1986); (Hopper, 1987)
				1990s
People	22	84.62	2	(Gardner, 1990); (Cohen, 1990); (Bass & Stogdill, 1990); (Rost, 1991); (Handy, 1992); (Conger, 1992); (Zalenik, 1992); (Kim & Mauborgne, 1992); (Rost, 1993); (Huczynski et al, 1993); (Varner, 1994); (Jaques & Clement, 1994); (Drath & Palus, 1994); (Kouzes & Posner, 1995); (Gardner, 1995); (Freiberg, 1996); (Shriberg et al., 1997); (Chemers, 1997); (Tozer, 1997); (Buchannan and Huczynski, 1997); (Ciulla, 1998); (House et el, 1999)
Purpose	20	76.92	3	(Jacobs & Jaques, 1990); (Gardner, 1990); (Cohen, 1990); (Bass & Stogdill, 1990); (Rost, 1991); (Handy, 1992); (Conger, 1992); (Kim & Mauborgne, 1992); (Rost, 1993); (Varner, 1994); (Jaques & Clement, 1994); (Kouzes & Posner, 1995); (Freiberg, 1996); (Jaworski, 1996); (Shriberg et al., 1997); (Chemers, 1997); (Tozer, 1997); (Ciulla, 1998); (House et el, 1999); (Senge et al, 1999)
Power	17	65.38	4	(Gardner, 1990); (Cohen, 1990); (Bass & Stogdill, 1990); (Conger, 1992); (Zalenik, 1992); (Kim & Mauborgne, 1992); (Rost, 1993); (Huczynski et al, 1993); (Varner, 1994); (Jaques & Clement, 1994); (Kouzes & Posner, 1995); (Gardner, 1995); (Freiberg, 1996); (Chemers, 1997); (Tozer, 1997); (Buchannan and Huczynski, 1997); (House et el, 1999)
Process	9	34.62	5	(Jacobs & Jaques, 1990); (Gardner, 1990); (Schein, 1992); (Jaques & Clement, 1994); (Drath & Palus, 1994); (Shriberg et al., 1997); (Chemers, 1997); (Buchannan and Huczynski, 1997); (Senge et al, 1999)

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Elements		%	Rank	Authors/ Researchers
				1990s
Personality	26	100.00	1	(Gardner, 1990); (Cohen, 1990); (Bass & Stogdill, 1990); (Rost, 1991); (Handy, 1992); (Conger, 1992); (Zalenik, 1992); (Schein, 1992); (Kim & Mauborgne, 1992); (Rost, 1993); (Huczynski et al, 1993); (Varner, 1994); (Jaques & Clement, 1994); (Drath & Palus, 1994); (Kouzes & Posner, 1995); (Gardner, 1995); (Freiberg, 1996); (Jaworski, 1996); (Shriberg et al., 1997); (Chemers, 1997); (Tozer, 1997); (Buchannan and Huczynski, 1997); (Ciulla, 1998); (House et el, 1999); (Senge et al, 1999)
Principle	0	0.00	6	
				2000s
People	16	94.12	2	(Barker, 2002); (Covey, 2004); (Gill, 2007); (Northouse, 2004); (Yukl 2005); (Kearns, 2005); (Dubrin, 2006); (Winston & Patterson 2006); (Standfield, 2009); (Trevisani, 2009); (Adeoye, 2009)
Purpose	11	64.71	3	(Barker, 2002); (Northouse, 2004); (Yukl 2005); (Kearns, 2005); (Dubrin, 2006); (Winston & Patterson 2006); (Standfield, 2009); (Trevisani, 2009); (Adeoye, 2009)
Power	11	64.71	3	(Northouse, 2004); (Yukl 2005); (Kearns, 2005); (Maxwell, 2006); (Dubrin, 2006); (Winston & Patterson 2006); (Standfield, 2009); (Trevisani, 2009); (Adeoye, 2009)
Process	4	23.53	5	(Barker, 2002); (Northouse, 2004); (Yukl 2005)
Personality	17	100.00	1	(Barker, 2002); (Covey, 2004) ; (Gill, 2007); (Northouse, 2004); (Yukl 2005); (Kearns, 2005); (Maxwell, 2006); (Dubrin, 2006); (Winston & Patterson 2006); (Standfield, 2009); (Trevisani, 2009); (Adeoye, 2009)
Principle	3	17.65	6	(Standfield, 2009); (Trevisani, 2009)
				2010s
People	36	83.72	2	(Wagner, 2014); (Bhaskar, 2011); (Kruse, 2013); (Myers, 2013); (Mielach, 2013); (Harvey, 2014); (Babatunde, 2014); (Strock, 2015); (Jordan & Lindebaum, 2015); (Ward, 2015)
Purpose	31	72.09	3	(Bhaskar, 2011); (Kruse, 2013); (Myers, 2013); (Mielach, 2013) ; (Harvey, 2014); (Strock, 2015)
Power	25	58.14	4	(Bhaskar, 2011); (Kruse, 2013); (Mielach, 2013); (Harvey, 2014); (Babatunde, 2014); (Strock, 2015); (Ward, 2015)
Process	5	11.63	5	(Bhaskar, 2011); (Kruse, 2013); (Mielach, 2013) ; (Babatunde, 2014); (Jordan & Lindebaum, 2015)
Personality	39	90.70	1	(Bhaskar, 2011); (Kruse, 2013); (Myers, 2013); (Mielach, 2013); (Wagner, 2014); (Harvey, 2014); (Babatunde, 2014); (Strock, 2015); (Jordan & Lindebaum, 2015); (Ward, 2015)
Principle	1	2.33	6	(Mielach, 2013)

Appendix D: Leadership definitions list

s/n	Reference	Definitions
1	Adams, J. Q. (n.d.) cited by Wurtz, T.J. (2009). Corporate Common Sense: Revolutionary Business Lessons Inspired by Thomas Paine. AuthorHouse	If your actions inspire others to dream more, learn more, do more and become more, you are a leader.
2	Adams, S. (1996). The Dilbert Principle: A cubicle's-eye view of basses, meetings, management fads & other workplace afflictions.	"Leadership is an intangible quality with no clear definition. That's probably a good thing, because if the people who were being led knew the definition, they would hunt down their leaders and kill them."
3	Adeoye. M. (2009). Leadership Definitions by Scholars. Retrieved from: http://adeoyemayowaleadership.blogspot.ae.	Leadership is the ability to evaluate and or forecast a long term plan or policy and influence the followers towards the achievement of the said strategy.
4	Allen, L.A. (1958). Management & organizations New York: McGraw-Hill.	One who guides and directs other people.
5	Allport, Floyd H. Social psychology, Houghton Mifflin, Boston, 1924.	Leadership means direct, face to face contact between leader and followers ; it is personal social control.
6	Anderson, H. H. (1940). An examination of the concepts of domination and integration in relation to dominance and ascendance. Psychological Review, 47(1), 21-37.	A true leader in the psychological sense is one who can make the most of individual differences, who can bring out the most differences in the group and therefore reveal to the group a sounder base for defining common purposes.
7	Ascher, S. (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"A leader is a person who takes you where you will not go alone."
8	Babatunde, A. (2014). Leadership & Management (Workbook). Lulu.com	The process by which a person influences others.
9	Banerjee, J (n.d.) cited by Mielach, D. (2013). Defining Leadership: 8 ways to be a great leader. Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/4069-business-leaders-define-leadership.html	Leadership is a way for talented individuals to share their perspectives and knowledge by influencing others. Using their own charisma and influence, leaders should have the ability to inspire others to learn more, do more and become more.
10	Barker, R. (2002). On the nature of leadership. University Press of America.	A process of transformative change where the ethics of individuals are integrated into the mores of a community as a means of evolutionary social development.
11	Barnard, C.I. (1938). The Functions of the Executive. Cambridge, MA: Harvard University Press.	"Leadership is the ability of a superior to influence the behavior of a subordinate or group and persuade them to follow a particular course of action."
12	Barney, M (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership is the behavior that brings the future to the present, by envisioning the possible and persuading others to help you make it a reality."
13	Bass, B. M. (1960). Leadership, psychology, and organizational behavior. New York: Harper	When the goal of one member, A, is that of changing another, B, or when B's change in behaviour will reward A or reinforce A's behaviour, A's effort to obtain the goal is leadership
14	Bass, B. M. (1961). Some observations about a general theory of leadership and interpersonal behavior. In L. Petrullo & B. M. Bass (Eds.), Leadership and Interpersonal behavior (pp. 3-9). New York: Holt, Rinehart & Winston.	An individual's "effort to change the behaviour of others is attempted leadership. When the other members actually change, this creation of change in others is successful leadership. If the others are reinforced or rewarded for changing their behaviour, this evoked achievement is effective leadership.
15	"Bass, B. M. (1990) Handbook of Leadership: Theory, Research and Managerial Applications 3rd Edition, New	An interaction between two or more members of a group that often involves a structuring or restructuring of the situation and the perception and expectations of the members.
16	Bass, B. M., & Stogdill, R. M. (1990). Bass & Stogdill's handbook of leadership: Theory, research, and managerial applications. Simon and Schuster.	The principle dynamic forces that motivates and coordinates the organization in the accomplishment of its objectives.

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s/n	Reference	Definitions
17	Batten, J.D. (1989). Tough-minded Leadership' New York: AMACOM	"Leadership is a development of a clear and complete system of expectations in order to identify evoke and use the strengths of all resources in the organization the most important of which is people."
18	Bavelas, A. 1960. Leadership:Man and function. Administrative Science Quarterly, 4, 491–498.	Organizational leadership as the function of "maintaining the operational effectiveness of decision making systems which comprise the management of the organization.
19	Bellows, R. M. (1959). Creative leadership. Upper Saddle River, NJ: Prentice-Hall.	The process of arranging a situation so that various members of a group, including the leader, can achieve common goals with maximum economy and minimum of time and work.
20	Bennis, W. (1988) cited by Legacee (n.d.). Leadership Defination. Legacee Corporate Services, Inc. Retriend from https://www.legacee.com/potpourri/leadership-definitions/	"The first job of a leader is to define a vision for the organization.... Leadership of the capacity to translate vision into reality."
21	Bennis, W. (1989). On Becoming a Leader. Reading, MA: Addison-Wesley Publishing.	"Leadership (according to John Sculley) revolves around vision, ideas, direction, and has more to do with inspiring people as to direction and goals than with day-to-day implementation. A leader must be able to leverage more than his own capabilities. He must be capable of inspiring other people to do things without actually sitting on top of them with a checklist."
22	Bennis, W. (1989). On Becoming A Leader. Reading, Massachusetts: Addison-Wesley.	The capacity to create a compelling vision and translate it into action and sustain it
23	Bennis, W. (1989). On Becoming A Leader. Reading, Massachusetts: Addison-Wesley.	Leadership is a function of knowing yourself, having a vision that is well communicated, building trust among colleagues, and taking effective action to realize your own leadership potential.
24	Bennis, W. and Nanus (1985) Leaders: The Strategies for Taking Charge. New York: Harper and Row.	leadership is like the Abominable Snowman, whose footprints are everywhere but who is nowhere to be seen.
25	Bennis, W. G. (1959). Leadership theory and administrative behavior: The problem of authority. Administrative science quarterly, 259-301.	The process by which an agent induces a subordinate to behave in a desired manner.
26	Bennis, W.G. & Nanus, B. (1997). Leaders: Strategies for Taking Charge.HarperBusiness	" ...leadership is like the Abominable Snowman, whose footprints are everywhere but who is nowhere to be seen"
27	Bernard, L. L. (1926). An introduction to social psychology. New York: Holt.	Any person who is more than ordinarily efficient in carrying psychological stimuli to others as is thus effective in conditioning collective response may be called a leader
28	Bernard, L. L. (1927). Leadership and propaganda. An introduction to sociology.	The leader is influenced by the needs and wishes of the group members. In turn, he focuses the attention and releases the energies of group members in a desired direction.
29	Bingham,W. V. (1927). Leadership. In H. C.Metcalf, The psychological foundations of management. New York: Shaw.	A leader as a person who possess the greater number of desirable traits of personality and character.
30	Blackmar, F. W. (1911). Leadership in reform. The American Journal of Sociology, 16(5), 626-644.	Centralization of effort in one person as an expression of the power of all.
31	Blair, P (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership in the business world requires harnessing the energy and efforts of a group of individuals so that their outlook is advanced from an unremarkable Point A to a very desirable Point B — from bad to good, slow to fast, red to black. During that process, leadership manifests in projecting your expertise in a way that gains the confidence of others. Ultimately, leadership becomes about trust — when that confidence inspires them to align their vision and level of commitment for the betterment of the company."

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s/n	Reference	Definitions
32	Blanchard, K (n.d.) cited by Kirimi, B. (2007). Successful Leadership: 8 Essential Principles You Must Know. Rich Brott.	"The key to successful leadership today is influence, not authority."
33	Bobaparte, N (n.d.) cited by Atkinson, D.M. (2008). Leadership - By the Book. Xulon Press	A leader is a dealer in hope.
34	Bogardus, E. S. (1928). World leadership types. Sociology and Social Research, 12, 573-599.	The creating and setting forth of exceptional behaviour patterns in such a way that other person respond to them.
35	Bogardus, E. S. (1929) "Leadership and attitudes", Sociology and Social Research, Vol. 13, 377-387.	As a social process, leadership is that social interstimulation which causes a number of people to set out toward an old goal with new zest or a new goal with hopeful courage- with different persons keeping different places.
36	Bogardus, E. S. (1934). Leaders and leadership. D. Appleton-Century Company, incorporated.	Personality in action under group conditions... not only is leadership both a personality and a group phenomenon; it is also a social process involving a number of persons in mental contact in which one person assumes dominance over the others.
37	Bolander, J (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership is caring more about the cause and the people in your company than about your own personal pain and success. It is about having a greater vision of where your company is trying to go while leaving the path open for others to grow into leaders."
38	Bowden, A. O. (1926). A study of the personality of student leaders in colleges in the United States. The Journal of Abnormal and Social Psychology, 21(2), 149.	Indeed, the amount of personality attributed to any individual may not be unfairly estimated by the degreed of influence he can exert upon others.
39	Brown, J. F. (1936). Psychology and the social order (p. 529). New York: McGraw-Hill.	The leader may not be separated from the group (people), but may be treated as a position of high potential in the field.
40	Bryman, A. (1986). Leadership and Organizations. Routledge & K. Paul	"Leadership is the creation of a vision about a desired future state which seeks to enmesh all members of an organisation in its net."
41	Buchanan, D. & Huczynski, A. (1997). Organizational Behaviour (third edition), p.601. London: Prentice Hall.	"Leadership is a social process in which one individual influences the behaviour of others without the use of threat or violence."
42	Bundel, C. M. (1930). Is leadership losing its importance. Infantry Journal, 36(2), 339-349.	The art of inducing others to do what one wants them to do.
43	Burns, J. M. (1978) Leadership, New York: Harper Torch Books.	Leadership over human beings is exercised when persons with certain motives and purposes mobilize, in competition or conflict with others, institutional, political, sychological, and other resources so as to arouse, engage and satisfy the motives of followers
44	Burns, J.M. (1978) Leadership. New York. Harper & Row.	"The ultimate test of practical leadership is the realization of intended, real change that meets people's enduring needs."
45	Burns, J.M. (1978) Leadership. New York. Harper & Row.	Leadership is the reciprocal process of mobilizing by persons with certain motives and values, various economic, political, and other resources, in a context of competition and conflict, in order to realize goals independently or mutually help by both leaders and followers.
46	Burns, J.M. (1978) Leadership. New York. Harper & Row.	When one or more persons engage with others in such a way that leaders and followers raise one another to higher levels of motivation and morality.
47	Burns, K. (2010). Are you too old to lead? Building a better workplace. Retrieved from https://burnsattitude.wordpress.com/category/leadership-attitude/	Leadership is an attitude. Management is a position. In the same way that service is an attitude and customer service is a department. It is a state of being — a way to approach life.
48	Carter, L. F. (1953). On defining leadership. Group relations at the crossroads. New York: Harper & Row.	Leadership behaviors are any behaviours the experimenter wishes to so designate or, more generally, any behaviors which experts in this area wish to consider as leadership behaviors.

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s/n	Reference	Definitions
49	Casullo, D. (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership is the collective action of everyone you influence. Your behavior — your actions and your words — determines how you influence. Our job as leaders is to energize whatever marshals action within others."
50	Cattell, R. B. (1951). New concepts for measuring leadership In terms of group syntallty. Human Relations. , 4, 161-184.	A person who produces group syntality different from that which would have existed had he not been present in the group. By syntality is meant the various performance exhibited by the group in its effort to achieve a goal. Thus, leadership may be measured in terms of its effects on group performance.
51	Chapin, F. S. (1924). Leadership and Group Activity. Journal of Applied Psychology 8, pp. 141-145.	A point of polarisation of group corporation.
52	Chemers, M. (1997). An integrative theory of leadership. Mahwah, N.J. : Lawrence Erlbaum Associates	a process of social influence in which a person can enlist the aid and support of others in the accomplishment of a common task.
53	Ciulla, J.B. (1998). Ethics, the Heart of Leadership. Quorum Books	"Leadership is not a person or a position. It is a complex moral relationship between people, based on trust, obligation, commitment, emotion, and a shared vision of the good."
54	Cleeton, G. U., & Mason, C. W. (1934). Leadership and responsibility.	Leadership indicates the ability to influence men and secure results through emotional appeals rather than through the exercise of authority.
55	Cohen, W.A. (1990). The Art of a Leader. Englewood Cliffs, NJ: Prentice Hall.	"Leadership is the art of influencing others to their maximum performance to accomplish any task, objective or project."
56	Coleman, K (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"For me, leadership is an act — a decision to take a stand, or step, in order to encourage, inspire or motivate others to move with you. What's more, the most effective leaders do not rely on their title, or positional power, to lead. Rather, their ability to use their own personal power combined with their use of strategic influence are what make them effective."
57	Conger, J.A. (1992). Learning to Lead. San Francisco: Jossey-Bass.	"Leaders are individuals who establish direction for a working group of individuals who gain commitment form these group of members to this direction and who then motivate these members to achieve the direction's outcomes."
58	Cooley, C.H. (1902). Human Nature and the Social Order. New York, Scribners.	The leader is always the nucleus of a tendency, and, on the other hand, all social movements, closely examined, will be found to consist of tendencies having such nuclei. (power)
59	Copeland, N. (1942). Psychology and the soldier. Harrisburg, Pa.: Military Service Publishing.	Leadership is the art of dealing with human nature... it is the art of influencing a body of people by persuasion or example to follow a line of action. It must never be confused with drivership- to coin a word- which is the art of compelling a body of people by intimidation or force to follow a line of action.
60	Copeland, N. (1942). Psychology and the soldier. Harrisburg, Pa.: Military Service Publishing.	The art of influencing people by persuasion or example to follow a line of action.
61	Courtright, K. (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	Leadership is Influence!'
62	Covey S.R. (2004). The 7 Habits of Highly Effective People: Powerful Lessons in Personal Change. Free Press	Management is efficiency in climbing the ladder of success; leadership determines whether the ladder is leaning against the right wall.
63	Covey S.R. (2004). The 7 Habits of Highly Effective People: Powerful Lessons in Personal Change. Free Press	Leadership is communicating to people their worth and potential so clearly that they come to see it in themselves
64	Cowley, W. H. (1928). Three distinctions in the study of leaders. In B. M. Bass (Ed.), Bass & Stogdill's handbook of leadership: Theory, research & Managerial applications (3 ed., pp. 1182). New York: The Free Press.	A leader is a person who has a program and is moving toward an objective with his group in a definite manner.

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s/n	Reference	Definitions
65	Cribbin, J.J. (1981) Leadership: strategies for organizational effectiveness. New York: AMACOM	"Leadership is an influence process that enable managers to get their people to do willingly what must be done, do well what ought to be done."
66	Crockett, J (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"A true leader is secure in creating a framework that encourages others to tap into their own skills and ideas and freely contribute to the whole of the project or company."
67	Davis K (1962). Human Relations At Work. New York: McGraw. Hill Book Company.	The human factor which binds a group together and motivates it toward goals.
68	Davis, A. (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"My perspective of a leader is an individual who knows the ins and outs about the business so they can empathize with followers. In addition to being a positive influence on the people they are leading, leadership is about setting the tone, motivating, inspiring, thinking big, and never [giving] up when others feel like quitting."
69	Davis, R. C. (1942) The fundamentals of top management, New York: Harper.	The principal dynamic force that stimulates, motivates, and coordinates the organization in the accomplishment of its objectives.
70	DePree, M. (1989). Leadership is an art. Dell	"The first responsibility of a leader is to define reality. The last is to say thank you. In between the two, the leader must become a servant and a debtor. That sums up the progress of an artful leader."
71	Díaz R.J. (n.d.) cited by Mielach, D. (2013). Defining Leadership: 8 ways to be a great leader. Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/4069-business-leaders-define-leadership.html	A leader knows how to keep perspective of the big picture, understand priorities, and perceive context. They are fearless, cynical and cannot be afraid to act on instinct. They are clear in his goals and an excellent communicator.
72	Donelly, J.H. & Ivancevich, J. M. & Gibson, J.L. (1985). Organizations: behavior, structure, processes. 5th Ed. Plano,TX: Business Publications Inc.	"Leadership is an attempt at influencing the activities of followers through the communication process and toward the attainment of some goal or goals."
73	Drath, W.H. & Palus, C.J. (1994). Making Common Sense: Leadership as Meaning-making in a Community of Practice. Center for Creative Leadership	"Leadership is the process of making sense of what people are doing together so that people will understand and be committed."
74	Drucker, P. (1996). Not enough generals were killed. Forbes ASAP, 104.	The only definition of a leader is someone who has followers.
75	Drucker, P. F. (1994). The Theory of Business. Harvard Business Review, 72 (4), 95–104.	"Leadership is all hype. We've had three great leaders in this century - Hitler, Stalin and Mao."
76	Drucker, Peter F. (1955). The Practice of Management. London: Heinemann.	"Leadership is the lifting of a man's vision to higher sights, the raising of a man's performance to a higher standard, the building of a man's personality beyond its normal limitations."
77	Dubrin, A. (2006). Leadership: Research findings, practice, and skills. (5th ed.). Houghton Mifflin.	Interpersonal influence, directed through communication toward goal attainment
78	Dubrin, A. (2006). Leadership: Research findings, practice, and skills. (5th ed.). Houghton Mifflin.	An act that cause others to act or response in shared direction
79	Eikenberg, D. (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"A leader is someone who has the clarity to know the right things to do, the confidence to know when she's wrong and the courage to do the right things even when they're hard."
80	Falk, J. (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership is the ability to take an average team of individuals and transform them into superstars. The best leader is the one who inspires his workers to achieve greatness each and every day."
81	Fiedler, F. E., & Chemers, M. M. (1967). A theory of leadership effectiveness. New York: McGraw-Hill.	"A leader is the person in a group who directs and coordinates task-oriented group activities."

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s/n	Reference	Definitions
82	Fiedler, F. E., & Chemers, M. M. (1967). A theory of leadership effectiveness. New York: McGraw-Hill.	By leadership behaviour we generally mean the particular acts in which a leader engages in the course of directing and coordinating the work of his group members. This may involve such acts as structuring the work relations, praising or criticizing group members, and showing consideration for their welfare and feelings."
83	Flom E.L. (1987) cited by McCord, R. (2001). The Best Advice Ever for Becoming a Success at Work. Andrews McMeel Pub.	"One of the hardest tasks of leadership is understanding that you are not what you are, but what you're perceived to be by others."
84	Ford, H (n.d.) cited by Marshall, T. (1991). Understanding Leadership: Fresh Perspectives on the Essentials of New Testament Leadership. Sovereign World	Asking who should be the leader, is like asking who should sing tenor in the quartet, the man with the tenor voice, of course
85	Ford, H. (n.d.) cited by Anderson, R. (2010). Confessions of a Radical Industrialist: How Interface proved that you can build a successful business without destroying the planet. Random House.	"I am looking for a lot of men who have an infinite capacity to not know what can't be done."
86	Freiberg, K. Jackie.(1996) Nuts! Southwest Airlines' Crazy Recipe for Business & Personal Success. NY Broadway Books.	Leadership is a dynamic relationship based on mutual influence and common purpose between leaders and collaborators in which both are moved to higher levels of motivation and moral development as they affect real, intended change.
87	French Jr, J. R. (1956). A formal theory of social power. Psychological review, 63(3), 181.	Interpersonal power is conceived "as a result of the maximum force which A can induce on B minus the maximum resisting force which B can mobilize in the opposite direction." Five bases of power are postulated. These are referent power (liking), expert power, reward power, coercive power and legitimate power.
88	Gafka, P (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership is employing your skills and knowledge, leveraged by your attitude to get the results you desire."
89	Gaille, W.B. (1955) "Essentially contested concepts", Proceedings of the Aristotelian Society, 56, 167-98.	Leadership appears to be, like power, an 'essentially contested concept
90	Gardner, H. (1995). Leading Minds: An Anatomy of Leadership. Basic Books	"A leader is an individual (or, rarely, a set of individuals) who significantly affects the thoughts, feelings, and/or behaviors of a significant number of individuals".
91	Gardner, J. W. (1990). On leadership. New York, NY: The Free Press.	The process of persuasion or example by which an individual (or leadership team) induces a group to pursue objectives held by the leader or shared by the leader and his or her followers
92	Garfield, L (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"In my experience, leadership is about three things: To listen, to inspire and to empower. Over the years, I've tried to learn to do a much better job listening actively, making sure I really understand the other person's point of view, learning from them, and using that basis of trust and collaboration to inspire and empower. [It's about] setting the bar high, and then giving them the time and resources to do great work."
93	Gates, B (n.d.) Havice, B. (2003). Leadership is performance: Text from a speech delivered at the ITEA Nashville conference Maley" Spirit of Excellence" Breakfast. The Technology Teacher, 63(1), 25.	"As we look ahead into the next century, leaders will be those who empower others."
94	Gazzara, K (n.d.) cited by Mielach, D. (2013). Defining Leadership: 8 ways to be a great leader. Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/4069-business-leaders-define-leadership.html	Leadership is getting people to do what everyone else knows is the right thing to do, but who do not have the self-confidence to act on their own!
95	Gerth, H. H., & Mills, C. W. (1953). Character and social structure: The psychology of social institutions. New York: Harcourt, Brace.	Leadership, most broadly conceived, is a relation between leader and led in which the leader influences more than he is influenced: because of the leader, those who are led act or feel differently than they otherwise would. As a power relation, leadership may be known to both leader and led, or unknown to either or both.

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s/n	Reference	Definitions
96	Gibb, C. A. (1954). Leadership. in G. Lindzey (ed.) Handbook of Social Psychology, Vol. 2, Reading, MA: Addison-Wesley, pp. 877–917.	Group leadership as a position emerging from the interaction process itself.
97	Gibbins-Klein, M (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	Leadership is having a vision, sharing that vision and inspiring others to support your vision while creating their own."
98	Gill, R. (2007). Theory and practice of leadership. Sage Publication	Leaders who have the characteristics and skills to meet the needs of their group, organization or society at a given time.
99	Gill, R. (2007). Theory and practice of leadership. Sage Publication	The ability or desire to serve other people is usually the reason why leaders emerge
100	Gordon, T. (1955). Group-centered leadership- a way of releasing the creative power of groups, Boston: Houghton Mifflin.	Leadership can be conceptualized as an interaction between a person and a group or, more accurately, between a person and the group members. Each participant in this interaction may be said to play a role, and in some way these roles must be differentiated from each other. The basis for this differentiation seems a matter of influence- that is, one person, the leader, influences, while the other person respond.
101	Hagen, A, Hassan, M and Amin, S (1998), Critical strategic leadership components: an empirical investigation SAM Advanced Management Journal; v63, n3, p.39.	the process through which leaders influence the attitudes, behaviours and values of others.
102	Haiman, F. S. (1951). Group leadership and democratic action. Boston. Houghton Mifflin	Direct leadership is an interaction process in which an individual, usually through the medium of speech, influences the behaviour of other toward a particular end.
103	Hammer, M (n.d.) cited by Kennedy, C (1996). Managing with the gurus: top level guidance on 20 management techniques. Century Business.	Without a leader, nothing happens
104	Handy, C. (1992) .The Language of Leadership. Frontiers of Leadership (eds Syrett and Hogg) Oxford: Blackwell.	A leader shapes and shares a vision which gives point to the work of others."-
105	Hansen, M (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership means using one's influence to help guide others in successfully achieving a goal without desire for recognition, without worry of what others think and with awareness of issues, internal or external, that might change the results sought."
106	Hanson, L.C. (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	Leadership is the ability to guide others without force into a direction or decision that leaves them still feeling empowered and accomplished."
107	Harvey, T. (2014). What is Leadership?. Learn-to-be-a-Leader.com. Retrieved from http://www.learn-to-be-a-leader.com/what-is-leadership.html	"A leader is someone whose direction and approach other people are willing to follow."
108	Harvey, T. (2014). What is Leadership?. Learn-to-be-a-Leader.com. Retrieved from http://www.learn-to-be-a-leader.com/what-is-leadership.html	"Influencing others to follow a given direction."
109	Heasley, K (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership is being bold enough to have vision and humble enough to recognize achieving it will take the efforts of many people — people who are most fulfilled when they share their gifts and talents, rather than just work. Leaders create that culture, serve that greater good and let others soar."
110	Hemphill, J. (1954). Theory of leadership. Handbook Social Psychology.	To lead is to engage in an act that initiates a structure in the interaction as part of the process of solving a mutual problem.
111	Hemphill, J. K., & Coons, A. E. (1957). Development of the leader behavior description questionnaire. Leader behavior: Its description and measurement, 6, 38.	Leadership is the behavior of an individual... directing the activities of a group toward a shared goal"

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s/n	Reference	Definitions
112	Hemphill, J. K., & Coons, A. E. (1957). Development of the leader behavior description questionnaire. Leader behavior: Its description and measurement, 6, 38.	"Leadership is the behavior of an individual when he is directing the activities of a group toward a shared goal."
113	Hemphill, J.K. (1949). The leader and his group. Journal of Educational Research. Vol. 28, 225-229	Leadership may be defined as the behaviour of an individual while he is involved in directing group activities.
114	Hersey, P. & Blanchard, K. (1988). Management of Organizational Behavior. Englewood Cliffs, NJ: Prentice Hall.	"Leadership is the process of influencing the activities of an individual or a group in efforts toward goal achievement in a given situation."
115	Hesburgh, T.M. (n.d.) cited by Maxwel, J.C. (1993). Developing the Leader Within You. Thomas Nelson Inc.	"The very essence of leadership is that you have to have vision. You can't blow an uncertain trumpet."
116	Hines, J (n.d.) cited by Mielach, D. (2013). Defining Leadership: 8 ways to be a great leader. Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/4069-business-leaders-define-leadership.html	Leadership is expecting as much of your workers as they are capable of, but never of more than you are yourself. It is never asking someone to do something you haven't done yourself, or aren't perfectly willing to do again. Lastly, leadership is understanding that your workers have different ideas and being able to flex to incorporate their ideas (purpose) in the plan.
117	Hoeferle, B (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"A leader is a mix of a visionary and a left brainer — an inspiration to others who uplifts one to walk beside him, not behind him. A leader lets go of his/her ego and taps into his soul, consistently stretching himself, challenging himself, growing within."
118	Hollander, E. P. (1978). Leadership dynamics: A practical guide to effective relationships. New York: Free Press	"Leadership is a process of influence between a leader and those who are followers."
119	Hollander, E. P., Julian, J. W., & Haaland, G. A. (1965). Conformity process and prior group support. Journal of Personality and Social Psychology, 2(6), 852.	Leadership in the broadest sense implies the presence of a particular influence relationship between two or more persons.
120	Homans, G. C. (1950). The Human Croup. Harcourt, Brace	The leader of a group as a member who" originates interaction"
121	Hopper, G. (1987) cited by Legacee (n.d.). Leadership Defination. Legacee Corporate Services, Inc. Retriend from https://www.legacee.com/potpourri/leadership-definitions/	"Leadership is a two-way street, loyalty up and loyalty down. Respect for one's superiors; care for one's crew."
122	Horton, T. R. (1992). The CEO paradox: The privilege and accountability of leadership. Amacom.	To lead, self-confidence and high self-esteem are useful, perhaps even essential.
123	Hosking, D.M. (1988) 'Organizing, leadership and skillfull process'. Journal of Management Studies, 25, 2, 147-166.	"Leaders are those who consistently make effective contributions to social order, and who are expected and perceived to do so."
124	House, R. J., Hanges, P. J., Ruiz-Quintanilla, S. A., Dorfman, P. W., Javidan, M., Dickson, M., & Gupta, V. (1999). Cultural influences on leadership and organizations: Project GLOBE. Advances in global leadership, 1(2), 171-233.	Leadership is the ability of an individual to influence, motivate, and enable others to contribute toward the effectiveness and success of the organization „„"
125	Huczynski,A., Buchanan, D.(1993). Organizational Behavior. New Jersey, USA: Pearson Education Inc.	Someone who exercise influence over other people
126	Iles, P. & Preece, D. (2006) "Developing Leaders, or Developing Leadership? The Academy of Chief Executives' Programmes in the North East of England," Leadership, Vol. 2, 317-340.	whereas managers are concerned with today, with delivery, targets, efficiency, utilization, and authority, focusing on internal organizational issues, on control and on doing things right, leaders are held to be oriented to tomorrow, to development, to direction, to purpose and vision, and to innovation
127	Jacobs, T. O., & Jaques, E. (1990). Military executive leadership. In K. E. Clark and M. B. Clark (Eds.), Measures of leadership. West Orange, New Jersey: Leadership Library of America, pp 281-295.	"Leadership is a process of giving purpose to collective effort, and causing willing effort to be expended to achieve purpose."

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s/n	Reference	Definitions
128	Jago, A. G. (1982) "Leadership: Perspectives in theory and research." Management Science, Vol. 28, 315-336.	Leadership is both a process and a property. The process of leadership is the use of non-coercive influence to direct and coordinate the activities of the members of an organized group toward the accomplishment of group objectives. As a property, leadership is the set of qualities or characteristics attributed to those who are perceived to successfully employ such influence
129	Janda, K. F. (1960). Towards the explication of the concept of leadership in terms of the concept of power. Human relations.	Leadership as a particular type of power relationship characterized by a group member's perception that another group member has to right to prescribe behaviour patterns for the former regarding his activity as a member of a particular group.
130	Jaques E. & Clement, S.D. (1994). Executive Leadership: a practical guide to managing complexity. Cambridge, MA: Carson-Hall & Co. Publishers	"Leadership is that process in which one person sets the purpose or direction for one or more other persons and gets them to move along together with him or her and with each other in that direction with competence and full commitment."
131	Jaworski, J. (n.d.) cited by Joseph, J., & Flowers Betty, S. (1996). Synchronicity: The inner path of leadership. Koehler Publishers	"Leadership is discovering the company's destiny and having the courage to follow it."
132	Jeffrey Zaslow, "Joe Moana: Leadership, Says the Legendary Quarterback of Four Super Bowls, Means 'Being Willing to ake the Blame, USA Weekend, January 30- February 1, 1998, p 5	A willingness to take the blame (as defined by legendary football quarterback Joe Montana)
133	Jennings, H. H. (1944). Leadership--A Dynamic Redefinition. The Journal of Educational Sociology, 431-433.	Leadership thus appears as a manner of interaction involving behaviour by and toward the individual 'lifted' to a leader role by other individuals.
134	Johannsen, M (2012) cited by Legacee (n.d.). Leadership Defination. Legacee Corporate Services, Inc. Retriend from https://www.legacee.com/potpourri/leadership-definitions/	"Managers have subordinates—leaders have followers."
135	Jordan, P. J., & Lindebaum, D. (2015). A model of within person variation in leadership: Emotion regulation and scripts as predictors of situationally appropriate leadership. The Leadership Quarterly, 26(4), 594-605.	a relational process with substantial research examining a leaders' ability to interact with followers.
136	Katz, D., & Kahn, R. L. (1966). The social psychology of organizations (2nd ed.). New York: John Wiley & Sons.	The essence of organizational leadership to be the influential increment over and above mechanical compliance with routine directions of the organization.
137	Katz, D., & Kahn, R. L. (1978). Social psychology of organizations, 2nd ed. New York: John Wiley.	Leadership is the influential increment over and above mechanical compliance with routine directives of the organization"
138	Kearns M.S. (2005) cited by Adeoye. M. (2009). Leadership Definitions by Scholars. Retrieved from: http://adeoyemayowaleadership.blogspot.ae.	"Leadership is a purposeful relationship, which occurs episodically among participants, who use their individual skills in influence, to advocate transforming change."
139	Kelleher, H. (n.d.) cited by Gill, R. (2006). Theory and Practice of Leadership. Pine Forge Press	Leadership is being a faithful, devoted, hardworking, servant of the people you lead and participating with them in agonies as well as the ecstasies of life. (personality)
140	Kellerman, B. (2004) "Leadership: warts and all", Harvard Business Review, January 2004, 40-45.	Leaders are like the rest of us: trustworthy and deceitful, cowardly and brave, greedy and generous.
141	Kennedy J. F. (1963) cited by MacBeath, J., & Dempster, N. (Eds.). (2008). Connecting leadership and learning: Principles for practice. Routledge.	"Leadership and learning are indispensable to each other."
142	Kim, W. C., & Mauborgne, R. A. (1992). Parables of leadership. Harvard Business Review, 70(4), 123-128.	The ability to inspire confidence and support among the people who are needed to achieve organizational goals
143	Kimer, S (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Effective leadership is providing the vision and motivation to a team so they work together toward the same goal, and then understanding the talents and temperaments of each individual and effectively motivating each person to contribute individually their best toward achieving the group goal."

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s/n	Reference	Definitions
144	Knickerbocker, I. (1948). Leadership: A conception and some implications. Journal of Social Issues, 4(3), 23-40.	When conceived in terms of the dynamics of human social behaviour, the leadership is a function of needs existing within a given situation, and consist of a relationship between an individual and a group.
145	Knickerbocker, I. (1948). Leadership: A conception and some implications. Journal of Social Issues, 4(3), 23-40.	The functional relation which is leadership exists when a leader is perceived by a group (people) as controlling means for the satisfaction of their needs."
146	Koontz, H. O'Donnel, C. (1955), Principles of Management: An Analysis of Managerial Functions, McGraw-Hill, New York.	The activity of persuading people to cooperate in the achievement of a common objective.
147	Kotter, J. P. (1996). Leading change. Harvard Business Press.	Leadership is, most fundamentally, about changes. What leaders do is create the systems and organizations that managers need, and, eventually, elevate them up to a whole new level or ... change in some basic ways to take advantage of new opportunities.
148	Kouzes, J.M. & Posner, B.Z. (1995). The Leadership Challenge. San Francisco: Jossey-Bass.	"Leadership is the art of mobilizing others to want to struggle for shared aspirations."
149	Krech, D., & Crutchfield, R.S. (1948). Theory and problems of social psychology. New York,: McGraw-Hill Book Co.	By virtue of his special position in the group he serves as a primary agent for the determination of group structure, group atmosphere, group goals, group ideology and group activities.
150	Kruse, K. (2013). What Is Leadership?. Forbes. Retrieved from http://www.forbes.com/sites#/sites/kevinkruse/2013/04/09/what-is-leadership/	Leadership is a process of social influence, which maximizes the efforts of others, towards the achievement of a goal
151	Kuehler, J (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership is the ability to inspire motivation in others to move toward a desirable vision. While management is focused on tasks, leadership is focused on the person. All in all, the best leadership drives change and long-lasting motivation."
152	Laozi, Roig, J. V., & Little, S. (2007). Tao te ching. National Braille Press.	To lead people, walk beside them ... As for the best leaders, the people do not notice their existence. The next best, the people honor and praise. The next, the people fear; and the next, the people hate ... When the best leader's work is done the people say, 'We did it ourselves!
153	Laozi, Roig, J. V., & Little, S. (2007). Tao te ching. National Braille Press.	"The superior leader gets things done with very little motion. He imparts instruction not through many words but through a few deeds. He keeps informed about everything but interferes hardly at all. He is a catalyst,(power) and though things would not get done well if he weren't't there, when they succeed he takes no credit. And because he takes no credit, credit never leaves him." (personality)
154	Lippman, W. (n.d.) cited by Atkinson, D.M. (2008). Leadership - By the Book. Xulon Press	"The final test of a leader is that he leaves behind in others the conviction and will to carry on."
155	Lippman, W. (n.d.) cited by Bass, B. M., & Stogdill, R. M. (1990). Bass & Stogdill's handbook of leadership: Theory, research, and managerial applications. Simon and Schuster.	The final test of a leader is that he leaves behind him in other men, the conviction and the will to carry on.
156	Loden, M. (1987) cited by Adeoye. M. (2009). Leadership Definitions by Scholars. Retrieved from: http://adeoyemayowaleadership.blogspot.ae.	The feminine leadership style emphasizes cooperation over competition; intuition as well as rational thinking in problem solving, team structures where power and influence are shared within the group. . . interpersonal competence; and participative decision making.
157	Madine, T. (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership styles differ, but at the core, good leaders make the people they are leading accomplish more than they otherwise would. The most effective leaders do this not through fear, intimidation or title, but rather by building consensus around a common goal." (purpose)
158	Mallory, D(n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definiti, D (n.d.) cited by on.html	"Leadership is the art of serving others by equipping them with training, tools and people as well as your time, energy and emotional intelligence so that they can realize their full potential, both personally and professionally."

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s/n	Reference	Definitions
159	Marcus, G. (2013). Busting your corporate Idol: How to reconnect with values and regain control of your life. Idolbuster Coaching institute, USA	Leadership is about values and priorities. A leader's values are measured by how they act, not by what they say. And a true leader will communicate priorities that match the values he or she espouses.
160	Mason, B (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership is simply causing other people to do what the leaders want. Good leadership, whether formal or informal, is helping other people rise to their full potential while accomplishing the mission and goals of the organization. All members of an organization who are responsible for the work of others have the potential to be good leaders, if properly developed."
161	Massie, J. L., & Douglas, J. (1973). Managing: a contemporary introduction. Englewood Cliffs, N.J: Prentice-Hall.	"Leadership occurs when one person induces others to work toward some predetermined objectives."
162	Maxwell, J (2006). Developing the Leader Within You. Thomas Nelson	Leadership is influence – nothing more, nothing less.-
163	Mckinney, M. (n.d.) Bojeun, M.C. (2013). Program Management Leadership: Creating Successful Team Dynamics. Auerbach Publications	Leadership is intentional influence.
164	Meindl, J. R., Ehrlich, S. B., & Dukerich, J. M. (1985). The romance of leadership. Administrative science quarterly, 78-102.	Leadership being a determinant of superior organizational performance, the level of organizational performance determines the perception of leadership
165	Merton, R. K. (1969). The social nature of leadership. The American journal of nursing, 2614-2618.	An interpersonal relation in which others comply because they want to, not because they have to.
166	Montgomery, B. L. (1958). The Memoirs of Field-Marshal the Viscouint Montgomery of Alamein. London: Collins.	"Leadership: The capacity and will to rally people to a common purpose together with the character that inspires confidence and trust"
167	Moore, B. V. (1927). The May conference on leadership. Personnel Journal, 6(124), 50-74.	The ability to impress the will of the leader on those lead and induce obedience, respect, loyalty, and cooperation.
168	Mumford, E. (1906/1907). Origins of leadership. American Journal of Sociology, 12, 216-240, 367-397, 500-531.	Leadership is the preeminence of one or a few individual in a group in the process of control of societal phenomenon.
169	Munson, E. L., & Miller, A. H. (1921). The management of men: a handbook on the systematic development of morale and the control of human behavior. H. Holt.	The ability to handle men so as to achieve the most with the least friction and the greatest cooperation... leadership is the creative and directive force of morale
170	Myers, S. (2013). Definitions of Leadership and Management/. Team Technology. Retrieve from http://www.teamtechnology.co.uk/leadership/management/definitions-of-leadership-and-management/	Leadership is setting a new direction or vision for a group that they follow, ie: a leader is the spearhead for that new direction.
171	Nash, A. M. (1929). Training for Leadership here and now. Training School Bulletin, 24, 10-14.	Leadership implies influencing change in the conduct of people.
172	Newman, S (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership is influencing others by your character, humility and example. It is recognizable when others follow in word and deed without obligation or coercion."
173	Northouse, P. G. (2007). Leadership: Theory and Practice. Thousand Oaks: Sage Publications, Inc.	"Leadership is a process whereby an individual influence a group of individuals to achieve a common goal.
174	Odier, C. 1948. Valeur et valence du chef. Schweizerisches Archiv für Neurologische Psychiatrie, 61, 408–410	Valence is the power of a man to act upon the feeling of value of another man or group of men; of modifying (strengthening or weakening) it in one fashion or another. Thus valence is defined, not by the value of the leader's personality, but by the sound quality of the influences which he exerts upon the members of a group.
175	Ohno I., & Shimamura, M. (2007) "Managing the Development Process and Aid, East Asian Experiences in Building Central Economic Agencies," GRIPS Development Forum, March.	'good' leadership involves providing long-term development vision, and possessing a strong political will to realise that vision
176	Parks, S. D. (2005). Leadership can be taught: A bold approach for a complex world. Boston, MA: Harvard Business Review Press.	The activity of making progress on adaptive challenges

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s/n	Reference	Definitions
177	Patton, G. S. (n.d.) cited by Andrews, A. (2008). Mastering the Seven Decisions that Determine Personal Success: An Owner's Manual to the New York Times Bestseller, the Traveler's Gift. Thomas Nelson Inc.	"Be willing to make decisions. That's the most important quality in a good leader."
178	Peter, T (n.d.) cited by Bhaskar, T. (2011). A study of leadership for sustaining and developing small, medium and large organizations and institutions in and around Hyderabad. Retrieved from http://shodhganga.inflibnet.ac.in/bitstream/10603/1991/18/18_chapter%203.pdf	Leadership is defined as a process of influencing others to accomplish the mission, inspiring their commitment, and improving the organisation.
179	Phillips, T. R. (1939). Leader and led. Journal of the Coast Artillery, 82, 45-58.	Leadership is the imposition, maintenance, and direction of moral unity to our ends.
180	Pigors, P. J. W. (1935). Leadership or domination. Houghton Mifflin Company.	Leadership is a process of mutual stimulation which, by the successful interplay of individual differences, controls human energy in the pursuit of a common cause.
181	Powell, C. (2010) cited by Wagner. D. (2014). Our Definitions Of Leadership Are Mostly Wrong. Information Week: Strategic CIO. Retrieved from http://www.informationweek.com/strategic-cio/it-strategy/our-definitions-of-leadership-are-mostly-wrong/a/d-id/1279113	Leadership is solving problems. The day soldiers stop bringing you their problems is the day you have stopped leading them. They have either lost confidence that you can help or concluded you do not care. Either case is a failure of leadership.
182	Prentice, W. C. H. (1961). Understanding leadership. Harvard Business Review. September/October, Vol. 39 No. 5s p 143.	"Leadership is the accomplishment of a goal through the direction of human assistants. A leader is one who successfully marshals his human collaborators to achieve particular ends."
183	Preziosi, R, (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership is actions committed by a person or group that produce an output or result. It simply helps people to get things done. It is not based on position in a hierarchy."
184	Rauch, C. F., & Behling, O. (1984). Functionalism: Basis for an alternate approach to the study of leadership. Leaders and managers: International perspectives on managerial behavior and leadership, 45-62.	"Leadership is defined as the process of influencing the activities of an organized group toward goal achievement."
185	Redl, F. (1942). Group emotion and leadership. Psychiatry, 5(4), 573-596.	The leader is a central or focal person who integrates the group.
186	Richards, D., & Engle, S. (1986). After the vision: Suggestions to corporate visionaries and vision champions. Transforming leadership, 199, 214.	"Leadership is about articulating visions , embodying values, and creating the environment within which things can be accomplished."
187	Roddick, A (n.d.) cited by Pettinger, R. (2000) Mastering Organisational Behaviour. Macmillan	Creating a vision to which others aspire and energising them to work towards that vision
188	Roosevelt, T (n.d.) cited by Michael, A.J. (2000). Take Control: Master the Art of Self-Discipline and Change Your Life Forever. Madison Books	"People ask the difference between a leader and a boss. . . . The leader works in the open, and the boss in covert. The leader leads, and the boss drives."
189	Rost, J. C. (1993). Leadership for the twenty-first century. Greenwood Publishing Group	"Leadership is an influence relationship among leaders and followers who intend real changes that reflect their mutual purposes."
190	Rost, J. C. (1993). Leadership for the twenty-first century. New York: Praeger	Initiating and maintaining groups or organizations to accomplish group or organizational goals.
191	Schein, E. H. (1992). Organizational culture and leadership, 2nd edn. San Francisco: Jossey-Bass.	"Leadership is the ability to step outside the culture to start evolutionary change processes that are more adaptive."
192	Schenk, C. (1928) 'Leadership', Infantry Journal 33:111–22.	Leadership is the management of men by persuasion and inspiration rather than by the direct or implied threat of coercion. It involves immediate concrete problems by applying knowledge of, and sympathy with, human factors.
193	Schoenbaum, D. (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"I define leadership as knowing when to be in front to lead and guide a team during the journey, and when to step back and let others take the lead. Much like an athlete who knows exactly what position to move to on the field at any given time, a true business leader understands the delicate balance of how to help others become leaders, fuel career ambitions, then give them the chance to shine."

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s/n	Reference	Definitions
194	Schweitzer, A (n.d.) cited by Miller, C. (1997). The empowered leader. B&H Publishing Group.	Example is leadership.
195	Seeman, M. (1960). Social status and leadership: The case of the school executive (No. 35). Bureau of Educational Research and Service, Ohio State University.	acts by persons which influence other persons in a share direction.
196	Senge, P., A. Kleiner, C. Roberts, G. Roth, R. Ross, and B. Smith (1999), The Dance of Change: The Challenges to Sustaining Momentum in Learning Organizations, New York: Doubleday/Currency.	The capacity of a human community to share its future and specifically to sustain the significant processes of change required to do so.
197	Shartle, C. L. (1951). Studies of naval leadership, Part I. Groups, leadership and men: Research in human relations, 119-133.	Who exercises positive influence acts upon others.
198	Shartle, C. L. (1951). Studies of naval leadership, Part I. Groups, leadership and men: Research in human relations, 119-133.	Who exercises more important influence acts than other members of the group or an organization.
199	Shartle, C. L. (1956). Executive Performance and Leadership. Englewood Cliffs, NJ: Prentice Hall.	A leadership act as "one which results in others acting or responding in a shared direction."
200	Sherif, M., & Sherif, C. W. (1956). An Outline of Social Psychology. New York: Harper.	Leadership is a role within the scheme of relations and is defined by reciprocal expectations between the leader and other member. The leadership role is defined, as are other roles, by stabilized expectation which, in most matters and situations of consequence to the group, are more exacting and require greater obligations and responsibility than those for other positions.
201	Shriberg, A., C. Lloyd, Shriberg, D.L. and Williamson, M.L. (1997). Practicing Leadership: Principles and Applications. New York: John Wiley & Sons.	The process by which leaders and collaborators work together to achieve mutual goals.
202	Smircich, L., & Morgan, G. (1982). Leadership: The management of meaning. Journal of Applied Behavior Science, 18, 257-273.	Leadership is realized in the process whereby one or more individuals succeed in attemping to frame and define the reality of others "
203	Smith, M. (1934). Personality dominance and leadership. Sociology and Social Research, 19, 18-25.	The social group that expresses its unity in connected activity is always composed of but two essential portions: center of focal activity, and the individuals who act with regard to the center.
204	Smith, M. (1935). Leadership; the management of social differentials. The Journal of Abnormal and Social Psychology, 30(3), 348.	Leadership with management of social differentials through the process of giving stimuli responded to integratively by other people.
205	Smith, M., (1948). Control interaction. J. Soc. Psychol., 28(2): 263-273.	The initiator of an interaction, A, in giving a stimulus to the second participant B, would be asserting his control by interfering with B's original course of action."
206	Spence, J. (n.d.) cited by Mielach, D. (2013). Defining Leadership: 8 ways to be a great leader. Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/4069-business-leaders-define-leadership.html	We are all leaders — by choice or by default — so the question is not so much "are you a leader?" as "how well do you lead?" Effective leaders are, first and foremost, self-aware and conscious of how they impact the people within their sphere of influence. A leader must be vulnerable enough to have an authentic connection to others, charismatic enough to engage others and humble enough to realize that true leadership involves being of service to others.
207	Standfield, A.W. (2009). Defining Effective Leadership: Lead in Whatever You Do. Tate Publishing	Leader as someone who has low levels of defensiveness, is emotionally stable, has good interpersonal skills, integrity and has the ability to influence other (page 20)- Defining Effective Leadership: Lead in Whatever You Do
208	Standfield, A.W. (2009). Defining Effective Leadership: Lead in Whatever You Do. Tate Publishing	Leadership is about understanding your environment, your followers, and your purpose, which requires determining the most effective style of leadership for each unique situation (page 53)- Defining Effective Leadership: Lead in Whatever You Do
209	Stogdill, R. M. (1950). Leadership, membership and organization. Psychological bulletin. 47, pp 1-14.	The process of influencing the activities of an organized group in its effort toward goal setting and goal achievement.
210	Stogdill, R. M. (1950). Leadership, membership and organization. Psychological bulletin. 47, pp 1-14.	"Leadership may be considered as the process of influencing the activities of an organized group in its efforts toward goal setting and goal achievement."

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s/n	Reference	Definitions
211	Stogdill, R. M. (1959). Individual Behavior and Group Achievement. New York: Oxford University Press.	The initiation and maintenance of structure in expectation and interaction.
212	Stogdill, R. M. (1974). Handbook of leadership: A survey of the literature. New York: Free Press.	"[There are] almost as many definitions of leadership as there are persons who have attempted to define the concept.
213	Stogdill, R. M. (1974). Handbook of leadership: A survey of the literature. New York: Free Press.	"Leadership is the initiation and maintenance of structure in expectation and interaction."
214	Stout-Rostron, S. (2014). Leadership Coaching for Results: Cutting-edge practices for coach and client. Knowledge Resources Publishing.	"Influencing others to follow a given direction."
215	Strock, J. (2015), 21st Century Leadership Defined, Served to Lead. Retrieved from http://servetolead.org/21st-century-leadership-defined/	21st century leaders inspire others to alter their thoughts and actions, in alignment with an empowering vision.
216	Tannenbaum, R., Weschler, I. R., & Massarik, F. (1961). Leadership and organization: A behavioral approach. McGraw-Hill.	"Leadership is interpersonal influence, exercised in a situation, and directed, through the communication process, toward the attainment of a specified goal or goals."
217	Tead, O. (1929). The technique of creative leadership in human nature and management. New York: McGraw-Hill, 1, 8-53.	As a combination of traits which enables an individual to induce others to accomplish a given task.
218	Tead, O. (1935). The art of leadership. Whittlesey House, McGraw-Hill Book Company, inc	The activity of influencing people to cooperate toward some goal which they come to find desirable.
219	Tenes, D. (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership is when someone is willing to stand up front to be either the target or the hero to take responsibility for the success or failure of a given goal. Not everyone has the guts to be a leader and the [take] personal risks that they may encounter."
220	Tozer, J. (1997). Leading initiatives: Leadership, teamwork and the bottom line. Butterworth-Heinemann Australia.	"A Leader: A person responsible for achieving objectives through others by creating the conditions in which they may be successful and for building and maintaining the team that he or she is a member of."
221	Trevisani, Daniele (2009), Il potenziale umano. Metodi e tecniche di coaching e training per lo sviluppo delle performance. (English Translation: "Human Potential Methods and Techniques for Coaching, Training, and Performance Development"). Franco Angeli Publisher.	Leadership is a holistic spectrum that can arise from: (1) higher levels of physical power, need to display power and control others, force superiority, ability to generate fear, or group-member's need for a powerful group protector (Primal Leadership), (2) superior mental energies, superior motivational forces, perceivable in communication and behaviors, lack of fear, courage, determination (personality) (Psychoenergetic Leadership), (3) higher abilities in managing the overall picture (Macro-Leadership), (4) higher abilities in specialized tasks (Micro-Leadership), (5) higher ability in managing the execution of a task (Project Leadership), and (6) higher level of values, wisdom, and spirituality (Spiritual Leadership), where any Leader derives its Leadership from a unique mix of one or more of the former factors
222	U.S. Air Force (n.d.) cited by Legacee (n.d.). Leadership Defination. Legacee Corporate Services, Inc. Retriend from https://www.legacee.com/potpourri/leadership-definitions/	"Leadership is the art to of influencing and directing people in such a way that will win their obedience, confidence, respect and loyal cooperation in achieving common objectives."
223	Uhlir, K (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Too many people view management as leadership. It's not. Leadership comes from influence, and influence can come from anyone at any level and in any role. Being open and authentic, helping to lift others up and working toward a common mission build influence. True leadership comes when those around you are influenced by your life in a positive way."
224	Urwick, L. F. (1953). Leadership and morale. Columbus, OH: Ohio State University, College of Commerce and Administration.	the personal representation of the personification of common purpose not only to all who work on the undertaking, but to everyone outside it.
225	Vecchio, R.P. (1988). Organizational Behavior. Chicago: Dryden Press. 286-304.	"Leadership is the incremental influence that a person has beyond his or her formal authority."
226	Wallace, D. F. (2005). Consider the Lobster: And Other Essays. Little, Brown	The weird thing is that the word "leader" itself is cliche; and boring, but when you come across somebody who actually is a real leader, that person isn't cliche or boring at all; in fact he's sort of the opposite of cliche and boring.

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s/n	Reference	Definitions
227	Wallace, D. F. (2005). Consider the Lobster: And Other Essays. Little, Brown	Obviously, a real leader isn't just somebody who has ideas you agree with, nor is it just somebody you happen to believe is a good guy. Think about it. A real leader is somebody who, because of his own particular power and charisma and example, is able to inspire people, with "inspire" being used here in a serious and non-cliche way. A real leader can somehow get us to do certain things that deep down we think are good and want to be able to do but usually can't get ourselves to do on our own. It's a mysterious quality, hard to define, but we always know it when we see it, even as kids.
228	Ward, S. (2015). Leadership. Leadership & Leadership Skills. About Money. Retrieved from http://sbinfocanada.about.com/od/leadership/g/leadership.htm	Leadership is the art of motivating a group of people to act towards achieving a common goal.
229	Warriner, C. K. (1955). Leadership in the small group. American Journal of Sociology, 361-369.	Leadership as a form of relationship between persons, requires that one or several persons act in conformance with the request of another.
230	Winston, B. E., & Patterson, K. (2006). An integrative definition of leadership. International journal of leadership studies, 1(2), 6-66.	A leader is one or more people who selects, equips, trains, and influences one or more follower(s) (people) who have diverse gifts, abilities, and skills (personality) and focuses the follow(s) to the organization's mission and objectives causing the follower(s) to willingly and enthusiastically expend spiritual, emotional, and physical energy in a concerted coordinated effort to achieve the organizational mission and objectives
231	Womack. M. (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership is not about finding ways to lead better or to motivate your team. It's about being there from the beginning as equals and becoming a mentor when they need you to be one."
232	Yukl, G. (2006). Leadership in organizations (6th ed.). Upper Saddle River, NJ: Pearson-Prentice Hall	Leadership is the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives. purpose
233	Yukl, G. (2006). Leadership in organizations (6th ed.). Upper Saddle River, NJ: Pearson-Prentice Hall	Obviously, a real leader isn't just somebody who has ideas you agree with, nor is it just somebody you happen to believe is a good guy. Think about it. A real leader is somebody who, because of his own particular power and charisma and example, is able to inspire people, with "inspire" being used here in a serious and non-cliche way. A real leader can somehow get us to do certain things that deep down we think are good and want to be able to do but usually can't get ourselves to do on our own. It's a mysterious quality, hard to define, but we always know it when we see it, even as kids.
234	Yukl, G. (2006). Leadership in organizations (6th ed.). Upper Saddle River, NJ: Pearson-Prentice Hall	the process of influencing others to understand and agree about what needs to be done and how to do it, and the process of facilitating individual and collective efforts to accomplish shared objectives
235	Zalenik, A. (1992). Managers and Leaders: are they different?', Harvard Business Review March/April 1992 p.126	"Leadership requires using power to influence the thoughts and actions of other people."
236	Zander, B (n.d.) cited by Kirimi, B. (2007). Successful Leadership: 8 Essential Principles You Must Know. Rich Brott.	"The job of the leader is to speak to the possibility."
237	Zeitchik, S. (n.d.) cited by Helmrich, B. (2015). 30 Ways to Define Leadership. Business News Daily. Retrieved from http://www.businessnewsdaily.com/3647-leadership-definition.html	"Leadership is inspiring others to pursue your vision within the parameters you set, to the extent that it becomes a shared effort, a shared vision and a shared success."

Appendix E: Leadership domain identification

Domain	Quantitative Information
Vision	Frequencies 113, Average 62.04 %
Arthurs/ Researchers (Seeman, 1960); (Bass, 1960); (Tannenbaum,Weschler & Massarik, 1961); (Prentice, 1961); (Davis, 1962); (Katz and Kahn, 1966); (Massie, 1973); (Stogdill, 1974); (Katz & Kahn, 1978); (Burns, 1978); (Cribbin, 1981); (Rauch & Behling, 1984); (Donelly, Ivancevich, & Gibson, 1985); (Richards & Engle, 1986); (Bryman, 1986); (Bennis, 1988); (Hersey & Blanchard, 1988); (Bennis, 1989); (Batten, 1989); (Jacobs & Jaques, 1990); (Gardner, 1990); (Cohen, 1990); (Bass & Stogdill, 1990); (Rost, 1991); (Handy, 1992); (Conger, 1992); (Kim & Mauborgne, 1992); (Rost, 1993); (Varner, 1994); (Jaques & Clement, 1994); (Kouzes & Posner, 1995); (Freiberg, 1996); (Jaworski, 1996); (Shriberg et al., 1997); (Chemers, 1997); (Tozer, 1997); (Ciulla, 1998); (House et el, 1999); (Senge et al, 1999); (Barker, 2002); (Northouse, 2004); (Yukl 2005); (Kearns, 2005); (Dubrin, 2006); (Winston & Patterson 2006); (Standfield, 2009); (Trevisani, 2009); (Adeoye, 2009); (Bhaskar, 2011); (Kruse, 2013); (Myers, 2013); (Mielach, 2013) ; (Harvey, 2014); (Strock, 2015)	
Ability	Frequencies 161, Average 90.78 %
Arthurs/ Researchers (Mumford, 1906);(Munson & Miller, 1921); (Allport, 1924); (Bernard, 1926); (Bowden, 1926); (Bernard, 1927); (Bingham, 1927); (Moore, 1927); (Bogardus, 1928); (Schenk, 1928); (Cowley, 1928); (Tead, 1929); (Nash, 1929); (Bogardus, 1929); (Bundel, 1930); (Smith, 1934); (Bogardus, 1934); (Cleeton and Mason, 1934); (Tead, 1935); (Pigors, 1935); (Smith, 1935); (Barnard, 1938); (Anderson, 1940); (Copeland, 1942); (Davis, 1942); (Jennings, 1944); (Krech and Crutchfield, 1948); (Knickerbocker, 1948); (Odier, 1948); (Smith, 1948); (Hemphill, 1949); (Stogdill, 1950); (Shartle, 1951); (Haiman, 1951); (Cattelll, 1951); (Gerth and Mills, 1953); (Hemphill, 1954); (Drucker, 1955); (Knootz and O'Donnel, 1955); (Warriner, 1955); (Gordon, 1955); (Shartle, 1956); (Sherif and Sherif, 1956); (Hemphill & Coons, 1957); (Montgomery, 1958); (Allen, 1958); (Bennis, 1959); (Bellows, 1959); (Seeman, 1960); (Janda, 1960); (Bass, 1960); (Bavelas, 1960); (Prentice, 1961); (Bass, 1961); (Davis, 1962); (Holander and Julian, 1965); (Katz and Kahn, 1966); (Fiedler, 1967); (Merton, 1969); (Katz & Kahn, 1978); (Burns, 1978); (Cribbin, 1981); (Smircich & Morgan, 1982); (Rauch & Behling, 1984); (Donelly, Ivancevich, & Gibson, 1985); (Bennis, 1985); (Hopper, 1987); (Loden, 1987); (Bennis, 1988); (Hersey & Blanchard, 1988); (Vecchio, 1988); (Bennis, 1989); (Batten, 1989); (Gardner, 1990); (Cohen, 1990); (Bass & Stogdill, 1990); (Rost, 1991); (Handy, 1992); (Conger, 1992); (Zalenik, 1992); (Schein, 1992); (Kim & Mauborgne, 1992); (Rost, 1993); (Huczynski et al, 1993); (Varner, 1994); (Jaques & Clement, 1994); (Drath & Palus, 1994); (Kouzes & Posner, 1995); (Gardner, 1995); (Freiberg, 1996); (Jaworski, 1996); (Shriberg et al., 1997); (Chemers, 1997); (Tozer, 1997); (Buchannan and Huczynski, 1997); (Ciulla, 1998); (House et el, 1999); (Senge et al, 1999); (Barker, 2002); (Covey, 2004) ; (Gill, 2007); (Northouse, 2004); (Yukl 2005); (Kearns, 2005); (Maxwell, 2006); (Dubrin, 2006); (Winston & Patterson 2006); (Standfield, 2009); (Trevisani, 2009); (Adeoye, 2009); (Bhaskar, 2011); (Kruse, 2013); (Myers, 2013); (Mielach, 2013); (Wagner, 2014); (Harvey, 2014); (Babatunde, 2014); (Strock, 2015); (Jordan & Lindebaum, 2015); (Ward, 2015)	
Sponsorship (Power)	Frequencies 108, Average 62.79 %
Arthurs/ Researchers (Mumford, 1906); (Bernard, 1926); (Bowden, 1926); (Bernard, 1927); (Moore, 1927); (Bogardus, 1928); (Schenk, 1928); (Cowley, 1928); (Tead, 1929); (Nash, 1929); (Bundel, 1930); (Bogardus, 1934); (Cleeton and Mason, 1934); (Tead, 1935); (Barnard, 1938); (Anderson, 1940); (Copeland, 1942); (Davis, 1942); (Jennings, 1944); (Odier, 1948); (Smith, 1948); (Hemphill, 1949); (Stogdill, 1950); (Shartle, 1951); (Haiman, 1951); (Gerth and Mills, 1953); (Gibb, 1954); (Hemphill, 1954); (Knootz and O'Donnel, 1955); (Warriner, 1955); (Gordon, 1955); (Montgomery, 1958); (Bennis, 1959); (Seeman, 1960); (Janda, 1960); (Bass, 1960); (Tannenbaum,Weschler & Massarik, 1961); (Bass, 1961); (Davis, 1962); (Holander and Julian, 1965); (Katz and Kahn, 1966); (Fiedler, 1967); (Katz & Kahn, 1978); (Burns, 1978); (Hollander, 1978); (Cribbin, 1981); (Rauch & Behling, 1984); (Donelly, Ivancevich, & Gibson, 1985); (Loden, 1987); (Hersey & Blanchard, 1988); (Vecchio, 1988); (Bennis, 1989); (Gardner, 1990); (Cohen, 1990); (Bass & Stogdill, 1990); (Conger, 1992); (Zalenik, 1992); (Kim & Mauborgne, 1992); (Rost, 1993); (Huczynski et al, 1993); (Varner, 1994); (Jaques & Clement, 1994); (Kouzes & Posner, 1995); (Gardner, 1995); (Freiberg, 1996); (Chemers, 1997); (Tozer, 1997); (Buchannan and Huczynski, 1997); (House et el, 1999); (Northouse, 2004); (Yukl 2005); (Kearns, 2005); (Maxwell, 2006); (Dubrin, 2006); (Winston & Patterson 2006); (Standfield, 2009); (Trevisani, 2009); (Adeoye, 2009); (Bhaskar, 2011); (Kruse, 2013); (Mielach, 2013); (Harvey, 2014); (Babatunde, 2014); (Strock, 2015); (Ward, 2015)	

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Domain	Quantitative Information
Responsibility (People)	Frequencies 151, Average 87.23%
Arthurs/ Researchers	
(Mumford, 1906); (Munson & Miller, 1921); (Allport, 1924); (Bernard, 1926); (Bowden, 1926); (Bernard,1927); (Moore, 1927); (Bogardus, 1928); (Schenk, 1928); (Cowley, 1928); (Tead, 1929); (Nash, 1929); (Bogardusm 1929); (Bundel, 1930); (Smith, 1934); (Bogardus, 1934); (Cleeton and Mason, 1934); (Tead, 1935); (Pigors, 1935); (Smith, 1935); (Barnard, 1938); (Anderson, 1940); (Copeland, 1942); (Jennings, 1944); (Krech and Crutchfield, 1948); (Knickerbocker, 1948); (Odier, 1948); (Smith, 1948); (Hemphill, 1949); (Stogdill, 1950); (Shartle, 1951); (Haiman, 1951); (Cattelll, 1951); (Gerth and Mills, 1953); (Gibb, 1954); (Drucker, 1955); (Knootz and O'Donnel, 1955); (Warriner, 1955); (Shartle, 1956); (Sherif and Sherif, 1956); (Hemphill & Coons, 1957); (Montgomery, 1958); (Allen, 1958); (Bennis, 1959); (Bellows, 1959); (Seeman, 1960); (Janda, 1960); (Bass, 1960); (Bavelas, 1960); (Prentice, 1961); (Bass, 1961); (Davis, 1962); (Holander and Julian, 1965); (Fiedler, 1967); (Merton, 1969); (Massie, 1973); (Burns, 1978); (Hollander, 1978); (Cribbin, 1981); (Smircich & Morgan, 1982); (Rauch & Behling, 1984); (Donelly, Ivancevich, & Gibson, 1985); (Bennis, 1985); (Bryman, 1986); (Hopper, 1987); (Loden, 1987); (Bennis, 1988); (Hersey & Blanchard, 1988); (Bennis, 1989); (Batten, 1989); (Gardner, 1990); (Cohen, 1990); (Bass & Stogdill, 1990); (Rost, 1991); (Handy, 1992); (Conger, 1992); (Zalenik, 1992); (Kim & Mauborgne, 1992); (Rost, 1993); (Huczynski et al, 1993); (Varner, 1994); (Jaques & Clement, 1994); (Drath & Palus, 1994); (Kouzes & Posner, 1995); (Gardner, 1995); (Freiberg, 1996); (Shriberg et al., 1997); (Chemers, 1997); (Tozer, 1997); (Buchannan and Huczynski, 1997); (Ciulla, 1998); (House et el, 1999); (Barker, 2002); (Covey, 2004); (Gill, 2007); (Northouse, 2004); (Yukl 2005); (Kearns, 2005); (Dubrin, 2006); (Winston & Patterson 2006); (Standfield, 2009); (Trevisani, 2009); (Adeoye, 2009); (Wagner, 2014); (Bhaskar, 2011); (Kruse, 2013); (Myers, 2013); (Mielach, 2013); (Harvey, 2014); (Babatunde, 2014); (Strock, 2015); (Jordan & Lindebaum, 2015); (Ward, 2015)	

Appendix F: Content analysis- leadership criteria identification

Questionnaire answer options 1= Strong Disagree, 2= Disagree, 3= Neither, 4= Agree, 5 Strongly Agree		A1= Aligning strategy, innovation & interest B1= Building strategy, process & synergy C1= Communicating strategy, creating innovative & clear goals D1= Drive Change, monitor & take initiative				A2= Acting powerfully, purposefully & postively B2= Building culture of excellence, creativity & balance C2= Challenging, conscious & conflict resolution D2= Decision making, diagnose & determination				A3= Aligning people & Adapting leadership styles B3= Building organisation trust, respect & relationships C3= Creating confidence, commitment, contribution & care D3= Demonstrating role model, integrity & developing leaders				A4= Achieving sustaining results, advance & happiness B4= Building business, personality traits & leadership skills C4= Coaching, creativity competency & continuous learning D4= Delivering extraordinary performance, principles & knowledge			
s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
1	Carton, A. M., Murphy, C., & Clark, J. R. (2014). A (blurry) vision of the future: How leader rhetoric about ultimate goals influences performance. Academy of Management Journal, 57(6), 1544-1570.	4	5	4	4	4	5	4	3	4	5	4	4	4	4	5	3
2	Barrick, M. R., Thurgood, G. R., Smith, T. A., & Courtright, S. H. (2015). Collective Organizational Engagement: Linking Motivational Antecedents, Strategic Implementation, and Firm Performance. Academy of Management Journal, 58(1), 111-135.	4	5	5	5	5	5	5	3	4	5	5	5	5	3	4	3
3	Smith, W. K. (2014). Dynamic decision making: A model of senior leaders managing strategic paradoxes. Academy of Management Journal, 57(6), 1592-1623.	5	5	4	4	5	5	3	5	4	3	5	3	5	4	5	3
4	Godart, F. C., Maddux, W. W., Shipilov, A. V., & Galinsky, A. D. (2015). Fashion with a foreign flair: Professional experiences abroad facilitate the creative innovations of organizations. Academy of Management Journal, 58(1), 195-220.	3	3	4	5	5	5	4	5	5	3	4	4	5	5	5	3
5	Zhu, D. H., & Westphal, J. D. (2014). How directors' prior experience with other demographically similar CEOS affects their appointments onto corporate boards and the consequences for CEO compensation. Academy of Management Journal, 57(3), 791-813.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
6	Zhang, Y., LePine, J. A., Buckman, B. R., & Wei, F. (2014). It's Not Fair... Or Is It? The Role of Justice and Leadership in Explaining Work Stressor–Job Performance Relationships. Academy of Management Journal, 57(3), 675-697.	4	5	5	5	5	5	5	4	4	4	4	5	5	4	4	5

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
7	Fast, N. J., Burris, E. R., & Bartel, C. A. (2014). Managing to stay in the dark: managerial self-efficacy, ego defensiveness, and the aversion to employee voice. Academy of Management Journal, 57(4), 1013-1034.	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	5
8	Gamache, D., McNamara, G., Mannor, M., & Johnson, R. (2014). Motivated to Acquire? The Impact of CEO Regulatory Focus on Firm Acquisitions. Academy of Management Journal, amj-2013.	5	5	4	5	5	5	5	5	4	4	4	4	5	5	5	3
9	Dong, Y., Seo, M. G., & Bartol, K. M. (2014). No pain, no gain: An affect-based model of developmental job experience and the buffering effects of emotional intelligence. Academy of Management Journal, 57(4), 1056-1077.	4	4	5	5	5	5	5	4	5	4	4	5	5	5	5	5
10	Zhang, Y., Waldman, D. A., Han, Y. L., & Li, X. B. (2015). Paradoxical leader behaviors in people management: Antecedents and consequences. Academy of Management Journal, 58(2), 538-566.	4	4	4	5	5	5	5	5	5	5	5	5	5	5	4	4
11	Firth, B., Hollenbeck, J., Miles, J., Ilgen, D., & Barnes, C. (2014). SAME PAGE, DIFFERENT BOOKS: EXTENDING REPRESENTATIONAL GAPS THEORY TO ENHANCE PERFORMANCE IN MULTITEAM SYSTEMS. Academy of Management Journal, amj-2013.	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5
12	Liden, R. C., Wayne, S. J., Liao, C., & Meuser, J. D. (2014). Servant leadership and serving culture: Influence on individual and unit performance. Academy of Management Journal, 57(5), 1434-1452.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
13	Peng, A. C., Schaubroeck, J. M., & Li, Y. (2014). Social Exchange Implications of Own and CoWorkers' Experiences of Supervisory Abuse. Academy of Management Journal, 57(5), 1385-1405.	3	3	4	3	4	5	5	5	4	5	5	5	5	5	5	4

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
14	Aime, F., Humphrey, S., DeRue, D. S., & Paul, J. B. (2014). The riddle of heterarchy: Power transitions in cross-functional teams. Academy of Management Journal, 57(2), 327-352.	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5
15	Lam, C. K., Huang, X., & Chan, S. C. (2014). THE THRESHOLD EFFECT OF PARTICIPATIVE LEADERSHIP AND THE ROLE OF LEADER INFORMATION SHARING. Academy of Management Journal, amj-2013.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
16	Barkema, H. G., Chen, X. P., George, G., Luo, Y., & Tsui, A. S. (2015). West meets East: New concepts and theories. Academy of Management Journal, 58(2), 460-479.	5	5	3	5	5	4	4	5	5	3	4	3	4	4	4	3
17	Jacquart, P., & Antonakis, J. (2014). When does charisma matter for top-level leaders? Effect of attributional ambiguity. Academy of Management Journal, amj-2012.	4	5	5	4	4	5	4	5	5	5	5	5	5	4	4	4
18	Ross, J. M., & Sharapov, D. (2014). When the leader follows: Avoiding dethronement through imitation. Academy of Management Journal, amj-2013.	4	5	5	5	4	4	4	5	5	5	5	5	5	5	5	5
19	Joshi, A., & Knight, A. P. (2015). Who Defers to Whom and Why? Dual Pathways Linking Demographic Differences and Dyadic Deference to Team Effectiveness. Academy of Management Journal, 58(1), 59-84.	5	5	5	5	5	5	5	4	5	5	5	4	5	5	5	5
20	Jordan, P. J., & Lindebaum, D. (2015). A model of within person variation in leadership: Emotion regulation and scripts as predictors of situationally appropriate leadership. The Leadership Quarterly, 26(4), 594-605.	3	3	3	5	5	5	5	5	5	5	5	4	5	4	4	5
21	To, M. L., Herman, H. M., & Ashkanasy, N. M. (2015). A multilevel model of transformational leadership, affect, and creative process behavior in work teams. The Leadership Quarterly, 26(4), 543-556.	4	4	5	3	5	5	4	3	4	4	5	5	4	4	4	5

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
22	Gentry, W. A., Clark, M. A., Young, S. F., Cullen, K. L., & Zimmerman, L. (2015). How displaying empathic concern may differentially predict career derailment potential for women and men leaders in Australia. The Leadership Quarterly, 26(4), 641-653.	1	1	1	3	3	2	3	3	2	1	1	1	1	1	3	1
23	Caza, A., Zhang, G., Wang, L., & Bai, Y. (2015). How do you really feel? Effect of leaders' perceived emotional sincerity on followers' trust. The Leadership Quarterly, 26(4), 518-531.	3	3	4	4	4	5	4	3	4	5	5	5	3	4	4	4
24	Koning, L. F., & Van Kleef, G. A. (2015). How leaders' emotional displays shape followers' organizational citizenship behavior. The Leadership Quarterly.	4	4	4	3	4	5	5	4	4	4	5	5	5	5	4	5
25	Griffith, J., Connelly, S., Thiel, C., & Johnson, G. (2015). How outstanding leaders lead with affect: An examination of charismatic, ideological, and pragmatic leaders. The Leadership Quarterly.	4	4	4	4	5	5	4	4	4	4	5	5	4	4	5	4
26	Joseph, D. L., Dhanani, L. Y., Shen, W., McHugh, B. C., & McCord, M. A. (2015). Is a happy leader a good leader? A meta-analytic investigation of leader trait affect and leadership. The Leadership Quarterly.	2	2	4	4	5	5	5	4	4	4	4	4	5	5	5	4
27	Tenzer, H., & Pudelko, M. (2015). Leading across language barriers: Managing language-induced emotions in multinational teams. The Leadership Quarterly, 26(4), 606-625.	3	3	5	4	4	4	4	3	5	5	5	5	4	5	5	4
28	Menges, J. I., Kilduff, M., Kern, S., & Bruch, H. (2015). The awestruck effect: Followers suppress emotion expression in response to charismatic but not individually considerate leadership. The Leadership Quarterly, 26(4), 626-640.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
29	Tee, E. Y. (2015). The emotional link: Leadership and the role of implicit and explicit emotional contagion processes across multiple organizational levels. The Leadership Quarterly, 26(4), 654-670.	4	3	5	4	5	5	5	5	4	5	4	5	5	4	4	3

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
30	Wang, G., & Seibert, S. E. (2015). The Impact of leader emotion display frequency on follower performance: Leader surface acting and mean emotion display as boundary conditions. The Leadership Quarterly, 26(4), 577-593.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
31	Nylund, P. A., & Raelin, J. D. (2015). When feelings obscure reason: The impact of leaders' explicit and emotional knowledge transfer on shareholder reactions. The Leadership Quarterly, 26(4), 532-542.	5	5	4	5	5	5	5	5	5	5	5	4	5	4	5	4
32	Collins, M. D., & Jackson, C. J. (2015). A process model of self-regulation and leadership: How attentional resource capacity and negative emotions influence constructive and destructive leadership. The Leadership Quarterly.	4	4	4	5	5	5	5	5	5	5	3	5	5	5	5	5
33	Marcy, R. T. (2015). Breaking mental models as a form of creative destruction: The role of leader cognition in radical social innovations. The Leadership Quarterly.	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	4
34	Daly, M., Egan, M., & O'Reilly, F. (2015). Childhood general cognitive ability predicts leadership role occupancy across life: Evidence from 17,000 cohort study participants. The Leadership Quarterly.	3	3	3	4	5	5	5	5	5	4	5	5	5	5	5	3
35	Mumford, M. D., Steele, L., McIntosh, T., & Mulhearn, T. (2015). Forecasting and leader performance: Objective cognition in a socio-organizational context. The Leadership Quarterly.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
36	Santos, J. P., Caetano, A., & Tavares, S. M. (2015). Is training leaders in functional leadership a useful tool for improving the performance of leadership functions and team effectiveness?. The Leadership Quarterly.	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5
37	Mumford, M. D., Watts, L. L., & Partlow, P. J. (2015). Leader cognition: Approaches and findings. The Leadership Quarterly.	4	4	4	5	5	5	5	5	5	5	5	5	5	5	5	4

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
38	Partlow, P. J., Medeiros, K. E., & Mumford, M. D. (2015). Leader cognition in vision formation: Simplicity and negativity. The Leadership Quarterly.	5	5	4	5	5	5	5	5	5	4	5	4	5	5	5	4
39	Serban, A., Yammarino, F. J., Dionne, S. D., Kahai, S. S., Hao, C., McHugh, K. A., Sotak, K. L., Mushore, A., Friedrich, T.L., & Peterson, D. R. (2015). Leadership emergence in face-to-face and virtual teams: A multi-level model with agent-based simulations, quasi-experimental and experimental tests. The Leadership Quarterly.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
40	Combe, I. A., & Carrington, D. J. (2015). Leaders' sensemaking under crises: Emerging cognitive consensus over time within management teams. The Leadership Quarterly.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
41	Dóci, E., & Hofmans, J. (2015). Task complexity and transformational leadership: The mediating role of leaders' state core self-evaluations. The Leadership Quarterly.	5	5	4	5	5	5	5	5	5	4	5	5	5	5	5	5
42	Zaccaro, S. J., Connelly, S., Repchick, K. M., Daza, A. I., Young, M. C., Kilcullen, R. N., Gilrane V.L., Robbins, J.M., & Bartholomew, L. N. (2015). The influence of higher order cognitive capacities on leader organizational continuance and retention: The mediating role of developmental experiences. The Leadership Quarterly.	5	5	3	5	5	5	5	5	5	5	5	5	5	5	5	5
43	Liu, C., Eubanks, D. L., & Chater, N. (2015). The weakness of strong ties: Sampling bias, social ties, and nepotism in family business succession. The Leadership Quarterly.	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5
44	van Gils, S., Van Quaquebeke, N., van Knippenberg, D., van Dijke, M., & De Cremer, D. (2015). Ethical leadership and follower organizational deviance: The moderating role of follower moral attentiveness. The Leadership Quarterly, 26(2), 190-203.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
45	Goodall, A. H., & Pogrebna, G. (2015). Expert leaders in a fast-moving environment. The Leadership Quarterly, 26(2), 123-142.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
46	Bendahan, S., Zehnder, C., Pralong, F. P., & Antonakis, J. (2015). Leader corruption depends on power and testosterone. The Leadership Quarterly, 26(2), 101-122.	4	4	4	3	4	4	5	5	5	5	5	5	5	5	5	3
47	Chng, D. H. M., Rodgers, M. S., Shih, E., & Song, X. B. (2015). Leaders' impression management during organizational decline: The roles of publicity, image concerns, and incentive compensation. The Leadership Quarterly, 26(2), 270-285.	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5	4
48	Berson, Y., Halevy, N., Shamir, B., & Erez, M. (2015). Leading from different psychological distances: A construal-level perspective on vision communication, goal setting, and follower motivation. The Leadership Quarterly, 26(2), 143-155.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
49	Deichmann, D., & Stam, D. (2015). Leveraging transformational and transactional leadership to cultivate the generation of organization-focused ideas. The Leadership Quarterly, 26(2), 204-219.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
50	Vincent, N., Ward, L., & Denson, L. (2015). Promoting post-conventional consciousness in leaders: Australian community leadership programs. The Leadership Quarterly, 26(2), 238-253.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
51	Hansbrough, T. K., Lord, R. G., & Schyns, B. (2015). Reconsidering the accuracy of follower leadership ratings. The Leadership Quarterly, 26(2), 220-237.	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5	3
52	Liden, R. C., Wayne, S. J., Meuser, J. D., Hu, J., Wu, J., & Liao, C. (2015). Servant leadership: Validation of a short form of the SL-28. The Leadership Quarterly, 26(2), 254-269.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
53	Böhm, S. A., Dwertmann, D. J., Bruch, H., & Shamir, B. (2015). The missing link? Investigating organizational identity strength and transformational leadership climate as mechanisms that connect CEO charisma with firm performance. The Leadership Quarterly, 26(2), 156-171.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
54	Li, Y., & Sun, J. M. (2015). Traditional Chinese leadership and employee voice behavior: A cross-level examination. The Leadership Quarterly, 26(2), 172-189.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
55	Qu, R., Janssen, O., & Shi, K. (2015). Transformational leadership and follower creativity: The mediating role of follower relational identification and the moderating role of leader creativity expectations. The Leadership Quarterly, 26(2), 286-299.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
56	Arvey, R., Dhanaraj, C., Javidan, M., & Zhang, Z. X. (2015). Are there unique leadership models in Asia? Exploring uncharted territory. The Leadership Quarterly, 26(1), 1-6.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
57	Cappelli, P., Singh, H., Singh, J., & Useem, M. (2015). Indian business leadership: Broad mission and creative value. The Leadership Quarterly, 26(1), 7-12.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
58	Oc, B., Bashshur, M. R., Daniels, M. A., Greguras, G. J., & Diefendorff, J. M. (2015). Leader humility in Singapore. The Leadership Quarterly, 26(1), 68-80.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
59	Peus, C., Braun, S., & Knipfer, K. (2015). On becoming a leader in Asia and America: Empirical evidence from women managers. The Leadership Quarterly, 26(1), 55-67.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
60	Zhang, Y., Huai, M. Y., & Xie, Y. H. (2015). Paternalistic leadership and employee voice in China: A dual process model. The Leadership Quarterly, 26(1), 25-36.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
61	Zhang, X. A., Li, N., & Harris, T. B. (2015). Putting non-work ties to work: The case of guanxi in supervisor–subordinate relationships. The Leadership Quarterly, 26(1), 37-54.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3
62	Ma, L., & Tsui, A. S. (2015). Traditional Chinese philosophies and contemporary leadership. The Leadership Quarterly, 26(1), 13-24.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
63	Cheng, C. Y., Jiang, D. Y., Cheng, B. S., Riley, J. H., & Jen, C. K. (2015). When do subordinates commit to their supervisors? Different effects of perceived supervisor integrity and support on Chinese and American employees. The Leadership Quarterly, 26(1), 81-97.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
64	Xu, L., Fu, P., Xi, Y., Zhang, L., Zhao, X., Cao, C., ... & Ge, J. (2014). Adding dynamics to a static theory: How leader traits evolve and how they are expressed. The Leadership Quarterly, 25(6), 1095-1119.	4	4	5	4	5	5	5	5	5	4	5	4	5	5	5	3
65	Markham, S. E., Smith, J. W., Markham, I. S., & Braekkan, K. F. (2014). A new approach to analyzing the Achilles' heel of multisource feedback programs: Can we really trust ratings of leaders at the group level of analysis?. The Leadership Quarterly, 25(6), 1120-1142.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
66	Kniffin, K. M., Wansink, B., Griskevicius, V., & Wilson, D. S. (2014). Beauty is in the in-group of the beholded: Intergroup differences in the perceived attractiveness of leaders. The Leadership Quarterly, 25(6), 1143-1153.	3	3	5	4	5	5	4	4	5	5	5	5	4	4	4	3
67	Junker, N. M., & van Dick, R. (2014). Implicit theories in organizational settings: A systematic review and research agenda of implicit leadership and followership theories. The Leadership Quarterly, 25(6), 1154-1173.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
68	Spangler, W. D., Tikhomirov, A., Sotak, K. L., & Palrecha, R. (2014). Leader motive profiles in eight types of organizations. The Leadership Quarterly, 25(6), 1080-1094.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
69	Do, M. H., & Minbashian, A. (2014). A meta-analytic examination of the effects of the agentic and affiliative aspects of extraversion on leadership outcomes. The Leadership Quarterly, 25(5), 1040-1053.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
70	Geys, B. (2014). Better not look too nice? Employees' preferences towards (un) likeable managers. The Leadership Quarterly, 25(5), 875-884.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
71	Reina, C. S., Zhang, Z., & Peterson, S. J. (2014). CEO grandiose narcissism and firm performance: The role of organizational identification. The Leadership Quarterly, 25(5), 958-971.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
72	Lin, H. C., & Rababah, N. (2014). CEO–TMT exchange, TMT personality composition, and decision quality: The mediating role of TMT psychological empowerment. The Leadership Quarterly, 25(5), 943-957.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
73	Leicht, C., de Moura, G. R., & Crisp, R. J. (2014). Contesting gender stereotypes stimulates generalized fairness in the selection of leaders. The Leadership Quarterly, 25(5), 1025-1039.	4	4	4	4	5	5	5	5	5	5	5	5	5	5	5	4
74	Haynie, J. J., Cullen, K. L., Lester, H. F., Winter, J., & Svyantek, D. J. (2014). Differentiated leader–member exchange, justice climate, and performance: Main and interactive effects. The Leadership Quarterly, 25(5), 912-922.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
75	Little, A. C. (2014). Facial appearance and leader choice in different contexts: Evidence for task contingent selection based on implicit and learned face-behaviour/face-ability associations. The Leadership Quarterly, 25(5), 865-874.	3	3	4	4	4	3	4	3	4	5	5	5	4	4	4	3
76	Poutvaara, P. (2014). Facial appearance and leadership: An overview and challenges for new research. The Leadership Quarterly, 25(5), 801-804.	3	3	4	4	4	3	4	3	4	5	5	5	4	4	4	3
77	Škerlavaj, M., Černe, M., & Dysvik, A. (2014). I get by with a little help from my supervisor: Creative-idea generation, idea implementation, and perceived supervisor support. The Leadership Quarterly, 25(5), 987-1000.	5	5	5	5	5	5	5	5	5	5	5	4	5	5	5	4
78	Steffens, N. K., Haslam, S. A., Reicher, S. D., Platow, M. J., Fransen, K., Yang, J., Ryan, M.K., Jetten, J., Peters, K. & Boen, F. (2014). Leadership as social identity management: Introducing the Identity Leadership Inventory (ILI) to assess and validate a four-dimensional model. The Leadership Quarterly, 25(5), 1001-1024.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
79	Murase, T., Carter, D. R., DeChurch, L. A., & Marks, M. A. (2014). Mind the gap: The role of leadership in multiteam system collective cognition. The Leadership Quarterly, 25(5), 972-986.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
80	Haselhuhn, M. P., Wong, E. M., Ormiston, M. E., Inesi, M. E., & Galinsky, A. D. (2014). Negotiating face-to-face: Men's facial structure predicts negotiation performance. The Leadership Quarterly, 25(5), 835-845.	5	5	4	4	5	5	5	5	5	5	5	5	5	5	5	4
81	Tskhay, K. O., Xu, H., & Rule, N. O. (2014). Perceptions of leadership success from nonverbal cues communicated by orchestra conductors. The Leadership Quarterly, 25(5), 901-911.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
82	Landry, G., Vandenberghe, C., & Ayed, A. K. B. (2014). Supervisor commitment to employees: Does agreement among supervisors' and employees' perceptions matter?. The Leadership Quarterly, 25(5), 885-900.	4	4	5	5	5	5	5	5	5	5	5	5	5	5	5	3
83	Spisak, B. R., Grabo, A. E., Arvey, R. D., & van Vugt, M. (2014). The age of exploration and exploitation: Younger-looking leaders endorsed for change and older-looking leaders endorsed for stability. The Leadership Quarterly, 25(5), 805-816.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
84	Pillemer, J., Graham, E. R., & Burke, D. M. (2014). The face says it all: CEOs, gender, and predicting corporate performance. The Leadership Quarterly, 25(5), 855-864.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3
85	Rule, N. O., & Tskhay, K. O. (2014). The influence of economic context on the relationship between chief executive officer facial appearance and company profits. The Leadership Quarterly, 25(5), 846-854.	4	4	4	4	4	4	4	4	4	5	4	5	4	4	4	3
86	Olivola, C. Y., Eubanks, D. L., & Lovelace, J. B. (2014). The many (distinctive) faces of leadership: inferring leadership domain from facial appearance. The Leadership Quarterly, 25(5), 817-834.	4	4	5	4	5	5	5	4	5	5	5	5	4	4	4	3

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
87	Nicolaides, V. C., LaPort, K. A., Chen, T. R., Tomassetti, A. J., Weis, E. J., Zaccaro, S. J., & Cortina, J. M. (2014). The shared leadership of teams: A meta-analysis of proximal, distal, and moderating relationships. The Leadership Quarterly, 25(5), 923-942.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
88	Lee, K., Scandura, T. A., & Sharif, M. M. (2014). Cultures have consequences: A configural approach to leadership across two cultures. The Leadership Quarterly, 25(4), 692-710.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
89	Collins, B. J., Burrus, C. J., & Meyer, R. D. (2014). Gender differences in the impact of leadership styles on subordinate embeddedness and job satisfaction. The Leadership Quarterly, 25(4), 660-671.	4	5	5	5	5	5	5	5	5	5	5	5	5	5	4	4
90	Antonakis, J., & House, R. J. (2014). Instrumental leadership: Measurement and extension of transformational–transactional leadership theory. The Leadership Quarterly, 25(4), 746-771.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
91	Ladegard, G., & Gjerde, S. (2014). Leadership coaching, leader role-efficacy, and trust in subordinates. A mixed methods study assessing leadership coaching as a leadership development tool. The Leadership Quarterly, 25(4), 631-646.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
92	Vessey, W. B., Barrett, J. D., Mumford, M. D., Johnson, G., & Litwiller, B. (2014). Leadership of highly creative people in highly creative fields: A historiometric study of scientific leaders. The Leadership Quarterly, 25(4), 672-691.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
93	Amundsen, S., & Martinsen, Ø. L. (2014). Self–other agreement in empowering leadership: Relationships with leader effectiveness and subordinates' job satisfaction and turnover intention. The Leadership Quarterly, 25(4), 784-800.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
94	White, L., Currie, G., & Lockett, A. (2014). The enactment of plural leadership in a health and social care network: The influence of institutional context. The Leadership Quarterly, 25(4), 730-745.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
95	Hill, N. S., Kang, J. H., & Seo, M. G. (2014). The interactive effect of leader–member exchange and electronic communication on employee psychological empowerment and work outcomes. The Leadership Quarterly, 25(4), 772-783.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
96	Decoster, S., Stouten, J., Camps, J., & Tripp, T. M. (2014). The role of employees' OCB and leaders' hindrance stress in the emergence of self-serving leadership. The Leadership Quarterly, 25(4), 647-659.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
97	Nichols, A. L., & Cottrell, C. A. (2014). What do people desire in their leaders? The role of leadership level on trait desirability. The Leadership Quarterly, 25(4), 711-729.	5	5	3	5	5	5	5	5	5	5	5	5	5	5	5	5
98	Chen, Y., Yu, E., & Son, J. (2014). Beyond leader–member exchange (LMX) differentiation: An indigenous approach to leader–member relationship differentiation. The Leadership Quarterly, 25(3), 611-627.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
99	Friedrich, T. L., Vessey, W. B., Schuelke, M. J., Mumford, M. D., Yammarino, F. J., & Ruark, G. A. (2014). Collectivistic leadership and George C. Marshall: A historiometric analysis of career events. The Leadership Quarterly, 25(3), 449-467.	4	4	4	5	5	5	5	5	5	5	5	4	5	5	5	5
100	Amundsen, S., & Martinsen, Ø. L. (2014). Empowering leadership: Construct clarification, conceptualization, and validation of a new scale. The Leadership Quarterly, 25(3), 487-511.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3
101	Hinojosa, A. S., McCauley, K. D., Randolph-Seng, B., & Gardner, W. L. (2014). Leader and follower attachment styles: Implications for authentic leader–follower relationships. The Leadership Quarterly, 25(3), 595-610.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
102	Kafetsios, K., Athanasiadou, M., & Dimou, N. (2014). Leaders' and subordinates' attachment orientations, emotion regulation capabilities and affect at work: A multilevel analysis. The Leadership Quarterly, 25(3), 512-527.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
103	Huettermann, H., Doering, S., & Boerner, S. (2014). Leadership and team identification: Exploring the followers' perspective. The Leadership Quarterly, 25(3), 413-432.	4	4	5	4	5	5	5	5	5	4	5	4	5	5	5	3
104	Kelley, K. M., & Bisel, R. S. (2014). Leaders' narrative sensemaking during LMX role negotiations: Explaining how leaders make sense of who to trust and when. The Leadership Quarterly, 25(3), 433-448.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
105	van Dierendonck, D., Stam, D., Boersma, P., de Windt, N., & Alkema, J. (2014). Same difference? Exploring the differential mechanisms linking servant leadership and transformational leadership to follower outcomes. The Leadership Quarterly, 25(3), 544-562.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
106	Seyranian, V. (2014). Social identity framing communication strategies for mobilizing social change. The Leadership Quarterly, 25(3), 468-486.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	3
107	Cianci, A. M., Hannah, S. T., Roberts, R. P., & Tsakumis, G. T. (2014). The effects of authentic leadership on followers' ethical decision-making in the face of temptation: An experimental study. The Leadership Quarterly, 25(3), 581-594.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
108	Ogunfowora, B. (2014). The impact of ethical leadership within the recruitment context: The roles of organizational reputation, applicant personality, and value congruence. The Leadership Quarterly, 25(3), 528-543.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
109	Kaplan, S., Cortina, J., Ruark, G., LaPort, K., & Nicolaides, V. (2014). The role of organizational leaders in employee emotion management: A theoretical model. The Leadership Quarterly, 25(3), 563-580.	4	4	5	5	5	5	5	4	5	5	5	5	5	5	5	5
110	Weinberg, F. J., & Locander, W. B. (2014). Advancing workplace spiritual development: A dyadic mentoring approach. The Leadership Quarterly, 25(2), 391-408.	5	5	3	4	5	5	4	4	5	5	4	4	5	5	4	3

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
111	O'Connell, P. K. (2014). A simplified framework for 21st century leader development. The Leadership Quarterly, 25(2), 183-203.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
112	Zhang, W., Wang, H., & Pearce, C. L. (2014). Consideration for future consequences as an antecedent of transformational leadership behavior: The moderating effects of perceived dynamic work environment. The Leadership Quarterly, 25(2), 329-343.	5	5	3	5	5	5	5	5	5	5	5	5	5	5	5	4
113	Vidyarthi, P. R., Anand, S., & Liden, R. C. (2014). Do emotionally perceptive leaders motivate higher employee performance? The moderating role of task interdependence and power distance. The Leadership Quarterly, 25(2), 232-244.	4	5	3	5	5	5	5	5	5	3	5	5	5	5	5	4
114	Liu, S., Hu, J., Li, Y., Wang, Z., & Lin, X. (2014). Examining the cross-level relationship between shared leadership and learning in teams: Evidence from China. The Leadership Quarterly, 25(2), 282-295.	4	5	5	5	5	5	5	5	5	5	5	4	5	5	5	5
115	Fitzsimmons, T. W., Callan, V. J., & Paulsen, N. (2014). Gender disparity in the C-suite: Do male and female CEOs differ in how they reached the top?. The Leadership Quarterly, 25(2), 245-266.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
116	Braddy, P. W., Gooty, J., Fleenor, J. W., & Yammarino, F. J. (2014). Leader behaviors and career derailment potential: A multi-analytic method examination of rating source and self–other agreement. The Leadership Quarterly, 25(2), 373-390.	5	5	3	5	5	5	5	5	5	5	5	5	5	5	5	5
117	Harris, T. B., Li, N., & Kirkman, B. L. (2014). Leader–member exchange (LMX) in context: How LMX differentiation and LMX relational separation attenuate LMX's influence on OCB and turnover intention. The Leadership Quarterly, 25(2), 314-328.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
118	O'Reilly, C. A., Doerr, B., Caldwell, D. F., & Chatman, J. A. (2014). Narcissistic CEOs and executive compensation. The Leadership Quarterly, 25(2), 218-231.	4	4	4	5	5	5	5	5	5	5	5	4	5	5	5	5

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
119	Byrne, A., Dionisi, A. M., Barling, J., Akers, A., Robertson, J., Lys, R., Wylie, J & Dupré, K. (2014). The depleted leader: The influence of leaders' diminished psychological resources on leadership behaviors. The Leadership Quarterly, 25(2), 344-357.	5	5	3	4	5	5	5	5	5	5	5	5	5	4	5	4
120	van der Kam, N. A., Janssen, O., van der Vegt, G. S., & Stoker, J. I. (2014). The role of vertical conflict in the relationship between leader self-enhancement and leader performance. The Leadership Quarterly, 25(2), 267-281.	5	5	4	5	5	5	5	5	5	5	5	5	5	5	5	5
121	Steffens, N. K., Haslam, S. A., & Reicher, S. D. (2014). Up close and personal: Evidence that shared social identity is a basis for the 'special'relationship that binds followers to leaders. The Leadership Quarterly, 25(2), 296-313.	4	4	5	5	5	5	5	5	4	5	5	5	5	5	5	5
122	Clark, J. R., Murphy, C., & Singer, S. J. (2014). When do leaders matter? Ownership, governance and the influence of CEOs on firm performance. The Leadership Quarterly, 25(2), 358-372.	5	5	4	5	5	5	4	5	5	5	5	3	5	5	5	5
123	Dionne, S. D., Gupta, A., Sotak, K. L., Shirreffs, K. A., Serban, A., Hao, C., ... & Yammarino, F. J. (2014). A 25-year perspective on levels of analysis in leadership research. The Leadership Quarterly, 25(1), 6-35.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
124	Day, D. V., Fleenor, J. W., Atwater, L. E., Sturm, R. E., & McKee, R. A. (2014). Advances in leader and leadership development: A review of 25years of research and theory. The Leadership Quarterly, 25(1), 63-82.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
125	Avolio, B. J., Sosik, J. J., Kahai, S. S., & Baker, B. (2014). E-leadership: Re-examining transformations in leadership source and transmission. The Leadership Quarterly, 25(1), 105-131.	5	5	5	5	5	5	5	5	5	4	4	5	5	5	5	5
126	Uhl-Bien, M., Riggio, R. E., Lowe, K. B., & Carsten, M. K. (2014). Followership theory: A review and research agenda. The Leadership Quarterly, 25(1), 83-104.	4	4	5	5	5	5	5	5	4	5	5	5	5	5	5	5

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
127	Dinh, J. E., Lord, R. G., Gardner, W. L., Meuser, J. D., Liden, R. C., & Hu, J. (2014). Leadership theory and research in the new millennium: Current theoretical trends and changing perspectives. The Leadership Quarterly, 25(1), 36-62.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
128	Festekjian, A., Tram, S., Murray, C. B., Sy, T., & Huynh, H. P. (2014). I See Me the Way You See Me The Influence of Race on Interpersonal and Intrapersonal Leadership Perceptions. Journal of Leadership & Organizational Studies, 21(1), 102-119.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
129	Yukl, G., Mahsud, R., Hassan, S., & Prussia, G. E. (2013). An improved measure of ethical leadership. Journal of Leadership & Organizational Studies, 20(1), 38-48.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
130	Winkler, E., Busch, C., Clasen, J., & Vowinkel, J. (2015). Changes in Leadership Behaviors Predict Changes in Job Satisfaction and Well-Being in Low-Skilled Workers A Longitudinal Investigation. Journal of Leadership & Organizational Studies, 22(1), 72-87.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
131	Borgersen, H. C., Hystad, S. W., Larsson, G., & Eid, J. (2014). Authentic leadership and safety climate among seafarers. Journal of Leadership & Organizational Studies, 21(4), 394-402.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5
132	Gentry, W. A., Eckert, R. H., Munusamy, V. P., Stawiski, S. A., & Martin, J. L. (2013). The needs of participants in leadership development programs: A qualitative and quantitative cross-country investigation. Journal of Leadership & Organizational Studies, 1548051813483832.	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5	4
133	de Luque, M. S., Washburn, N. T., Waldman, D. A., & House, R. J. (2008). Unrequited profit: How stakeholder and economic values relate to subordinates' perceptions of leadership and firm performance. *Administrative Science Quarterly*, *53*(4), 626-654.	5	5	4	4	5	4	4	4	4	4	5	5	5	4	4	4
134	Klein, K. J., Ziegert, J. C., Knight, A. P., & Xiao, Y. (2006). Dynamic delegation: Shared, hierarchical, and deindividualized leadership in extreme action teams.*Administrative Science Quarterly*, *51*(4), 590-621.	4	5	4	4	4	5	4	4	3	4	3	4	4	4	4	5

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
135	Davis, J. P., & Eisenhardt, K. M. (2011). Rotating leadership and collaborative innovation recombination processes in symbiotic relationships. *Administrative Science Quarterly*, *56*(2), 159-201.	4	4	3	4	3	4	4	4	3	4	4	4	5	4	5	4
136	Park, S. H., & Westphal, J. D. (2013). Social Discrimination in the Corporate Elite How Status Affects the Propensity for Minority CEOs to Receive Blame for Low Firm Performance. *Administrative Science Quarterly*, *58*(4), 542-586.	4	4	4	2	3	4	3	5	4	4	4	5	5	5	4	4
137	Fu, P. P., Tsui, A. S., Liu, J., & Li, L. (2010). Pursuit of whose happiness? Executive leaders' transformational behaviors and personal values.*Administrative Science Quarterly*, *55*(2), 222-254.	5	5	4	4	5	4	4	4	5	4	4	4	5	4	4	4
138	Westphal, J. D., Park, S. H., McDonald, M. L., & Hayward, M. L. (2012). Helping other CEOs avoid bad press social exchange and impression management support among CEOs in communications with journalists. Administrative Science Quarterly, 57(2), 217-268.	4	4	3	4	3	4	4	4	3	4	4	4	5	4	5	4
139	Fu, P. P., Tsui, A. S., Liu, J., & Li, L. (2010). Pursuit of whose happiness? Executive leaders' transformational behaviors and personal values.*Administrative Science Quarterly*, *55*(2), 222-254.	4	4	4	2	3	4	3	5	4	4	4	5	5	5	4	4
140	Osterman, P. (2006). Overcoming oligarchy: Culture and agency in social movement organizations. *Administrative Science Quarterly*, *51*(4), 622-649.	4	4	4	2	4	4	4	4	5	4	4	5	5	5	4	4
141	Zhu, D. H., & Chen, G. (2014). CEO Narcissism and the Impact of Prior Board Experience on Corporate Strategy. Administrative Science Quarterly, 0001839214554989.	4	4	4	2	3	4	3	5	4	4	4	5	5	5	4	4
142	Barsade, S. G., & O'Neill, O. A. (2014). What's love got to do with it? A longitudinal study of the culture of companionate love and employee and client outcomes in a long-term care setting. Administrative Science Quarterly, 0001839214538636.	5	5	3	4	5	5	4	3	4	5	5	5	4	5	5	5

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s/n	Reference	Strategy				Situational				Style				Skills			
		A1	B1	C1	D1	A2	B2	C2	D2	A3	B3	C3	D3	A4	B4	C4	D4
143	Ashforth, B. E., & Reingen, P. H. (2014). Functions of dysfunction managing the dynamics of an organizational duality in a natural food cooperative. Administrative Science Quarterly, 0001839214537811.	2	2	2	4	3	4	4	4	4	1	1	2	5	1	1	1
144	Desai, S. D., Chugh, D., & Brief, A. P. (2014). The implications of marriage structure for men's workplace attitudes, beliefs, and behaviors toward women.*Administrative Science Quarterly*, *59*(2), 330-365.	3	3	4	5	4	5	4	4	4	3	4	3	5	4	4	4
145	Joshi, A. (2014). By whom and when is women's expertise recognized? The interactive effects of gender and education in science and engineering teams.*Administrative Science Quarterly*, 0001839214528331.	4	4	5	5	5	5	4	4	4	4	4	3	5	4	4	4
146	Ou, A. Y., Tsui, A. S., Kinicki, A. J., Waldman, D. A., Xiao, Z., & Song, L. J. (2014). Humble chief executive officers' connections to top management team integration and middle managers' responses. Administrative Science Quarterly, 0001839213520131.	5	5	4	4	4	4	4	4	4	5	5	4	5	4	4	4
147	Park, S. H., & Westphal, J. D. (2013). Social Discrimination in the Corporate Elite How Status Affects the Propensity for Minority CEOs to Receive Blame for Low Firm Performance. *Administrative Science Quarterly*, *58*(4), 542-586.	4	4	3	4	2	4	5	4	4	5	4	4	4	3	4	5
148	Detert, J. R., Burris, E. R., Harrison, D. A., & Martin, S. R. (2013). Voice flows to and around leaders understanding when units are helped or hurt by employee voice. *Administrative Science Quarterly*, *58*(4), 624-668.	4	5	3	5	4	3	4	5	4	5	4	5	4	4	5	5
149	Chin, M. K., Hambrick, D. C., & Treviño, L. K. (2013). Political Ideologies of CEOs The Influence of Executives' Values on Corporate Social Responsibility. Administrative Science Quarterly, 58(2), 197-232.	5	5	4	4	4	4	4	4	4	5	5	4	5	4	4	4
150	Gerstner, W. C., König, A., Enders, A., & Hambrick, D. C. (2013). CEO narcissism, audience engagement, and organizational adoption of technological discontinuities. Administrative Science Quarterly, 58(2), 257-291.	4	4	3	4	2	4	5	4	4	5	4	4	4	3	4	5

Appendix G: Proposed Leadership Model- AMOS Output

Model before modification

Estimates (Group number 1 - Default model)
Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Strategy	<---	Leadership	1.000				
Situation	<---	Leadership	.776	.095	8.137	***	
Style	<---	Leadership	.910	.099	9.206	***	
Skills	<---	Leadership	.538	.074	7.268	***	
D2	<---	Situation	.768	.096	7.965	***	
C2	<---	Situation	.814	.083	9.758	***	
B2	<---	Situation	.827	.078	10.626	***	
A2	<---	Situation	1.000				
A1	<---	Strategy	1.000				
B1	<---	Strategy	.976	.040	24.213	***	
C1	<---	Strategy	.530	.078	6.827	***	
D1	<---	Strategy	.497	.067	7.377	***	
D4	<---	Skills	1.521	.250	6.077	***	
C4	<---	Skills	1.464	.170	8.614	***	
B4	<---	Skills	1.943	.211	9.194	***	
A4	<---	Skills	1.000				
D3	<---	Style	.878	.085	10.344	***	
C3	<---	Style	1.000				
B3	<---	Style	.994	.086	11.621	***	
A3	<---	Style	.738	.071	10.402	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
Strategy	<---	Leadership	.732
Situation	<---	Leadership	.860
Style	<---	Leadership	.918
Skills	<---	Leadership	.948
D2	<---	Situation	.644
C2	<---	Situation	.766
B2	<---	Situation	.824
A2	<---	Situation	.794
A1	<---	Strategy	.978

			Estimate
B1	<---	Strategy	.948
C1	<---	Strategy	.500
D1	<---	Strategy	.530
D4	<---	Skills	.549
C4	<---	Skills	.834
B4	<---	Skills	.921
A4	<---	Skills	.647
D3	<---	Style	.736
C3	<---	Style	.860
B3	<---	Style	.796
A3	<---	Style	.739

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
Leadership	.278	.057	4.879	***	
e17	.240	.035	6.839	***	
e18	.059	.016	3.747	***	
e19	.043	.015	2.906	.004	
e20	.009	.005	1.971	.049	
e13	.124	.015	8.111	***	
e12	.178	.024	7.562	***	
e11	.096	.016	6.007	***	
e10	.155	.022	7.048	***	
e9	.124	.016	7.544	***	
e8	.188	.024	7.845	***	
e7	.106	.015	7.034	***	
e6	.073	.012	6.221	***	
e5	.133	.020	6.701	***	
e4	.327	.038	8.521	***	
e3	.438	.051	8.538	***	
e2	.056	.014	3.877	***	
e1	.024	.014	1.748	.081	
e14	.061	.014	4.403	***	
e15	.084	.012	6.878	***	
e16	.480	.058	8.323	***	

Matrices (Group number 1 - Default model)

Total Effects (Group number 1 - Default model)

	Leadership	Style	Skills	Strategy	Situation
Style	.910	.000	.000	.000	.000
Skills	.538	.000	.000	.000	.000
Strategy	1.000	.000	.000	.000	.000
Situation	.776	.000	.000	.000	.000
D4	.818	.000	1.521	.000	.000
C4	.788	.000	1.464	.000	.000
B4	1.045	.000	1.943	.000	.000
A1	1.000	.000	.000	1.000	.000
B1	.976	.000	.000	.976	.000
C1	.530	.000	.000	.530	.000
D1	.497	.000	.000	.497	.000
A2	.776	.000	.000	.000	1.000
B2	.642	.000	.000	.000	.827
C2	.632	.000	.000	.000	.814
D2	.596	.000	.000	.000	.768
A3	.672	.738	.000	.000	.000
B3	.904	.994	.000	.000	.000
C3	.910	1.000	.000	.000	.000
D3	.799	.878	.000	.000	.000
A4	.538	.000	1.000	.000	.000

Standardized Total Effects (Group number 1 - Default model)

	Leadership	Style	Skills	Strategy	Situation
Style	.918	.000	.000	.000	.000
Skills	.948	.000	.000	.000	.000
Strategy	.732	.000	.000	.000	.000
Situation	.860	.000	.000	.000	.000
D4	.520	.000	.549	.000	.000
C4	.791	.000	.834	.000	.000
B4	.873	.000	.921	.000	.000
A1	.716	.000	.000	.978	.000
B1	.694	.000	.000	.948	.000
C1	.366	.000	.000	.500	.000
D1	.388	.000	.000	.530	.000
A2	.683	.000	.000	.000	.794
B2	.709	.000	.000	.000	.824
C2	.659	.000	.000	.000	.766
D2	.554	.000	.000	.000	.644
A3	.678	.739	.000	.000	.000

	Leadership	Style	Skills	Strategy	Situation
B3	.731	.796	.000	.000	.000
C3	.789	.860	.000	.000	.000
D3	.676	.736	.000	.000	.000
A4	.614	.000	.647	.000	.000

Direct Effects (Group number 1 - Default model)

	Leadership	Style	Skills	Strategy	Situation
Style	.910	.000	.000	.000	.000
Skills	.538	.000	.000	.000	.000
Strategy	1.000	.000	.000	.000	.000
Situation	.776	.000	.000	.000	.000
D4	.000	.000	1.521	.000	.000
C4	.000	.000	1.464	.000	.000
B4	.000	.000	1.943	.000	.000
A1	.000	.000	.000	1.000	.000
B1	.000	.000	.000	.976	.000
C1	.000	.000	.000	.530	.000
D1	.000	.000	.000	.497	.000
A2	.000	.000	.000	.000	1.000
B2	.000	.000	.000	.000	.827
C2	.000	.000	.000	.000	.814
D2	.000	.000	.000	.000	.768
A3	.000	.738	.000	.000	.000
B3	.000	.994	.000	.000	.000
C3	.000	1.000	.000	.000	.000
D3	.000	.878	.000	.000	.000
A4	.000	.000	1.000	.000	.000

Standardized Direct Effects (Group number 1 - Default model)

	Leadership	Style	Skills	Strategy	Situation
Style	.918	.000	.000	.000	.000
Skills	.948	.000	.000	.000	.000
Strategy	.732	.000	.000	.000	.000
Situation	.860	.000	.000	.000	.000
D4	.000	.000	.549	.000	.000
C4	.000	.000	.834	.000	.000
B4	.000	.000	.921	.000	.000
A1	.000	.000	.000	.978	.000
B1	.000	.000	.000	.948	.000

	Leadership	Style	Skills	Strategy	Situation
C1	.000	.000	.000	.500	.000
D1	.000	.000	.000	.530	.000
A2	.000	.000	.000	.000	.794
B2	.000	.000	.000	.000	.824
C2	.000	.000	.000	.000	.766
D2	.000	.000	.000	.000	.644
A3	.000	.739	.000	.000	.000
B3	.000	.796	.000	.000	.000
C3	.000	.860	.000	.000	.000
D3	.000	.736	.000	.000	.000
A4	.000	.000	.647	.000	.000

Indirect Effects (Group number 1 - Default model)

	Leadership	Style	Skills	Strategy	Situation
Style	.000	.000	.000	.000	.000
Skills	.000	.000	.000	.000	.000
Strategy	.000	.000	.000	.000	.000
Situation	.000	.000	.000	.000	.000
D4	.818	.000	.000	.000	.000
C4	.788	.000	.000	.000	.000
B4	1.045	.000	.000	.000	.000
A1	1.000	.000	.000	.000	.000
B1	.976	.000	.000	.000	.000
C1	.530	.000	.000	.000	.000
D1	.497	.000	.000	.000	.000
A2	.776	.000	.000	.000	.000
B2	.642	.000	.000	.000	.000
C2	.632	.000	.000	.000	.000
D2	.596	.000	.000	.000	.000
A3	.672	.000	.000	.000	.000
B3	.904	.000	.000	.000	.000
C3	.910	.000	.000	.000	.000
D3	.799	.000	.000	.000	.000
A4	.538	.000	.000	.000	.000

Standardized Indirect Effects (Group number 1 - Default model)

	Leadership	Style	Skills	Strategy	Situation
Style	.000	.000	.000	.000	.000
Skills	.000	.000	.000	.000	.000

	Leadership	Style	Skills	Strategy	Situation
Strategy	.000	.000	.000	.000	.000
Situation	.000	.000	.000	.000	.000
D4	.520	.000	.000	.000	.000
C4	.791	.000	.000	.000	.000
B4	.873	.000	.000	.000	.000
A1	.716	.000	.000	.000	.000
B1	.694	.000	.000	.000	.000
C1	.366	.000	.000	.000	.000
D1	.388	.000	.000	.000	.000
A2	.683	.000	.000	.000	.000
B2	.709	.000	.000	.000	.000
C2	.659	.000	.000	.000	.000
D2	.554	.000	.000	.000	.000
A3	.678	.000	.000	.000	.000
B3	.731	.000	.000	.000	.000
C3	.789	.000	.000	.000	.000
D3	.676	.000	.000	.000	.000
A4	.614	.000	.000	.000	.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	36	503.987	100	.000	5.040
Saturated model	136	.000	0		
Independence model	16	1997.870	120	.000	16.649

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.047	.730	.633	.537
Saturated model	.000	1.000		
Independence model	.186	.202	.095	.178

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.748	.697	.787	.742	.785
Saturated model	1.000		1.000		1.000

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.833	.623	.654
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	403.987	337.614	477.884
Saturated model	.000	.000	.000
Independence model	1877.870	1736.690	2026.424

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	3.382	2.711	2.266	3.207
Saturated model	.000	.000	.000	.000
Independence model	13.409	12.603	11.656	13.600

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.165	.151	.179	.000
Independence model	.324	.312	.337	.000

AIC

Model	AIC	BCC	BIC	CAIC
Default model	575.987	585.260	684.370	720.370
Saturated model	272.000	307.030	681.446	817.446
Independence model	2029.870	2033.991	2078.040	2094.040

ECVI

Model	ECVI	LO 90	HI 90	MECVI
Default model	3.866	3.420	4.362	3.928

Model	ECVI	LO 90	HI 90	MECVI
Saturated model	1.826	1.826	1.826	2.061
Independence model	13.623	12.676	14.620	13.651

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	37	41
Independence model	11	12

Model after modification

Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
Strategy	<---	Leadership	1.000				
Situation	<---	Leadership	.727	.088	8.297	***	
Style	<---	Leadership	.860	.095	9.015	***	
Skills	<---	Leadership	.570	.072	7.919	***	
D2	<---	Situation	.963	.119	8.071	***	
C2	<---	Situation	.865	.102	8.453	***	
B2	<---	Situation	.844	.082	10.321	***	
A2	<---	Situation	1.000				
A1	<---	Strategy	1.000				
B1	<---	Strategy	.970	.041	23.878	***	
C1	<---	Strategy	.573	.079	7.286	***	
D1	<---	Strategy	.482	.060	8.019	***	
D4	<---	Skills	1.400	.223	6.264	***	
C4	<---	Skills	1.416	.168	8.410	***	
B4	<---	Skills	1.757	.174	10.100	***	
A4	<---	Skills	1.000				
D3	<---	Style	.855	.089	9.604	***	
C3	<---	Style	1.000				
B3	<---	Style	.939	.081	11.557	***	

			Estimate	S.E.	C.R.	P	Label
A3	<---	Style	.895	.086	10.431	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
Strategy	<---	Leadership	.737
Situation	<---	Leadership	.935
Style	<---	Leadership	.957
Skills	<---	Leadership	.957
D2	<---	Situation	.689
C2	<---	Situation	.745
B2	<---	Situation	.730
A2	<---	Situation	.717
A1	<---	Strategy	.977
B1	<---	Strategy	.948
C1	<---	Strategy	.514
D1	<---	Strategy	.517
D4	<---	Skills	.533
C4	<---	Skills	.860
B4	<---	Skills	.897
A4	<---	Skills	.692
D3	<---	Style	.649
C3	<---	Style	.783
B3	<---	Style	.688
A3	<---	Style	.811

Covariances: (Group number 1 - Default model)

			Estimate	S.E.	C.R.	P	Label
e7	<-->	e4	.097	.015	6.479	***	
e5	<-->	e4	.082	.015	5.525	***	
e13	<-->	e15	-.037	.008	-4.759	***	
e13	<-->	e8	.050	.012	4.264	***	
e9	<-->	e8	.038	.012	3.308	***	
e9	<-->	e5	.034	.010	3.283	.001	
e12	<-->	e4	-.069	.017	-4.154	***	
e12	<-->	e14	.036	.010	3.534	***	
e13	<-->	e6	.026	.008	3.191	.001	
e12	<-->	e10	.097	.021	4.699	***	
e5	<-->	e16	-.073	.021	-3.414	***	
e4	<-->	e15	.050	.011	4.494	***	

	Estimate	S.E.	C.R.	P	Label
e7 <--> e14	-.036	.008	-4.658	***	
e7 <--> e2	-.020	.007	-2.879	.004	
e9 <--> e15	-.041	.008	-5.060	***	
e9 <--> e16	-.054	.019	-2.881	.004	
e11 <--> e10	.078	.018	4.234	***	
e6 <--> e5	.039	.013	3.073	.002	
e4 <--> e3	.102	.025	4.136	***	
e3 <--> e14	.059	.016	3.711	***	
e8 <--> e3	-.069	.020	-3.360	***	
e12 <--> e11	.048	.017	2.895	.004	
e11 <--> e5	.029	.011	2.651	.008	
e10 <--> e7	.024	.010	2.420	.016	

Variances: (Group number 1 - Default model)

	Estimate	S.E.	C.R.	P	Label
Leadership	.281	.056	4.986	***	
e17	.236	.034	7.000	***	
e18	.021	.009	2.486	.013	
e19	.019	.012	1.558	.119	
e20	.008	.004	1.918	.055	
e13	.109	.013	8.110	***	
e12	.228	.028	8.230	***	
e11	.144	.020	7.188	***	
e10	.223	.028	7.914	***	
e9	.094	.015	6.337	***	
e8	.175	.022	8.109	***	
e7	.102	.014	7.224	***	
e6	.107	.014	7.581	***	
e5	.161	.021	7.624	***	
e4	.330	.035	9.440	***	
e3	.471	.054	8.658	***	
e2	.055	.015	3.770	***	
e1	.025	.014	1.750	.080	
e14	.074	.012	6.302	***	
e15	.071	.011	6.588	***	
e16	.493	.058	8.493	***	

Matrices (Group number 1 - Default model)

Total Effects (Group number 1 - Default model)

	Leadership	Style	Skills	Strategy	Situation
Style	.860	.000	.000	.000	.000
Skills	.570	.000	.000	.000	.000
Strategy	1.000	.000	.000	.000	.000
Situation	.727	.000	.000	.000	.000
D4	.798	.000	1.400	.000	.000
C4	.807	.000	1.416	.000	.000
B4	1.001	.000	1.757	.000	.000
A1	1.000	.000	.000	1.000	.000
B1	.970	.000	.000	.970	.000
C1	.573	.000	.000	.573	.000
D1	.482	.000	.000	.482	.000
A2	.727	.000	.000	.000	1.000
B2	.614	.000	.000	.000	.844
C2	.629	.000	.000	.000	.865
D2	.700	.000	.000	.000	.963
A3	.769	.895	.000	.000	.000
B3	.808	.939	.000	.000	.000
C3	.860	1.000	.000	.000	.000
D3	.735	.855	.000	.000	.000
A4	.570	.000	1.000	.000	.000

Standardized Total Effects (Group number 1 - Default model)

	Leadership	Style	Skills	Strategy	Situation
Style	.957	.000	.000	.000	.000
Skills	.957	.000	.000	.000	.000
Strategy	.737	.000	.000	.000	.000
Situation	.935	.000	.000	.000	.000
D4	.510	.000	.533	.000	.000
C4	.823	.000	.860	.000	.000
B4	.859	.000	.897	.000	.000
A1	.720	.000	.000	.977	.000
B1	.699	.000	.000	.948	.000
C1	.379	.000	.000	.514	.000
D1	.381	.000	.000	.517	.000
A2	.670	.000	.000	.000	.717
B2	.682	.000	.000	.000	.730
C2	.697	.000	.000	.000	.745
D2	.644	.000	.000	.000	.689
A3	.777	.811	.000	.000	.000
B3	.659	.688	.000	.000	.000
C3	.749	.783	.000	.000	.000

	Leadership	Style	Skills	Strategy	Situation
D3	.622	.649	.000	.000	.000
A4	.662	.000	.692	.000	.000

Direct Effects (Group number 1 - Default model)

	Leadership	Style	Skills	Strategy	Situation
Style	.860	.000	.000	.000	.000
Skills	.570	.000	.000	.000	.000
Strategy	1.000	.000	.000	.000	.000
Situation	.727	.000	.000	.000	.000
D4	.000	.000	1.400	.000	.000
C4	.000	.000	1.416	.000	.000
B4	.000	.000	1.757	.000	.000
A1	.000	.000	.000	1.000	.000
B1	.000	.000	.000	.970	.000
C1	.000	.000	.000	.573	.000
D1	.000	.000	.000	.482	.000
A2	.000	.000	.000	.000	1.000
B2	.000	.000	.000	.000	.844
C2	.000	.000	.000	.000	.865
D2	.000	.000	.000	.000	.963
A3	.000	.895	.000	.000	.000
B3	.000	.939	.000	.000	.000
C3	.000	1.000	.000	.000	.000
D3	.000	.855	.000	.000	.000
A4	.000	.000	1.000	.000	.000

Standardized Direct Effects (Group number 1 - Default model)

	Leadership	Style	Skills	Strategy	Situation
Style	.957	.000	.000	.000	.000
Skills	.957	.000	.000	.000	.000
Strategy	.737	.000	.000	.000	.000
Situation	.935	.000	.000	.000	.000
D4	.000	.000	.533	.000	.000
C4	.000	.000	.860	.000	.000
B4	.000	.000	.897	.000	.000
A1	.000	.000	.000	.977	.000
B1	.000	.000	.000	.948	.000
C1	.000	.000	.000	.514	.000
D1	.000	.000	.000	.517	.000

	Leadership	Style	Skills	Strategy	Situation
A2	.000	.000	.000	.000	.717
B2	.000	.000	.000	.000	.730
C2	.000	.000	.000	.000	.745
D2	.000	.000	.000	.000	.689
A3	.000	.811	.000	.000	.000
B3	.000	.688	.000	.000	.000
C3	.000	.783	.000	.000	.000
D3	.000	.649	.000	.000	.000
A4	.000	.000	.692	.000	.000

Indirect Effects (Group number 1 - Default model)

	Leadership	Style	Skills	Strategy	Situation
Style	.000	.000	.000	.000	.000
Skills	.000	.000	.000	.000	.000
Strategy	.000	.000	.000	.000	.000
Situation	.000	.000	.000	.000	.000
D4	.798	.000	.000	.000	.000
C4	.807	.000	.000	.000	.000
B4	1.001	.000	.000	.000	.000
A1	1.000	.000	.000	.000	.000
B1	.970	.000	.000	.000	.000
C1	.573	.000	.000	.000	.000
D1	.482	.000	.000	.000	.000
A2	.727	.000	.000	.000	.000
B2	.614	.000	.000	.000	.000
C2	.629	.000	.000	.000	.000
D2	.700	.000	.000	.000	.000
A3	.769	.000	.000	.000	.000
B3	.808	.000	.000	.000	.000
C3	.860	.000	.000	.000	.000
D3	.735	.000	.000	.000	.000
A4	.570	.000	.000	.000	.000

Standardized Indirect Effects (Group number 1 - Default model)

	Leadership	Style	Skills	Strategy	Situation
Style	.000	.000	.000	.000	.000
Skills	.000	.000	.000	.000	.000
Strategy	.000	.000	.000	.000	.000
Situation	.000	.000	.000	.000	.000
D4	.510	.000	.000	.000	.000
C4	.823	.000	.000	.000	.000
B4	.859	.000	.000	.000	.000
A1	.720	.000	.000	.000	.000
B1	.699	.000	.000	.000	.000
C1	.379	.000	.000	.000	.000
D1	.381	.000	.000	.000	.000
A2	.670	.000	.000	.000	.000
B2	.682	.000	.000	.000	.000
C2	.697	.000	.000	.000	.000
D2	.644	.000	.000	.000	.000
A3	.777	.000	.000	.000	.000
B3	.659	.000	.000	.000	.000
C3	.749	.000	.000	.000	.000
D3	.622	.000	.000	.000	.000
A4	.662	.000	.000	.000	.000

Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	60	186.460	76	.000	2.453
Saturated model	136	.000	0		
Independence model	16	1997.870	120	.000	16.649

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.040	.891	.804	.498

Model	RMR	GFI	AGFI	PGFI
Saturated model	.000	1.000		
Independence model	.186	.202	.095	.178

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.907	.853	.943	.907	.941
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.633	.574	.596
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90
Default model	110.460	74.167	154.450
Saturated model	.000	.000	.000
Independence model	1877.870	1736.690	2026.424

FMIN

Model	FMIN	F0	LO 90	HI 90
Default model	1.251	.741	.498	1.037
Saturated model	.000	.000	.000	.000
Independence model	13.409	12.603	11.656	13.600

RMSEA

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.099	.081	.117	.000
Independence model	.324	.312	.337	.000

AIC

Model	AIC	BCC	BIC	CAIC

Model	AIC	BCC	BIC	CAIC
Default model	306.460	321.914	487.098	547.098
Saturated model	272.000	307.030	681.446	817.446
Independence model	2029.870	2033.991	2078.040	2094.040

ECVI

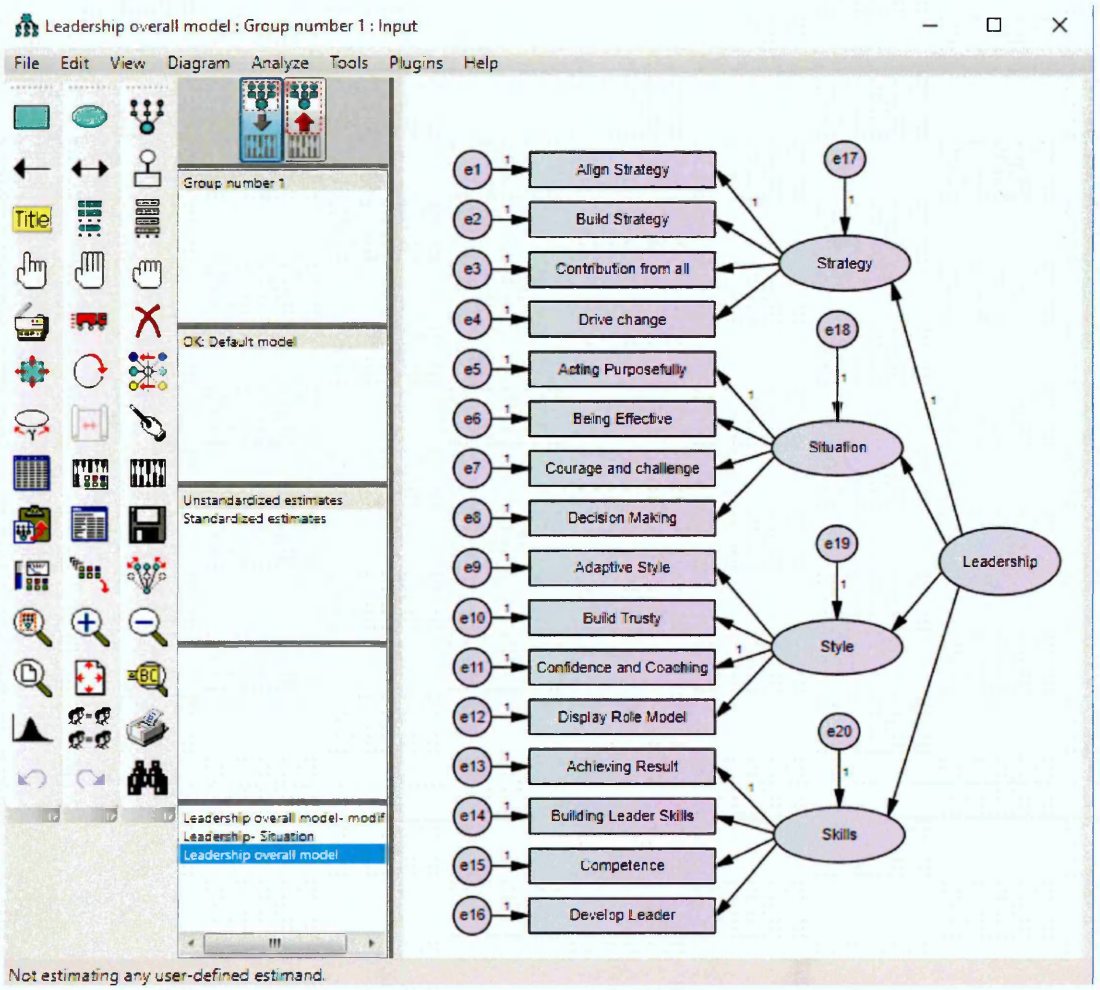
Model	ECVI	LO 90	HI 90	MECVI
Default model	2.057	1.813	2.352	2.160
Saturated model	1.826	1.826	1.826	2.061
Independence model	13.623	12.676	14.620	13.651

HOELTER

Model	HOELTER .05	HOELTER .01
Default model	78	86
Independence model	11	12

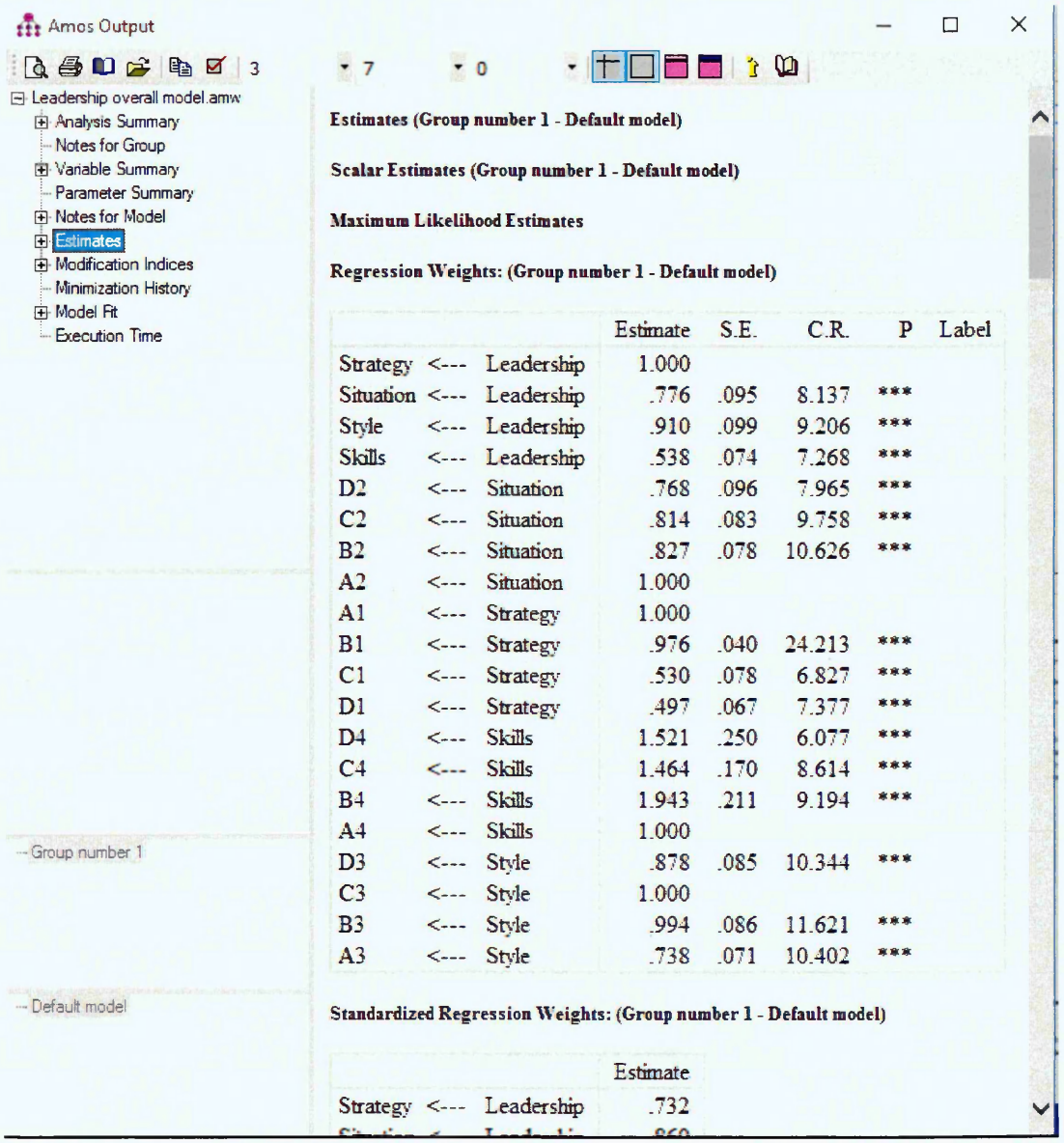
Appendix H: Proposed Leadership Model- AMOS Printscreen

AMOS Graphic: Model before modification



AMOS View Text: Model before modification

Estimates



Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

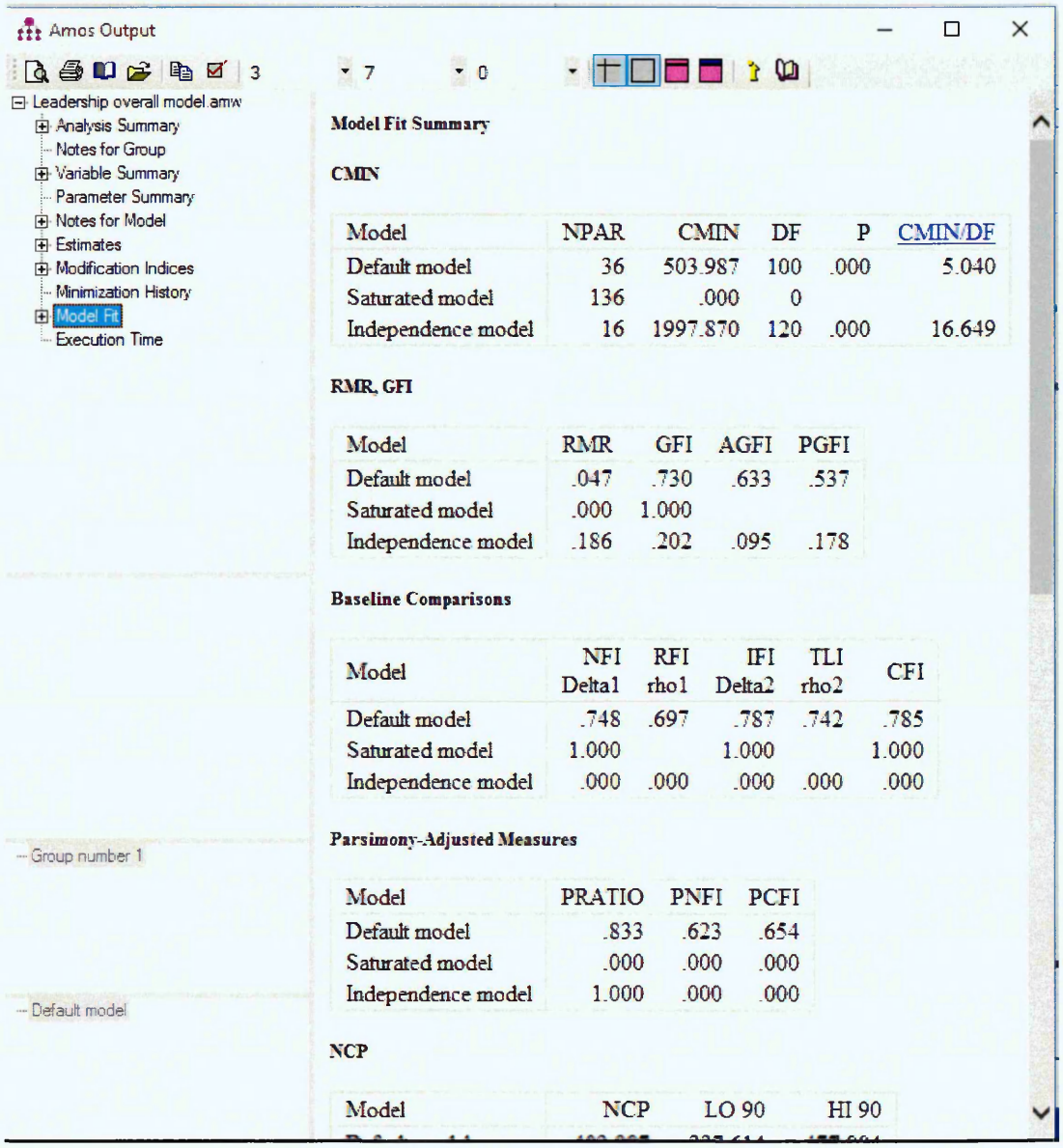
			Estimate	S.E.	C.R.	P	Label
Strategy	<---	Leadership	1.000				
Situation	<---	Leadership	.776	.095	8.137	***	
Style	<---	Leadership	.910	.099	9.206	***	
Skills	<---	Leadership	.538	.074	7.268	***	
D2	<---	Situation	.768	.096	7.965	***	
C2	<---	Situation	.814	.083	9.758	***	
B2	<---	Situation	.827	.078	10.626	***	
A2	<---	Situation	1.000				
A1	<---	Strategy	1.000				
B1	<---	Strategy	.976	.040	24.213	***	
C1	<---	Strategy	.530	.078	6.827	***	
D1	<---	Strategy	.497	.067	7.377	***	
D4	<---	Skills	1.521	.250	6.077	***	
C4	<---	Skills	1.464	.170	8.614	***	
B4	<---	Skills	1.943	.211	9.194	***	
A4	<---	Skills	1.000				
D3	<---	Style	.878	.085	10.344	***	
C3	<---	Style	1.000				
B3	<---	Style	.994	.086	11.621	***	
A3	<---	Style	.738	.071	10.402	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
Strategy	<---	Leadership	.732

AMOS View Text: Model before modification

Model Fit



Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	36	503.987	100	.000	5.040
Saturated model	136	.000	0		
Independence model	16	1997.870	120	.000	16.649

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.047	.730	.633	.537
Saturated model	.000	1.000		
Independence model	.186	.202	.095	.178

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.748	.697	.787	.742	.785
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

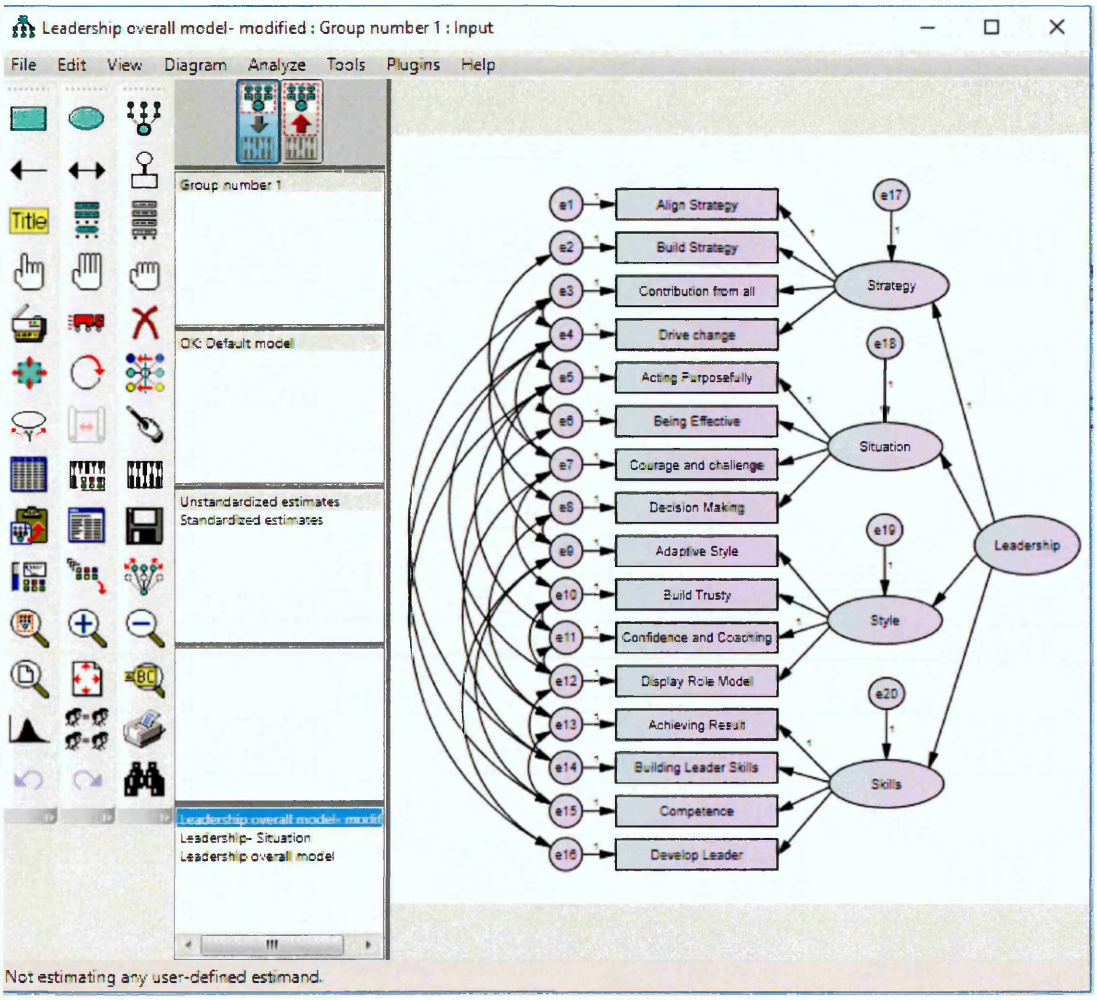
Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.833	.623	.654
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

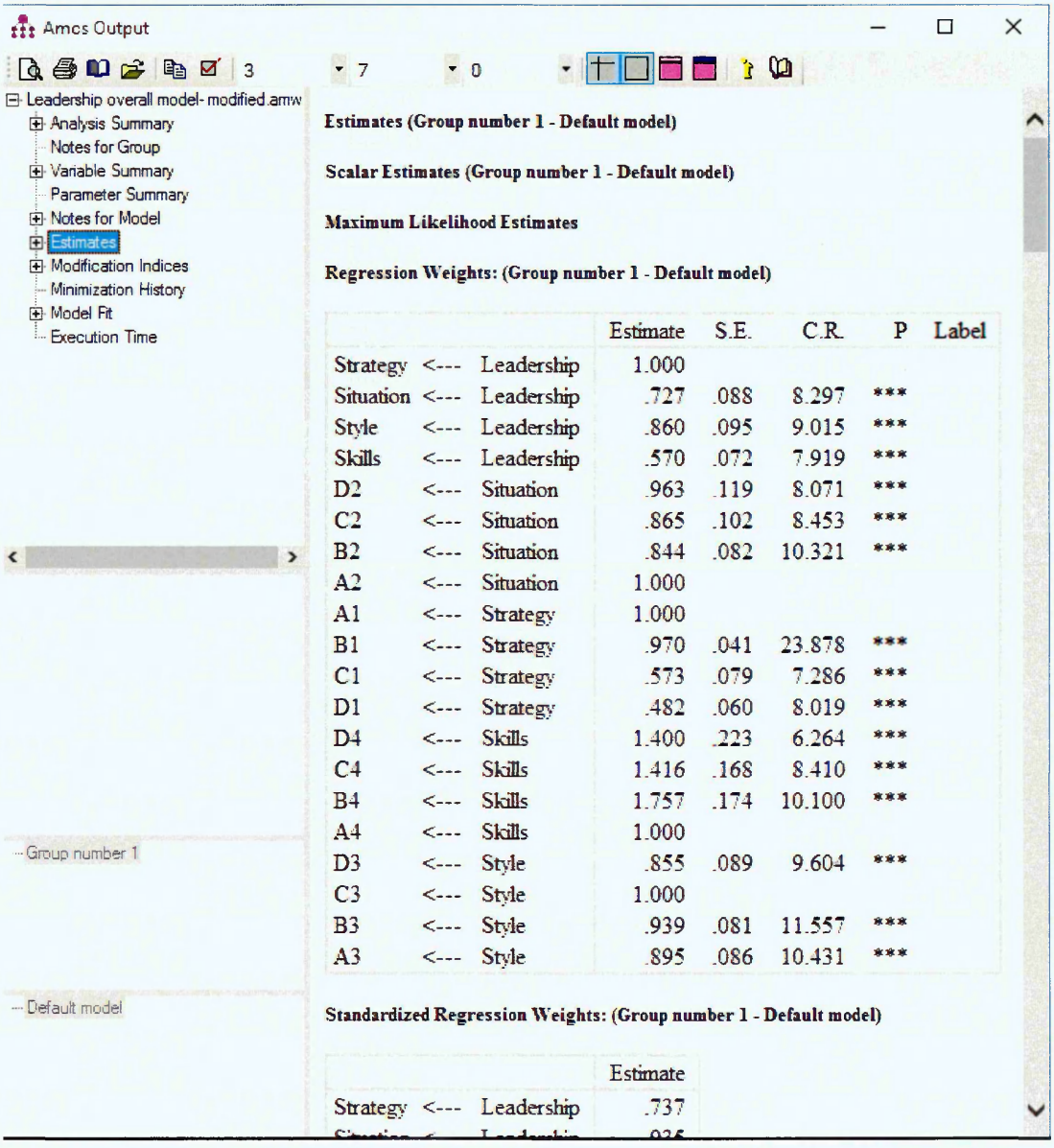
Model	NCP	LO 90	HI 90

AMOS Graphic: Model after modification



AMOS View Text: Model after modification

Estimates



Estimates (Group number 1 - Default model)

Scalar Estimates (Group number 1 - Default model)

Maximum Likelihood Estimates

Regression Weights: (Group number 1 - Default model)

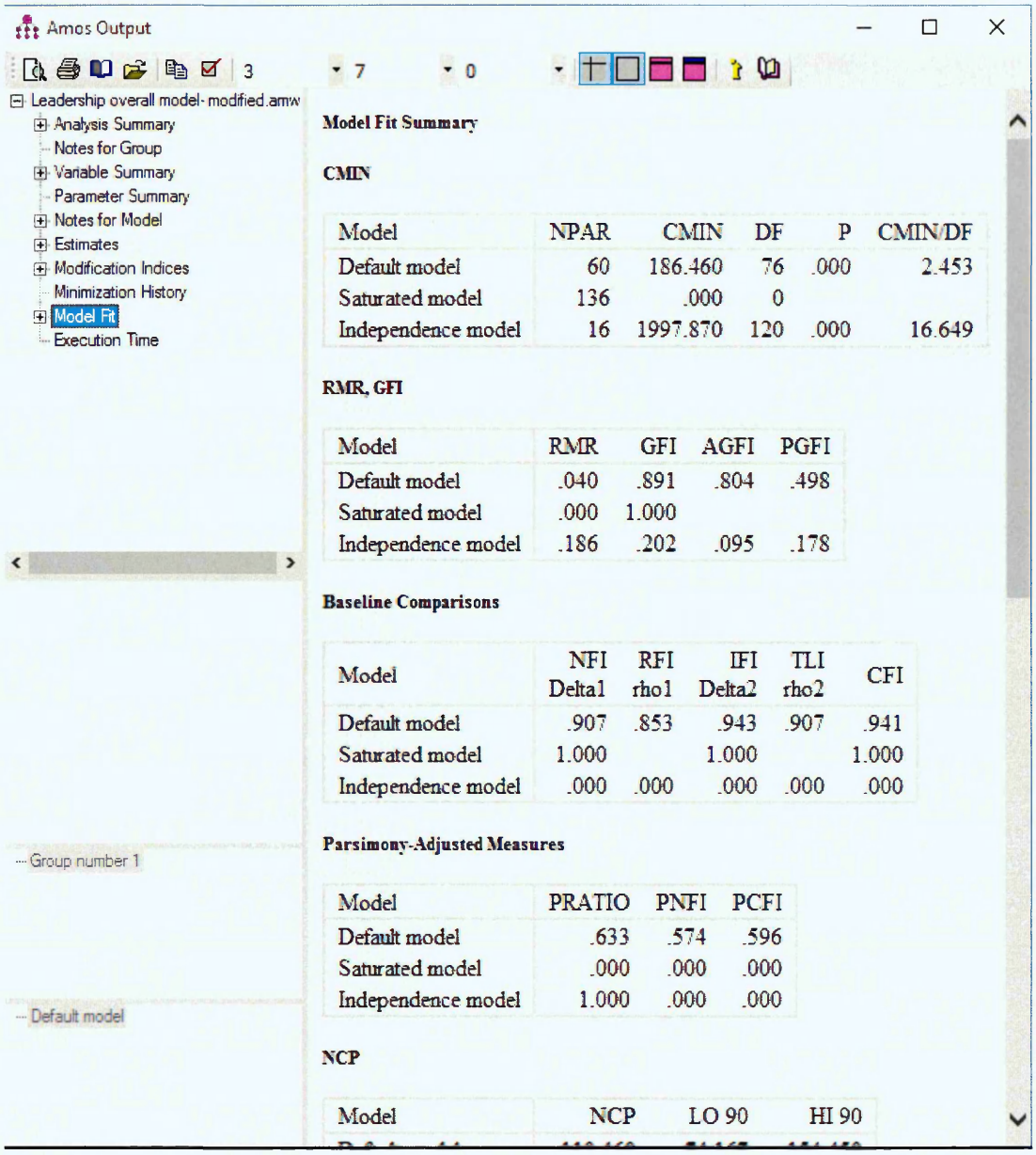
			Estimate	S.E.	C.R.	P	Label
Strategy	<---	Leadership	1.000				
Situation	<---	Leadership	.727	.088	8.297	***	
Style	<---	Leadership	.860	.095	9.015	***	
Skills	<---	Leadership	.570	.072	7.919	***	
D2	<---	Situation	.963	.119	8.071	***	
C2	<---	Situation	.865	.102	8.453	***	
B2	<---	Situation	.844	.082	10.321	***	
A2	<---	Situation	1.000				
A1	<---	Strategy	1.000				
B1	<---	Strategy	.970	.041	23.878	***	
C1	<---	Strategy	.573	.079	7.286	***	
D1	<---	Strategy	.482	.060	8.019	***	
D4	<---	Skills	1.400	.223	6.264	***	
C4	<---	Skills	1.416	.168	8.410	***	
B4	<---	Skills	1.757	.174	10.100	***	
A4	<---	Skills	1.000				
D3	<---	Style	.855	.089	9.604	***	
C3	<---	Style	1.000				
B3	<---	Style	.939	.081	11.557	***	
A3	<---	Style	.895	.086	10.431	***	

Standardized Regression Weights: (Group number 1 - Default model)

			Estimate
Strategy	<---	Leadership	.737

AMOS View Text: Model after modification

Model Fit



Model Fit Summary

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	60	186.460	76	.000	2.453
Saturated model	136	.000	0		
Independence model	16	1997.870	120	.000	16.649

RMR, GFI

Model	RMR	GFI	AGFI	PGFI
Default model	.040	.891	.804	.498
Saturated model	.000	1.000		
Independence model	.186	.202	.095	.178

Baseline Comparisons

Model	NFI Delta1	RFI rho1	IFI Delta2	TLI rho2	CFI
Default model	.907	.853	.943	.907	.941
Saturated model	1.000		1.000		1.000
Independence model	.000	.000	.000	.000	.000

Parsimony-Adjusted Measures

Model	PRATIO	PNFI	PCFI
Default model	.633	.574	.596
Saturated model	.000	.000	.000
Independence model	1.000	.000	.000

NCP

Model	NCP	LO 90	HI 90

Appendix I: Interview record sheet

Interview #1

Declaration:
I declare that I have explained the purpose and the process of the focus group interviews to all people who have been selected to attend the interviews.
The interviewee who have signed the consent form have agreed to participate in the focus group interview on the understanding that the discussion will centre on topic of leadership framework.

Maan Nadeem Ali Al Afifi

Mode: One to one and face to face interview
Interviewee Name: Click here to enter text.
Interviewee's Profession:
Date: Click here to enter a date.
Duration: 2 hrs
Venue: Meeting Room

Signature: _____

Presentation Description:

Click here to enter text.

Question No. 1:

Interviewee feedback

Reconsideration

Click here to enter text.

Action ☐ No action required ☐Action required (Fill the box below)

Click here to enter text.

Question No. __2_:

Interviewee feedback

Click here to enter text.

Reconsideration

Click here to enter text.

Action ☐ No action required ☐Action required (Fill the box below)

Click here to enter text.

Question No. __3_:

Interviewee feedback

Click here to enter text.

Reconsideration

Click here to enter text.

Action ☐ No action required ☐Action required (Fill the box below)

Click here to enter text.

Appendix J: Data collection sample for DGEP & CITM validation

i) Questionnaire in Validation of Dubai Government Excellence Model (DGEP)

Sheffield Hallam University

in UK

in cooperation with

برنامج دبي للأداء الحكومي المتميز

DUBAI GOVERNMENT EXCELLENCE PROGRAM

GOVERNMENT OF DUBAI حكومة دبي

Present this academic survery on Validation of DGEP model (Adaption)

Leadership Best Practice for

Sustaining Business Excellence Model - An Empirical study

BY

Maan Nadeem Ali Al Afifi

PhD Researcher

Supervised by

Prof Sameh Saad

Introduction

As a part of an academic study, a survey on the Dubai Government Excellence Program (DGEP) model which is based on the European Foundation for Quality Management (EFQM) is attached. This survey is developed to obtain a validation level of credibility and address the important changes "adaption" made in DGEP.

You are invited to participate in this survey which is consists of three main parts to be completed. Your participation in this study is completely voluntary; however, your response and opinion are very important to us.

Your survey responses will be strictly confidential and data from this research will be reported only in the aggregate. Your information will be coded and will remain confidential.

During this project, different tests and analysis techniques will be used, one of these techniques is Cronbach's Alpha, Vertical and Horizontal ABCD path analysis which is a new concept and appears as ABCD in the questionnaire as you will notice in the next few pages.

If you have questions at any time about the survey or the procedures, please contact Maan Al Afifi at +971504522708 or by email at the email address maan_binali@hotmail.com.

Thank you very much for your time and support.

Basic Information

1. What is the highest level of education you have completed?
   - ☐ High school or equivalent
   - ☐ Some college
   - ☐ Bachelor's degree
   - ☐ Master's degree
   - ☐ Doctoral degree
   - ☐ Professional degree (MD, JD, etc.)

2. Please indicate your work experience with below categories.
   - ☐ Less than 2 years
   - ☐ Between 2 to 5 years
   - ☐ Between 5 to 10 years
   - ☐ More than 10 years

3. Have you been involved in EFQM or DGEP?
   - ☐ No. Never heard and never involved in any business excellence models
   - ☐ No. Never heard but involved in other business excellence models.
   - ☐ No. But I have learnt the knowledge before.
   - ☐ Yes. I am involving in certain parts.
   - ☐ Yes. I am involving in overall models.

Pre-Questionnaire - Your understanding	Strongly Agree	Agree	I Don't Know	Disagree	Strong Disagree
1. RADAR logic is a self assessment tool for sustaining excellence	☐	☐	☐	☐	☐
2. Organizations shall indentify important processes in each enabler with clear approach that provides the guidelines for deployment	☐	☐	☐	☐	☐
3. The approach shall have shall specific target and an action plan and defined resources (sound) and linked with the strategy of the *organization(integrated)*	☐	☐	☐	☐	☐
4. The approach shall be breaking down into mechanisms which take place in the deployment	☐	☐	☐	☐	☐
5. The deployment consists of (implementation) phase of the action plan and shall be (systematic) and (measurable)	☐	☐	☐	☐	☐
6. Refinement and assessment shall be linked with each approach and mechanisms	☐	☐	☐	☐	☐
7. Refinement and assessment reflects in to learning growth, change management, continuous improvement, creativity and innovation	☐	☐	☐	☐	☐

Survey Methodology

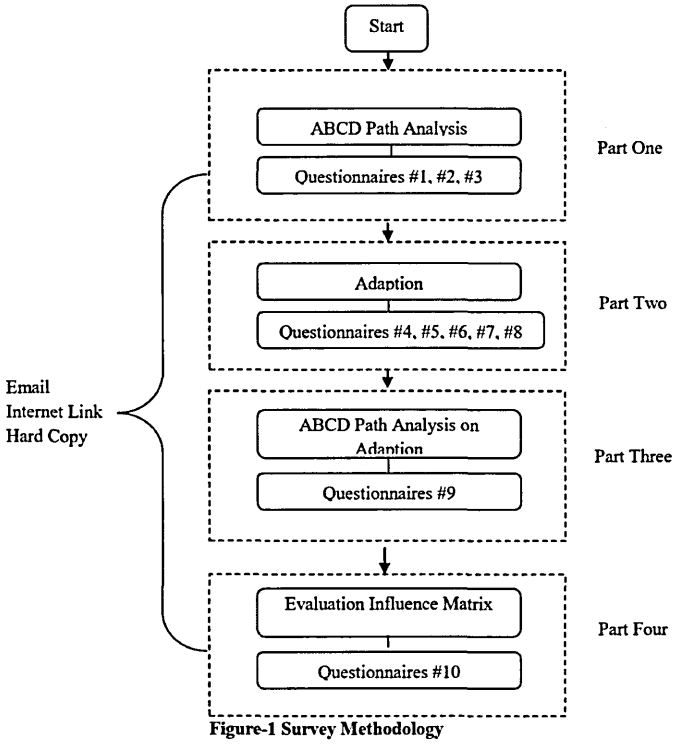


Figure-1 Survey Methodology

3

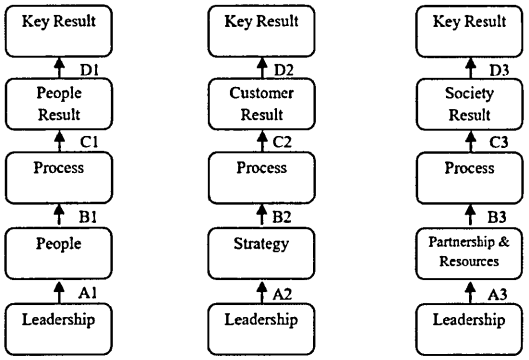


Figure-2 DGEP Model based on ABCD path

ABCD Path Analysis (Vertical, Horizontal and Overall)

Vertical ABCD: (Are the proposed relationship between the categories in the DGEP which based on EFQM model is valid?)

S/L	Questionnaires#1	Strongly Agree	Agree	I Don't Know	Disagree	Strong Disagree
H_1	Leadership for people has strong influence on people	☐	☐	☐	☐	☐
H_2	People has strong influence on people process	☐	☐	☐	☐	☐
H_3	People process has strong influence on People results	☐	☐	☐	☐	☐
H_5	People results has strong influence on key results	☐	☐	☐	☐	☐
H_6	Leadership for strategy has strong influence on strategy	☐	☐	☐	☐	☐
H_7	Strategy has strong influence on strategy process	☐	☐	☐	☐	☐
H_8	Strategy process has strong influence on customer results	☐	☐	☐	☐	☐
H_9	Customer results has strong influence on key results	☐	☐	☐	☐	☐
H_{10}	Leadership for partnership & resources has strong influence on Partnership & Resources	☐	☐	☐	☐	☐
H_{11}	Partnership & recourses has strong influence on Partnership & Resources Process	☐	☐	☐	☐	☐
H_{12}	Partnership & Resources process has strong influence on Society results	☐	☐	☐	☐	☐
H_{13}	Society results has strong influence on key results	☐	☐	☐	☐	☐

Horizontal ABCD: (Are the proposed relationship between the categories in the DGEP which based on EFQM model is valid?)

S/L	Questionnaires#2	Strongly Agree	Agree	I Don't Know	Disagree	Strong Disagree
H_{14}	Leadership for people has exactly same sub criteria as leadership for strategy	☐	☐	☐	☐	☐
H_{15}	Leadership for people has exactly same sub criteria as leadership for Partnership & Resources	☐	☐	☐	☐	☐
H_{16}	Leadership for strategy has exactly same sub criteria as leadership for Partnership & Resources	☐	☐	☐	☐	☐
H_{17}	Process for People can be used for process for strategy	☐	☐	☐	☐	☐
H_{18}	Process for People can be used for process for partnership& Resources	☐	☐	☐	☐	☐
H_{19}	Process for strategy can be used for process for partnership& Resources	☐	☐	☐	☐	☐

4

Overall ABCD: (Are the proposed relationship between the categories in the DGEP which based on EFQM model is valid?)

Questionnaires#3	Strongly Agree	Agree	I Don't Know	Disagree	Strong Disagree
1. Does leadership require strategy to lead? (A2)	☐	☐	☐	☐	☐
2. Do we need strategy to design process? (B2)	☐	☐	☐	☐	☐
3. Do we need strategy to make a strategy? (ABCD)	☐	☐	☐	☐	☐
4. Do we need process to implement strategy ?(ABCD2)	☐	☐	☐	☐	☐
5. *Do leadership involve in making the process?* (ABCD)	☐	☐	☐	☐	☐
6. Do we need leadership to focus on people?(ABCD1)	☐	☐	☐	☐	☐
7. Do people need leadership to make a strategy (ABCD1)	☐	☐	☐	☐	☐
8. Do we need people to design process?(B1)	☐	☐	☐	☐	☐
9. Do we need leadership to focus on people?(A1)	☐	☐	☐	☐	☐
10. Do leadership need strategy to focus on people?(A1A2)	☐	☐	☐	☐	☐
11. Do leadership needs people to make strategy (A2A1)	☐	☐	☐	☐	☐
12. Do we need leadership to focus on partnership & resources?(A3)	☐	☐	☐	☐	☐
13. Do partnership & Resources needs leadership to make process?(ABCD3)	☐	☐	☐	☐	☐
14. Do leadership need people to focus on partnership & resources?(A3A1)	☐	☐	☐	☐	☐
15. Do partnership & resources need process to achieve society results?(ABCD3)	☐	☐	☐	☐	☐
16. Does process of partnership & recourse need leadership and strategy to obtain society results?(ABCD3)	☐	☐	☐	☐	☐
17. Does partnership & resources leads directly to society results?(ABCD3)	☐	☐	☐	☐	☐
18. Do leadership need strategy to focus on partnership & Resources?(A2A3)	☐	☐	☐	☐	☐
19. Do leadership need partnership & resources to focus on strategy?(A3A2)	☐	☐	☐	☐	☐
20. Do people need process of people to achieve people results?(C1)	☐	☐	☐	☐	☐
21. Do we need people results to obtain key results?(D1)	☐	☐	☐	☐	☐
22. Does strategy need dedicated process to achieve customer results?(C2)	☐	☐	☐	☐	☐
23. Do we need customer results to obtain key results?(D2)	☐	☐	☐	☐	☐
24. Do partnership & resources need dedicated process to achieve society results?(C3)	☐	☐	☐	☐	☐
25. Do we need society results to obtain key results?(D3)	☐	☐	☐	☐	☐

ii) Feedback report in Validation of Continuous Improvement Tracking Model (CITM)

Target 1 : Frequency response testing in Gas turbine — **Completion target date: 30.04.2015**

Reporting Frequency: Monthly or after any event

Type of Test	GT11	GT12	GT21	GT22	GT31	GT 32
IGV range adjustment	26.03.13	14.03.13	27.02.14	29.04.13	08.05.13	23.05.13
Internal tuning SC	09 & 10.04.13	21.04.13		02 & 03.2.15		20.05.14
Internal tuning CC	07.04.13	24.03.14		04.02.15		26.05.14
Primary freq response	09 & 19.05.13	24 & 29.04.13		05 & 08.02.15		15.02.15
Limit freq response	19.05.13	24.04.13		05.02.15		12.02.2015
Secondary freq response	19.05.13	27.03.14	29.01.15	12.01.15	01.02.15	27.05.14
Peak load/Grid sustain	10.12.14	11.12.14	29.01.15	28.01.15	01.02.15	26.05.14
Handed over to Operation	05.06.13	30.05.13				

CITM Legend

- Result Marginally exceed Target
- Result Exceed Target Unexpectedly. Further review of Target is required
- Result missed target, issues don't require GD management intervention
- Result missed target, issues significantly need GD management intervention
- Not meeting objective / Failure of process. Requires GD management intervention

Critical Success factors:
1. Quality : PFR gradient of 6MW/sec
: Grid sustainance feature
: Safety Zero Tolerance
2.Time : Zero down time during test window
3.Cost: Conducting witness tests in CC

Sr No.	Task	Feedback Management System	CITM		Improvement Measures OR Control Measures OR Corrective Actions	CMR 2 Outcome	CITM outcome	Remarks
			Deviation	Outcome				
1	Achieving the contractual load gradient of 6MW/sec as primary response	Achieved for 4 machine. Other in progress.						* With inhouse test planning and scheduling, activities were re-categorised on cost effectiveness. Accordingly tests conducted in CC. Each GT 4hours testing time.
2	Grid sustaining feature: Auto peaking above base load	Achieved in all 6 machines.						
3	Establishment of secondary frequency response with load gradient of 13MW/min	Achieved in all 6 machines.						GT#22: The PFR witness test in SC was partly converted to CC. Out of four inections, the lower two viz. 100 & 200mHz leading to load contribution <40MW done is CC . The higher injections of 350 & 600mHz kept in SC to avoid stress to boilers & pressure fluctuations. GT#32: Inspite of the activity hold for 3days, the target date will not get shifted. On fourth day it was further delayed by half day by planning to give priority to GT11 verification run after HGPI by LLC.
4	Machine safety operation by Limit frequency contribution	Established in 4 machines. Other in progress.						
5	Machine declaration for the system operation.	2 machines handed over for system operation. Others in progress.						
6	Zero Trips during witness	No trips till now.						
7	Safety: Zero tolerance for both man and machine	Nill till date.						
8	Cost	GT#21/#22/#31 auto peaking & secodary response testing in SC proposed. GT#22 PFR witness test in SC was converted partly to CC.	The test can be conducted in CC with low risk for Cost reduction.		See Remark *		Achieved	
9	Time: To be executed within 5 working days	Achieved in 3 machines. Other in progress. GT#32 activity on hold for 3 days to restriction from planning. GT#31 commencement delayed by planning. Instead GT#21 preparation sought.See remark.						GT#31 test commencement aborted by planning and instead asked for GT#21 preparation. GT21 access denied on 18.02.15 by planning. Based on GT#11 availability, ST#20 s/d concluded and GT#21 SC planned on 22.02.15.
10	100% witness	Compiled.						
11	Defects observations	Auto peaking restriction identified and rectified. Secondary response observations identified.						
12	Implementation of lesson learnt from previous unit (compressor discharge , Evap ON)	Compiled.						

Rev 12: 22.02.15

Appendix K: Chi Square distribution table

	Level of Significance α								
df	0.200	0.100	0.075	0.050	0.025	0.010	0.005	0.001	0.0005
1	1.642	2.706	3.170	3.841	5.024	6.635	7.879	10.828	12.116
2	3.219	4.605	5.181	5.991	7.378	9.210	10.597	13.816	15.202
3	4.642	6.251	6.905	7.815	9.348	11.345	12.838	16.266	17.731
4	5.989	7.779	8.496	9.488	11.143	13.277	14.860	18.467	19.998
5	7.289	9.236	10.008	11.070	12.833	15.086	16.750	20.516	22.106
6	8.558	10.645	11.466	12.592	14.449	16.812	18.548	22.458	24.104
7	9.803	12.017	12.883	14.067	16.013	18.475	20.278	24.322	26.019
8	11.030	13.362	14.270	15.507	17.535	20.090	21.955	26.125	27.869
9	12.242	14.684	15.631	16.919	19.023	21.666	23.589	27.878	29.667
10	13.442	15.987	16.971	18.307	20.483	23.209	25.188	29.589	31.421
11	14.631	17.275	18.294	19.675	21.920	24.725	26.757	31.265	33.138
12	15.812	18.549	19.602	21.026	23.337	26.217	28.300	32.910	34.822
13	16.985	19.812	20.897	22.362	24.736	27.688	29.820	34.529	36.479
14	18.151	21.064	22.180	23.685	26.119	29.141	31.319	36.124	38.111
15	19.311	22.307	23.452	24.996	27.488	30.578	32.801	37.698	39.720
16	20.465	23.542	24.716	26.296	28.845	32.000	34.267	39.253	41.309
17	21.615	24.769	25.970	27.587	30.191	33.409	35.719	40.791	42.881
18	22.760	25.989	27.218	28.869	31.526	34.805	37.157	42.314	44.435
19	23.900	27.204	28.458	30.144	32.852	36.191	38.582	43.821	45.974
20	25.038	28.412	29.692	31.410	34.170	37.566	39.997	45.315	47.501
21	26.171	29.615	30.920	32.671	35.479	38.932	41.401	46.798	49.013
22	27.301	30.813	32.142	33.924	36.781	40.289	42.796	48.269	50.512
23	28.429	32.007	33.360	35.172	38.076	41.639	44.182	49.729	52.002
24	29.553	33.196	34.572	36.415	39.364	42.980	45.559	51.180	53.480
25	30.675	34.382	35.780	37.653	40.646	44.314	46.928	52.620	54.950
26	31.795	35.563	36.984	38.885	41.923	45.642	48.290	54.053	56.409
27	32.912	36.741	38.184	40.113	43.195	46.963	49.645	55.477	57.860
28	34.027	37.916	39.380	41.337	44.461	48.278	50.994	56.894	59.302
29	35.139	39.087	40.573	42.557	45.722	49.588	52.336	58.302	60.738
30	36.250	40.256	41.762	43.773	46.979	50.892	53.672	59.704	62.164
40	47.269	51.805	53.501	55.759	59.342	63.691	66.766	73.403	76.097
50	58.164	63.167	65.030	67.505	71.420	76.154	79.490	86.662	89.564
60	68.972	74.397	76.411	79.082	83.298	88.380	91.952	99.609	102.698
70	79.715	85.527	87.680	90.531	95.023	100.425	104.215	112.319	115.582
80	90.405	96.578	98.861	101.880	106.629	112.329	116.321	124.842	128.267
90	101.054	107.565	109.969	113.145	118.136	124.117	128.300	137.211	140.789
100	111.667	118.498	121.017	124.342	129.561	135.807	140.170	149.452	153.174