Leadership styles of business school deans and their perceived effectiveness

A thesis submitted

for the degree of Doctor of Philosophy

by

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December 2013

Acknowledgement

First of all, I would like to acknowledge the success of this thesis was by the support of Allah, “the most beneficent and the most merciful”, as Allah has provided me with a successful life; great family; good health and moral power that led me to patience throughout my research journey; at the point of completing my PhD, I would like to take this opportunity to acknowledge the valuable contribution in the preparation of this thesis, by the following persons, without which it would have been impossible for me to succeed in my research. It was indeed a privilege for me to have worked and discussed with them as they had always provided their unwavering support to me throughout.

Prof. Abdulla Al-Hawaj, President, Ahlia University, there might be indescribable words to describe my role model, his effective leadership and insights on better education to the community, who encouraged me to peruse my PhD and contribute further and provided me with full support and constant motivation which enabled me to complete this onerous task of contributing to knowledge.

Prof. Zahir Irani, Head, Brunel Business School, whose thorough guidance and continuous inspiration enriched the quality of my thesis. My supervisor Dr. David Gallear at Brunel Business School whose committed and stimulating supervision significantly contributed to this thesis. Dr. Ahmed Nasser, my supervisor at Ahlia University for his moral support throughout my journey. Dr. Tillal Eldabi, Brunel University, for his backing and timely advice throughout my research. My colleague Mr. S. Gowrishankar at Ahlia University and my other colleagues who tirelessly motivated me that helped me to keep my morale up. I would also like to acknowledge the participants in my survey whose contribution to the research was immense and provided the data necessary to conduct my research.

Indeed, the immeasurable support provided by my family, particularly my husband who was my source of strength and provided unflinching support that enabled me to complete this monumental task. He has always been there when I needed with his incredible moral support throughout my research journey.

My beloved children who patiently waited through my journey to completion of this thesis and continuously boosted by confidence, their unforgettable encouragement and belief in me which acted as pillars to my success of the completing this research.

Last but not the least my late parents whose love and affection I cherish, whose memory was a constant company in my research, which did not allow me to lose my track through the difficult times I faced during my PhD and their valuable advice that was based on real practice, helped me to redirect my plans positively and increase my determination to successfully complete my research.

Abstract

Leadership as a concept has been an area of significance for several decades. While the contribution of research to leadership concept in the industry has been substantial the same cannot be claimed with regard to the Higher Education Institutions (HEIs). There is a paucity of research studies in the context of HEIs, particularly in regard to business schools. Deans of business schools were hardly the subject of research in the leadership literature till recently. But with collapsing business empires in the last decade (for instance Lehman Brothers), business school deanship came under scrutiny as the leaders in those business empires that collapsed were graduates of renowned business schools.

The review of the literature with respect to challenges affecting HEI and business school leadership threw up many challenges. The challenges investigated were leadership styles, leadership practice, leadership effectiveness, decision quality, follower commitment, follower satisfaction, management style, organisational setting and orgaisational culture. Each challenge was assumed as a factor affecting deans of business schools as leaders. The review of the literature provided the theoretical basis for determining the nature of each factor. Leadership style was defined as the independent variable influencing leadership practice. Five leadership styles namely transactional, transformational, laissez-faire, democratic and autocratic leadership styles were made as independent variables to determine leadership practice. Leadership practice was identified as the independent variable influencing leadership effectiveness although the relationship between leadership practice and leadership effectiveness was supposed to be influenced by mediating factors namely decision quality of deans of business school, follower satisfaction and follower commitment. Academic and administrative staff were considered as the followers. Management style and organisational setting were considered as moderating variables of leadership practice of deans of business schools. Oraganisational structure was used to represent organisational setting as the variable. Organisational culture was used as the control variable.

The theoretical framework was drawn to represent the linkage between the factors. The model developed was supported by already established theories that were tested for reliability and validity. The leadership style and leadership effectiveness models were developed which was the focus of this research. Leadership style-leadership practice linkage provided the theoretical framework to determine the style practised by the deans. Leadership practice-leadership effectiveness linkage mediated by decision quality, follower commitment and follower satisfaction provided the theoretical framework to determine the leadership effectiveness.

Survey questionnaire was the method used to collect data. The questionnaire was sent to 600 academic and administrative staff members of business schools from eight different countries. The results showed that the transactional leadership style was the leadership style practised by the deans of the business schools. Other findings were as follows. That transactional leadership indirectly but positively influenced the leadership effectiveness of deans through decision quality and follower satisfaction. The mediation of the transactional leadership practice-leadership effectiveness linkage by decision quality and follower satisfaction was significant and in the positive direction. Management style and organisational structure were found to act as moderating variables of transactional leadership practice of deans positively. Transformational, laissez-faire, democratic and autocratic leadership styles were found to have significant and positive correlation with transactional leadership style implying that these four styles could moderate the transactional leadership style-leadership practice linkage. The study offers insights into how deans of business schools might develop their leadership attributes either by enhancing their transactional leadership style or changing their style or combining different styles to suit the situation.

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Chapter 1

1 Introduction

Ubiquitous is the word used by Vroom and Jago (2007) for the term leadership, indicating the widespread use of leadership in common discourses. However Bennis and Nanus (1985), like Vroom and Jago (2007) assert that no clear and unequivocal understanding exists in leadership literature that helps in distinguishing leaders from non-leaders. In fact the extent of the use of the term 'leadership' in many fields has grown a great deal in, for instance, politics, media and organisations. Moreover leadership as a concept has become a big challenge in many contexts including education. In the field of higher education institution (HEIs) the concept of leadership has begun to raise issues for business school leaders. The problem created by the lack of effective leadership has been found to exist in the context of business schools, as is the case in every organisation, regardless of nature or type (Bryman, 2007; Scott et al. 2008). Although business schools purport to offer the best education in business (Ivory et al. 2006), the manner in which business school leaders lead the business schools and the skills and abilities of graduates of business schools to lead in commerce and industry has come under scrutiny (Ivory et al. 2006). A need to study both the leaders of business schools and the impact of business education on the students, who are future leaders, has been the subject of growing debate (Cavico & Mujtaba, 2009). A review of the literature reveals that hardly any research has been conducted that informs research and practice in regard to the roles and functioning of the deans of business schools, including as leaders (Davies & Thomas, 2009).

While the importance of leadership in various domains has been highlighted in the literature, effective leadership in the context of business schools has not been well addressed in the leadership literature (Ivory et al. 2008). There is a need to address the challenge of leadership effectiveness in business schools (Ivory et al. 2006) especially in the context of recent failures noticed in the industry attributed to poor quality of leadership exhibited by former students of reputed business schools in those industries. There exists a major area of concern that calls for an investigation into this problem (Cavico & Mujtaba, 2009). Thus, there was a need to study the concept of leadership with respect to deans of business schools.

1.1 Context of study

Leadership has been a major topic of interest over several decades (Kovjanic, et al. 2012). Yukl (2010) argues that leadership as a concept is widely considered to be a key factor in the success of an organisation. Literature on leadership shows that of late employers have been found to be dissatisfied with the business schools, with teaching in business schools coming in for sharp criticism (Ivory et al. 2006). Furthermore, there is evidence that there is a decline in the number of students registering for the Masters of Business Administration (MBA) degree programmes offered by business schools (Ivory et al., 2006), another possible indicator highlighting the need to look again at the quality of education provision in business schools.

Business schools and business education helps students to develop their ability to think critically, communicate effectively and manage firms in such a manner that they can serve the community in a successful and responsible manner. Deans of business schools, who are considered the leaders of those schools (Davies & Thomas, 2009) have an important role in affecting the learning environment in which they do so. One of the deans of a business school in the US emphasized that business schools must use the opportunity to do more in terms of contributing to the success of the future leaders who graduate from business schools and stressed on the need to include ethical thinking as part of the curriculum (Adenekan, 2009). In the UK and the world over things have not been so different. Business schools and their deans have been facing the challenges of declining student numbers and growing dissatisfaction of employers (Ivory et al. 2006). It has been noted that some (e.g. Davies & Thomas, 2009) have started to attempt to address the challenges faced by the business schools and the deans. However Ivory et al. (2006) point out that those research outcomes which have addressed the challenges faced by business schools are not consistent and are fragmented, indicating an important need to investigate those challenges faced by the business schools further.

At this point it is reasonable to look at how deans could be linked to the success or failure of the students as future leaders. This is certainly a contentious issue in the academic literature. For instance some feel that deans are ambidextrous professionals (Fagin, 1997) who are forced to manage the business school at the edge of chaos

produced due to the hyper-turbulent environment that they have to cope with (Smith & Graetz, 2006). But there are also others (e.g. Symonds, 2009) who point out that deans of business schools have, fairly recently enjoyed enormous clout and benefited from excellent facilities and have had good pay, prestige and the opportunity to mix with the great and good of business, but have used this for working towards building their own career, possibly at the expense of enhancing students' education (Starkey & Tiratsoo, 2007).

Despite conflicting opinions about the description on what deans are responsible for and what a dean's position entails, various internal and external challenges affecting the business schools have made the deans vulnerable to failure as leaders (Davies & Thomas, 2009). While some (e.g. Ivory et al., 2006) have investigated what could be done to alleviate the problems faced by deans of business schools and proposed various measures to deal with the challenges surrounding them, some (e.g. Davies & Thomas, 2009) have pointed out the need to study how deans could be supported to be leaders through a leadership-centric approach, and thus lead their school to success. Leadership aspects pose a challenge to deans of business schools, a research area that needs to be addressed. Furthermore, in order to address the leadership aspects it is necessary to know more about the challenges that need to be tackled as part of the leadership-centric approach.

There are a number of challenges leaders in HEIs in general, including deans of business schools face, which include leadership style (Bass & Avolio, 2000), leadership practice (Astin & Astin, 2000), management style (Northouse, 2004), organisational setting (Chen & Huang, 2007), organisational culture (Latham, 2013), decision quality (Muhammad et al. 2009), follower commitment (Kouzes & Posner, 2002), follower satisfaction (Verhaegen, 2005) and leadership effectiveness (Basham, 2010). Although these specific challenges are not the only ones that affect business schools and deans as leaders, it is reasonable to argue that these are some of the challenges that need to be considered and addressed.

One important aspect of the leadership discourse that has been highlighted is the study of the leadership concept from many perspectives, for instance from the perspective

of followers (Spreitzer et al. 2005) or institution (Drucker, 1986) or customers (Hooijberg & Denison, 2002). Some of the emphasis on leadership has been with respect to the followers (e.g. Spreitzer et al. 2005). As some (e.g. Hollander, 2008) argue, followers are the key to the leaders' success and it is the followers' perspective that draws one's attention to good and bad leadership (e.g. Hollander, 2008). Hollander (2008), for example, claims that to achieve effectiveness in leadership, attention to the interests and needs of the followers is essential. This argument is supported by Wills (1994) who says that it is the followers who judge leaders, and leaders can only be considered to have any impact if they pass this test.

Considering the importance given to the concept of leader-follower relationship, this applies, also, to the context of deans of business schools. Academic and administrative staff are considered as the followers of the dean of business schools and they cannot and should not be left out of any study on leaders or leadership given their centrality (Hollander, 2008).

Effectiveness of leadership depends on how well the leader's characteristics and practices fit with the organisational contingencies and to what extent followers have accepted the leader regardless of the organisation type or nation. Such an inference is seen in a study conducted by House et al. (2002) which sought to investigate what is considered as effective leadership with respect to psychological welfare and international competitiveness across the world. The study involved 900 organisations and 17,000 respondents. The findings of the study pointed out that regardless of the nation or organisation, leadership effectiveness is a factor that is dependent on how well the followers have accepted the leader.

The preceding arguments have highlighted the various contextual aspects that need to be considered in understanding the leadership process problems in business schools. In addition the discussions have highlighted the various challenges that are faced by the deans of business schools. However, the main challenge related to leadership in business schools and factors affecting leadership process is not well understood. This study aims to address this gap in the literature.

1.2 Problem statement

It has been argued that questions have been raised about leadership in business schools. There is a need to understand these challenges. Thus, the research questions that need to be answered are:

1.2.1 What are the critical factors that influence deans as leaders of business schools?

1.2.2 How are the critical factors related to each other, in the context of enhancing leadership effectiveness of deans of business schools?

1.3 Aim and objectives of the study

The aim was to investigate the leadership styles of deans of business schools and the styles' influence on leadership practice, the relationship between leadership practice and leadership effectiveness and the influence of moderating and mediating factors on the relationship, in order to gain an understanding of how leadership style translates into leadership effectiveness.

Literature concerning leadership, leadership effectiveness and the context of HEIs and business schools needed to be reviewed in order to establish what critical factors could potentially affect deans of business schools as leaders and how these factors affect their effectiveness. Various concepts, theories and models that have been developed needed to be studied to identify such critical factors and develop a model identifying proposed relationships between them. The model developed was to be based on certain assumptions that had theoretical underpinning, and the assumptions stated as hypotheses. Once the model was developed there was a need to test the model. The following objectives were formulated for this research:

- *To study the relevant leadership literature with regard to leadership theories and constructs and identify critical factors that influence leadership in business schools.*
- *To investigate the influence of the critical factors identified above on leadership effectiveness.*

- *To develop a model relating the factors that influence the leadership effectiveness of business school leaders.*
- *To develop hypotheses that could be used to test the abovementioned relationship.*
- *To test the model and hypotheses, and hence identify the salience of the proposed relationships.*

1.4 Brief overview of research method

In order to test the model developed for this research and the stated hypotheses, data was collected from the followers of deans, that is, academic and administrative staff of business schools. Further, the relationship between the variables in the model developed was tested, through statistical analysis. A quantitative research methodology was selected. The extant literature was used to develop a model and also a set of hypotheses, which then needed to be tested, and in these circumstances a quantitative objective approach is better suited. This in turn required a large sample and the use of the survey method, which involved adoption of simple random sampling procedure used to choose the participants.

A survey questionnaire was developed based on previously tested instruments that were used in similar contexts. A pilot survey was conducted as part of the pre-test prior to launching the main survey and statistical data analysis using the Structural Equation Modelling (SEM) technique was used to derive findings.

1.5 Significance of study

Leadership in organisations is considered to contribute to the success and failure of the organisations across the world. A better understanding of the leadership styles of deans of business schools and the styles' influence on leadership practice, the relationship between leadership practice and leadership effectiveness and the influence of moderating and mediating factors on the relationship, and how leadership style translates into leadership effectiveness may allow us to better understand what informs decisions made by deans of business schools and thus be used to inform others, in future. Another significance of this research is the knowledge that could be gained by deans to use appropriate management styles, organisational settings and

organisational culture needed to support them in their leadership practice as leaders. Deans could identify specific management styles, organisational settings and organisational culture and implement them with a view to being more effective leaders. A more fundamental significance of this study is that policy makers may have an opportunity to understand what leadership style is prevalent in the deans of business schools and how the leaders could be supported. In a similar vein, future researchers could gain knowledge of other factors that have not been addressed in this research, thereby enhancing the knowledge on deans' leadership effectiveness further.

1.6 Thesis structure

This thesis is organized into seven chapters.

Chapter 2 reviews the literature concerning leadership in HEIs and business schools, the various challenges that affect leadership, factors that influence leadership as a concept in business schools, the linkage between the factors and hence addresses the research gap found in the literature. These discussions led to the development of the theoretical framework as well as the research relationship model leading to the development of the hypotheses. Leadership effectiveness of deans as leaders of business schools as a dependent variable and leadership practice as the independent variables have been identified. In addition the framework identifies mediating and moderating variables that affect the relationship between leadership practice and leadership effectiveness of deans of business schools.

Chapter 3 outlines the methodological approach adopted for addressing the research questions. The chapter describes the rationale for adopting the positivist philosophical stance as well as the research approach and research method for this research. In addition the chapter discusses the research design developed, and the data analysis aspects related to the statistical methods.

Chapter 4 provides the complete data analysis and tests the models developed for this research using SPSS/AMOS and Structural Equation Modelling (SEM). Reliability and validity of the data and the instrument used for collecting data were assessed. Findings derived from the data analysis are provided through the discussions. Each

relationship between the variables was tested. These findings are discussed in detail in Chapter 6.

Chapter 5 provides detailed discussions on the results and compares them with findings in the literature.

Chapter 6 concludes the thesis and summarises the contribution to knowledge that this study has made to the literature on leadership. The chapter also presents the limitations, and recommends avenues for further research.

Chapter 2

Literature review

2 Introduction

Leadership in higher education has become one of the most widely discussed topics of research of late. Business schools in particular have been in focus in the recent past with regard to the whole system of delivering education since there is an assumption that success of business schools in producing successful leaders in business could largely depend on having able leaders within the schools. Though there has been a number of studies with a spotlight on the HEIs (for example, Ivory et al., 2007; Boer & Goedegebuure, 2009), literature indicates that leadership and management in HEIs are considered major challenges that need to be closely examined.

There is a growing recognition that leadership development is important to different types of organisations including institutions of higher education (Pfeffer, 2009). In this context Hewitt (2008) argues that successful companies have great leaders consistently, an argument that could have resonance in the context of institutions of higher education. One of the benefits that appears to have accrued to companies that have focused on leadership development is that they could help leaders improve the business using their improved leadership skills. Pfeffer (2009) claims that a similar effort is needed in institutions of higher education to develop leadership talent leading to an argument that leadership is an important factor that needs to be considered by higher educational institutions (HEIs). De Boer and Goedegebuure (2001) argue that there is a growing emphasis on the role of deans as leaders in many institutions. However, there is no consensus about the essence of leadership or the means by which it can be identified, achieved or measured (Bennis & Nanus, 1985) and Marshall (2006) extends this argument to those in academia who are in the middle level of governance. Some (Bolden et al. 2009) have highlighted the attempts made by some institutions of higher education (universities) to view the deans as the heart of their effort in modernizing the managerial structure.

In the same vein Huy (2001) and de Boer and Goedegebuure (2001) propose that the role of deans is as an interface between the top-down strategy and bottom-up operations employed in HEIs. De Boer and Goedegebuure (2001) consider that the dean can play a pivotal role in the management of HEIs. However, de Boer and Goedegebuure (2001) also bring out that in many countries the role of a dean is in a state of flux, leading to the inference that if things are changing, we need to better understand how and why. In the modern era the concept of managerialism, especially public sector managerialism, is making incursions into the education sector including HEIs. Here the concept of managerial capability of deans comes into focus. Thus, on the one hand leadership skills of deans are under the microscope and on the other the managerial skills of deans are under scrutiny in many HEIs leading to the inference that the concepts of deans as leaders and managers and the relationship between these concepts could impact the HEIs. A logical question therefore is how leaders face the challenges of balancing management with leadership. Indeed, one can be a good leader and bad manager as well as a good manager and bad leader. This aspect needs further study.

Additionally with regard to the context of studying the relationship between deans as leaders and managers there appear to be multiple models, for instance, managerial, corporate and entrepreneurial models (Clark, 1998; Bargh et al. 1996; McNay, 1995) that could be used. In another instance, Collinson and Collinson (2009) provide a comparative account on how leadership is perceived by fellow staff members of the deans and how it is enacted by the deans in the education sector. Through this comparative account, Collinson and Collinson (2009) claim that the twin concepts of how followers (or subordinates, as they are often called) perceive their leaders on the one hand and their leadership and enactment on the other, is making growing incursions into the HEIs. In the context of perceptions of leadership it is important to mention here that the perception of the dean or the head of the department as a leader is also an area that is under investigation, leading to a possible linkage of the concept of deans as leaders to enactment of leadership (Collinson & Collinson, 2009; Bryman & Lilley, 2009). In another study, that of Bryman and Lilley (2009), it is argued that their findings through an exploration of perceptions of effective leadership in HE, with a particular focus on the role of head of department, leadership aspect of deans as

the head of the department is a very important area that needs further investigation. Similarly Bryman and Lilley (2009) argue and bring into focus the effectiveness of leadership of deans as an important aspect that could be investigated in the context of the governance or management by deans.

The arguments provided above have brought into focus the importance and need to study the effectiveness of leadership and governance by deans in HEIs. However some oppose this argument, like Gronn (2009), who argues that there is a need to shift the way leadership practice is perceived. Some argue that leadership research need to move away from what could be considered as good or effective leadership to leadership configuration (Gronn, 2009). In fact Gronn (2009) emphasizes that the difficulties posed by dominant discourses and constructs of leadership should enable future research to focus on implications of such a shift, providing an argument that opposes the need to study effectiveness of leadership. Thus, while there are arguments for and against considering leadership effectiveness as an important aspect of leadership in HEIs that needs further investigation, the growing challenges faced by HEIs indicate that it is essential to address the leadership effectiveness issue. This argument is supported further by those who argue that there is a lack of thorough understanding of leadership effectiveness and governance aspects pertaining to deans in HEIs (Huy, 2001; de Boer & Goedegebuure, 2001).

It must be acknowledged that these arguments by Gronn (2009), Huy (2001), de Boer and Goedegebuure (2001), Bryman and Lilley, (2009) and Pfeffer (2009) provide only a partial view of the field. In the words of Whitchurch (2008), studies underestimate the current significance of leadership especially within professional services that assume boundary spanning roles in newer and more teaching and employer oriented institutions. Thus, the arguments of Bolden et al. (2009) assume significance who claim that contextual and systemic nature of effective leadership practice in HEIs need to be recognised and investigated through a more holistic view of leadership in HEIs as they claim that good leadership matters.

A critical review of these aspects is needed to gain an understanding of the various challenges that determine the development of leadership models and styles, and

management aspects in academia. Thus to begin with the following section deals with the key challenges faced by academia with a focus on business schools.

2.1 Key challenges facing Higher Education: A focus on business schools

Business schools across of the world have grown rapidly due to a spurt in the demand for business education since the last decade and a half (Hawawini, 2005). Whether this demand will continue remains to be seen owing to a number of challenges (Ivory et al. 2008). Some of the serious challenges faced by business schools that have been identified include evaluation of research performance (Thomson Reuters, 2010) recruitment, retention and staff development, reputation, finance, leadership, business education being globalised, shortfall in faculty availability, curriculum issues, changing technologies, governance, strategic choices and qualification and skills of faculty (Ivory et al. 2006; Ivory et al. 2007; Hawawini, 2005). While these challenges can potentially affect business schools, the current status of many business schools does not indicate that the schools are recognising the need to face these challenges. Although these challenges create obstacles for the business schools to achieve success, amongst them, challenges posed by leadership and management problems are considered to be more serious as it is felt that leadership and management aspects are not being addressed by business schools properly (Pfeffer, 2009). For instance de Boer and Goedegebuure (2001) argue that there is a growing emphasis on the role of deans as leaders in many institutions. In this context there is no consensus about the essence of leadership or the means by which it can be identified, achieved or measured (Bennis & Nanus, 1985) and Marshall (2006) extends this argument to those in academia who are in the middle level of governance.

While on the one hand leadership skills of academia in business schools are sought to be understood further, on the other the managerial capability of academia has also come under review. Leadership and management have been differentiated in the sense that competent managers are needed to be effective leaders (Wilson et al. 2006). For instance, Cavico and Mujtaba (2009) argue that, as a leader, the dean is expected to develop and create awareness about the vision, mission and core values of the school whereas, as a manager, the dean is expected to act leading to the achievement of the school's values. Thus there is clear distinction between the leadership and

managerial characteristics. If there is a scrutiny of leadership aspects then it appears by corollary that it is not possible to ignore the managerial capability of the leadership especially with regard to the achievement of the stated goals of a school.

These challenges although exhaustive can be broadly identified as the following:

- Leadership styles and leadership practice
- Management style (change management, managing conflict, performance indicators and management)
- Organisational setting
- Decision quality
- Follower commitment
- Follower satisfaction
- Organisational culture
- Leadership effectiveness

Although the challenges list is by no means limited to the above, some of the fundamental aspects that prop up these challenges within the academia and business schools in particular, include massification of higher education, globalisation, faculty shortage, curriculum changes (Cornuel, 2007), future developments and funding crisis (Ivory et al. 2006, 2007; Cornuel, 2007). The following discussions review the understanding of how these challenges have been addressed.

2.1.1 Leadership style and leadership practice

One of the serious concerns in the HEIs is to develop leadership skills. However, hardly any focus has been on the issue of developing leadership capability (Moses & Roe, 1990; Green & McDade, 1991; Middlehurst, 1993). In particular, developing leadership capabilities in learning and teaching has attracted even less interest (Marshall, 2008). Concerns have also been raised regarding faculty motivation for research as well as evaluation of research performance of the institution (Thomson Reuters, 2010; Hardré et al., 2011). Limited studies that touch upon the leadership development aspects in learning, teaching and research, focus more on developing an understanding of the knowledge skills and capabilities required by leaders meaning

what to develop in such leaders rather than how to develop (Stark, 2002; Stark et al., 2002; Marshall, 2008). In addition important attributes of leadership such as leadership styles although extensively dealt with in different segments of the educational sector including HEIs, there is a concern that much more needs to be done in developing knowledge on how leadership styles could be related to effective leaders in the HEIs to deal with the changing needs of the HEIs (Basham, 2010).

Further leadership style as a concept has been developed significantly over the last few decades and many different leadership styles have been discovered as being practised by leaders in various organisations e.g. transactional and transformational leadership styles (Bass, 1997; Bass & Avolio, 2000). However, some (e.g. Coats, 2000, Williams, 2001) are unsure on which of these leadership styles (attributes) could be related to successful leaders in HEIs.. In the same vein it needs to be highlighted (e.g. McShaine & Von Glinow, 2000) that it is important to concentrate on leadership behaviour or practice or the perception of followers about leadership behaviour in organisations in order to develop leaders for the present and future. Some have emphasised the need to rethink the leadership practices (Astin & Astin, 2000). In fact some have developed instruments to measure leadership practice (e.g. Leadership Behaviour Description Questionnaire (LBDQ)) that could be used to develop and enhance leadership practice although the applicability of such tools to varying situations is under question. These arguments emphasise that leadership practice, while attracting the attention as a unique variable of leadership development, has also been related to organisational performance, leadership effectiveness and other factors that impact leadership process (Leary et al. 1999). Leadership practice has been considered as a major challenge to HEIs in the context of developing leadership in HEIs (e.g. Herbst & Conradie, 2011).

In addition, one of the major problems is that efforts that have been put to develop leadership capability in HEIs with regard to learning, teaching and research vary widely across institutions resulting in lack of generalisability or uniformity (Marshall, 2008). For instance some of the institutions appear to focus on developing the knowledge, skills and capabilities within the disciplines relevant to the faculty while others have attempted to develop leadership capabilities in teaching. However there is

a lack of focus on developing knowledge, skills and capabilities of faculty keeping at the fore the leadership component as well as enhancement of the current understanding of the faculty with regard to tasks identified with effective leadership in the literature (Marshall, 2008). For instance while developing teaching skills may entail the faculty to enhance their knowledge, skill and capability in regard to an understanding of students, learning, teachers and teaching, pedagogy and the contexts within which they teach, leadership related skills may require enhancement of their understanding on how to establish directions, planning, budgeting, problem solving and staffing (Marshall, 2008). This includes leadership skills required for enhancing research collaborations and producing research outcomes which is also considered a major challenge in HEI leadership (Murray et al. 2014). Though many institutions attempt to develop programmes intended to build in leadership capabilities with regard to learning, teaching and research much needs to be done in integrating such programmes with leadership and leadership development with an objective to improve (Marshall, 2008). Within this argument it is necessary to include the research component also (Murray et al., 2014).

The preceding discussions clearly indicate that there is need to better understand the challenges in developing leadership skills with a focus on learning, teaching and research. Plus there is an added need to identify specific leadership styles that can be developed in leaders of HEIs. It is important to address this issue as they impact the learning environment in which students learn, their professional practice, teaching and research (Marshall, 2001; Dearn et al., 2002; Prosser et.al., 2006; Murray et al., 2014).

2.1.2 Management style

Interest in understanding the relationship between job performance, motivation and management style has been on the rise since World War II (Marturano & Gosling, 2008). Some argue that most leaders' behaviour can be brought under management styles, for instance impoverished management or middle-of-the-road management and the like (Marturano & Gosling, 2008). Another describes management style in terms of a managerial grid (Marturano & Gosling, 2008) and is also termed as the model of managerial behaviour (Northouse, 2004). However literature shows that descriptions and depictions of management style are not uniform and management style as an

attribute poses a major challenge to organisations including HEIs,. In addition there are a few other management challenges such as change management, conflict management and performance management that are commonplace in HEIs that also warrant investigation. More investigation needs to be carried out with regard to these challenges and how leaders manage to overcome these challenges (Bowen-Hartung & Brown, 2013; Cinar & Kaban, 2012). This implies that management capability is an essential aspect affecting leadership in HEIs and further research is needed to understand how leaders manage challenges.

2.1.3 Organisational setting

Research in leadership has been conducted in multiple organisational settings such as the public sector (e.g. Waldman et al., 1990; Cowen, 1990; Koh et al., 1991) and the private sector (e.g. Avolio et al., 1991; Bryce, 1989; Keller, 1992). This includes HEIs (e.g. Lowe et al., 1996). However, some (e.g. Lowe et al., 1996) argue that the relationship among various components of certain leadership practices considered to be widely found in leaders and different organisational settings is not well understood. For instance, Lowe et al. (1996) argue that more research is needed in understanding the relationship among transformational and transactional leadership constructs and leadership effectiveness in different organisational settings implying that organisational settings impact how leaders lead.

2.1.4 Decision Quality

Decision as an important concept has been widely studied and decision analysis as a concept has been a major topic of interest for decades (McNamee & Celona, 2005). Theory on decisions as a concept shows that it involves three aspects namely decisions, decision making and quality of decisions (McNamee & Celona, 2005). In spite of continuous efforts in this field, an area that has been of major concern has been the identification of good decisions and bad decisions in the decision making process. In this context, this is concerned with the outcome or results of those decisions and such a concern arises because of lack of understanding of whether good decisions have resulted in good outcomes or bad outcomes and vice versa (McNamee & Celona, 2005). McNamee and Celona, (2005) argue that an important reason that could contribute to this is the uncertainty surrounding a decision making process that

is created by the lack of complete knowledge about the world on the part of the decision makers. It is reasonable to apply these arguments to leaders in the HEIs also as the situation surrounding the HEIs is constantly changing and leaders are challenged with a continuous need to update their knowledge of those surroundings. Thus prior to taking decisions leaders need to analyse their surroundings and most importantly the decisions themselves. Decision analysis, particularly decision evaluation, becomes an important aspect in decision making. An essential part of decision analysis is the decision quality. There is a need to understand the quality aspect of decisions made. Quality of decisions can be operationally defined as the difference between good and bad decisions. Good and bad decisions are the outcomes of decision-making.

Borchers (2005) argues that quality of decision could be defined as a science that is filled with many aspects including organizing principles, ethics, laws, or quantitative relationships that facilitate consistency with values, objectives, belief systems, and empirical evidence. The simplest of definitions of quality of decisions is given by Talley (2011) who argues that quality of decision is considered to be the quality of the decision-making process and is understood as the success of the outcome of the process. However Talley (2011) cautions that decisions need to be made prior to getting the outcome and hence quality is considered as the best possible outcome that is achieved although it is short of the desired outcome.

It can be seen that there are multiple definitions pertaining to quality as a concept that is applicable to decisions made and the process of decision making although those definitions are not the same and somewhat contradictory. The definitions range from ones that are simple to those that are complicated with the definition given by Muhammad et al. (2009) being the simplest and the one given by Borchers (2005) being the most complex. But these definitions clearly articulate the importance of the quality of decisions as a concept because decision quality needs to be assessed prior to taking decisions and such an assessment needs to be compared with the outcomes to know the extent of quality that could be found in a decision. This makes decision making process as one of the hard things in life.

Based on the above arguments it can be construed that two of the important factors that affect leadership behaviour is the decision making and decision quality. In the field of governance, decision making and quality of decision making are viewed as major factors by some (e.g. Jones, 2011; Seltzer & Bass, 1990) that influence governance. For instance Leadership Behaviour Description Questionnaire (LBDQ) focuses on decision making as an important factor (Seltzer & Bass 1990). In the same vein, Muhammad et al. (2009) argue that quality of decision making is an important aspect that can determine the survival of an institution. Thus decision quality is an important factor that needs to be understood in the context of HEIs.

2.1.5 Follower commitment

Follower commitment has been found as an important challenge (e.g. Kouzes & Posner, 2002) in organisations. In their research on the effect of transformational leadership on teachers' commitment to change in Hong Kong, Yu et al. (2002) found that there is only 11% of the variance in the teachers' commitment to change in Hong Kong could be explained by transformational leadership although regression results indicated that there is positive relationship between transformational leadership style and teachers' commitment in Hong Kong. In another study although not in the HEIs, Rengpian (2007) investigated the influence of perceived leadership practices on followers' organisational commitment and found that leadership practices have a significant influence on organisational commitment of followers. In fact, research showed that getting the best workers and keeping them committed to the organisation leads to increased competitiveness and helps in organisational survival (Bergmann et al., 2000). These arguments clearly indicate that follower commitment is an important factor and challenge that leaders need to reckon with.

2.1.6 Follower satisfaction

Literature (e.g. Verhaegen, 2005) highlights that amongst the many challenges that affect business schools is the recruitment and retention of faculty which depends upon amongst other factors, faculty satisfaction. In a study spread over 181 European business schools, Verhaegen (2005) reported that a number of factors affect faculty satisfaction which includes the concern of leadership on how to handle faculty satisfaction. The results of the survey conducted by Verhaegen (2005) show that

faculty satisfaction was low with respect to research environment and explained that this could be due to the fact that deans of those schools have paid less attention to this important aspect. Furthermore, Verhaegen (2005) argues that assessment of problems associated with faculty satisfaction should be an important area of concern to the deans. This argument amply demonstrates that follower satisfaction is a major issue when it comes to better understanding the challenges that needs to be tackled by deans of business schools.

2.1.7 Organisational culture

Human resource professionals and academics acknowledge culture as a key factor that drives an organisation's performance (The University of Queensland, 2013). Some (e.g. Becher, 2011) argue that any right culture supports the implementation of strategy, enhances productivity and innovation leading to an organisation deriving competitive advantage. Here are a number of advantages that organisational culture ensures, for instance, organisational culture:

- is effective in achieving proper use of the intellectual capital (Lynn, 1999).
- helps an organisation in coping with a changing environment (Schein, 1999).
- affects the communication skills and decision-making process in an organisation (Kowalezyk & Pawlish, 2002).
- affects organisational system operations, productivity, leadership actions (Taylor, 2003).

Organisational culture is defined as a notion that manifests in the shared basic values, beliefs, attitudes, assumptions and behaviours of the people of an organisation (Pettigrew, 1979a). Some argue, for instance Hofstede (1991), that culture is apportioned under four dimensions namely: collectivism vs. individualism, power distance, uncertainty avoidance and masculinity vs. femininity while Schein (1992) defined culture as composed of explicit behaviour, signs and shared values. As far as leadership literature is concerned it is seen that organisational culture affects leader behaviour, and leader behaviour influences the culture of an organisation (Latham, 2013). From these discussions it emerges that culture is an important aspect of an organisation including HEIs and shows that it has been found to be an important

factor that continues to attract attention, particularly with regard to leadership in HEIs (Imam, 2013).

An important aspect of organisational culture in the context of HEIs that needs attention is its ability to influence organisational performance (Cameron & Quinn, 2006). While literature is replete with research outcomes on relating organisational culture to organisational performance, there have been calls in the HEIs to implement culture strategy in organisations that is aligned with leadership capability and other processes to ensure sustainable performance (The University of Queensland, 2013). This implies that in studies that link organisational leadership and organisational performance including leadership effectiveness, culture needs to be involved to understand its influence on the leadership behaviour, follower behaviour, organisational effectiveness including leadership effectiveness and organisational processes such as decision-making (Nazem & Mozaiini, 2014). Any research which looks at the leadership of deans or anyone else needs to take into account organisational culture, because this is an important factor that influences leadership practice.

However considering fact that culture has been symbolized in many forms for instance as country, nation, and society (Sekaran, 1983; Nasif et al., 1991), it is possible to infer that culture can be defined and characterized in many ways. Keeping in view such a diverse representation, it can be inferred that culture, particularly organisational culture could be identified with demographic characteristic. Some of the demographic factors that are widely used in leadership surveys include country or place of residence. For instance Sanderson (2007) used place of residence as a demographic variable in a study of multi-institutions on leadership. Similarly, in their study on student leadership Shertzer et al. (2005) used place of residence as a demographic factor. In both studies evidence has been provided about the influence of place of residence on leadership aspect although literature surrounding place of residence as an influencing factor on leadership experience is not clear (Hamrick et al., 2002; Pascarella & Terenzini, 1991). The studies cited above provide evidence for using the factor ‘place of residence’ as demographic variable. In addition,

demographic variables are often used as control variables in research (Polston-Murdoch, 2013).

2.1.8 Leadership effectiveness

The leadership literature will reveal that ambiguity in no uncertain measure surrounds publications that are boasting to provide lasting solutions in relating leadership effectiveness and organisational performance. For instance some have indicated that the evidence linking changes in leadership and its influence on performance is weak (Brown, 1982; Fizel & D'Itri, 1999). Other research outcomes indicate that there is little or no impact on organisational performance and change in leadership (Gamson & Scotch, 1964; Eitzen & Yetman, 1972; and Allen et al., 1979) and association between leadership and organisational performance is non-existent and contradictory (Lieberson & O'Connor, 1972; and House & Baetz, 1979).

While on the one side there are strong criticisms on the utility of establishing a relationship between leadership and organisational performance, on the other there are others who have highlighted the positive influence exerted by leadership on organisational performance and the importance of leadership effectiveness. For instance Fiedler (1967) claims that leadership influences organisational performance and stresses the fact that leadership effectiveness is a crucial predicator of organisational performance. Further Mott (1972) argues that leadership is important to group or team performance. Others argue that successfully performing organisations are inextricably connected to leadership (Bennis & Nanus, 1985) and leadership has positive impact on performance (Yukl, 1998).

In a situation where there is a sharp contrast on the arguments put forward for and against the importance and utility of linking leadership with organisational performance it is important to note that research and practice in regard to leadership effectiveness and organisational performance in general have been conducted under the assumption that leadership effectiveness impacts organisational performance (Alchian, 1986). What complicates the issue further is the lack of empirical support that could confirm the positive relationship between leadership and organisational performance (Thomas, 1993).

The arguments given above culminate in the inference that literature on the relationship between leadership effectiveness and organisational performance is marred with confusion, assumptions, discrepancies and sharply divided research outcomes. Amongst the several ambiguities that characterise the research on the association between leadership effectiveness and organisational performance are contexts and skill that could be considered as two of the most important issues that are not well addressed in the literature. Particularly with regard HEIs the problem is more pronounced due to lack of in-depth research in the area of leadership effectiveness in HEIs. This is a major challenge for any researcher who would like to gain an understanding of how leadership effectiveness impacts performance of HEIs

2.2 Leadership

The foundation for organisations including institutions of higher education is the leadership. Leadership plays an important role in organisational change as well as in ensuring that educational institutions are effective. Literature shows that the essentials of leadership in institutions of higher education (Pfeffer, 2009; de Boer & Goedegebuure, 2009). Considering the task HEIs are facing in developing leaders, there are a number of issues pertaining to the leadership aspects. Despite the growing need for effective leadership in HEIs there is little evidence to show the successful application of models or concepts of leadership. Almost all the outcomes published up to now either suggest what needs to be done or what can be done but do not claim to have either successfully measured effectiveness of leadership or boast of the research outcomes having been successfully put to use by any HEI suggesting the need to examine leadership aspects pertaining to HEIs further.

While literature shows that numerous publications have been made on leadership and leaders, aspects that appear to be common to those publications include leadership definitions, leadership theories, leadership styles, leadership correlates, relationship between leadership and management and distinction between leadership and management. These aspects appear to be significant in respect of a relationship between leadership roles and success of organisations. Thus the next discussion focuses on leadership definitions. At this point an important generalization with regard to this literature review has been made which is that when leadership

behaviour is referred to, the perceptions that followers hold of leadership behaviour is implied unless otherwise stated, an argument supported by some (e.g. Vondey, 2008; Bass & Avolio, 1995). Although leadership behaviour could also imply leaders' perception of leadership (e.g. Rouse, 2005), in the research described in this dissertation the focus is not on the leadership behaviour of leaders but instead on the followers' perceptions of that leadership behaviour.

2.2.1 Leadership definitions

Definitions of leadership are many. For instance Arnold and Feldman (1986) claim that over 3000 empirical studies have been reported in the literature related to leadership. Some of the definitions of leadership include the following.

Leadership could be defined as the aptitude to motivate people to commit voluntarily, willingly and totally to accomplish or achieve beyond the organisational objectives (Goetsch & Davis, 1997). Another definition describes leadership as influence exercised by the leader over the behaviour of other people (Arnold & Feldman, 1986). Yet another definition of leadership says that leaders set the course through their behaviour for others to follow in all walks of life as well as characterize the society (Fairholm, 1998). Fairholm (1998) argues that leaders are those who define and enable the implementation of government policy as also identify and shape up teams, groups and communities. Many more examples of such definitions could be seen in the leadership literature. However these definitions do not appear to be the same and provide different meanings on leadership. One of the reasons why researchers do not concur on a common definition of leadership is that leadership as a concept has been ascribed to various perspectives according to the field in which leadership research is being conducted such as business or education or strategic areas to mention a few (Taylor, 2003). Additionally some argue that leaders have characteristics (e.g. Allen, 1998) and styles (Moore & Dyer, 2002) that vary widely, which may be another reason for this dilemma on how to define leadership. Nevertheless leadership characteristics and styles are often cited as affecting leaders and leadership effectiveness and argue theories have been developed based on both leadership characteristics as well as styles (Hochschild, 2010). An important distinction needs to be made here on the leadership characteristics and styles. Literature review shows

that leadership characteristics are a set of attributes which are qualities of the leader exemplified in a group (Adair, 2009). Examples of leadership characteristics include self-knowledge, emotional intelligence (Bennis, 2009), intelligence, intuition and creativity (Gardner, 1990). On the other hand leadership styles indicate the attitude with which leaders approach their potential followers (Goleman, 2002). Leadership styles include directive, achievement oriented, supportive, democratic, autocratic, transformative and transactional (Goleman, 2002; Muhammad et al. 2009).

However since the focus of this research is not to determine the leadership characteristics that influence leadership process but leadership styles, leadership characteristics are not reviewed critically. Thus the discussions that follow pay attention to aspects related to leadership styles. One of the important aspects of leadership styles is that these styles are derived from leadership theories. Theories generalize the leadership practices and styles. Such theories need to be understood in order to determine the basis of a leadership practice and style. The next section addresses a few of the leadership theories propounded.

2.3 General leadership theories

Despite the fact that uncertainty on the definition and concepts of leadership afflicts literature on leadership, some have developed theories to enlighten various aspects related to leadership in numerous ways and interpret these aspects to mean in a variety of different things to various types of audience (Middlehurst, 1993). Theories on traits or personal qualities of individuals have been found that imply that leadership is concerned with people who already possess traits and certain qualities and identify them for occupying leadership positions (Stogdill, 1948). This theory is not premised on leadership development and literature shows lack of any empirical evidence to support the theory (Marshall, 2008).

The next theory advocated that leadership should be associated with behaviour or style (Stogdill & Coons, 1957). The theory suggests that leadership could be perceived by an understanding of the behaviour of those appointed to leadership positions. Some studies have been undertaken to understand the nature of leadership through the lens of behaviour (Cartwright & Zander, 1960; Likert, 1961; Blake and

Mouton, 1964). These studies inferred that leadership behaviour could be understood and explained through two aspects, one related to achievement of goals considered important for a group and the other related to the maintenance as well as enhancement of the strength of the group itself. These two were addressed under specific dimensions task-oriented behaviour and people/relationship oriented behaviour (Marshall, 2008). Literature shows that till the end of the last century, some have concurred with this concept of two dimensional leadership behaviour and have confirmed the findings of in the context of HEIs (Marshall et al. 2000). However some feel that the findings of a few confirming and concurring on the two dimensional behavioural theory are nothing but a listing of the various tasks that need to be executed by occupants of various leadership positions in HEIs like for instance the department chair (Wolverton et al. 2005). This indicates a lack of deeper research into this important aspect. Additionally literature shows that these findings are not applicable to all situations involving leaders and have rejected the theory as some findings suggest that leadership behaviour and styles cannot be said to be uniformly effective in all situations as they are found to vary with respect to different types of tasks or groups or contexts or individuals (Blake & Mouton, 1964; Likert, 1967). In fact in the day to day activities concerning leadership in the HEIs it is possible to see wide variations in the way leadership behaviour varies with respect to each individual occupying equivalent positions of leadership. For instance with respect to developing launching a new programme the leadership skills shown by two chairpersons of two different departments under the business school could vary depending upon their field as well as the market requirements. Thus it is not possible to ascertain the effectiveness of the two chairpersons without considering the various aspects that affect their behaviour. The dimensional behavioural theory fails to address this problem.

The dependence of the leadership on contexts led to the development of the contingency theories of leadership (Fiedler, 1967; Vroom & Yetton, 1973; Hersey & Blanchard, 1988). These theories focus on the development of leaders through effective training as well as by building an organisational environment that enables the trained leaders to perform (Fiedler, 1967). Despite the fact contingency theory appears to provide a generalisable solution, what is inherently lacking in the

propositions made through the contingency theory is that the theory cannot be consistently applied across different situations. Although organisational environment could be developed to enable the leaders to perform, it is difficult to replicate a situation identically in practical life that results in the same leader being effective in one situation and ineffective in another (Fiedler, 1967). For instance with regard to the effectiveness of deans as leaders, it is possible that there is a major difference with respect to two different contexts. The deans could be effective individually in terms of dealing with the community but may not be effective with regard to the relationship with the faculty and administrative staff within the business school. Thus this theory has limited application. Other prominent theories that have been postulated by researchers include the power and influence theory and social exchange theory.

A broad taxonomy of the various theories in use is provided in Table 2.1.

Leadership Theory	**Style**	**Description**	**Reference**
Transactional	Contingent rewards Management by exception	• Leaders provide rewards on the condition that followers conform to performance targets. • Leaders take action when task related activity is not going according to plan.	Bass and Avolio (1994)
Traits or personal qualities of individuals	Leaders have certain traits and qualities and hence do not require training	• Trait approaches focus on what attributes or personality factors (e.g. introversion vs. extroversion) set leaders apart	Bass and Avolio (1994)
Style approach	Concerned with delimiting the Particular characteristics or behaviours that good leaders should possess. Training could help develop style.	• Style or behavioural approaches focus on what they do and thus assume that leaders can be nurtured, once the behaviours that comprise effective leadership are known.	Bass (1990a); Bryman (1992)
Transformational	• Idealised influence • Inspirational motivation • Intellectual stimulation • Individualised consideration	• Leaders act as role models, are admired, respected and trusted, consider the needs of others over their own; are consistent in their behaviours; share risks with others and conduct themselves ethically. • Leaders motivate and inspire	Moss and Ritossa, (2007); Bass et al., (2003)

		others by providing meaning and challenge; they rouse team spirit; are enthusiastic and optimistic; communicate expectations and demonstrate commitment to shared visions. • Leaders encourage innovation and creativity through questioning assumptions and reframing problems. They avoid public criticism. • Leaders attend to individual needs for achievement and growth, engage in coaching and mentoring, create new learning opportunities, value diversity and avoid close supervision.	
Distributed	Leadership can be found at all organisational levels and can be shared among multiple players at each level	• Includes the notions of team-based leadership related to self-managed work teams (SMTs), these approaches advocate a greater sharing of power between leaders and followers. • Operating as quasi-autonomous groups, the team members thus take on multiple leadership roles that include improving the team's environment, managing influence channels, horizontal networking and handling external relations, all of which demand strong interpersonal, negotiation and presentation skills.	Bryman, (1999); Gordon, (2002); Belasen, (2000)
Power and influence	Power and influence theory is centred on an individual and hence such leaders need to be identified based on whether they possess these abilities or not instead of developing such capabilities in individuals.	• Associates the power possessed by an individual in terms of the individual's ability to reward and coerce as well as use the position, expertise and referent power in achieving goals.	Weber, (1945); Etzioni, (1961); French & Raven, (1968); and House, (1984)

Table 2.1, Taxonomy of some of the theories in use in leadership literature

The discussions given above on the two leadership theories advanced can be applied to HEIs, more particularly to the business schools though these theories have

limitations. The constraint in applying these theories to the cause of business schools is that no one theory can address the leadership challenges faced by business schools. A more pragmatic approach to applying the theories would be to understand the core concepts addressed by the theories for instance leadership practice and leadership style,. The next section critically looks at leadership practice.

2.4 Leadership practice

An important aspect of leadership behaviour described (e.g. Schell et al. 2008) is how leadership styles are practised by leaders. For instance Bass (1985) describes transactional leadership in terms of management-by-exception and contingent reward practices while individualized consideration and intellectual simulation are attributed to transformational leadership styles. Similarly Kouzes and Posner (1995) argued that exemplary leadership involves five types of leadership practices namely modeling the way, inspiring a shared vision, challenging the process, enabling others to act and encouraging the heart. In addition Schell et al. (2008) argue that leadership practices are measured by different instruments for instance Kouzes and Posner's (1995) Leadership Practices Inventory (LPI) and Multifactor leadership questionnaire (MLQ) (Bass, 1985). However there is no consensus on which one of these instruments could be used in particular situation. For instance Sandbakken (2004) argues that LPI is a more reliable and validated framework in comparison to other instruments but Schell et al. (2008) argue that MLQ is better in comparison to LPI. Nevertheless, both LPI and MLQ have attracted criticisms with regard to their reliability (Schell et al., 2008).

While literature on leadership shows that leadership practice as a variable has attracted attention, what is not clear is the understanding of the suitability of particular leadership practices to specific contexts and cultures. For instance many (e.g. Hofstede, 1980, 1991; Den Hartog et al., 1999; Koopman et al., 1999; Hetland & Sandal, 2003, Schell et al., 2008) argue that leadership varies across contexts and cultures implying the need to investigate leadership practices across contexts and cultures.

An important highlight of the contemporary literature in leadership is the linkage between leadership practice and leadership effectiveness as this linkage provides a

path to understand what leadership practices could be more effective for a particular organisational context (Sandbakken, 2005). Literature shows that there is a lack of consistency on how to address leadership practice- leadership effectiveness linkage as some have measured effectiveness in terms of organisational performance (Sandbakken, 2005) while others have measured effectiveness directly (Schell et al. 2008). What constitutes leadership effectiveness is often varied and conflicting (Kroeck et al., 2004). In the absence of unanimity, it is difficult to decide how to link leadership practice to leadership effectiveness, a gap that needs to be addressed.

While some (e.g. Sandbakken, 2005) argue that leadership practices can be related to leadership effectiveness, such a practice is invariably associated with a particular style by them, for instance Murphy (2002) used MLQ to study leadership styles. Literature on leadership styles and leadership practice does not provide clarity on how leadership practice and leadership style could be distinguished. For instance, leadership practice is explained in terms for transformational leadership and transactional leadership styles (Bass, 1985) indicating that leadership practice and style are inter-woven. Lack of clarity can cause concern in understanding leadership practice and style. Thus an investigation into leadership styles and leadership practice individually could yield new insights into the concepts of leadership styles and practice especially in the contexts of HEIs. Considering the close relationship that is seen to exist between leadership practice and leadership styles in the previous discussions, the next section discusses leadership styles in detail.

2.5 Leadership styles

Leadership styles have been found to help us to better understand the role that these play in understanding the behaviour of leaders (Nelson, 2003). For instance, leaders have been found to exercise their powers in different ways (e.g. showing autocratic or laissez-faire leadership characteristics) and these ways are called styles (Nelson, 2003). On the contrary Goleman (2002) argues that leadership styles can be considered as the basis that enable the distinction of leaders in regard to creating enhanced interpersonal synergy and enlightened interpersonal communications thereby supporting efficient high-powered teams in organisations like for instance the transformational leadership style. Hall (1994) claims that leadership styles are related

to organisational development and has identified the following styles and the corresponding leadership theories that address them.

- Dictator, benevolent, manager – transactional leadership
- Enabler as mentor – transitional leadership
- Collaborator, servant – transformational leadership
- Servant, prophetic or visionary – transcendental leadership

Through one of its efforts on leadership styles, Centre for Excellence in Leadership (CEL) argued that leadership styles contribute to the behaviour of leaders in organisations in dealing with different levels of competence of staff as well as the challenges the organisation faces (Collinson, 2008). Furthermore, some feel that there are innumerable types of leadership styles that have proliferated in different organisations (Lumby et al. 2005, Harris 2004, Frearson 2002, Muijs et al. 2006) examples of which include transactional, transformational, distributed and instructional leadership styles. Additionally, some claim that leadership styles can be related to effectiveness of leadership like, for instance, Lumby et al. (2005) who claim that transformational leadership could be linked to effectiveness of leadership in improving organisational performance.

The preceding discussion provides a representative idea on the need for leadership styles although there is no concurrence on what type of leadership style could be identified as a predictor of leadership effectiveness universally. For instance while Lamby et al. (2005) argue that transformational leadership style could be more useful in improving organisational performance, CEL believes that such a performance may need both transformational and transactional leadership in practice (Collinson, 2008). In a similar vein, Hartley (2007) suggests that although distributed leadership style has been linked to institutional achievement, there is hardly any causal relationship between the leadership style and organisational performance. Echoing similar arguments, Robertson (1998) argues that there is a need to develop a relationship between leadership styles and the leadership effectiveness through further investigation on factors that could contribute in developing such a relationship particularly in the context of HEIs. Further to this it is worthwhile to gain knowledge on the various leadership styles that have been identified and the research outcomes

they have achieved in better understanding leadership effectiveness. Some of the leadership styles that have been identified and their theoretical underpinning have been provided in Table 2.2 which is followed by a critical review of the widely prevalent leadership styles.

No.	Leadership styles	Theoretical underpinning	Author/s
1	Individualized Consideration	Transformational	Bass (1997); Bass and Avolio (2000); Northouse (2001)
2	Intellectual Stimulation	Transformational	
3	Inspirational Motivation	Transformational	
4	Idealized Influence (Behaviour)	Transformational	
5	Idealized Influence (Attributed)	Transformational	
6	Contingent Reward	Transactional	
7	Management-by-Exception (Passive)	Transactional	
8	Management-by-Exception (Active)	Transactional	
9	Laissez-faire		
10	Telling	Situational	Lay, 2003; Hersey, et al. (2001)
11	Selling	Situational	
12	Participating	Situational	
13	Delegating	Situational	
14	Directing	Situational	Hersey and Blanchard (1977)
15	Coaching	Situational	
16	Supporting	Situational	
17	Delegating	Situational	
18	Decide	Vroom Model	Bateman and Snell (2004)
19	Consult individually	Vroom Model	
20	Consult group	Vroom Model	
21	Facilitate	Vroom Model	
22	Delegate	Vroom Model	
23	Commanding		Goleman et al. (2002)
24	Pace-Setting		
25	Visionary		
26	Coaching		
27	Affilliative		
28	Democratic		

Table 2.2, Leadership styles

2.6 Critical review of leadership styles

Amongst the different leadership styles that have been discussed and researched, the most common and widely addressed leadership styles are situational (Hersey & Blanchard 1969), transformational (Bass 1998; Burns 1978), transactional (Burns 1978) and Laissez-faire styles (Bass 1999). The relationship between particular type of leadership style and leaders has been a well-researched area although some feel that it is a fertile area for conducting further research (Bass 1999). However in the

context of higher education institutions it appears that still more studies need to be carried out on leadership styles in a number of areas for instance effectiveness in decision making, development of leadership capability (see e.g. Moses & Roe, 1990; Green & McDade, 1991; Middlehurst, 1993; Fender, 1993; UCoSDA, 1994; Ramsden, 1998; Marshall, 2001; Wolverton et al., 2005) and leadership at the middle level (Smith, 2005). A deeper investigation into these styles could enable a broader understanding of the behaviour of leaders.

2.7 Situational leadership

This model was developed by Hersey and Blanchard (1977). Situational Leadership is contingent upon changes in the situations with the leader expected to fit the leadership style dictated by the situation (Blanchard, 1985; Blanchard et al. 1993). Kao et al. (2006) argue that Situational Leadership is a contingency theory with a focus on followers. Robbins (2001) explains that Situational Leadership views the relationship between the leader and the follower as that of the relationship between the parent and child. This could be interpreted that leaders should release their control on followers like parents abandon their control on children when they become mature. In fact Yukl (1989) argues that one of the most popular and engaging leadership styles in many fields including education is the Situational Leadership. One of the reasons for this could be the simplicity with which followers could be developed using four levels of follower maturity. The four levels of follower maturity according to Hersey, et al. (2001) are telling, selling, participating and delegating.

Although Situational Leadership is a well recognised theory (Northouse, 2001), the number of studies that has been conducted to justify the assumptions and propositions put forth by Situational Leadership theory is only a few (Kao et al. 2006). Furthermore some feel that Situational Leadership model has received only partial support for its validity as a theory of leadership with research findings reporting mixed results on validity (Fernadez & Vecchio, 1997). Despite its limited success Situational Leadership is considered as a theory that is easy to understand, widely known and regularly used for training leaders in organisations (Kao et al., 2006). It must be pointed out here that well known measuring scales have been developed to measure the performance of leaders who have shown Situational Leadership

behaviour. Scales include Leader Behaviour Description Questionnaire (LBDQ) developed by Stogdill (1963), the Leadership Practices Inventory (LPI) developed by Kouzes and Posner (2001) and Leadership Effectiveness and Adaptability Description (LEAD) instrument developed by the Centre for Leadership Studies, Inc., (Moore & Dyer, 2002). These instruments provide an opportunity to researchers to explore the Situational Leadership theory further despite its limited success.

2.8 Transformational leadership

Organisations in the modern world are constantly facing changes and hence need to transform themselves and adapt to the changes witnessed around them. Few would dispute that change management is one of the foremost challenges faced by organisations including HEIs that call for effective leadership who can bring in such changes through motivation and morality. In this context Bass (1999) exalts that the task transformational leaders is to align the interests of the organisation and its members. Further literature shows that since Burns (1978) published his decisive work through which he introduced the concepts of transformational and transactional leadership, much has been done in regard to transactional and transformational leadership. But some, for instance Bass (1999), argue that more needs to be done. In order to know what more needs to be done critical review of transformation leadership is provided next, with a focus on the higher education institution.

When the concept transformational leadership was introduced by Burns (1978), he argued that transformation leadership is seen in action if one or more individuals engage with others in a way that leaders and followers elevate each other to higher levels of motivation and morality. Some argue that transformational leaders are characterised with the ability to uplift the morale, motivation as well as morals of those who follow them (Bass, 1999). Leadership literature shows that transformational leadership brings in change in the followers beyond their immediate self-interests (Bass, 1999). Besides, leadership shows that transformational leadership is able to bring in such changes in the followers through idealised influence (charisma), inspiration, intellectual stimulation or individualised consideration (Bass, 1999). It is claimed that leaders who transform the followers elevate the level of their follower's maturity as well as ideals alongside feelings for the well-being others or

their organisation or society (Bass, 1999). It is further enunciated in leadership literature that transformational leaders develop concern for achievement and self-actualisation in their followers (Bass, 1999). While it is possible to link transformational leadership and its importance to actual leadership seen in everyday life, followers and contexts, it is important to know that all leaders cannot be categorised under transformational leadership. There are leaders who exhibit other types of leadership characteristic like, for instance, transactional leadership and laissez-faire (Bass, 1999). Before proceeding on to discuss other leadership characteristics, it is essential to know the limitations of transformational leadership.

Although much has been written about transformational leadership, it must be noted that there are limitations that are attributed to it. Table 2.3 provides a list of limitations identified by Armstrong and Muenjohn (2008).

Leaders Values	Behaviours	Outcomes for leaders	Outcomes for followers
• Desire for control • Power at all costs • Motivation of greed • Inhumane • Disregard or people's welfare • No recognition that ethical principles apply	• Over control • Not caring • Out of touch did not listen • Some lack courage • Lack of trust • No understanding of ethics • Instead of "how well I can do" is "protect my back" • Won't make a decision • Sits on the fence • Discusses ad nauseam • Believes everyone agrees	• Egomania • Earns disrespect • Seen to whinge about current situation • Creates conflict infighting • Uncertainty • Loss of energy • Stress • Constant state of vigilance • Exaggeration of problems because unable to deal with them • Puts pressure on others • Tries to impose a view without discussion • Confers only with those who agree • Tries to impose views without thought • Fails to talk with people and get them on board • Superficial charm hides objectives	• Despair • Anger • Incredulity • A wish to change things • Non-cooperation • Collapse of projects • Resentment • Leaving the organisation • People concentrate on the wrong things • Destabilizing • Lack of commitment • Nothing done properly

Table 2.3, Limitations transformational leadership (Armstrong & Muenjohn, 2008)

The limitations attributed to transformational leadership notwithstanding, it is seen that it is one of the most widely seen leadership phenomena in many fields. However it must be said that although a number of articles have been written on the topic of leadership there is a dearth of studies on leadership with regard to HEIs Antonakis et al., (2004). Logically this argument could be extended to transformational leadership

also. Thus there is a need to investigate the influence of transformation leadership in the context of HEIs.

Although much has been written about transformational leadership style and findings have shown through both qualitative and quantitative studies that this is a widely prevalent leadership behaviour, a number of questions arise. Some have not been able to conclude whether transformational leadership is the most effective leadership style in all contexts and even it if was, whether or not it could be built in individuals through training remains to be seen (Bass, 1999). In their conclusion Spreitzer et al. (2005) explained that tradition of the leader and cultural background have an impact on the leadership effectiveness and these factors need to be investigated further. While findings have been exalting that transformational is an effective leadership style in any field including higher education, deeper investigation is required.

2.9 Transactional leadership

Like transformational leadership, transactional leadership was first introduced by Burns (1978). Literature shows that transactional leaders address the immediate self-interests of their followers (Burns, 1978). Bass (1999) argues that transactional leaders have an exchange relationship between them and their followers through which both their self-interests are met. However Boyett (2006) says that transactional leadership is based on a rather ordinary and mundane instrumental exchange of value like for instance jobs for votes. However Burns (1978) argues that the relationship between the leader and follower in the transactional leadership behaviour is not permanent as the two are not working to attain a common goal together. Furthermore some believe that transactional leadership behaviour leads to expected outcomes (Bass, 1985; Northouse, 2004; Yukl, 2006). Other important attributes of transactional leadership includes clarifying the follower's responsibilities as well as informing the followers of their performance objectives and tasks to be completed.

Transactional leaders like to avoid risk and focus on efficiency (Levy et al., 2002). Further, Bass (1985) and Jung et al. (2008) argue that such leaders maintain current situation and motivate followers using contractual agreements. Another major characteristic of transactional leaders identified is that such leaders are able to assist

followers to identify ways to achieve better outcomes in their jobs such as quality output, more services and reduce cost of production (Sadeghi & Pihie, 2012).

Transactional leadership is conceptualised as comprising four dimensions namely Contingent Reward, Active Management by Exception, Passive Management by Exception and Laissez-faire Leadership (Pounder, 2006). Amongst this only the Laissez-faire is discussed here because it is found that this leadership style is addressed as a distinct leadership style in the literature and not as a style that is a component of transactional style (Avolio, 1999; Bass, 1998).

2.9.1 Laissez-faire leadership:

Laissez-faire leaders are considered as non-leaders as they avoid accepting responsibilities, are not present when needed, do not follow-up on follower's requests for support and have inhibitions in providing their opinions on vital aspects (Bass, 1997). Such leaders delegate responsibilities to others and do not interfere in others affairs (Alkahtani et al, 2011). Bass and Avolio (1994) argue that laissez-faire leaders are ineffective. Table 2.4 provides an idea of how followers feel about laissez-faire leaders.

No.	Followers' description of Laissez-faire leadership
1	He/she takes no action even when problems become chronic.
2	He/she is absent when needed.
3	He/she avoids deciding.
4	He/she delays responding to requests for assistance or advice.

Table 2.4, Followers' description of Laissez-faire leadership (Boyett, 2006)

Although Burns (1978) propounded the transformational and transactional leadership concepts and despite the fact many (Avolio & Bass, 2004; Dvir et al. 2002; Erkutlu, 2008; Northouse, 2007; Waldman et al, 2001) feel that transformational leadership produces a greater effect than transactional leadership, the reality shows that transactional leaders are present.

Leadership styles that include both transformational and transactional styles form higher order leadership factors in leadership theory Avolio et al. (1999). This argument further strengthens the belief that transformational leadership alone cannot be considered to be the only effective leadership style that affects organisations and people.

However, there are limitations to transactional leadership styles. For instance, some leaders show less than active management-by-exception and it is argued that some leaders turn to contingent negative reinforcement (Bass and Avolio, 2004). This may mean that these leaders demonstrate contingent punishment rather reward in their transactional relationship with employees. Transactional leadership is also accused of failing to deliver rewards on occasions thus tarnishing their image (Bass & Avolio, 2004). The result of these limitations could be significant to the followers. There is a risk of followers being left out with a feeling there is a lack of leadership leading to lack of motivation and guidance. This may affect the follower's trust and consequent loss of reliable performance.

Two important leadership styles namely transformational and transactional leadership, have been critically discussed above. Being the most widely discussed in the leadership literature a comparison between the qualities attributable to the two leadership styles is worthwhile. Table 2.5 provides a comparison.

Transactional Leadership	Transformational Leadership
• Builds on man's need to get a job done and make a living • Is preoccupied with power and position, politics and perks • Is mired in daily affairs • Is short-term and hard data orientated • Focuses on tactical issues • Relies on human relations to lubricate human interactions • Follows and fulfils role expectations by striving to work effectively within current systems • Supports structures and systems that reinforce the bottom line, maximise efficiency, and guarantee short-term profits	• Builds on a man's need for meaning • Is preoccupied with purposes and values, morals and ethics • Transcends daily affairs • Is orientated toward long-term goals without compromising human values and principles • Focuses more on missions and strategies • Releases human potential-identifying and developing new talent • Designs and redesigns jobs to make them meaningful and challenging • Aligns internal structures and systems to reinforce overarching values and goals

Table 2.5, Comparison of transformational and transactional leadership (Covey, 1992)

An important point that needs to be highlighted here is that a number have attempted to apply both transformational and transactional leadership theories to leaders in HEIs but none could generalise their findings nor prove their point conclusively. For instance Basham (2010) could not conclude the generalisability of their arguments on the applicability of transformational and transactional leadership to HEIs due to

contextual issues and methodological limitations. Thus there is a need to investigate further the leadership aspects in HEIs.

Although transformational and transactional leadership are the most widely discussed in the leadership literature there are other leadership styles like the autocratic and democratic leadership styles that have been considered important in HEIs for instance Johnson et al. (1998). Thus there is a need to understand whether these two leadership styles have any linkage to HEI leaders.

2.10 Democratic leadership

Democratic leaders have the characteristic to solve any problem by involving the subordinates and discuss before decisions are taken (Bolden, 2003). Such leaders allow decisions to emerge from the discussions and act as moderators but not as decision taker. These leaders do not impose themselves on the group that is discussing the problem and facilitate evolution of the decision (Bolden et al. 2003). Furthermore, democratic leaders use the method of participative decision making by allowing employees to participate in the decision making process (Alkahtani et al.,2011). democratic leadership style is a strength and employees respect such leaders (Clark, 2004).

Democratic leadership style is likely to be prevalent when part of the information is available with the leader while the remaining part is with the employees. In this situation, it appears that democratic leadership style works better as both the leader and the employee benefit mutually. Employees are allowed to be part of the decision making team with a distinct possibility that a better decision will emerge (Clark, 2004). Other characteristics of democratic leaders include belief (Fey et al. 2001):

- in the concept that people can make decisions
- that followers can fulfil obligations
- that followers can complete jobs effective without being give precise directions
- that democratic leaders are identified to support, facilitate interaction and emphasise on group

While some advocate the use of democratic leadership (e.g. Gastil, 1994) others caution against its limitations. Some believe that there is a dearth of definitions of democratic leadership (Choi, 2007). Similarly Choi (2007) argues that democratic leaders can become autocratic thus putting followers into confusion and throwing the decision making process out of gear. Gastil (1994) argues that democratic leadership will encounter a number of barriers like opposition from some people who are threatened to lose their undemocratic authority. Gastil (1994) emphasises that there needs to be a change in the undemocratic attitude of people which is a major barrier in encouraging democratic leadership.

While democratic leadership has been identified as an under researched area in the context of HEI, many have started stressing on the need for education sector to encourage democratic leadership, for example, Ryan (2010). Thus more investigations are needed to understand the impact of democratic leadership in HEIs.

2.11 Autocratic leadership

Persons displaying autocratic leadership behaviour are seen to have a desire to control and such leaders strongly believe in delegation of tasks (Fey et al., 2001). This stems from a belief of the autocratic leader that he or she knows the best on how to do things and they should achieve this by controlling events and people. Such leaders are likely to have directive manner of speech (Fey et al., 2001). Some of the important characteristics of autocratic leadership behaviour include (Terzi, 2011):

- Extremely conformist
- Rigid
- Obedient to authority
- Deep prejudice against others
- Display of non-democratic behaviour
- Reflection of social views and concepts (Duriez et al. 2007)
- a pattern of personality that leads to psychological and sociological consequences
- implication of lack of freedom of participation of members in decision making process (Choi, 2007)
- adoption of obedience against freedom of choice

Autocratic leadership behaviour is prevalent and is used by leaders in a number of organisations including government organisation and others. Some claim that such leadership behaviour may be necessary in some organisations due to specific contexts such as time constraints affecting certain job performance (Fey et al., 2001).

2.11.1 Limitations of autocratic behaviour

Autocratic leadership style has limitations which include (Burns, 2004):

- Higher turnover rates of followers
- Increased aggression among followers
- Likely to hinder creativity
- Impacts employee performance on complex tasks
- Likely to increase employee alienation and resentment
- Likely to reduce follower morale, satisfaction and loyalty

The discussions in the preceding sections have looked at the most important and widely witnessed and researched leadership styles in many fields including the HEIs. It can be seen that leadership style as a whole is an important variable that has an important linkage to organisational and employee performance. Leadership styles have been linked to leadership effectiveness as a measure of organisational performance both directly and indirectly indicating that leadership styles affect leadership effectiveness. For instance Basham (2010) has found linkage between transformational and transactional leadership and effectiveness of presidents of HEIs as leaders which is a direct linkage. On the other hand, Muhammad et al. (2009) have attempted to link leadership styles and leadership effectiveness through mediating variables which is an indirect linkage. In both cases, findings that have been generated to date cannot be generalised or universally validated. In the field of HEIs there is a need to identify newer linkages between leadership styles and leadership effectiveness that can enable a model to be developed that can address the issues faced by business school leadership in HEIs. The following section therefore discusses the possible antecedents and linkage between leadership style as an important independent variable and leadership effectiveness as a dependent variable.

2.12 Linkage between leadership style and leadership effectiveness

In the context of higher education a number have attempted to link leadership styles with leadership effectiveness. A few examples who have addressed this issue are provided in Table 2.6.

Individual Construct	Employee Effect	Organisational Impact	Primary References
Idealized influence (attributed charisma and Idealized behaviours)	Extra effort, increased commitment, job satisfaction, follower's perceptions of leader effectiveness	Firm profitability, increased sales or revenue, stock measures (possibly non in one study)	Agle 1993; Bass (1985), (1990); Burns (1978); Gasper (1992); Hater and Bass (1988); Larmore (1999); Podsakoff and Mackenzie (1994); Ross and Offerman (1997); Waldman, et al., (2001)
Intellectual stimulation	Innovative ideas, problem-solving skills, ability to deal with change	More innovative products and solutions, better quality improved business unit performance, performance at all levels	Bass (1985, 1990); Bass and Avolio (1993); Bolman and Deal (1997); Burns (1978); Howell and Avolio, (1993); Hsu(2000); Kelloway and Barling (2000); Seltzer and Bass (1990); Tichy and Devana (1986)
Individualized consideration	Innovative ideas, problem-solving ability, extra commitment/effort, increased performance, increased coaching/use of teams	Better products higher quality, innovation leader development	Bass (1985, 1990); Bass and Avolio (1993); Burns(1978); Keller (1992); Tichy and Devanna (1986); Seltzer and Bass (1990)

Table 2.6, Relationship between transformational leadership style and leadership effectiveness in terms of organisational performance (Hancott, 2005)

Table 2.6 shows that transformational leadership effectiveness has been measured by a number of authors as a function of follower effectiveness through the use of specific type of leadership style constructs identified in transformational leadership literature. Specific transformational leadership styles including idealised influence, intellectual stimulation and individualized consideration have been used as independent variables to determine the organisational performance which is portrayed as an indicator of leadership effectiveness in the literature (Sadeghi & Pihie, 2012). Similar arguments have been advanced by others with regard to Situational Leadership styles as well as transactional, laissez – faire, democratic and autocratic leadership styles and their linkage to leadership effectiveness (Muhammad et al. 2009). Thus it emerges from

these arguments that each one of the leadership styles discussed in the literature could be treated as independent variable in predicting both organisational effectiveness and leadership effectiveness. In fact many have developed conceptual models around this argument and have linked leadership styles as independent variables to leadership effectiveness or organisational effectiveness as dependent variable (Table 2.7). Despite these arguments it must be highlighted that the current depth of knowledge on the relationship between leadership styles and leadership effectiveness is still in its infancy, inconclusive and cannot be said to apply in a variety of contexts.

However there are others who have considered that a linkage between leadership styles and leadership effectiveness needs to be mediated by other variables for instance decision quality (Muhammad et al., 2009). A direct linkage between leadership style and leadership effectiveness does not necessarily link between goals and actions of the leaders if not mediated by other variables for instance (Bass, 1999). Bass (1999) argues that efforts are needed in understanding the effect of mediators between transformational leadership styles and work outcomes. Bass (1999) further suggests that mediating impact of such variables as trust and individual's self-concept on the relationship between leadership styles and work outcomes could be investigated. Although some have attempted to use mediating variables between leadership styles and leadership effectives, such attempts are far and fewer making it necessary for further focus on this issue.

However an important mediating variable that could be considered as playing a vital role in the relationship between leadership styles and leadership effectiveness is the decision quality. Leadership literature in the context of higher education is silent on the issue of the mediating effect of decision quality in the relationship between leadership style and leadership effectiveness. Although there is one paper, published by Muhammad et al. (2009), that has attempted to address this issue, the outcome of that research is not conclusive. The outcome of the research conducted by Muhammad et al. (2009) pointed to decision quality as the end result that is predicted by either transformational or transactional leadership styles or both and was measured in terms of decision styles. Furthermore the findings of the research conducted by Muhammad et al. (2009) assumed decision styles as equivalent to leadership

effectiveness, an argument that can be questioned. For instance decision style could be related to behaviour and not as a representative of effectiveness, an argument supported by others like Slabbert (2004). This argument leads to a possible assumption that decision style influence leadership effectiveness and could be treated as an antecedent to leadership effectiveness. However, decision quality as a mediating variable in the relationship between leadership style and leadership effective promises to be a fertile area for research an argument that finds support from Muhammad et al. (2009).

In addition to decision quality as a mediating variable it is also essential to consider any other mediating variable that could impact the relationship between leadership styles and leadership effectiveness. For instance follower commitment and follower satisfaction are two constructs that have been found as essential to any effective leader by others like Brooke et al. (1988), Mathieu and Zajac (1990), Mowday et al. (1982) and Ostroff (1992). But these factors have not been used alongside decision quality in assessing the impact of leadership styles on leadership effectiveness in the leadership literature. Thus there is a need to study the mediating effect of such essential constructs as follower commitment and satisfaction on the relationship between the leadership styles and leadership effectiveness.

2.13 Evaluating leadership styles

An important question that has been raised in the leadership literature is the method of evaluation of leadership styles. Some are not unanimous in their approach to measure leadership approach, for instance, Lorsch (2010) who suggested a conceptual model that was developed using contingency theory, using the literature review, a qualitative methodology. Similarly Humphris et al. (2004) have used the case study method in their evaluation of a leadership programme. However, the majority have used quantitative research methodology in evaluating the leadership style. In fact Avolio et al. (2003) argue that the survey method has been the primary method used for measuring leadership. A number of leadership measuring questionnaires have been developed and used in empirical research related to leadership studies including those related to HEI context. Examples of leadership measuring instruments used in the leadership research are provided in Table 2.7.

Acronym	Title
ACC	Adaptive Coping Cycle
ACCESS	Command and Control Evaluations Systems Decision Cycles
AZIMUTH	Leader Azimuth Check II
Benchmarks	Benchmarks
CLI	Campbell Leadership Index
CM	Conflict Management
Command Climate	U.S. Army Automated Command Climate Survey
CUS	Campbell Unit Survey
CVI	Competing Values Framework
ECATS	Climate Survey
Empower	Empowering Behaviour Questionnaire
JDI	Job Descriptive Index
JSS	Job Stress Survey
LBDQ	Leader Behaviour Description Questionnaire
LMX-7	Leader Member Exchange-7
MEI	Meeting Effectiveness Inventory
MPS	Managerial Practices Survey or Compass
Mission	Mission Accomplishment
MLQ	Multifactor Leadership Questionnaire
MLQT	Multifactor Leadership Questionnaire for Teams
OCB	Organisational Citizenship Behaviour
OC Ratings	Observer Controller Ratings
OCQ	Organisational Commitment Questionnaire
Readiness	Readiness Indices
Resource	Resource Consumption
S/H	Shamir-Hunt Charisma Instrument
SLDI	Strategic Leader Development Inventory
TARGET	Simulated Combat Measure
Team LMX-7	Team Leader Member Exchange-7 (adapting LMX-7)
TES	Team Effectiveness Survey
TKI	Tacit Knowledge Inventory
TLI	Team Leader Inventory
360˚	360 Degree Assessment

Table 2.7, Leadership measurement tools (Zaccaro et al. 1999)

After having discussed in detail about the different ways to evaluate the leadership styles, it is important to understand whether leadership styles are affected by antecedents. While leadership styles have been shown to predict leadership effectiveness in the discussions above, research on leadership styles shows that leadership styles are affected by antecedents. For instance Poster and Mayo (2006) showed that performance goal orientation is positively associated with both transformational and transactional leadership style. Further Poster and Mayo (2006) argue that management styles explained by Theory Y developed by McGregor in 1960 have a strong positive association with transformational leadership style. Researchers have identified other variables also that affect leadership styles for instance antecedent experience (Schell et al. 2008), personal traits, behavioural traits

(Bisbee, 2007; Darling & Ishler, 1992; Maak & Pless, 2006; Richmon & Allison, 2003) and organisational characteristics (Hooijberg & Choi, 2001) to quote a few. It is imperative to mention here that leadership style as a variable needs to be supported by other variables as mentioned above as it is believed that these variables act as antecedents to leadership styles and impact leadership effectiveness (Hooijberg & Choi, 2001). Thus it is necessary to consider the effect of antecedents on leadership styles and hence leadership effectives to get a holistic view of the relationship between leadership styles and effectives moderated by antecedents. Literature shows that there are studies that have addressed the impact of antecedents on leadership but much of the research outcomes have focused on industry and not HEIs (Harris, 2010). Hence there is a need to study some of the important antecedents and their linkage to leadership styles.

The discussions provided above have brought out significant gaps in leadership style literature with regard to the linkage between leadership styles and leadership effectiveness in the context of HEIs. In particular the discussions indicate the need to investigate the relationship between the two phenomena in the business schools. Thus it is necessary to look into the relationship between leadership styles and leadership effectiveness afresh in the context of HEIs, with a focus on business schools.

Other points that emerge from the discussions given above are:

- Need for investigating the influence of mediating variables in the relationship between leadership style and leadership effectiveness
- Investigation into the influence of moderating factors on leadership styles

That the relationship between leadership styles and leadership effectiveness requires the intervention of mediating variables such as decision quality, follower commitment and satisfaction, is an area that has not been discussed in detail in the leadership literature. If one has to go by the argument of experts in the field of leadership style theory like Bass (1999), then investigation into the effects of the intervention by mediating variables is an important aspect in the leadership literature. Thus an investigation into the influence of mediating variables between leadership styles and leadership effectiveness is an area that needs further research.

Similarly the influence of moderating factors on leadership style cannot be ignored in the linkage between leadership style and leadership effectiveness. In fact factors such as management style, organisational settings, performance orientation and antecedent experience have all been shown to have influence on leadership styles and ultimately on leadership effectiveness. Not much research has been conducted in linking the leadership styles and leadership practice to leadership effectiveness taking into account the influence of the moderating and mediating variables, especially in the context of HEIs. Considering the fact that leadership effectiveness will have significant variation if the moderating and mediating variables are not included in its relationship with leadership styles, it becomes necessary to examine the linkage between the leadership style in the business schools and their effectiveness keeping in view the mediating and moderating variables. As a next step the following sections critically review the moderating variables that affect leadership styles.

2.14 Moderating variables affecting leadership styles

Some of the moderating variables that have been found to affect leadership include organisational settings (Epstein, 2010) and competitive intensity (Muhammad et al., 2009). Furthermore, although management style has been synonymously used with leadership styles, this research critically reviews the line of thought of Kotter (1990) which indicates that successful leaders need to be good managers, thus assuming management style as a moderator of leadership styles. In addition in this review only three of the variables namely management style, organisation settings and organisational culture will be discussed as including other variables is beyond the scope of this research. The importance of both organisational setting and organisational culture in HEIs to this research has been already highlighted in Sections 2.1.3 and 2.1.7 respectively. Competitive intensity will not be discussed keeping in view the findings of Muhammad et al. (2009) which says that competitive intensity does not moderate the relationship between leadership styles and a dependent variable namely decision quality implying that competitive intensity may not support the leadership styles influence on other leadership constructs as a moderator. Thus the next section discusses management as a moderator of leadership styles.

2.15 Management styles and its linkage to leadership style

Further to discussing on the various challenges that confront leaders in HEIs, it is important to distinguish between the concepts of leadership and management as considerable overlap is seen with respect to both the concepts and the distinction between the concepts is murky in the leadership literature. This distinction needs to be understood as in this research leadership and management have been treated as distinct factors that influence leadership process. Thus the next section discusses leadership and management aspects and the differences that exist between them.

2.15.1 Distinction between management and leadership

Management is an important aspect that affects every facet of human life. It is a widely researched topic although in the context of higher education some feel that gaps exist in management literature and much work needs to be done, for instance the arguments of Comodromos (2010), which indicate the need for further study in the area of transformational change management in higher education institutions. Much has been written on the importance of introducing professional management in institutions as well as inculcating professional management skills in the academics, like the case of institutions in Australia where new public management were introduced in the late 1980s (Meek, 2002). The purpose of this effort was to bring in management and accountability requirements within the higher education institutions in Australia to ensure a high quality, efficient and effective higher education sector (Higher Education Management Review 1995).

While there has been growing demand to introduce management and accountability requirements within higher education institutions, there has been a serious resistance from many quarters to the introduction of management aspects into HEIs (Huberman, 1973; Schofield, 1991). Scholars (for instance, Schofield, 1991) involved in leadership and management research have highlighted the need to manage the resistance through effective change management. Those also highlight the importance of management in HEIs.

Kotter (1990) suggests that management and leadership are two processes that work together, implying that leaders with strong managerial capabilities are likely to lead

HEIs in the path to success. Although there are theories that embed management as part of leadership, for instance the transactional leadership theory that talks of management by exception (active and passive) (Hater & Bass, 1988; Hoover, 1987; Yammarino & Bass, 1990b) some argue that management and leadership are two distinct concepts, for instance Kotter (1990), Bolden (2007) and Day (2001). Of course there are contradictory opinions on this as some feel that management and leadership can be addressed as concepts that are interchangeable (Bolden, 2007).

However, considering the fact that majority strongly favour treating leadership and management concepts as distinctly different and in order to appreciate the distinction it is necessary to understand what makes the two concepts different. In this context, Table 2.8 gives Kotter's views on the distinction which points out to that both management and leadership are defined to some extent division of labour. Apart from this there are others (e.g. Drucker, 1998) who argue that leaders must be good managers, implying that management attributes are different from leadership attributes, although management appears to act as an antecedent to leadership.

Management vs. Leadership: John Kotter's View	
Management	Leadership
Planning and budgeting: establishing detailed steps and timetables for achieving needed results, then allocating the resources necessary to make it happen ***Organizing and staffing:*** establishing some structure for accomplishing plan requirements, staffing that structure with individuals, delegating responsibility and authority for carrying out the plan, providing policies and procedures to help guide people, and creating methods or systems to monitor implementation ***Controlling and problem solving:*** monitoring results, identifying deviations from plan, then planning and organising to solve these problems.	***Establishing direction:*** developing a vision of the future often the distant future and strategies for producing the changes needed to achieve that vision. ***Aligning people:*** communicating direction in words and deeds to all those, whose cooperation may be needed so as to influence the creation of teams and coalitions that understand the vision and strategies and that accept their validity. ***Motivating and inspiring:*** energizing people to overcome major political, bureaucratic, and resource barriers to change by satisfying basic, but often unfulfilled human needs.
Produces a degree of predictability and order and has the potential to consistently produce the short-term results expected by various stakeholders (e.g., for customers always being on time; for stockholders, being on budget)	Produces change, often to a dramatic degree, and has the potential to produce extremely useful change (e.g., new products that customers want, new approaches to Labor relations that help make a firm more competitive)

Table 2.8, Differences between leadership and management

However, while it is evident from Table 2.8 that the concept of management is distinct from leadership, Kotter (1990) argues that there is a definite link between management and leadership qualities. Kotter (1990) explains that although leadership is different from management, both are necessary for managing large and complex

organisations like the HEIs. Thus there is a necessity to look at the linkage between management and leadership aspects. Although several theories have been developed in the field of management, in order to understand how these theories could be used in linking them to leadership concepts, this research narrows down to a discussion on management styles that have been derived from various management theories. Thus the next discussion focuses on the various management styles that have been discussed and critically reviews them.

2.15.2 Management styles and their relationship to leadership styles

A number of management styles are found in managers in various organisations including those in the education sector. However there is a paucity of research that has produced outcomes that relate management styles including contexts involving HEI (Tomášková, 2009). There is a growing need for understanding how managers in academia function.

Although there is no uniform definition of management style, widely used vocabulary for management styles has distinguished management styles into two broad types namely authoritarian (traditional) and participative (democratic) (Morris & Pavett,1992; Likert 1967; McGregor, 1960; Beehr & Gupta, 1987). There are other management styles that have been identified, which include six management styles derived from Likert's four management theory namely decision-making, control, leadership, communication, goal and motivation (Wilson, 2010). In addition to these Ohio State University and University of Michigan management models identify considerate and initiating structure as styles that have been related to management styles of leaders (Kerr et al. 1974). Also certain styles have been used to represent both leadership and management styles indicating that some styles are common to both leaders as well as managers. For instance management by exception is a style identified as part of transactional leadership (Pounder, 2006). Thus there are those who have considered management styles as distinct while others have used them synonymously with leadership styles. In this cloudy situation there is a need to identify how management styles are related to leadership styles.

Furthermore, although some have used management styles synonymously to represent leadership style, it is clear from the arguments of many cited above that management styles need to be considered separately which is in line with the arguments of Kotter (1990). If this indeed is the case it is logical and important to investigate further the linkage between management style and leadership style, especially if one considers the implications of the arguments of Kotter (1990) who says that successful leaders need to possess managerial skills also. Especially in the context of the deans of the business schools, management and leadership concepts have not been investigated in-depth pointing towards the need to examine the relationship between management style and leadership further.

2.16 Organisational settings as moderators of leadership styles

There is a relationship between organisational settings and leadership behaviour. For instance Mesmer-Magnus and Viswesvaran (2006) argue that work-life supportive leadership behaviour is influenced by organisational work-life policies, which can be considered to be an organisational setting. Similarly Shanock and Eisenberger (2006) argue that managers' perceptions about organisational support influence their expression of support to the employees who are their subordinates. Some (e.g. Epstein, 2010) argue that there are five organisational setting antecedents that could be related to leaders from the point of view of situational theories which are the organisations' work-life culture (Kossek & Ozeki, 1999), leader-subordinate exchange quality (Yukl, 2006), organisational centralization of authority (Schminke et al. 2000), organisational formality (Oldham & Hackman, 1981), and employees' work-to-life conflict (Frone, 2003). Again Epstein (2010) highlights that from the point of view of traits theory, empathetic personality and personal work-life philosophy are considered as two aspects of the organisational settings that influence leadership behaviour.

However considering scope of this research which is the investigation of organisational setting as a moderator of leadership styles, the critical review of organisational settings is restricted to organisational centralization of authority and organisational formality because of the argument that these two constructs can impact organisational performance (Chen and Huang, 2007) and influence decision making

process (Child, 1973; Donaldson, 2001). In addition considering the fact that this research is focusing on the relationship between leadership and leadership effectiveness taking into account the mediating influence of decision quality of leaders, organisational centralization of authority and organisational formality are considered for review in this research. It is also important to note here that hardly any research has been conducted to investigate the impact of organisational centralization of authority and organisational formality on leadership styles as moderators in the context of business school leadership in HEIs.

2.17 Organisational culture as a moderator of leadership styles

From Section 2.1.7 it can be seen that organisational effectiveness including leadership effectiveness is influenced by organisational culture. While considering the leadership aspects and leadership process, it is necessary to include organisational culture as an important moderator of the leadership process which is in line with the arguments of Nazem and Mozaiini (2014).

After critically reviewing the moderating variables that impact leadership styles, the next step is to review the other variables that influence the relationship between leadership styles and leadership effectiveness. A discussion on those mediating variables follows.

2.18 Other variables that influence the leadership style-effectiveness relationship

Leadership is a process (Yukl, 1999 and Chemers, 2001). Any process could be considered to comprise an input-output configuration. Thus in the leadership process if leadership effectiveness is considered as the output, then from the leadership literature it is possible to spot a number of determinants of leadership effectiveness, that can be considered to be part of the leadership process. Some of the constructs that could be considered as determinants of leadership effectiveness in the leadership process include orgnisational performance (Bass, 1981; Hunt, 1991; Yukl, 2002), organisational success (Muhammad et al. 2009), decision quality (Muhammad et al. 2009) and commitment of followers, satisfaction of followers and performance of followers (Hunt & Schuler, 1976; Podsakoff et al., 1984; Bycio et al., 1995). However

according to Muhammad et al. (2009) examination of decision quality as part of the leadership process has received little attention in leadership literature, implying that further study of decision quality as a variable is needed to understand its influence on the leadership process. As an extension it will be reasonable to argue that further study to gain knowledge on the mediating effect of decision quality as a construct in the relationship between leadership style and effectiveness as part of the leadership process is another an important area for further research.

In addition to investigation on decision quality, in the leadership process the influence of two other important constructs namely follower satisfaction and commitment on the relationship between leadership styles and leadership effectiveness alongside decision quality is worth further examination. The reason for this argument emanates from the emphasis laid in the literature on the importance of including follower satisfaction and commitment as constructs in any research that involves leadership process as these are the most commonly attributed factors in the process (Brooke et al., 1988; Mathieu & Zajac, 1990; Mowday et al., 1982; Ostroff, 1992). Furthermore, hardly any investigation has been conducted that has focused on decision quality, follower satisfaction and commitment together in leadership research. Considering the importance given to decision quality, follower satisfaction and commitment in the leadership process, this research investigates the role of these constructs in the leadership process.

The discussions that preceded have pointed out that there are critical factors other than leadership style, management style and organisational setting that influence the relationship between leadership styles and leadership effectiveness. The above discussions indicate that in the leadership process the factors that have been identified above have been found to have an influence on leadership effectiveness. Leadership effectiveness has been identified as the predicted construct by some involved in leadership research (e.g. Spreitzer et al., 2005) in leadership literature. Considering the relationship leadership effectiveness as construct has with various other constructs, a critical review of leadership effectiveness in the context of the current research was found necessary to this research to gain knowledge on leadership effectiveness as a concept.

This chapter until this point has critically reviewed the literature on various aspects related to challenges faced by higher educational institutions, leadership as a major challenge, leadership problems faced by business school deans and the need to address this challenge. In this respect various leadership theories have been reviewed. Literature related to leadership styles that could affect deans of business schools has been comprehensively reviewed. Leadership practice as a manifesting variable of leadership style has been reviewed. Management style, organisational setting and organisational culture as moderating variable have been addressed. Leadership effectiveness as the predicted variable of leadership style and leadership practice has been discussed. Mediating factors decision quality, follower commitment and satisfaction have been discussed. Literature pertaining to the relationship between leadership styles and leadership practice has been reviewed. Other linkages between leadership practice as an independent variable and leadership effectiveness as dependent variable involving moderating variables and mediating variables have been discussed in detail. In addition to the above, the review has enabled the identification of the research gaps that need to be addressed. The discussions thus set the basis for defining the theoretical framework for this research.

2.19 Theoretical framework

Leadership and management in higher education have become two of the most debated topics of late. Business schools in particular have been in focus in the recent past. Though there have been a number of studies such as Ivory et al.'s (2007) and de Boer and Goedegebuure's (2009) studies with a spotlight on the HEIs, the literature indicates that leadership and management in HEIs are considered as major challenges that need to be closely examined. For instance Bryman and Lilley (2009) bring into focus the effectiveness of leadership of deans as an important aspect that needs to be investigated in the context of the governance or management by deans. Thus leadership, management and leadership effectiveness in HEIs, more particularly in the context of business schools, become important factors that need to be examined in detail. A review of the leadership literature (presented in Sections 2.1 to 2.18) on the three issues leadership, management and leadership effectiveness in HEIs led to the following theoretical framework for this research.

2.19.1 Leadership styles and leadership effectiveness linkage

While a number have deliberated upon establishing a link between leadership styles and leadership effectiveness (Bedeian & Hunt, 2005; Chemers, 2001; Tichny & Devanna, 1990) some others have urged further research into this linkage especially in the context of business schools in HEIs due to lack of dependable research outcomes that could be implemented in HEIs (Ivory et al. 2007). Considering the many environmental complexities that surround business schools, for instance, increasing competition and financial performance (Ivory et al. 2007), further examination of the linkage between leadership styles and leadership effectiveness in the context of business schools becomes necessary. As an extension to this argument, there is a need to determine the overall leadership effectiveness in business schools as the factor (dependent variable) as part of the leadership style-leadership effectiveness linkage, which is in line with the arguments of Hooijberg and Choi (2001). Leadership style could be considered as an independent variable with regard to leadership effectiveness although such a consideration may need mediating variables as suggested by Pfeffer (1977). Leadership effectiveness, as a construct, was expected to reflect the influence of leadership style. Based on the literature review the main factors of leadership practice, decision quality, follower commitment and follower satisfaction as variables were identified that could interact with the leadership style-leadership effectiveness linkage (see Sections 2.5 and 2.18). In addition leadership practice was found to be moderated by certain factors, including management style, organisational structure and organisational culture (see Sections 2.15, 2.16 and 2.17). These factors were also chosen for studying their influence on leadership practice. The following discussions analyse how the abovementioned variables could be linked to each other in leading to the development of the empirical model describing leadership effectiveness in terms of leadership styles using moderating and mediating variables.

2.19.2 Leadership practice and leadership styles

It is argued that leadership practices are effective tools that could be successfully used by leaders in HEIs, for instance, deans (Herbst & Conradie, 2011). However, there is a need to examine leadership practices in terms of leadership behaviour and,

situational and environmental factors and that leadership practices need to be categorized (Muhammad et al. 2009). Furthermore, leadership practice can be considered to be manifestation of leadership styles, for instance, Bass (1985) terms transactional and transformational leadership styles as leadership practices. Thus leadership practices can be assumed to be determined by leadership styles as the abovementioned arguments imply that leadership practices may need to be considered as leadership styles. In fact some (e.g. Brahmakasikara, 2008) have investigated leadership practice-leadership leadership effectiveness relationship considering leadership practice in terms of a set of styles. In addition leadership as a concept when viewed as a process (Yukl, 1999 and Chemers, 2001), could be synthesized into two factors namely leadership styles and leadership practice that is influenced by leadership styles. Considering the fact that leadership as a phenomenon could be viewed as process, it was posited that a set leadership styles could be chosen and linked to a consolidated behaviour of deans represented by a new construct called leadership practice as part of the leadership style-leadership practice process. This led to the identification of leadership practice as an important variable in understanding the leadership behaviour of deans of business schools.

2.19.3 Choice leadership styles and their linkage to leadership practice

Research in leadership styles has brought out a number of styles represented as constructs. For instance situational (Hersey & Blanchard, 1982), transformational (Bass & Avolio, 2000), transactional (Bass & Avolio, 2000), laissez-faire (Bernhard & Walsh, 1995; Marrelli, 1997), autocratic and democratic (Muhammad et al. 2009) are some of the styles that have been advanced in recent years to develop leadership style constructs. These styles as constructs have further been linked to many factors which include leadership practice (Judeh, 2010). These leadership styles have been used as important predictors of leadership practice (for instance, Muhammad et al. 2009) which include some studies within the context of HEIs (Ivory et al. 2007). Thus keeping in view the acknowledgement towards the usage of the leadership styles as part of the leadership research in predicting leadership practice, this research identified that the relationship between leadership styles and leadership practice needs to be investigated to know what type of leadership practice is being practised in the business schools (Ivory et al. 2006).

Further, this research is partially built on the model developed by Muhammad et al. (2009) who found through their empirical study that transformational, transactional, laissez faire, autocratic and democratic leadership styles impact leadership effectiveness in terms of decision quality. The partial use of the conceptual model developed by Muhammad et al. (2009) led to the linking of the five leadership styles to leadership practice of deans of business schools. Thus in this research the five leadership styles used by Muhammad et al. (2009) were included for investigation particularly because of the fact that their research has been carried out in the context of a HEI. Thus the hypotheses formulated were:

H1a:

There is a positive influence of transactional leadership style on the leadership practice of a dean as a business school leader.

H1b:

There is a positive influence of transformational leadership style on the leadership practice of the dean as a business school leader.

H1c:

There is a positive influence of laissez-faire leadership style on the leadership practice of the dean as a business school leader.

H1d:

There is a positive influence of democratic leadership style on the leadership practice of the dean as a business school leader.

H1e:

There is a positive influence of autocratic leadership style on the leadership practice of the dean as a business school leader.

2.19.4 Management styles and leadership practice linkage

Whilst leadership styles have been assumed to be linked to leadership practice, an important factor that could be combined with leadership practice in determining leadership effectiveness is the management aspect in organisations.

While there are two schools of thought that have been found in the leadership literature that address leadership and management aspects within HEIs, there is no generalization or consensus within the research community on which of the two schools is most appropriate. For instance one school of thought insists that management should be an essential characteristic of an effective leadership (Wilson et al. 2006) while the other considers management and leadership are two separate concepts (Kotter, 1990). Studies have shown that there are conflicting views held on whether leaders need to be good managers (Quinn 2002) or leadership and management are two different aspects in two different persons (Martin 2005; Blanchard 2007). However those who have analysed leaders and their behaviour have found significant overlap between leadership practices and management styles, for instance Galagan and Rhinesmith (1998) cite Drucker as arguing that leaders must be good managers. Thus while linking leadership styles and leadership practice as mentioned in the previous section, management style of deans was also related to leadership practice. Management style was assumed to act as a moderator of leadership practices as suggested by Drucker (Galagan & Rhinesmith, 1998), which in turn was assumed to affect the leadership effectiveness.

In this context the researcher made two assumptions falling back on two basic concepts, one relating management style to leadership practice and the other relating management theory to organisational performance. The first assumption was that management style could be considered to influence leadership practice and organisational settings which is in line with the suggestions provided by National Initiative for Leadership and Institutional Effectiveness (NILIE). This assumption was based on the Personal Assessment of College Environment (PACE) concept developed by Baker (1992) that was further developed by NILIE, North Carolina University, which was premised on Likert's (1967) scientific management model. The

NILIE extended the original management style concepts developed by Likert's (1967) to leadership style aspects.

The second assumption was that some have highlighted the possible linkage between theories on management style and leadership performance of deans as leaders in business schools, for instance, the study by Ohio State University and University of Michigan who developed models namely considerate or employee centred management style and the initiating structure or production centred management style. These studies showed that managerial styles could influence leadership styles and performance. The models developed by Ohio State University and University of Michigan have been successfully used to determine leadership behaviour and management style and have been the basis for many other theories (Littrell, 2010). Based on these arguments, it was assumed that leadership practices are linked to management style. However keeping in view the fact that the focus of this research is not to determine what type of management style that exerts influence on leadership style, rather what is the influence of management style on leadership practice, the two types of management styles namely initiating structure and consideration, discussed above have been integrated into one single management style. Such integration is expected to provide a broader view of the influence of management style on leadership practice. These arguments are consistent with the arguments of Kotter (1990). In this study, management style was only considered as a moderating variable influencing leadership style and not as a predictor of leadership effectiveness. The reason behind this argument was the concept put forward by Kotter (1990) who argues that leadership is supported by management skills, implying an association between management skills and leadership process. Thus the focus was to know the interaction between management style of the dean of business school as a leader and leadership practice-leadership effectiveness and not the causality. Thus the hypothesis that followed was:

H2:

Management style positively influences leadership practice of a dean as a business school leader.

2.19.5 Influence of internal institutional contextual factors on leadership styles

An important aspect of leadership that influences leadership practice is the institutional contextual factors like organisational settings (Magnus & Viswesvaran, 2006). Furthermore, Ford (1981) argues that organisation structure is a predictor of leadership behaviour or practice and acts as a variable representing organisational setting. This variable when considered as an antecedent to leadership practice could have possible influence on leadership which in turn could affect leadership effectiveness in the context of business schools and is expected to provide new insights on leadership behaviour within business schools. Such an argument emanates from the many similar arguments posited in the area of leadership behaviour which indicate that organisational structure which is part of organisational settings (Mullins, 2007), impacts leadership styles (Day & Lord, 1988; Hunt, 1991; Jacobs & Jaques, 1987; Katz & Kahn, 1978; Zaccaro et al., 1996). While many different factors have been identified as representing organisational setting, for instance, elements of interaction process and the environment in which the interaction takes place (Håkansson 1982) within an organisation, such organisational settings invariably appear to affect organisational structure (Mullins, 2007). Amongst the various contextual factors that affect the linkage between leadership practice and leadership effectiveness is the factor organisational structure (Northouse, 2004). Thus organisational structure is chosen as the internal organisational contextual factor that could be related to leadership style as a moderating variable. This research limits the effect of organisational structure on leadership practice as a moderator in order to understand how it interacts with the leadership practice-leadership effectiveness relationship. As explained in Section 2.16, this research relies on two important organisational structural factors namely organisational centralization of authority and organisational formality developed by Schminke et al. (2000) and Oldham and Hackman (1981) respectively as influencing leadership practice which is supported by extant theory (see Section 2.16). The hypothesis formulated thus is:

H3:

Business school organisational structure influences the leadership practice of a dean as a business school leader.

2.19.6 Influence of organisational culture on leadership styles

From Section 2.17 it can be seen that organisational culture is an important factor that influences leadership behaviour including leadership practice. While leadership process is shown to be affected by organisational culture as a vital factor, it is important to include such a factor in the research model to understand how culture of an organisation affects leadership practice. As far as measuring organisational culture, the arguments of Erez and Earley, (1993) are relied on, who argued that culture could be addressed through a proxy namely country or group level population. Similar arguments are espoused by Sanderson (2007) who said that place residence could be used as a factor that represents culture. In this research place of residence of teaching staff and administrative staff reporting to the head of business school or deans of business schools was considered to be a proxy for organisational culture. Considering the fact that the focus of this research is to determine the relationship between leadership practice and leadership effectiveness and some factors that affect this relationship including decision quality, organisational culture was only considered as a control variable. Such a conception was formulated to study whether organisational culture influences leadership practice or associated with any other moderating variable and not as a determinant. Thus the hypothesis that is formulated is:

H4:

Organisational culture influences the leadership practice of a dean as a business school leader.

2.19.7 Mediating constructs that link leadership practice to leadership effectiveness

While examining the influence of leadership practice on leadership effectiveness it is argued here that there is a need to include mediating variables, an argument that is supported by others (e.g. Spreitzer et al., 2005). The model developed by Muhammad et al. (2009) is relied upon in order to develop the relationship between leadership practice and leadership effectiveness. Muhammad et al. (2009) linked leadership style (a determinant of leadership practice) to decision quality moderated by competitive intensity. Although Muhammad et al. (2009) linked leadership styles to decision quality directly, it is argued here that such linkage needs to consider the relationship between leadership style and leadership practice (see Section 2.19.3). The argument

of Bass (1985) is relied upon, who explained that leadership practice is a manifestation of leadership practice. Thus in this section leadership practice was introduced between leadership style and decision quality, an important modification added to the model developed by Muhammad et al. (2009). Additionally decision quality was considered by Muhammad et al. (2009) as a proxy to leadership effectiveness. Muhammad et al. (2009) claimed that it is a new direction of research although the results achieved by them were not convincing as adequate evidence to prove the establishment of the relationship between leadership style and decision quality.

However the limited success achieved by Muhammad et al. (2009) provides a basis to examine two important aspects. Firstly within the model developed by Muhammad et al. (2009) decision quality could be further studied as part of a leadership process in the context of business schools and not as leadership effectiveness. That leadership could be considered as a process with an input, process and output configuration is supported by some, for instance Yukl (1999) and Chemers (2001). This leads to a possible linkage of decision quality to the process and could be posited as varying as a function of contrasting leadership styles, the input to the process. The output in the process is considered as leadership effectiveness. Secondly other variables could be added to the process that have significance in determining the leadership effectiveness alongside decision quality. This addition could enhance the predictability of leadership effectiveness in terms of leadership process input, which is leadership style. The additional variables could be those which are considered commonly in the leadership discourse. For instance, in the context of the HEIs, the literature review shows that many variables, like organisational performance (Bass, 1981; Hunt, 1991; Yukl, 2002), follower's commitment, satisfaction, and performance (Hunt & Schuler, 1976; Podsakoff et al. 1984; Bycio et al. 1995) and organisational success (Muhammad et al. 2009) have been found to be influencing the leadership practice-leadership effectiveness process. Which one of the above mentioned variables should be included needs to be justified.

In the context of the research described in this dissertation it was decided that only a limited number of process variables need to be considered. Instead of increasing the

number to a long list of variables whose interaction with the leadership practice-leadership effectiveness process could be complex and cause confusion, this research has identified three variables as part of the leadership practice-leadership effectiveness process. The three determinants were: decision quality identified by Muhammad et al. (2009), follower commitment and follower satisfaction. Follower commitment and follower satisfaction are considered to be desirable variables to be included in most leadership outcomes (Hunt & Schuler, 1976; Podsakoff et al. 1984; Bycio et al. 1995).

2.19.8 Relationship between leadership practice and decision quality, follower commitment and follower satisfaction

As has been mentioned above, the choice of commitment and satisfaction as two important follower variables is supported by various research outcomes that found commitment and satisfaction as two desirable work outcomes that are correlated to transformational and transactional leadership, for instance, in the research conducted by Barling et al. (1996). Thus there is support to relate follower commitment and satisfaction to leadership style. In addition there are other studies that have supported the use of commitment and satisfaction as desirable work outcomes of processes (Brooke et al., 1988; Mathieu & Zajac, 1990; Mowday et al., 1979; Ostroff, 1992), which could include the leadership process also. This argument provides further strength to the arguments given above that follower commitment and satisfaction could represent the process variables linked to the input which in this case is the leadership style. However there is a paucity of literature that has examined in-depth the relationship between leadership style on the one hand and follower commitment and satisfaction on the other. The study conducted by Washington, (2007) appears to be the only attempt to compare and contrast different leadership (servant leadership) styles by linking these styles to employee (servant) commitment and satisfaction.

However, linking decision quality to leadership style or practice has not been found to be common in leadership literature. The model developed by Muhammad et al. (2009) provides the support for this linkage. Further, decision quality is a factor that has been found to be related to leadership behaviour and HEIs directly (Badaracco &

Ellsworth, 1990; Philips & Esposito, 2009). Thus the linkage between leadership behaviour (practice) and decision quality could be justified.

Finally while the arguments given above show that there are studies that have linked leadership styles to follower commitment (Brown, 2003) and satisfaction (e.g. Hatfield et al. 1985), hardly there are studies that have attempted to use contrasting leadership styles as related to decision quality (Muhammad et al. 2009), follower commitment and satisfaction (Washington, 2007) in one model. These arguments indicate that organisational commitment and employee satisfaction theory alongside leadership theory provide a strong basis to establish a relationship between leadership practice, follower commitment and follower satisfaction.

2.19.9 Relationship between decision quality, follower commitment and follower satisfaction and leadership effectiveness

Justification for linking the process variables to leadership effectiveness could be provided through the concept of PACE which lends implicit support to create a linkage between follower commitment and satisfaction, and leadership effectiveness. While theoretical support for linking follower commitment and satisfaction to leadership effectiveness is provided by PACE, decision quality was added to follower commitment and satisfaction to this relationship. The argument is that decision quality has been identified above as a process variable and could be combined with other process variables for instance follower commitment and satisfaction in this research. Thus the three variables namely follower commitment, follower satisfaction and decision quality form the antecedents to leadership effectiveness.

2.19.10 Leadership practice, decision quality, follower commitment, follower satisfaction and leadership effectiveness relationship

The preceding arguments indicate that leadership practice acts as an antecedent to decision quality, follower commitment and follower satisfaction. The arguments also posit that decision quality, follower commitment and follower satisfaction act as antecedents to leadership effectiveness. Combining these arguments, a linkage is developed, as given in Figure 2.1.

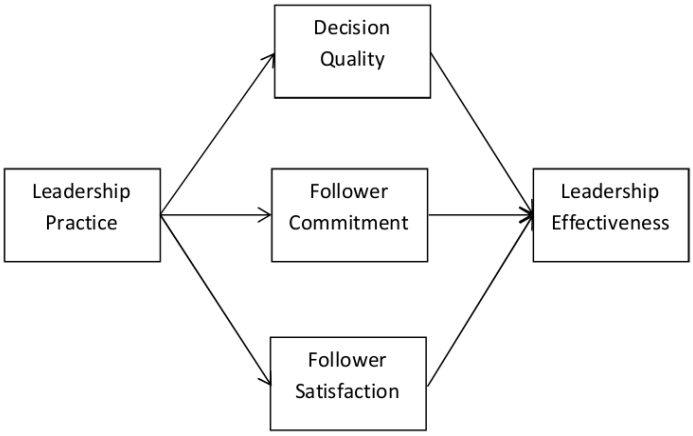


Figure 2.1, Leadership practice, decision quality, follower commitment, follower satisfaction and leadership effectiveness relationship

The above linkage could be described as linkage between the contrasting leadership practice (as a derivative of leadership styles) and leadership effectiveness mediated by decision quality, follower commitment and satisfaction in the context of business schools. This is understood to be the first attempt to link contrasting leadership practices to leadership effectiveness through mediating variables decision quality, follower commitment and satisfaction. Thus six further hypotheses formulated for this research were:

H5a:

The leadership practice of a dean as a business school leader is positively related to decision quality.

H5b:

The leadership practice of a dean as a business school leader is positively related to followers' commitment.

H5c:

There is a positive relationship between the leadership practice of a dean as a business school leader and followers' satisfaction.

H6a:

Quality of decisions made by a dean as a business school leader is positively related to leadership effectiveness.

H6b:

Commitment of followers of the dean as a business school leader is positively related to leadership effectiveness.

H6c:

Followers' satisfaction with the dean as a business school leader is positively related to leadership effectiveness.

The discussions provided above were translated into a research model, the details of which follow.

2.19.11 Research relationship model

The proposed model is given Figure 2.2.

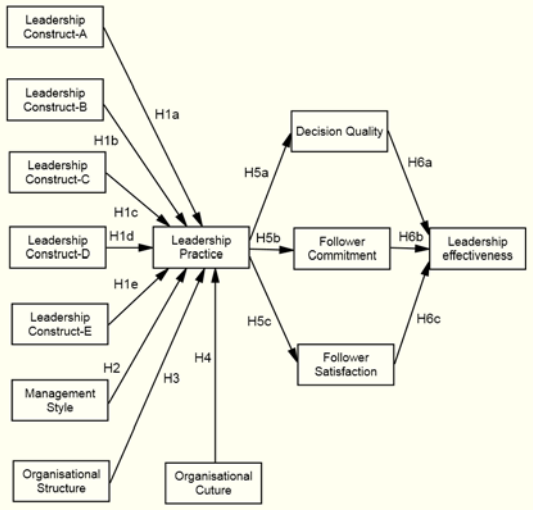


Figure 2.2, Initial research relationship model

The model in Figure 2.2 is seen to be complex, with seven independent variables influencing leadership practice. Where there are more than five variables it is possible to analyse the model in two rounds by splitting the model into two parts (Holmes-Smith et al., 2006). Thus the model in Figure 2.2 was split into two parts. The first part analysed the influence of the five leadership constructs A to E on leadership

practice (Figure 2.3). This was followed by analyzing the remaining part of the model given in Figure 2.4.

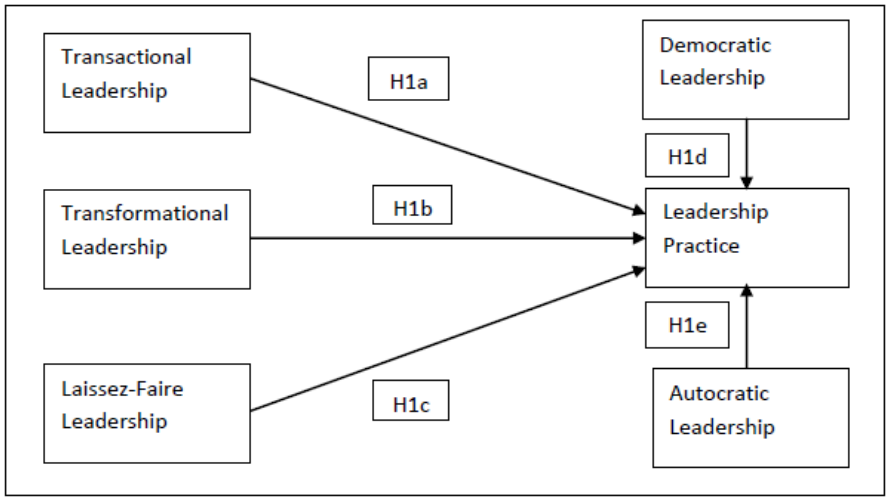


Figure 2.3, Relationship between five different leadership styles and the leadership practice of the dean of the business school

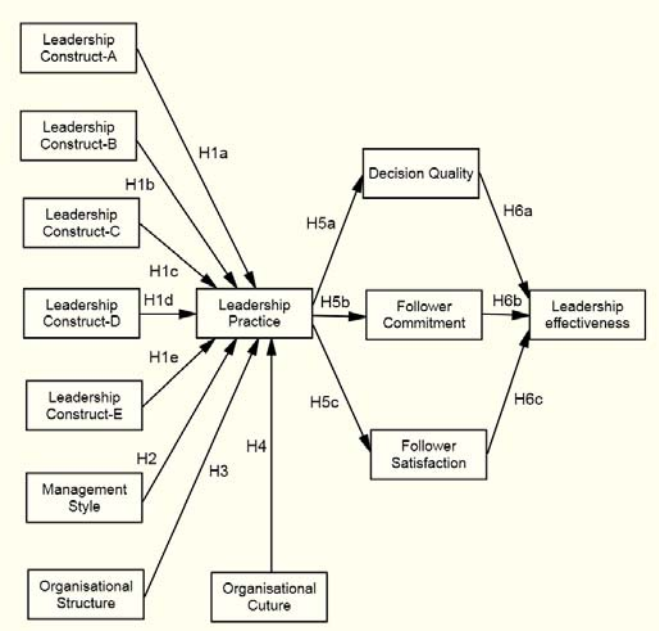


Figure 2.4, Research relationship Model (Here H1, H2, H3, H4, H5 and H6 denote hypotheses)

2.20 Summary

This chapter critically reviewed the important factors namely leadership style, leadership practice, leadership decision quality, follower-commitment, follower-satisfaction, leadership effectiveness, management style of leaders, organisational settings and organisational culture all which were found to be important aspects that

need to be addressed when the deans of business schools are investigated as leaders. Leadership styles were construed as the independent variable determining the leadership practice.

The relationship between leadership practice as independent variable and leadership effectiveness as dependent variable was reviewed and the importance of mediating variables that affected this relationship namely decision quality, follower commitment and follower satisfaction was review critically. In addition, moderating variable namely management style, organisational setting and organisational culture affecting the relationship between leadership practice as an independent variable and leadership effectiveness as dependent variable were considered and reviewed. These discussions in the context of the deans of business schools in the HEIs paved the way to develop the theoretical framework.

In the theoretical framework it was argued that in the context of HEIs, leadership styles through leadership practice impact leadership effectiveness although through mediating variables. Further, it was necessary to consider leadership as a process, the variables in which comprises the quality of decision, follower commitment and satisfaction. Although decision quality, follower commitment and satisfaction could be considered themselves as indicators of leadership effectiveness, the overall measure of leadership effectiveness need to be understood to know the combined influence of the three mediating variables on leadership effectiveness as a dependent variable. Further, contrasting leadership styles and hence leadership practice when linked to leadership effectiveness could lead to an understanding of which of the leadership styles is common within the business schools. Business schools have a definite organisational setting that could moderate leadership practice in the leadership practice - leadership effectiveness linkage. Considering the important role played by organisational setting in leadership, organisational structure is brought as a representative of organisational setting and a moderator of leadership practice.

Chapter 3

Research Methodology

3 Introduction

Researchers adopt one of the several types of methodologies identified in literature which include exploratory, descriptive, analytical, predictive, quantitative, qualitative, deductive, inductive, applied and basic research (Hussey & Hussey 1997). However adopting a particular type of research methodology depends on important assumptions a researcher makes about the way in which the researcher views the world as part of the research philosophy (Saunders et al. 2009). This chapter discusses the philosophical stance chosen which led to the choice of the ontological perspective, research approach and research method adopted.

3.1 Need to understand research philosophy

There are many reasons for the need to understand philosophical issues. For instance, Crossan (2003) argues that it is the nature of philosophical questions that demonstrate the importance for a need to understand research philosophies. In the same vein, Smith (1998) argues that the 'way of questioning' that is uncomplicated and innocent, that generates confusion and instability in the assumptions and ideas people have about the world, are the reasons that make it a need to understand philosophy. Proctor (1998) informs us that exploring basic personal beliefs can lead to comprehending larger philosophical issues for instance the interplay between ontological (exploring about nature of reality), epistemological (exploring about knowledge) and methodological (the way to discover what can be known) aspects.

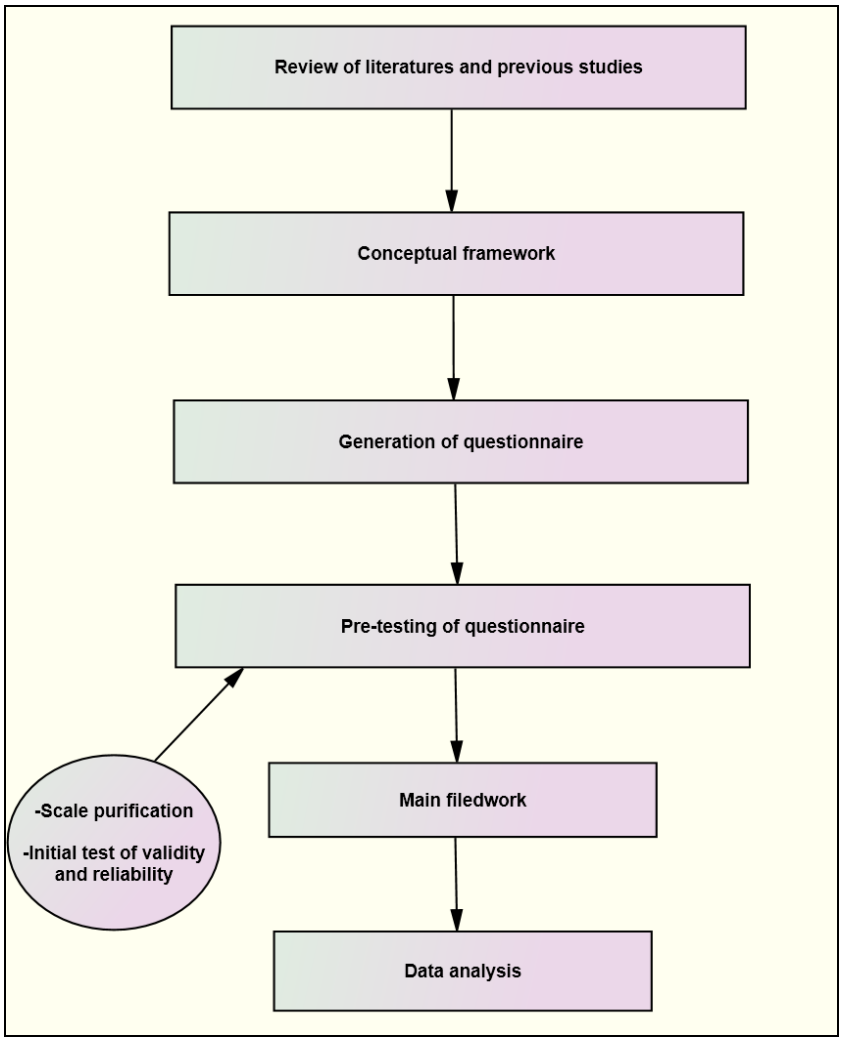


Figure 3.1, Research process

Easterby-Smith et al. (2002) clarify that exploration of philosophical issues can be significant in terms of specifying the research methodology that needs to be adopted for a particular research. Cohen et al. (2007) quote Morgan in recommending the need to develop the research methodology based on an examination of four sets of assumptions that underpin the conceptions of the social world. These assumptions are the epistemological kind, ontological kind, those that determine the nature of human (relationship between the human beings and their environment) and lastly methodological (Cohen et al. 2007). Thus the following sections discuss about the research philosophies in terms of the epistemological issues, ontological aspects, questions related to research approach and concerns related to research methods.

3.2 Epistemology and ontology

What is acceptable knowledge in a discipline that is under investigation is addressed by epistemology (Saunders et al. 2009) and explores the nature of knowledge (Allison & Pomeroy, 2000). In contrast ontology addresses the nature of reality (Allison & Pomeroy, 2000). Epistemology basically is concerned with questioning the sources of knowledge, the beliefs upon which knowledge is based and queries what is known and can be known (Allison, 2000). Ontology on the other hand deals with the filters using which human beings see and experience the world. Although some (see Allison, 2000) question the distinction between epistemology and ontology and argue that it is difficult to differentiate between the two, others (for instance Saunders et al. 2009) have not only attempted to differentiate the two but have categorized epistemology and ontology in detail. Epistemology for example has been categorized based on the philosophical views as positivist, interpretivist and realist. Similarly, ontological beliefs have been categorized as objectivist and subjectivist ontology. Knowledge about these classifications is expected to help the researcher to understand the philosophical position to assume. Notably in leadership research some (e.g. Alvesson, 1996) have emphasized on the need to consider both epistemological and ontological issues while investigating leadership process. Considering the fact that the widely discussed and adopted epistemological stance by some in general is restricted to either positivism or interpretivism, these two philosophies are discussed next. This is followed by a discussion on objective and subjective ontological aspects which are the two most widely adopted ontological positions in leadership research.

3.2.1 Positivism

Positivism is developed around the laws of cause and effect that govern the world and deductive reasoning could be used to propose theories as well as examine them (e.g. Freimuth, 2009). Again, Weber (2004) claims that positivism supports the concept of separation between the researcher and reality. Further positivism believes in the existence of an objective reality beyond the boundaries of the human mind. Smith (1998) exalts that positivism believes that phenomena can be studied as hard facts and the relationship amongst those facts could be determined by scientific laws. In addition positivists assume that such laws could be identified as truth and any social phenomenon could be studied in the same way as natural objects. However critiques

of positivism argue that the positivist assumption of the idea that a single scientific method exists can be challenged (Bryman, 2004) for some (see Marshall, 2006) question the imposition of methods pertaining to natural sciences on social sciences. In addition some argue that the statistical techniques used as part of the quantitative research that is underpinned by positivism do not take into account spatial data. Moreover, critiques of positivism argue that positivism assumes a closed system and does not consider open systems (Cloke et al., 1991). Another criticism leveled against positivism is that it considers humans as objects ignoring the fact that humans have feelings perceptions and attitudes and yields limited data that provide only the superficial view (Bond, 1993; Moccia, 1988; Payle, 1995).

Other important features of positivist epistemology include that it is identified with objectivist ontology, deductive research approach and quantitative research method (Wood & Welch, 2010). As far as mainstream leadership research is concerned positivism appears to be the dominant research philosophy adopted (e.g. Holt et al., 2012). Even though positivism could be the widely adopted epistemological stance in leadership research, it is not uncommon that some (e.g. Alvesson, 1996) have adopted interpretive epistemological stance in studying the leadership process because such researchers have considered that the leadership topic is, by nature, interpretive and what those researchers claim as data is ambiguous. However, those (e.g. Holt et al., 2012) who advocate the use of positivist epistemology in leadership research argue that leaders and leadership is essentially positivist in nature as they are focused on quality and attributes of leaders as well as leadership are addressed in literature in general, universal terms. In the face of contradictory adoption of epistemological stance it is necessary for researchers to be careful in choosing the positivist epistemological stance.

3.2.2 Interpretivism

Interpretivism is considered as anti-positivist (e.g. Crotty, 1998). Crotty (1998) argues that interpretivism addresses interpretations of the social life-world derived culturally and situated historically. Crotty (1998) claims that interpretive philosophy assumes that there is no direct and one-to-one relationship between the subjects and objects with subjects implying ourselves and objects implying the world. It is argued that

interpretivism asserts that reality that is natural and reality that is social are different and hence may need different kinds of methods to study. However literature shows that in leadership research when compared to positivist epistemology, adoption of interpretive epistemology is less prominent (Holt et al. 2012). Despite this situation, some (e.g. Alvesson, 1996) have strongly argued that the nature of leadership as a phenomenon is basically interpretive. An important feature of interpretive epistemology is its association with qualitative, phenomenological, social constructionist and subjectivist vocabulary (Wood & Welch, 2010).

Although interpretivism as a philosophy enables the researcher to study actively into the context, it has its limitations. For instance findings derived from studies adopting interpretive epistemology are limited by the sample-size which is feasible when context is analysed in-depth. Generalizability problems persist when the researcher adopts interpretive philosophy due to the inclusion of context (Gasson, 2003). In comparison to positivism wherein data collection is reduced to assumptions of commonality in the context, interpretivism involves collection of data that is difficult as the data has to recognize and analyse contextual phenomena. Standards of quality normally used to assess the research including validity and reliability are inconsistent with the logic of interpretivism. Despite these limitations, interpretivism is seen to be gaining ground in leadership research, especially where some (e.g. Alvesson, 1996) are involved in understanding a person, a behaviour or a relation, interpretivist epistemological stance is considered useful. Again, it is argued that with regard to totalizing concepts including leader and leadership (e.g. gender, strategy and culture) interpretivism enables the researcher to avoid the application of those concepts prematurely.

3.2.3 Choice of the epistemological stance

Keeping in view the discussions given above, an appropriate epistemological stance was adopted in the research described in this dissertation. The research problems require the identification of critical factors that influence deans of business schools as leaders and identify the leadership style or styles of those deans that influence their effectiveness as leaders. There is a need to study the phenomenon using already existing theories and generalize the outcome of the study by analyzing quantitative

data using statistical methods so that the outcome could be generalised. This is only possible if one adopts the positivist philosophy (see Section 3.2.1). Thus a positivist epistemological stance was adopted, which is consistent with a similar position adopted by majority involved in leadership research (Alvesson, 1996).

3.2.4 Objectivism

An important assumption of objectivism is that there exists a reality that is external to the social actors (Saunders et al. 2009) for instance leadership. Leadership could be considered as an objective phenomenon resulting in adopting of an objectivist ontological stance while studying particular aspects of leaders and leadership in a specific organisation. It could be argued that leaders are identified are various levels and many organisations define what they expect from them as leaders in a particular level. Another aspect of leadership is that they are part of a formal structure in organisations. These points indicate that leadership as a phenomenon is structural and is similar in most of the organisations. In so far as difference in leadership aspects in organisations is concerned, it could be considered as a function of different objective aspects of leadership.

Much of the study conducted in organisational science is based on the belief that reality is 'objective' and is 'out' there to be found out and this knowledge can be ascertained and informed to others (see Holden & Lynch, 2004). Some argue (for instance Holden & Lynch, 2004) believers in objectivism are called realists. Realists believe in the philosophy that world will exist as it has existed prior to the existence of human consciousness and regardless of the point whether human beings assign certain vocabulary to the existence of the world and perceive its existence as an external reality. Contrary to the beliefs of subjectivists, Gill and Johnson (1997) argue that the world will still exist as an empirical entity that comprises hard, tangible and relatively immutable. Objectivists dismiss the argument that nature is made of intangible or subjective phenomena as they believe that valid knowledge about reality that is certain or concrete, can only found out through making sense of it, observation and measurement (Giddens, 1976; Morgan and Smircich, 1980). Furthermore objectivism has been identified (e.g. Wood & Welch, 2010) as associated with

positivist epistemological stance, deductive research approach and quantitative research method during the process of research.

However critiques of objectivism point out that it is an inappropriate philosophical approach to social science phenomena and there are significant flaws in this approach as the explanatory success of objectivism in the natural sciences has not been replicated in social sciences. The complex nature of human beings who are the actors in social science research needs subjectivist ontological position to be adopted as objectivism is not able to bring out every aspect of the complex nature of the human beings (see Holden & Lynch, 2004).

3.2.5 Subjectivism

Perceptions and consequent actions taken by social actors lead to the creation of social phenomena is the view held by subjectivists. In addition subjectivists believe that social phenomena are in a constant state of revision and creation of such phenomena is a continuous process (Saunders et al., 2009). To the question whether subjectivism can be applied to leadership process, subjectivists (e.g. Alvesson, 1996) affirm that leaders being human beings are constructed by subjectivity as individuals and hence subjectivism needs to be the ontological base for investigation. Saunders et al. (2009) argue that subjectivism follows from the interpretivist philosophy and it is important to study the subjective meanings to those actions of social actors that are motivated enabling the researcher to know the meanings of the actions. For instance deans of business schools (leaders) as social actors may offer many interpretations on the situations in which they are placed as individuals could understand various situations differently as a consequence of the way they perceive. Those interpretations will lead the leaders to take certain actions and the way they interact with others. These arguments point towards the need to understand the subjective reality behind the behaviour of the leasers which the researcher may not ignore. It is important to note here that subjectivism is identified with inductive research approach and qualitative research method (Wood & Welch, 2010).

However critiques of subjectivism argue that relativism and incommensurability are major flaws that affect subjectivism (see Holden & Lynch, 2004). Further critiques of

subjectivism argue that despite its much touted concept of realism, it is not able to stop the success of objectivism and consider subjectivism as a serious threat for the concept of scientific progress an argument widely accepted (e.g. Kuhn, 1970). Kuhn, a well-known subjectivist has altered his view on incommensurability to a reasonable extent due to the limitations that affect subjectivism (Hunt, 1993; Hughes & Sharrock 1997).

3.2.6 Choice of the ontological position

The preceding arguments have provided a strong support for both objectivism and subjectivism as ontologies that could be adopted. However considering the research questions that are being addressed with regard to the deans of business schools as leaders and the need to choose positivism as the philosophy, it was decided to adopt the objectivist ontological position. The reason being the need to understand the relationship between different leadership processes related factors in an objective manner by collecting data from a sample lot of followers of the deans of business schools which points towards an objective assumption of the existence of the dean as the leader and the relationship the dean has with the followers. This argument is in line with the recommendation of others (e.g. Bolden et al., 2011) involved in leadership research who exalt that the dominant approach in leadership studies is based upon scientific enquiry that is objective in nature. In addition, the adoption of a positivist philosophy (see Section 3.2.1) led to the adoption of objectivism, a concept supported by others, for instance, Wood and Welch (2010).

After determining the epistemological and ontological positions, as part of identifying the holistic research philosophy that was to be adopted, it was necessary to understand what research approaches could be adopted. Two research approaches have been dominantly used in research relating to leadership process, namely, deductive and inductive (Wood & Welch, 2010). Choice of an appropriate research approach is important to derive conclusions about a phenomenon under discussion using methods or measures that provide a view using which it is possible to either deduce the results based on implication or induce the results based on observation (Cohen et al. 2007). Thus knowledge about the research approach is considered essential while conducting research about which the following sections discuss.

3.3 Deduction and induction

Cohen et al. (2007) argue that deductive reasoning is grounded on the syllogism that has a major supposition that is premised on a priori or a proposition that is obvious or explicit, a minor supposition that is linked to a particular situation and a conclusion. For instance:

- A leader is one or more people who influence one or more followers (Winston & Patterson, 2006).
- A dean of a business school is a person who influences academic and administrative staff members.
- Therefore, a dean of business school is a leader.

However inductive reasoning is grounded in employing a study of number of individual cases that would lead to a hypothesis and finally to a more generalized statement (Cohen et al. 2007). In simpler terms scientific approach to research can either begin with inductive discovery (induction) or deductive proof (deduction) (Gray, 2009).

Gray (2009) argues that deduction begins with a general view of a phenomenon and culminates in a particular case of the phenomenon while induction particular detail to a more general or connected view of a phenomenon. In other words a deductive approach flows from abstraction to the specific while an inductive approach the flow is from the specific observation to a more general theory or hypothesis (Antonakis et al., 2004). Another important characteristic of the deductive approach is that it uses hypothesis testing to derive results of the research whereas the inductive approach draws inference from a definite number of specific cases to derive a general conclusion (Mautner, 2005). While both deductive and inductive have limitations, both approaches have contributed to the development of research methodology. As far as limitations are concerned, with regard to the deductive approach some feel that theoretically produced results do not always belong to a priori categories. Even if a priori concepts are often too large or broad or vague to be related to a specific context. Often the deductive approach fails the empirical validation scrutiny. Again, sometimes conceptual clarity could also affect the deductive approach as during

measurement of concepts using measuring instruments, an item purported to measure a factor could logically be not related to the factor (Wong et al. 2006).

Similarly, the inductive approach also has limitations. For instance, the inductive research approach depends on subjective identification and analysis of collected data. Again the complexities involved in data collection could lead to discerning patterns among components that are not identifiable holistically in advance leading to involvement of ad hoc discrimination between the important and not so important components. Interpretation of data as well as its categorization is highly individualistic and hence open to question due to explicit subjectivity involved (Gasson, 2003).

As far as the use of inductive and deductive research approaches in leadership theory goes, either of them are used, although predominantly deductive research has been employed. For instance Antonakis et al. (2004) argue that leadership theory can be studied using both an inductive and deductive research approach. There is a lack of consensus which of the two could be used or whether both have to be used. Thus it is important to know which one of the two research approaches to be chosen and what could be the most appropriate research approach that is suitable for this research based on the research questions that will be addressed. Another important point that needs to be borne in mind is that it is argued that the inductive approach is associated with interpretive philosophical underpinning, subjective ontology and qualitative research method while the deductive research approach is associated with positivist philosophical underpinning, objectivist ontology and quantitative method (Wood & Welch, 2010). This aspect will also determine the choice of the research approach as depending on the philosophical position taken, the research approach and method could be decided.

3.3.1 Choice of the research approach

As mentioned in Section 2.19.3 this research addresses the leadership behaviour of deans of business schools by investigating the follower (academic and administrative staff) perspective. The deductive research approach is proposed, by measuring

observed variables and testing hypothesis. This is needed in order to collect the views of a sample of followers from a large population of such followers.

3.4 Research methods

Two of the widely used research methods in business and management research including research pertaining to leadership, are identified as quantitative and qualitative research methods. Quantitative and qualitative research methods are distinguished by the data collection techniques and analysis procedures (Saunders et al., 2009). Each one of these methods has its own characteristics and choice the method depends on the requirements of the research. It is important to choose the right research method at the outset, failing which the researcher may land into an ambiguous state during the course of the research. This could lead to delays and produce outcomes that may not enable the researcher to answer the research questions. Knowledge of the research methods is important as sometimes it could be confusing as to which one of the two methods should be chosen for research. Thus each one of these methods is discussed next to gain knowledge on which one of the two research methods could be used in this research.

3.4.1 Quantitative research method

Quantitative research method is one of the most widely used research method in leadership literature (Alvesson, 1996; Bryman, 2006). Creswell (2003) claims that quantitative research method entails the collection of data that could generate information that could be quantified and analysed using statistical techniques leading to interpretation of findings that would either support or refute alternate knowledge claims. It is argued quantitative research method starts with a statement of the problem, develops hypotheses, a literature review and a quantitative data analysis procedure (see Williams, 2007). The collected data is typically numeric. In addition, mathematical models are developed as part of the data analysis method (Williams, 2007). Furthermore, Creswell (2003) argues that a quantitative research method could employ methods of enquiry such as experimental or surveys and can use predetermined data collection tools such as questionnaires that generate statistical data. Results obtained from a quantitative research method could be used to predict, explain or confirm findings (Creswell, 2003). Leedy and Ormrod (2001) classify

quantitative research method into three categories namely descriptive, experimental and causal comparative. Table 3.1 provides a brief understanding about the three categories. The choice of a particular research method is governed by the research question to be addressed.

No.	Type of quantitative research method	Explanation about the quantitative research method
1.	Descriptive	A basic research method that examines the situation, as it exists in its current state. Involves identification of attributes of a particular phenomenon based on an observational basis, or the exploration of correlation between two or more phenomena.
2.	Experimental	The researcher investigates the treatment of an intervention into the study group and then measures the outcomes of the treatment.
3.	Causal comparative	The researcher examines how the independent variables are affected by the dependent variables and involves cause and effect relationships between the variables. The causal comparative research design provides the researcher the opportunity to examine the interaction between independent variables and their influence on dependent variables.

Table 3.1, Types of quantitative research methods, extracted from Williams (2007)

An examination of Table 3.1 shows that a researcher who chooses a quantitative research study needs to also bear in mind the three types of quantitative study that could be used. It is important to know which of these types could be more suitable. For instance if a researcher chooses to study the group behaviour such as followers, that may require the use of interventions, and the need for to use the experimental research. However if the researcher wants to study correlation between two or more phenomena, like leadership style and leadership practice, then the researcher may choose the descriptive study. On the other hand if the aim is to understand how the independent variables are affected by the dependent variables and involves cause and effect relationships between the variables for instance between leadership practice and leadership effectiveness, then the researcher should choose the causal comparative study. Thus it is important to determine how the researcher wants to answer the research questions so that the most appropriate quantitative research method type could be chosen.

There are a number of methods that could be used to conduct quantitative study. Table 3.2 provides a list of quantitative methods commonly used and the

corresponding purpose served by each one of them. It is important that the researcher understands how exactly the quantitative research method needs to be conducted by understanding the purpose served by the research. Amongst the different ways on how to conduct the research methods listed in Table 3.2, it is necessary to know whether only one of the ways listed or more than one of the ways listed need to be used.

No.	How to conduct the research	Purpose served
1.	Correlational	A statistical test to establish patterns for two variables (Creswell, 2002). The purpose of a correlational study is to establish whether two or more variables are related (Bold, 2001). The statistical analysis of the research question can be conducted through a progression or sequence of analyses using a standard test for correlation that produces a result called "r." The r coefficient is reported with a decimal numeral in a process known as the Pearson Correlation Coefficient (Cooper & Schindler, 2001). The research examines the differences between the two characteristics of the study group. Observe the extent to which a researcher discovers statistical correlation between two characteristics depending on some degree of how well those characteristics have been calculated. Validity and reliability are important components that affect correlation coefficients (Leedy & Ormrod, 2001).
2.	Developmental design	The researcher explores how characteristics may change over time within a study group. Two types of development designs include cross-sectional and longitudinal. In the cross-sectional study, the researcher compares two different groups within the same parameters. The longitudinal study is commonly used in child development research to better understand a phenomenon of particular age groups or to study a group over a specific period of time (Leedy & Ormrod, 2001).
3.	Observational studies	The researcher observes a particular aspect of human behaviour with as much objectivity as possible and records the data. This research method may provide an alternative to various qualitative research methods (Williams, 2007).
4.	Survey research	The researcher tends to capture phenomena at the moment. This method is used for sampling data from respondents that are representative of a population and uses a closed ended instrument or open-ended items (Williams, 2007).

Table 3.2, Varieties of quantitative methods that could be used in descriptive, experimental and causal comparative studies extracted from Williams (2007)

For instance in studying the influence of leadership style on leadership practice, the researcher may have to know whether correlational analysis could alone enable the

researcher to generate pattern for two variables or more needs to be understood. If just correlational analysis is conducted then the result could just produce results that indicate the significance of the relationship between the two variables but nothing more than that. Additionally it will also not inform whether this relationship will change over a period of time and hence the researcher may overlook the effect of passage of time. Moreover, if the researcher wants to know the influence of leadership styles on leadership practice then there is an element of cause and effect that needs to be studied in which case just correlational analysis alone may not serve the purpose. In order to know whether leadership styles influence leadership practice, it is probable to use not only the correlational study but also the cross-sectional study (or longitudinal study as the case may be) as part of the developmental design and use survey method to determine the cause and effect phenomenon. Thus there is a need to link the research question to the way the quantitative research needs to be conducted. Table 3.2 could serve this purpose.

In addition to the above there are many ways in which a research strategy could be worked out by the researcher who adopts quantitative method. For instance Sukamolson (2005) argues that surveys could include custom surveys, mail/e-mail/internet surveys, telephone surveys, self-administered questionnaire surveys and omnibus surveys. Also trend analysis could be considered. However these are details that are already covered by broader ways listed in Table 3.2 and hence these aspects have not been discussed in detail further.

There are many advantages of using quantitative study. These include that it (Sukamolson, 2005):

- Enables the researcher to estimate a population
- Can provide indicators of people's attitude in terms of its extensiveness
- Enables the condensation of research results to statistics
- It makes it possible to use statistical comparison between groups.
- It is precise, standardized and definitive.
- It measures such aspects as trends, actions and occurrence.
- Enables the researcher to answer queries such as 'how many' and 'how frequently'.

However there are disadvantages in using quantitative research methods which include (Cloke et al, 1991, Smith, 1998):

- Quantification can result in a false sense of objectivity.
- The method may involve artificial separation of observer from the observed and hence may not be value free.
- Quantitative method does not appreciate the importance of structure and agency.
- People are treated as objects.
- No consideration of values and meanings that are associated with humans and the capabilities they have.
- The method looks at how things seemed but not how they could be under different social conditions.
- Spatial patterns are not taken into consideration sufficiently in quantitative methods.

The advantages and disadvantages attributed to the quantitative research method need to be carefully considered prior to adopting the method, failing which there could be pitfalls created by the disadvantages. Furthermore, quantitative research is associated with positivist philosophy, objective ontology and deductive research approach (Wood & Welch, 2010). The next section thus concentrates on the qualitative research method as a follow-up to discussing the quantitative research method.

3.4.2 Qualitative research method

Although used in leadership studies, the qualitative research method is not as widely used as the more dominant quantitative research method. However there has been a steady increase in the number of researchers who have used the qualitative research method (Alvesson, 1996; Bryman, 2006). Some argue that qualitative research is a type of scientific research that is concerned with (Mack et al., 2005):

- Seeking answers to a research question.
- Systematic employment of preset procedures to answer the research question.
- Collection of evidence needed to answer the research question.

- Production of findings that were not pre-determined and applicable beyond the realms of the research
- Seeks understand the research problem keeping in view the perspectives of the local population it the researcher targets.

According to Mack et al. (2005) the qualitative research method is effective in knowing information that is culturally specific that are related to such aspects as values, opinions, behaviours and social contexts of a particular group of people while Creswell (1994) argues that qualitative research is considered to be a holistic approach that generally leads to a discovery. It is an unfolding model that happens in a natural setting and supports the researcher to develop a degree of detail resulting from a high involvement in the actual experiences. Describing, explaining and interpreting collected data based on premise built using inductive reasoning are essential characteristics of qualitative research method. In addition, qualitative research method involves a strong relationship with the observational element that poses questions which the researcher attempts to understand although the researcher is an outsider to the phenomenon being inquired. It is explained that there is no starting point that is considered as truth or postulated assumptions that the researcher takes into account that triggers the inquiry in qualitative research method (Leedy & Ormrod, 2001). The outcome of the qualitative research method is usually an explanation of the phenomenon under study given in terms of social behaviour and in the form of a new and emerging theory (Williams, 2007).

Like the quantitative research method, qualitative research could be conducted in different ways namely case studies, grounded theory, ethnography, content analysis and phenomenology (Leedy & Ormrod, 2001). Table 3.3 provides an idea about each one of these qualitative research methods.

No.	Type of qualitative research method	Explanation about the qualitative research method
1.	Case study	Researcher explores in depth a programme, an event, an activity, a process, or one or more individuals (Creswell, 2003). Attempts to learn more about a little known or poorly understood situation (Leedy & Ormrod, 2001). Structure of a case study should be the problem, the context, the issues, and the lessons learned (Creswell, 1998). Can be used for studying phenomena in multiple disciplines. Data collection is extensive and draws from multiple sources such as direct or participant observations, interviews, archival records or documents, physical artifacts, and audiovisual materials. The researcher must spend time on-site interacting with the people studied. The report would include lessons learned or patterns found that connect with theories (Williams, 2007).
2.	Grounded theory	It is the process of collecting data, analyzing the data, and repeating the process, which is the format called constant comparative method. The data can be obtained from several sources such as interviewing participants or witnesses, reviewing historical videotapes or records, observations while on-site (Williams, 2007). Researcher attempts to derive a general, abstract theory of a process, action, or interaction grounded in the views of participants in a study (Creswell, 2003). Begins with data that develops into a theory. The term grounded provides the context of this method while the research requires that the theory must emerge from the data collected in the field rather than taken from the research literature. Can be used for studying phenomena in multiple disciplines. Standard format on how to analyze data in a grounded theory research that includes open coding, axial coding, selective coding, and developing a theory. Final report incorporates five aspects: describing the research question, literature review, describing the methodology, data analysis explaining the theory, and discussing the implications (Leedy & Ormrod, 2001).
3.	Ethnography	Studies an entire group that shares a common culture (Leedy & Ormrod, 2001). The researcher studies an intact cultural group in a natural setting over a prolonged period of time by collecting, primarily, observational data (Creswell, 2003). Focuses is on everyday behaviours to identify norms, beliefs, social structures, and other factors. Usually tries to understand the changes in a group's culture over time. Findings may be limited to generalization in other topics or theories (Williams, 2007). The researcher must become immersed in the daily lives of the participants in order to observe their behaviour then interpret the culture or social group and systems (Creswell, 1998). Steps involved include: gain access to a site, establish rapport with the participants and build trust and intermingle with everyone in order to identify the key informants in the culture (Leedy & Ormrod, 2001).

		Data is collected from participant observations and from interviewing several key informants. If the interviews are lengthy, the researcher gathers documentation by using audiotapes or videotapes media. Aspects included in ethnography are: the justification for the study, the description of the group and method of study, the evidence to support the researcher's claims, and the findings to the research question. The report must provide evidence of the group's shared culture that has developed over time (Williams, 2007).
4.	Content analysis	A detailed and systematic examination of the contents of a particular body of materials for the purpose of identifying patterns, themes, or biases (Leedy & Ormrod, 2001). Involves review forms of human communication including books, newspapers, and films as well as other forms in order to identify patterns, themes, or biases. The method is designed to identify specific characteristics from the content in the human communications. The researcher explores verbal, visual, behavioural patterns, themes, or biases (Williams, 2007). Designed to achieve the highest objective analysis possible and involves identifying the body of material to be studied and defining the characteristics or qualities to be examined (Leedy & Ormrod, 2001). Data collection is a two-step process. First, the researcher must analyze the materials and put them in a frequency table as each characteristic or quality is mentioned. Second, the researcher must conduct a statistical analysis so that the results are reported in a quantitative format. The research report has five sections: the description of the materials studied, the characteristics and qualities studied, a description of the methodology, the statistical analysis showing the frequency table, and drawing conclusions about the patterns, themes, or biases found in the human communications and data collection (Williams, 2007).
	Phenomenology	To understand an experience from the participants‟ point of view" (Leedy & Ormrod, 2001). Focuses on the participant's perceptions of the event or situation and the study tries to answer the question of the experience. Searches for "the central underlying meaning of the experience and emphasize the intentionality of consciousness where experiences contain both the outward appearance and inward consciousness based on the memory, image, and meaning (Creswell, 1998). Difficulty of this study is that the researcher usually has some connection, experience, or stake in the situation so bracketing (setting aside all prejudgments) is required. The method for a phenomenological study is similar to that of grounded theory because interviews are conducted (Williams, 2007). Data is collected through lengthy interviews in order to understand and interpret a participant's perception on the meaning of an event. Procedural format involves writing the research questions that explore the meaning of the experience, conducting the interviews, analyzing the data to find the clusters of meanings, and ending with a report that furthers the readers understanding of the essential structure of the experience. The study collects data that leads to identifying common themes in people's perceptions of their experiences (Creswell, 1998).

Table 3.3, Types of qualitative research methods, extracted from Williams (2007)

Table 3.3 describes the individual characteristics of each one of the qualitative research methods and the differences between them. It can be seen that each method is unique to a particular context. Further the choice of a particular research method needs to be carefully scrutinized, failing which an inappropriate research method may be chosen leading to inconclusive research outcomes or the abandoning of a chosen research method in favour of a more appropriate method mid-way through leading to complications in the completion. One way to avoid such a situation is to know the advantages and disadvantages of qualitative method given below.

Advantages of using qualitative method include (Mack et al., 2005):

- uses open-ended questions
- probe provides respondents with the opportunity to respond in their own words, as there is no force on them to choose from pre-determined responses
- responses evoked could be relevant and culturally important to the respondent, unexpected by the observer, valuable and explanatory in nature.
- allows flexibility to investigate initial participant responses – that is, to ask why or how.

Disadvantages of adopting qualitative study include:

- closeness of the observer to the phenomenon being probed (Parahoo, 1997).
- the method is considered to be simply an assembly of anecdotes and individual opinions of the researcher.
- strongly subject to researcher influence.
- lacks reproducibility.
- no assurance that a different researcher would come to a totally different conclusions in comparison to the first researcher as the research is very personal to the researcher.
- lacks generalizability (Mays & Pope, 1995).

As far as the leadership literature is concerned, a steady increase in the use of qualitative studies is being seen although still the dominant research method chosen is quantitative method (Alvesson, 1996). An important attribute of the qualitative

method is that it is commonly identified with interpretive philosophy, subjective ontology and inductive research approach (Wood & Welch, 2010).

3.4.3 Choice of the research method

From Section 2.19.1 it can be seen that the research described in this dissertation aims to understand the relationship between the leadership practice (style) of the dean of a business school as a leader and the dean's effectiveness as a leader. This requires an assumption (positivist) that there are deans who behave as leaders in business schools and a study of such leaders from the follower (academic and administrative staff) perspective could provide outcomes that could be interpreted to determine what type of leadership styles (in reality) are practised by deans (objective ontology) and how or in what way such styles might guide the business schools. Additionally there are a large number of followers out there who work for the dean. Data needs to be collected from the followers (academic and administrative staff of the business school) of the dean that is as objective as any data can be and numerical so as to analyse it statistically and derive findings and interpret the findings as well as relate the meaning of the interpretations to the research questions (pointing towards deductions from the findings). A model was developed based on extant literature and theories that was to be tested using hypotheses. The quantitative research method was adopted that provides the path to collect data from the followers. Adoption of a qualitative method would have negated the recognition that deans in reality act as leaders, the academic and administrative staff act as followers and there are established theories that relate the leaders and followers through several attributes.

From the discussions above, it can be seen that the positivist epistemology, objective ontology, deductive research approach and quantitative research method have been selected. The rationale for the choice of the philosophical position, ontological belief, the research approach and the research method are provided under Sections 3.2.3, 3.2.6, 3.3.1 and 3.5.

3.5 Research framework

Research framework informs about the limits within which the research is conducted. This includes the choice of the methodology, research design and data analysis

aspects. At this stage it can be seen from the discussions above that the positivist epistemology, objective ontology, deductive research approach and quantitative research method were chosen. The rationale for the choice of the philosophical position, ontological belief, the research approach and the research method are provided under Sections 3.2.3, 3.2.6, 3.3.1 and 3.4.3.

3.6 Research design

During the process of research the researcher has to take decisions which involve a number of issues including the purpose of the research, the study setting, the nature of investigation, the level to which the researcher intervened and manipulated the research, temporal aspects, the fundamental element of analysis, sampling design, data collection methods, the way constructs used in the research are measured and how the measurements are analysed (Sekaran, 2003). Research design describes how essential data could be collected and analysed leading to a solution for the research problems.

Studies can be exploratory, descriptive, explanatory or case studies (Robson, 2002; Flyvbjerg, 2006). Each one of the studies serves a purpose. For instance, exploratory studies serve the purpose of finding out what is happening and gain new understanding about phenomena and produce new concepts. Similarly explanatory studies seek to explain a phenomenon or situation or a problem, many times in terms of the causal relationship (Robson, 2002). On the other hand descriptive studies help in portraying profiles of persons, events or situations (Robson, 2002). Descriptive studies could be forerunners to exploratory research or explanatory research. In this research the main purpose is to explain the nature of the relationship between variables leadership styles and leadership effectiveness of deans as leaders of business schools. Thus this research is explanatory in nature through which hypotheses were tested to explain the relationship between variables.

As far as the nature of the investigation was concerned, there are two types of studies namely correlational and causal (Lee, 2012). In studies related to personalities and behaviour some have used both correlational and causal studies (Lee, 2012). However some use correlational studies to predict the influence of an independent variable on

the dependent variable whereas in causal investigations the cause and effect relationship between variables is investigated using such techniques as regression analysis and structural equation modeling (Gardner, 2000). In this research, the aim is to determine the causal effect on leadership effectiveness of deans of business school, so the nature of this research is causal rather than correlational.

The study settings in this research involved the collection of data from participants who are employed in business schools. Data was collected from the participants in their natural settings where work proceeds in a normal fashion and the setting was not contrived. The fundamental element of analysis for this research was the employees of the business schools who reported to the deans of business schools and such employees included both the academic and administrative staff. As far as the temporal aspects were concerned this study adopted the cross-sectional study as it aimed to collect data only once over a period of weeks or a few months. It must be mentioned here that most studies used cross-sectional research with regard to understanding cause and effect relationship with respect to the leadership aspects (e.g. Herbst & Conradie, 2011). In regard to the extent of researcher intervention in the study, it was kept to the bare minimum. The remaining aspects sampling design, data collection methods, the way constructs used in the research are measured and how the measurements are analysed have been discussed in the following sections as part of the research strategy.

3.7 Research strategy

While the need to define a research design is emphasised, the need to define a research strategy that could be used for exploratory, descriptive and explanatory research (Saunders et al. 2009) was pertinent. Amongst the research strategies that are used as research strategies are experiment, survey, case study, action research, grounded theory, ethnography, archival research (Saunders et al. 2009). Amongst these this research used the survey research method as the research strategy which belongs to positivistic research philosophy and deductive approach (see Sections 3.2.3 and 3.2.6). According to Saunders et al. (2009) survey method is concerned with collection of large amount of data from a sample population while Hussey and Hussey (1997) argue that survey involves taking out a sample of participants from a large

population that is being investigated leading to the derivation of inferences about the population. In this research the leadership aspects of deans of business schools were investigated by collecting data from a large population of followers of the leader who were the staff members (both academic and administrative staff). Another important attribute of survey method was that it allows the collection of quantitative data that can be used to know whether there is a relationship between different variables (Saunders et al. 2009). Furthermore surveys are cost effective methods. Despite these advantages surveys suffer from limitations which include data collected through survey could be less wide-ranging in comparison to other methods and the capacity to do the survey questionnaire badly (Saunders et al. 2009).

In order to collect data, different ways or methods have been used including questionnaires, structured observations and structured interviews (Saunders et al. 2009). In this research, a questionnaire was used as the method to collect data. Important advantages in using questionnaires include cost effective, relative easiness in administering, reduces interviewer bias, convenient for the respondents in terms of flexibility on completing the questionnaire at a time and place suitable to them and less intrusive making respondents to answer the questionnaire more readily in comparison to other methods (Eiselen et al., 2005). Disadvantages of questionnaire administration include lower response rates, lack of control on the part of the researcher on who is answering the questionnaire and limit to the number of questions that any questionnaire can contain (Eiselen et al., 2005; Saunders et al., 2009).

3.8 The questionnaire development process

The questionnaire development process is provided in Figure 3.2 which is based on the process recommended by Churchill and Iacobucci (2002).

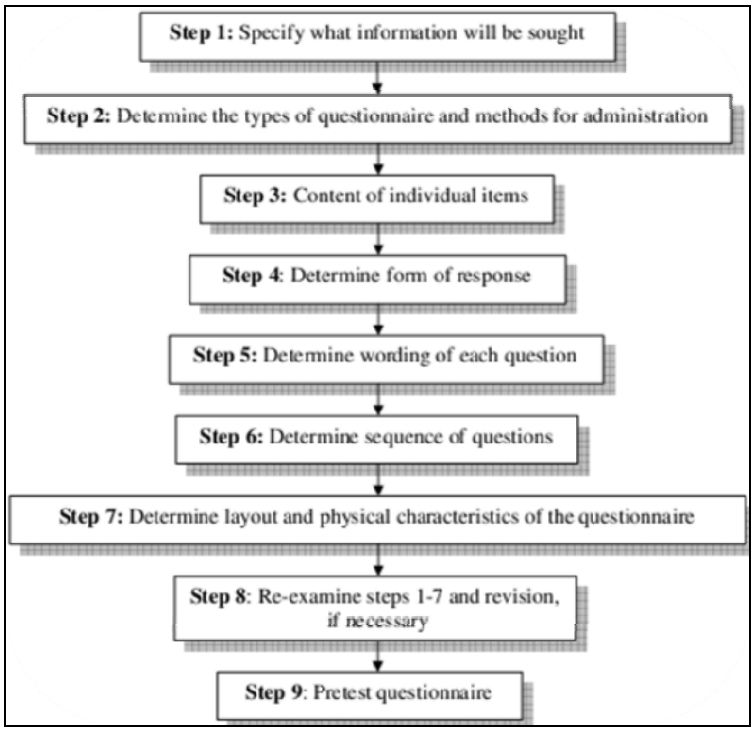


Figure 3.2, The questionnaire development process

The process comprises nine steps. The step involved the determination of the information to be sought from the respondents. Information sought was associated with follower's perception about their leader. In this case the followers were the academic and administrative staff of business schools and the leader was the dean of the business school. Followers' perception on leadership style practised by the dean, leadership behaviour practised by the dean, the quality of the decisions taken by the dean, their satisfaction with the dean as a leader, their commitment to the business school, effectiveness of the dean as leader, management style of the dean, the organisational culture existing in the school and the organisational setting needed for the deans to practice as leaders.

The questionnaire was self-administered as the presence of the researcher was not possible at the site. The participants were academic and administrative staff of business schools where the medium of instruction was English and are expected to be reasonably well educated to understand the directions provided in a self-administered questionnaire. Hence usage of English language in the questionnaire that was self-administered was of no concern. The opinion of staff was sought on a number of factors affecting their dean as leader. A multi-choice questionnaire that elicited

information on the opinions of the participants was selected. The responses obtained were in the form of answers chosen by the participants from a scale of 5 points.

With regard to the content of the individual items used to measure the model, the contents were based on the items used in measurements by others who have established the reliability and validity of the questionnaire. The wordings of the items were chosen based on the questionnaires that were developed and already tested by others. For instance, questions used in the model for measuring management style were based on the theory developed by Ohio State University and University of Michigan Models (Littrell, 2010). The questionnaire developed by Ohio State University and University of Michigan Models related to the research objective of identifying factors that influence deans as leaders of business schools. In similar lines the other wordings and contents were formulated for measuring other constructs. Table 3.4 provides the list of constructs, the items measuring them and those who developed them and from whose work the items were adapted for this research.

No.	Name of Constructs	No. of observed variables	Codes of constructs measured	Definition of Constructs	Authors from whose work the questions were adapted
1.	Leadership Construct A	7	LEADER-A	Leadership style A	Muhammad et al. (2009)
2.	Leadership Construct B	5	LEADER-B	Leadership style B	Muhammad et al. (2009)
3.	Leadership Construct C	3	LEADER-C	Leadership style C	Muhammad et al. (2009)
4.	Leadership Construct D	3	LEADER-D	Leadership style D	Muhammad et al. (2009)
5.	Leadership Construct E	4	LEADER-E	Leadership style E	Muhammad et al. (2009)
6.	Leadership Practice	25	LEADERPRAC	Leadership Practice	Kouzes and Posner (2003)
7.	Management Style	15	MGMTSTY	Management Style of the Dean	Ohio State University and University of Michigan Models
8.	Organisation Structure	10	ORGSET	Organisation Structure of business school	Schminke et al. (2000) and Oldham and Hackman (1981)
9.	Organisational culture	1	ORGCULT	Organisation Culture in the business school	Soares et al. (2007)
10.	Decision Quality	6	DECIQUA	Decision Quality of the decisions taken	Muhammad et al. (2009)
11.	Commitment	18	COMMIT	Follower Commitment	Brown (2003)
12.	Satisfaction	4	SATIS	Follower Satisfaction	Hatfield et al., (1985)
13.	Leadership Effectiveness	5	LEADEFFCT	Leadership Effectiveness of the Dean	Hooijberg and Lane (2005)

Table 3.4, List of authors from whose questionnaires items were adapted for this research

The sequence in which the questions were presented in the questionnaire was based on those from whose studies questions were adapted. This ensured that the theoretical underpinnings of the constructs that are being measured were maintained while measuring the model developed. The overall presentation, layout and format of the questionnaire were such that the flow is in a logical sequence when moving from one topic to another.

A covering letter for the questionnaire was introduced to the respondents to the survey, explained the purpose of the survey and that it had been approved by the ethical committee of the University. The covering letter also mentioned that the information got through the survey will be kept confidential and the anonymity of the participant will be maintained strictly.

The questions were structured and divided into two sections (See Appendix I): Section 1 and 2. Section 1 addressed demographic aspects which sought information about the participants' gender, place of residence, age and number of years worked or associated with the business school. Place of residence was used to test the effect of organisational culture on leadership practice. Place of residence indicated the country in which the participant was residing and country as a variable was used to represent organisational culture as suggested by Soares et al. (2007) who argued national level measurements act as proxies for measuring organisational culture. Place of residence was measured on a 3 point scale with 1 indicating Bahrain, 2 indicating Gulf Cooperation Council (GCC) countries and 3 indicating others. The point 'Others' included six countries namely Canada, Egypt, France, India, UK, USA. There was a recoding step at the data analysis stage as the questionnaire was distributed to more countries with 1 indicating US, 2 indicating UK, 3 indicating Canada, 4 indicating Bahrain, 5 indicating GCC and 6 indicating others which include Egypt, France, GCC countries and India.

The second section was divided into 12 sub-sections. 9 sub-sections used a 5-point Likert scale through which respondents indicated their opinions on how strongly they agreed or disagreed with the statements. Three sections used a 5-point Likert scale to measure the rating of the participants on the leadership factors decision quality,

follower satisfaction and leadership effectiveness. A summary of the measurements as well as the scales is provided next.

Section 1 focused on descriptives related to the participants' data. Four demographical aspects gender, place of residence, age and number of years worked or associated with the business school.

Section 2 focused on management style, organisational setting, leadership practice, leadership (style) constructs A, B, C, D and E, leadership commitment, decision quality, follower satisfaction and leadership effectiveness. The section on Management Styles focused on collecting responses on a number of issues pertaining to the management styles of deans in business schools measured by 22 items on a five point Likert scale. The questions were adapted from an earlier study by Ohio State University and University of Michigan after making minor modifications to the wordings. It must be mentioned here that the instrument developed by Ohio State University and University of Michigan identified two types of management styles namely 'initiating structure' and 'consideration'. However considering the limited role to be played by management style in this research as moderators, the two styles were combined into one and called 'management style'. Thus the collected data measured the overall management style and not individual styles 'initiating structure' and 'consideration'.

The section on Organisational Structure represents organisational setting as variable. This section collected data on the organisational structure a dean will need as a leader measured by 10 items. The questions were adapted from studies conducted by Schminke et al. (2000) and Oldham and Hackman (1981) after making necessary modifications.

The section on Leadership Practice elicits data with respect to various leadership behaviour aspects of the deans measured by 30 items on a five point scale. The items were adapted from Leadership Practice Inventory (LPI) developed by Kouzes and Posner (2003).

The section on Leadership constructs comprises five subsections. Each one of the leadership constructs has been named as Leadership Construct A, Leadership Construct B, Leadership Construct C, Leadership Construct D and Leadership Construct E. Although the constructs have been coded in terms of alphabets, Leadership Construct A represented a particular leadership style. For instance Leadership Construct A represented transactional leadership, Leadership Construct B represented transformational leadership style, Leadership Construct C represented laissez-faire leadership style, Leadership Construct D represented democratic leadership style and Leadership Construct E represented the autocratic leadership style. Coding was needed to assess the leadership style influencing the leadership practice of deans to find out the actual leadership style practised by the deans by maintaining the anonymity of the type of leadership style. This way it was expected that the participants could provide their opinions without any bias that would have crept in if the participants had prior knowledge on the type of leadership style and it has been already identified.

Items to measure Leadership construct A were adapted from a study conducted by Muhammad et al. (2009) and modified. Seven items were used to measure the construct using a 5-point Likert scale. Similarly Leadership construct B was measured using five items, Leadership construct C was measured using three items, Leadership construct D was measured using three items and Leadership construct E was measured using four items, all of them adapted from Muhammad et al. (2009) with minor modifications made to the words used.

The section on Commitment measured the commitment shown by the academic and administrative staff of business schools due to the influence of the dean as leader. The scale was adapted from a study conducted by Brown (2003). The eighteen item section enabled data to be collected regarding a number of aspects pertaining to follower commitment to the business school influenced by the dean as leader on a 5-point Likert scale.

The section on Decision quality focuses on collecting data about the quality of decisions taken by the deans of business schools as leaders using six items on a 5-

point Likert scale. The five-point scale enabled the participants to provide their opinion on the decision quality with 1 indicating very low and 5 indicating very high. The items were adapted from the study conducted by Muhammad et al., (2009) with minor modifications made to the wordings.

The section on Satisfaction focused on collection of data about the satisfaction of the academic and administrative staff of business schools with respect to their dean as the leader of the business school. Four items measured the satisfaction and were adapted from a study conducted by Hatfield et al. (1985). Satisfaction was related to closeness of the dean with the staff, sincerity of the dean, friendly behaviour of the dean and qualification of the dean. Closeness to the staff was measured using a 5-point Likert scale with 1 indicating 'distant' and 5 indicating 'near'. Sincerity was measured on a 5-point Likert scale with 1 indicating 'insincere' and 5 indicating 'sincere'. Friendliness was measured on a 5-point Likert scale with 1 indicating 'unfriendly' and 5 indicating 'friendly'. Qualification was measured using a 5-point Likert scale with 1 indicating 'unqualified' and 5 indicating 'qualified'.

The last section measured the leadership effectiveness by collecting data from the academic and administrative staff about their perception on the effectiveness of the dean as a leader of the business school on a 5-point Likert scale with 1 indicating 'lower level of effectiveness' and 5 indicating 'higher level of effectiveness'. Five items measured the leadership effectiveness of the dean and were adapted from work of Hooijberg and Lane (2005) with minor modification to the wordings.

It must be noted here that all the items were adapted from instruments that had already been tested for reliability and validity by those who had developed them. The survey questionnaire thus developed was pre-tested and a pilot survey was conducted thereafter.

3.9 Pre-testing of the questionnaire through pilot survey

According the Sekaran (2003), pre-testing involves a trial run of the questionnaire with a group of participants which was expected to provide an idea on whether the participants have any difficulty in understanding the contents of the questionnaire,

whether any bias is reflected or any vagueness is present. The sample to which the pre-test is administered should preferably be part of the larger population that is ultimately targeted or having similar characteristics of the larger population to which eventually the survey will be administered. Some argue, for instance Zukerberg et al. (1995), that pilot survey acts as a pre-test and the number of minimum participants needed for conducting pilot survey varies. There is no consensus on what constitutes a minimum sample size for conducting pilot survey. For instance Sheatsley (1983) argues that a sample size in the range of 12-25 is sufficient enough to provide information on the weaknesses in a questionnaire under test. Sudman (1983) claims that a sample size in the range of 20-50 is usually good enough to find out any major problem in the test questionnaire. However pilot surveys as pre-tests provide enough information to detect major defects in questionnaire design such as unintelligible questions that could produce unquantifiable responses and uninterpretable outcomes (Oppenheim, 1992). On the other hand pilot surveys also enable some to analyse the responses and reveal expected relationships among the responses received as well as make sure that there is consistency in the respondents' characteristics across questions (Glasow, 2005). Further, pre-testing can be administered on colleagues, respondent surrogates or actual population samples resulting in the refinement of the measuring instrument. In line with this argument, a pilot study was conducted during October 2012 in Ahlia University, Bahrain. The questionnaire was distributed to 50 respondents and 35 valid responses were received. The participants were academic and administrative staff members of a business school in the University. The collected data was analysed using a software package called SPSS (Statistical Package for Social Sciences). The data analysis involved testing the reliability and validity of the questionnaire. The next section discusses the data analysis aspects.

3.10 Data analysis (Pilot survey)

The statistical data analysis involves a number of tests. These tests are broadly identified under descriptives, reliability and validity analysis and cause and effect analysis. As far as the pilot survey was concerned the main objectives were to spot problems if any in the questionnaire including instructions to answer the questionnaire, format of the questionnaire, understanding difficulties while responding to the questionnaire, doubts that may arise while answering the

questionnaire and researcher bias in eliciting responses from the participants. These aspects were addressed using preliminary statistical testing that involved testing the reliability and validity tests. The following sections therefore deal with reliability and validity aspects. However with regard to one question related to place of residence used here to represent organisational culture, the analysis was carried out only in the main data analysis stage as it was used as a control variable. This follows the explanations given in Chapter 2 under Section 2.1.7. Details of the analysis of the relationship between organisational culture and leadership practice are provided in Section 2.17.

3.11 Reliability of the questionnaire

Reliability measurement provides an estimate of the extent to which the findings of the research could be repeated if the research was conducted at a future date or with a sample of respondents different from the current one (e.g. Ticehurst & Veal, 2000). Reliability also indicates the extent to which the measurement is free of any bias enabling the researcher to understand the level of consistency that could be achieved in the measurement over time and across the different items in the measurement (Sekaran, 2003). The most widely used reliability measure is the Cronbach's coefficient alpha (Cronbach 1951; Sekaran, 2000). Cronbach's alpha measures the consistency of the participants' response to all the items in a questionnaire indicating the degree to which items that are independent measures of the same concept are correlated with each other (Sekaran, 2003). Some (e.g. Serenko, 2008) argue that acceptable values of Cronbach's alpha should exceed 0.7 with values in the range of 0.6 considered as poor and in the range of 0.8 as good (Sekaran, 2000). The maximum value that can be achieved with respect to Cronbach's alpha is 1.0 and values of Cronbach's alpha approaching 1.0 are considered to be better (Robinson et al., 1991a, 1991b). However, prior to reporting the reliability measurements of the pilot survey, it is necessary to understand the validity tests as there are tests that are common to both reliability and validity measurements.

3.12 Validity of the instrument

Validity reflects the extent to which the collected data really measures the phenomenon under study as there are possibilities of the responses provided in the

surveys raising doubt their true meanings (Ticehurst and Veal, 2000). Amongst the widely used validity measures are the content validity, criterion validity, construct validity (Sekaran, 2003), convergent validity and discriminant validity (Zikmund, 2003).

Content validity (also called face validity) examines the association between the individual items and the concept through valuation by expert assessors in the field and pre-tests with subjects drawn as sub-populations (Hair et al., 2006). Construct validity measures the extent to which the results got from the use of an instrument fits the theories around which the assessment was designed. Construct validity could be established through convergent and discriminant validity (correlational analysis), multi-trait, multi-method matrix of correlations or nomological validity (Campbell & Fiske 1959; Peter 1981). Furthermore, convergent validity is with similar to criterion validity and is assessed using correlational analysis (Zikmund, 2003). Convergent validity indicates the extent items that are indicators of a specific construct converge or share a proportion of variance common. In common terminology it indicates the degree to which two items measuring a construct are correlated (Hair et al., 2006). High correlation indicates that the items are measuring the intended concept (Hair et al. 2006). Convergent validity is measured using inter-item and item-total correlation. Acceptable values of item-total correlation exceed 0.5 while item-item correlation exceeds 0.3 (Robinson et al. 1991a). Correlations, regardless of whether they are positive or negative, can be classified as small, medium and large with correlations in the range 0.1-0.29 indicating small correlation, 0.3-0.49 indicating medium correlation and 0.5-1.00 indicating large correlation (Cohen, 1988). Finally discriminant validity is measured to know to what extent measures of dissimilar concepts have low correlation (Zikmund 2003).

Reliability was measured using Cronbach's alpha and the minimum value that was set as acceptable was ≥ 0.7. With regard to validity the acceptable values of item-item correlation and item-total correlation was set at ≥ 0.3 and ≥ 0.5 respectively. Table 3.5 provides pilot survey results.

Constructs	No. of items	Cronbach's alpha	Evaluation of reliability	Item-item correlation	Evaluation of item-item correlation	Item-total correlation
Management Style	22	0.934	Good	0.02-0.812	Small to large	0.324-0786
Organisational Structure	10	0.838	Good	0.02-0.662	Small to large	0.264-0.676
Leadership Practice	30	0.973	Good	0.062-0.851	Small to large	0.484-0.875
Leadership Construct A	7	0.905	Good	0.154-0.781	Small to large	0.532-0.86
Leadership Construct B	5	0.906	Good	0.528-0.81	Large	0.644-0.73
Leadership Construct C	3	0.8	Good	0.407-0.729	Medium to large	0.528-0.779
Leadership Construct D	3	0.847	Good	0.564-0.689	Large	0.685-0.781
Leadership Construct E	4	0.782	Good	0.274-0.673	Small to large	0.539-0.608
Commitment	17	0.668	Poor	0.006-0.787	Small to large	-(0.073)-0.514
Decision Quality	6	0.927	Good	0.481-0.877	Medium to large	0.623-0.866
Satisfaction	4	0.787	Good	0.314-0.68	Medium to large	0.554-0.656
Leadership Effectiveness	5	0.943	Good	0.579-0.93	Large	0.726-0.919

Table 3.5, Summary of reliability and internal consistency measures obtained through the pilot survey

The results of the data analysis carried out on the pilot survey data using SPSS show that the reliability of the instrument with regard to the constructs Management Style, Organisational Structure, Leadership Practice, Leadership Construct A, Leadership Construct B, Leadership Construct C, Leadership Construct D, Leadership Construct E, Decision Quality, Satisfaction and Leadership Effectiveness exceeded 0.8 or close to 0.8 indicating that the reliability is good. However with regard to the construct Commitment the reliability value was poor (Alpha -0.668) indicating the need for further investigation into what caused reporting lower reliability values.

Further analysis with regard to item-item and item to total correlation revealed that there were items pertaining to the constructs Management Style, Organisational Structure, Leadership Practice, Leadership Construct A, Leadership Construct E and Commitment that caused concern. Table 3.6 provides the list of items that caused concern with regard to item-item and item to total correlation construct wise. The reasons why the items were deleted was poor correlation amongst items (correlation less than 0.30). However in those constructs where the correlation values were less than 0.3, the items were not deleted as the content was too important to be deleted and

any decision to delete them was left for the main data analysis stage wherein with a larger sample size it was expected that correlation could improve.

No.	Construct	Items that caused concern and deleted
1.	Management Style	Q5_13, Q5_14, Q5_18, Q5_19, Q5_20, Q5_21 and Q5_22
2.	Organisational Structure	None
3.	Leadership Practice	Q7_2, Q7_3, Q7_18, Q7_24 and Q7_26
4.	Leadership Construct A	None
5.	Leadership Construct B	None
6.	Leadership Construct C	None
7.	Leadership Construct D	None
8.	Leadership Construct E	None
9.	Commitment	All questions
10.	Decision Quality	None
11.	Satisfaction	None

Table 3.6, List of items that were deleted based on the results of the pilot survey

In the case of the construct Commitment all the items had correlation less than 0.3 with more than one item leading to the deletion of the entire construct from the model. This is contradictory to the findings of others (Bycio et al., 1995) who argue that it is desirable to have both commitment and satisfaction as factors influencing leadership process. However considering the fact that the main focus of this research is on decision quality as a mediating variable and commitment and satisfaction were added to gain knowledge on the influence of other mediating variables on the leadership process, deleting commitment as a factor was not expected to affect the influence of decision quality on the leadership process. Additionally follower satisfaction which was still retained as another mediating variable in the model as an example of a second mediating variable was expected to throw light on its influence as a mediating variable alongside decision quality in the leadership process. The results of the influence of satisfaction as an added mediating variable could indicate how more mediating variables could interact in the leadership process alongside decision quality. The resulting set of constructs and the number of items retained to measure them is provided in Table 3.7. These constructs and items were used in the main survey.

Constructs	Number of items
Management Style	15
Organisational Structure	10
Leadership Practice	25
Leadership Construct A	7
Leadership Construct B	5
Leadership Construct C	3
Leadership Construct D	3
Leadership Construct E	4
Decision Quality	6
Satisfaction	4
Leadership Effectiveness	5

Table 3.7, List of constructs and items used in the main survey

At this point it is necessary to redefine the model in Figure 3.3 and the hypotheses as one construct has been deleted from the model. Another change is the introduction of the control variable, namely, organisational culture.

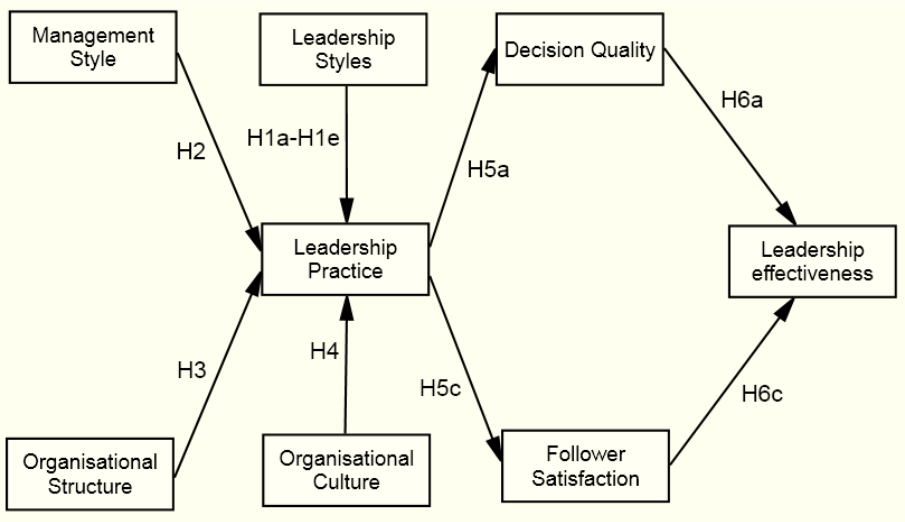


Figure 3.3, Redefined research relationship model based on the results of the pilot survey

The hypotheses corresponding to the model in Figure 3.3 are:

H1a-H1e remain the same as in Section 2.19.3.

H2:

Management style positively influences leadership practice of a dean as a business school leader.

H3:

Business school organisational structure influences leadership practice of a dean as a business school leader.

H4:

Organisational culture influences leadership practice of a dean as a business school leader.

H5a:

The leadership practice of a dean as a business school leader is positively related to decision quality.

H5c:

There is a positive relationship between the leadership practice of a dean as a business school leader and followers' satisfaction.

H6a:

Quality of decisions made by a dean as a business school leader is positively related to leadership effectiveness.

H6c:

Followers' satisfaction with the dean as a business school leader is positively related to leadership effectiveness.

3.13 Main survey

The questionnaire used for the main survey is provided in Appendix II. The first step in the research strategy is to determine the target population, sample size and data collection process.

3.14 Population, sampling and data collection

3.14.1 Population

The population of this research is the staff (academic and administrative) within business schools in general who were considered as followers of their leader who is Dean or head of their school. The names of the universities in which the staff members in the business schools were approached are provided in Table 3.8.

No.	Country	Name of the University	Profile
1.	Bahrain	Applied Science University	Academic staff
2.	Canada	McGill University	Academic staff
3.	Egypt	Suhag University and Ain Shams University	Academic staff
4.	France	ISG Paris	Administrative staff
5.	Gulf Cooperation Council countries (mainly Kingdom of Saudi Arabia)	King Fahad University for Petroleum and Minerals	Academic staff
6.	India	40 institutions in the states of Gujarat and Maharashtra were approached	Academic and administrative staff
7.	UK	Brunel University	Academic and administrative staff
8.	USA		Academic staff

Table 3.8, List of Universities that were approached to collect data

The minimum conditions set in choosing a university were:

- that a university must be offering programmes related to business and management leading to at the least degrees for undergraduate students
- must have a dean or persons who are equivalent to deans as heads of those schools
- must have faculty teaching business subjects reporting to the dean or the head of the school
- must have administrative staff members reporting to the dean or head of the school
- must have students who are studying in the school

No special criterion was attached to the population except that the participant must be either an academic or administrative staff who worked under the dean or a person holding equivalent designation in the business schools. These participants were considered as followers and the deans or similar persons were considered as leaders. Although it could be argued that the population with a mixture of academic and administrative staff could suffer due to lack of homogeneity, it must be borne in mind that the dean or a similar person as a leader is expected to perform the role of a leader with a particular leadership style or styles regardless of who the follower is. Hence whether it is an academic or administrative staff their perception of the dean as a leader is expected to gain knowledge on the leadership behaviour of the deans or similar persons only and not as an academic or administrative leader. Although the

number of academic and administrative staff members in each institution was not known it was estimated that the number could run into thousands. This called for applying sampling process to collect data.

3.14.2 Sample size

One of the common goals of survey research is to collect data that is representative of the population (Bartlett et al., 2001). Data collected from the survey is used to generalize findings from the research based on a sample of the population drawn from the targeted population taking into account the limits of random error (Bartlett et al., 2001). Although there are thumb rules available as guides to determine sample size, specific formulae have been recommended by some to determine sample size. For instance, Cochran (1977) has developed formulae to determine the sample size as well as the response rate. The formula for determining the sample size is given in equation for a continuous variable (1).

$n_0 = (t^2 \times s^2)/(d^2) \quad \rightarrow$ (1) where

n_0 = Sample size

t = value for selected alpha level of .025 in each tail of the normal curve = 1.96

s = estimate of standard deviation in the population

d = acceptable margin of error for mean being estimated

Calculation of 's'

s = (number of points in the scale)/number of standard deviations

where the number of points in the scale indicates the Likert scale points in the instrument the number of standard deviations (for example to capture 98% of all responses the standard deviation required will be three to each side of the mean or normal of the bell curve; similarly to capture 65% of all responses the standard deviation required will be two to each side of the mean).

For example in this research the number of points in the continuous variables using Likert scale is 5. The standard deviation fixed was 2 on either side of the mean to capture at the lease 65% of the data which is 4. Therefore s = 5/4 = 1.25.

Calculation of 'd'

d = (number of points in the scale x acceptable margin of error)

For instance the number of points used in the Likert scale in the continuous variables in this research is 5. The acceptable margin of error for continuous variables indicated by some (e.g. Krejcie & Morgan, 1970) is 3%. Therefore d = 5 x 0.03 = 0.15.

Based on the above the sample size was calculated using equation (1) as:

$n_0 = [(1.96)^2 \times (1.25)^2] / (0.15)^2 = 6 / 0.023 = 261 \rightarrow (2)$

From equation (2) the sample size required for this research to capture 65% of the responses on a Likert scale of 5 points measuring continuous variables with a 3% error margin is 261. In this research however, the questionnaire was distributed to over 600 participants, thus confirming that the minimum sample size requirements have been taken care of. However Bartlett et al. (2001) argue that if the calculated sample size is in excess of 5% of the total population, then correction formula (see equation (3)) suggested by Cochran (1977) must be used.

$N = n_0/(1+n_0/\text{Population}) \rightarrow (3)$

For instance if the population size is assumed to be 2000 then n_0/population = 261/2000 = 0.011;

$(1+n_0/\text{Population}) = (1+0.011) = 1.011$

$N = 261/1.011 \approx 258.$

Thus the corrected sample size for a population size of 2000 is 258 responses which is very close to the uncorrected sample size of 261. Furthermore, the acceptable response rate needs to be determined. According to Bartlett et al. (2001) determining the response rate is not an exact science while Mangione (1995) suggest that a response rate of 60% is generally acceptable. If this thumb rule is applied then the response rate that needed to be achieved is 60% of 258 which is approximately equal to 155. However in this research the total number of respondents accessed was 600 which is higher than the calculated number of 258. Correspondingly the total number of responses received for this research was 237 out of 600 sample participants which translates into a response rate of around 39.2%. Considering the fact that some (e.g. Sekaran, 2003) recommend that a 30% response rate is acceptable, the response rate of 39.2% is seen to exceed the acceptable level. Thus in this research it can be seen

that the discussions given above have justified the sample size used and response rate received. The demographic details about the participants pertaining to gender, age, number of years worked or associated with Business School and place of residence are provided Appendix III.

3.14.3 Sampling strategy used

Sampling strategy involves using a particular method of sampling to ensure that representativeness of the sample is established so that it can be argued that knowledge gained through sampling is representative of the total population under study and the sample strategy adopted ensures that the collection of data is free of bias (Cohen et al. 2007). Commonly either of the two sampling strategies namely probability or the non-probability sampling is used (Cohen et al. 2007). Probability sampling signifies that every respondent of the chosen target population has a known as well as non-zero prospect of being selected as part of the sample (Ross, 2005) but in the non-probability sampling this prospect of members of the target population being selected is unknown (Cohen et al., 2007). Some of the characteristics of probability and non-probability sampling are provided in Table 3.9.

Probability sampling	Non-probability sampling
Every member of the wider population has an equal chance of being included in the sample.	Some members of the wider population definitely will be excluded and others definitely included (i.e. every member of the wider population does not have an equal chance of being included in the sample).
Inclusion or exclusion of a member from the sample is a matter of chance and nothing else. Draws randomly from the wider population.	Researcher deliberately – purposely – selects a particular section of the wider population to include in or exclude from the sample.
Useful if the researcher wishes to be able to make generalizations, because it seeks representativeness of the wider population.	Deliberately avoids representing the wider population; it seeks only to represent a particular group, a particular named section of the wider population.
Less risk of bias than a non-probability sample	May demonstrate skewness or bias.
Types of probability samples include simple random samples; systematic samples; stratified samples; cluster samples; stage samples, and multi-phase samples. All have a measure of randomness built into them and therefore have a degree of generalizability.	Types of non-probability sample include convenience sampling, quota sampling, dimensional sampling, purposive sampling and snowball sampling. Despite being non-representative, non-probability sampling is far less complicated to set up, considerably less expensive, and can prove perfectly adequate where researchers do not intend to generalize their findings beyond the sample in question, or where they are simply piloting a questionnaire as a prelude to the main study.

Table 3.9, Comparison of Probability and non-probability sampling (extracted from Cohen et al. 2007)

From Table 3.9 it can be seen that probability sampling enables the researcher to build in representativeness of the sample as well as generalize the findings. Although not entirely bias free probability sampling offers a reasonable chance to test the hypotheses and apply to the wider population. Thus in this research probability sampling was adopted.

Under probability sampling, simple random sampling method was selected as this method was able to ensure that every participant of the follower population under study is having an equal opportunity of being chosen (Cohen et al., 2007). Again in simple random sampling the probability of a participant being chosen is not affected by the choice of the other participants of the population meaning that a choice is completely independent of the next. In this method the selection of the subjects is done at random and the selection is done as per a set of mechanical instructions that assure the random nature of the choice (Ross, 2005). An important advantage of simple random sampling, which is a widely applied method in educational research, is that the arithmetic mean of the observed data obtained from the sample is considered to be an unbiased estimate of the population mean (Ross, 2005). One limitation of simple random sampling is that it may require an already prepared list of the population which may not be readily available (Cohen et al., 2007).

As explained above, the participants of this survey were randomly chosen. These participants were either academic or administrative staff who support and report to the dean of the business school or head of business school and are considered the followers of the dean as the leader. Every participant had an equal chance of being selected and choice of any particular respondent was independent of the next. Thus it can be concluded that the sampling method used in this research was representative of the larger sample of followers of the dean of the business school. However there was no readily prepared list of population available at the schools to choose the participants from and hence the research had to rely upon the support provided by the schools in terms of allowing the researcher to distribute the questionnaire to the respondents available at that point in time of collecting data.

3.15 Data collection, editing and coding

Data collection was carried out in three ways. The first one was using a web portal. The questionnaire was uploaded on to a web portal and around 300 potential respondents were provided with the URL through e-mail. The second one was sending the hardcopy of the questionnaire to potential respondents as a self-administered questionnaire. 121 questionnaires as hard copy were received from various respondents while 116 were received through the web portal. The third way was appointing a consultant in India. A professional consultant company was appointed to collect data from nearly 40 institutions. An agreement was executed between the professional company and the researcher in order to ensure that confidentiality and integrity of data are maintained and that the data collected by the company is genuine (copy of the agreement provided in Appendix IV). As in the case of the pilot survey all respondents were explained about the objective of the research in writing through a covering letter.

The questionnaires were distributed in person, through e-mail and online web portal. In Bahrain and the UK the researcher personally contacted the participants and distributed the questionnaire. With respect to respondents in Canada, Egypt, France, Saudi Arabia and USA the URL that takes the participants to the questionnaire online was provided through e-mail. Clear instructions were provided on how to access the URL and about the questionnaire. In India the consultant distributed the questionnaire manually as well as approached the participants by e-mail to answer the online questionnaire. Data was collected over a period of two months.

Secondary data was collected from online resources such as published journal papers, conference papers and reports in order to get information regarding research conducted on leadership process. Such information was needed to compare the results of the present research with those published. After collecting the data, it was necessary to organize the data for analysis through editing the data and coding. The collected data was fed into a software package SPSS (statistical package for social sciences) Version 18.0. The data was coded using a combination of alphabets and numerals. Each item or question was given a unique code. The coding sheet is provided in Appendix V. The entered data was checked for errors, omissions,

legibility and consistency in order to ensure that the data is reliable for analysis. Frequency distribution was the function used in SPSS to analyse any error regarding data entry. Further data was screened and cleaned. This step involved using descriptive statistics function in SPSS. After checking that there were no errors in terms of data entry and out of range scores against variables, the researcher proceeded to conduct the data analysis. At this point the number of valid responses that were accepted after removing invalid responses stood at 171 out of 237. The invalid responses included those questionnaires that were partially answered and questionnaires that had missing data.

3.16 Data analysis

A three stage approach was adopted. The first stage involved checking the descriptive statistics such as minimum, maximum, median, standard deviation, missing data, skewness, kurtosis, outliers and multicollinearity in data. The second stage involved testing the reliability and validity of the measurement. The third stage involved testing the research model using Structural Equation Modelling using AMOS.

Descriptive statistics pertaining to minimum, maximum, median, standard deviation, missing data, skewness and kurtosis are provided in Appendix VI. Descriptive statistics serve useful purposes in regard to describing the characteristics of the sample, examining the variables for violation of assumptions pertaining to the statistical techniques and addressing specific research objectives (Pallant, 2005). Further, prior to analyzing the data it was necessary to understand the distribution of variables using measure of central tendency. Widely used measures of central tendency are mean, mode and median. Similarly statistics related to minimum, maximum and standard deviation provide a measure of dispersion or spread of the observation around the central tendency (SPSS Inc., 2010).

Keeping the above mentioned aspects in view, the descriptive analysis was conducted. As far as the demographic aspects were concerned (see Appendix VI) the minimum and maximum values of the responses were found to lie between 1 and 6 for ‘place of residence’, 1 and 4 for ‘age’ (in years) and 1 and 5 for ‘number of years worked or associated with business school’. For the dichotomous scale of ‘gender’ the frequency

of occurrence of responses was between 1 and 2. These values explain the extent of the variation in the responses received from the participants. Similarly, from Appendix VI it can be seen that the minimum and maximum values of the responses ranged from 1 to 5 respectively for the independent and dependent variables (LEADER-A, LEADER-B, LEADER-C, LEADER-D, LEADER-E, Leadership Practice, Management Style, Organisational Structure, Decision Quality, Satisfaction and Leadership Effectiveness).

Further, median has been chosen as the measure of central tendency in place of mean because medians provide 50^{th} percentile and are resistant to extreme scores ensuring robust measures of central tendency although it may ignore some scores (SPSS Inc., 2010). Although the mean is mathematically correct, it is not considered to be a good measure of central tendency because extreme scores are likely to have major effect on the mean and the resulting distribution could be skewed. In such circumstances median which is not sensitive to extreme scores is preferred (Szafran & Austin, 2012). Another major reason for choosing median is that median is found to be useful in summarizing statistics pertaining to ordinal scales. Thus the median has been chosen as the measure of central tendency.

As far as the measure of median is concerned, from Appendix VI it can be seen that the median for the variables LEADER-A, LEADER-B, LEADER-C, LEADER-D, LEADER-E, Leadership Practice, Management Style and Organisational Structure varied between the points 3 and 4 on the Likert scale indicating that responses varied between 'neutral' and 'agree'. For the variable Decision Quality the median value varied between 3 (neither low nor high) and 4 (high). For the variable Leadership Effectiveness the median value varied between 3 (neither low level nor high level effectiveness) and 4 (high level effectiveness). Regarding the variable Satisfaction with four different scales the median varied as follows: with respect to closeness of the dean (leader) to the staff member (follower) the median varied between 3 (neither distant nor near) and (somewhat near); with respect to sincerity of the dean as a leader the median varied between 3 (neither insincere nor sincere) and 4 (somewhat sincere); with respect to friendliness the dean the median varied between 3 (neither unfriendly nor friendly) and 4 (somewhat friendly); and lastly with respect to the qualification of

the dean the median varied between 3 (neither unqualified nor qualified) and 4 (somewhat qualified). The results of the median shows that the respondents in general either were neutral in their response or were indicating towards the positive side of the leadership behaviour of the deans and there were no disagreements or negative responses below the point 3 on the Likert scale. The interpretation is that the academic and administrative staff felt that the dean as a leader demonstrated leadership styles and related attributes.

With regard to standard deviation it can be seen that it varied between a minimum deviation of 0.86486 and 1.21271 indicating that the observations were lying within two standard deviations distance from the normal. In statistical analysis widely used representations are portions lying within ±1.96 standard deviations of the mean within which 95% of the observations are expected to be distributed within the normal curve (SPSS Inc., 2010). Thus the results of this research indicate that a maximum standard deviation of 1.21271 satisfies the requirement of the observations to lie within ±1.96 standard deviations indicating that data are normal.

3.17 Missing data and outliers

After measuring the central tendency the data was checked for outliers and missing data. Missing data were not found. While missing data was checked using frequency function provided by SPSS, outliers were checked using Mahalanobis distance (D^2) computed using SPSS. Mahalanobis distance is an indicator of the distance of a particular respondent's response from the centroid of the remaining responses obtained from the other respondents and the centroid happens to the point created by the means of all the variables (Tabachnick and Fidell, 2001). Multivariate outliers are detected when the Mahalanobis distance (D^2) of a response under a construct is divided by the degrees of freedom ('df' which is equal to the number of items under a construct) the resulting figure of merit of should be less than 4 (see Hair et al., 2006). While testing multivariate outliers using Mahalanobis distance it was found that the ratio D^2/df found to be within 4 for majority of the cases with only a few cases away from the reference figure of 4 indicating the presence of outliers. Since such cases were small and the few outliers found were close to the threshold of 4, the outliers were not considered extreme and it was not found necessary to delete those responses.

3.18 Test of normality using skewness and kurtosis

After testing the data for outliers other tests of normality namely skewness and kurtosis were conducted. Multivariate normality is an essential condition that determines successful data analysis (Hair et al., 2006). Most multivariate analysis assume normal distribution of data with normal distribution implying a symmetrical bell-shaped curve having the greatest frequency of statistical data in the middle of the curve with smaller frequencies at the extremes of the curve (Pallant, 2007). Violation of normality assumptions could lead to invalidation of statistical hypothesis testing and generate outcomes that could be unreliable (Luo, 2011). Thus it is important to test whether data are normally distributed. Two widely used tests to assess normality are the skewness and kurtosis (Hair et al., 2006).

Skewness is an indicator of the symmetry of the distribution (Pallant, 2007). Distribution of data is said to be skewed to the left or negatively skewed if scores of observations cluster to the right side of the normal. Similarly distribution of data is said to be skewed to the right or positively skewed if scores of observations cluster to the left side of the normal. Acceptable values of skewness lie in the range ±2.0 (Kunnan, 1998).

Kurtosis indicates the extent to which the data distribution curve is peaked (Pallant, 2007). Positive kurtosis value higher than zero indicates a distribution curve that is peaked at the centre with skinny tails at the sides while negative kurtosis with values lower than zero indicates a relatively flat distribution at the centre. Flat distribution signifies the accumulation of scores of observation on either ends of the data distribution curve. While a zero value of kurtosis indicates perfect normality, acceptable values suggested (e.g. DeCarlo, 1997) should be within the range ±3.0.

3.19 Multicollinearity

Multicollinearity is a problem that could occur in predicting a dependent variable by a set of independent variables that are highly related leading to the production of misleading or uninterpretable results (Marsh et al. 2004). Multicollinearity is tested using correlation between independent variables and some (see Hills, 2005) argue that correlation between independent variables exceeding 0.8 while some others (e.g.

Pallant, 2005) argue that values exceeding 0.9 could indicate the presence of multicollinearity.

The next step after testing the descriptives is the assessment of the reliability and validity of the data.

3.20 Structural Equation Modelling (SEM)

SEM is general statistical modeling technique used in behavioural sciences research and is an appropriate framework that could be used in statistical analysis and includes multivariate methods, for instance factor analysis, discriminant analysis, regression analysis and canonical correlation (Hox & Bechger, 1998). The structural equation model could be imagined to be in the form of a graphical path diagram. A set of matrix equation are used to represent the statistical model (Hox & Bechger, 1998). An important advantage of SEM is its ability to model several multiple regression equations simultaneously, using moderating and mediating variables as deemed necessary (Byrne, 2001; Kline, 1998). Other important facilities available while using SEM are:

- It demonstrates the contribution of independent variable in explaining the dependent variable (Byrne, 2001; Kline, 1998).
- It models the direction of the relationship between the independent and dependent variable within a multiple regression equation (Byrne, 2001; Kline, 1998).
- It tests different model structures (Byrne, 2001; Kline, 1998; Ullman, 2001).
- It tests alternate relationships between sets of variables (Byrne, 2001; Kline, 1998; Ullman, 2001).
- It enables the researcher to test whether the same model can be applied across groups (Kline, 1998; Ullman, 2001).
- It helps in specifying reliability and error terms (Byrne, 2001; Ullman, 2001).
- Enables the identification of a model that makes theoretical sense as well as test whether the model is a good fit to the data (Kline, 1998) and is parsimonious (Ullman, 2001).

Although SEM provides a number of facilities and advantages in testing a multiple regression model, it is important to understand that the model identified must be theory driven and based on research (Abramson et al., 2005). Failing to do so could result in questioning the validity of the model. Furthermore there are limitations that are attributed to interpreting outcomes derived using SEM. For instance models identified using SEM could be incomplete as it is difficult to know whether a model is complete and whether or not additional variables could improve the model fit. One way to overcome is to rely upon established literature or research for guidance (Kunnan, 1998). Another important limitation could be the dilemma created by SEM with respect to choosing the best model when two or more models come out with same number of parameters and have a good model fit because the model is purely mathematical in nature. This limitation could be overcome by evaluating equivalent models using alternative analytical procedures such as assessing the squared multiple correlations of the multiple regression equations pertaining to equivalent models and deduce a preferred model (Joreskog & Sorbom, 1989). Despite these limitations SEM as a technique has been found to be used in leadership process research widely, for instance Rosser et al. (2003) who used SEM in understanding the leadership effectiveness of academic deans and directors in higher education. Similar examples (see Hooijberg & Lane, 2005; Bogler, 2001) are available in leadership literature wherein some have used SEM to test the statistical models developed by them.

3.20.1 Features of SEM

SEM could be used for Confirmatory Factor Analysis (CFA) and path analysis (Janssens et al., 2008). CFA tests a particular set of observations to find out whether a pre-existing theoretical model underlies those observations whereas path analysis assesses the various relationships that could exist among measured variables and is called the causal modeling (Jackson, 2005). SEM generally examines the direct relationship between independent and dependent variable of the format:

Dependent Variable (DV) = Independent variable (A) + Independent Variable (B) + Independent Variable (C) → (4).

Equation four is depicted as a simple model in Figure 3.4.

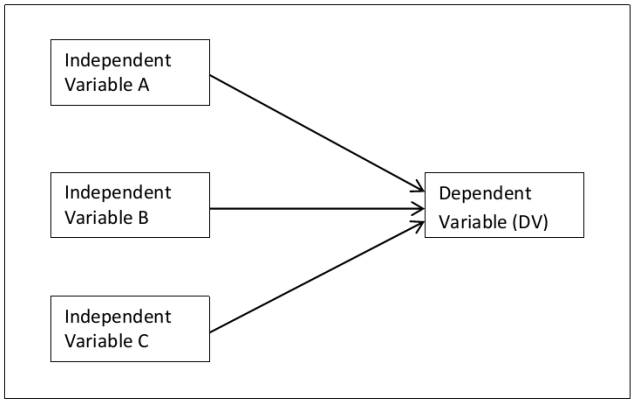


Figure 3.4, Model representing equation (4).

An example of the structural equation model is provided in Figure 3.5. The regression equations corresponding to the SEM in Figure 3.5 are given as:

$DV = k_0 + \beta_1 (IV\text{-}A) + e_A \rightarrow (5)$

$DV = k_1 + \beta_2 (IV\text{-}A) + e_B \rightarrow (6)$

$DV = k_2 + \beta_3 (IV\text{-}A) + e_C \rightarrow (7)$

Where DV = Dependent variable

IV = Independent variable

k_0 - k_2 = Constants

β_1 - β_3 = Regression coefficients

e_A - e_C = Error components

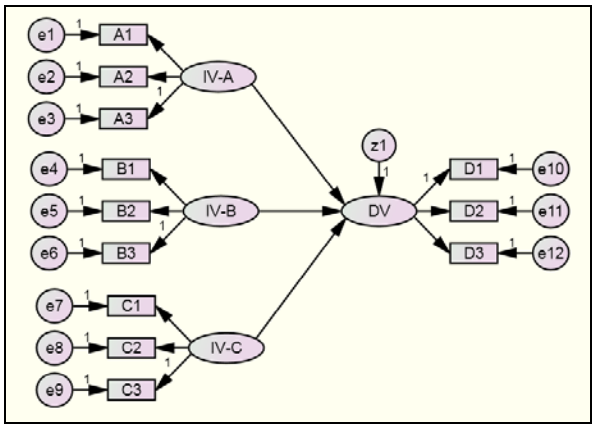


Figure 3.5, Example of a structural equation model represented by equations (5), (6) and (7).

In Figure 3.5 the variables IV-A, IV-B, IV-C and DV are called latent variables or unobserved variables (represented by an ellipse). IV-A, IV-B and IV-C are the

exogenous variables (independent) and DV is the endogenous variable (dependent). These variables are the constructs that are being measured using the questionnaire. A1-A3, B1-B3, C1-C3 and D1-D3 are called the observed or manifest variables (also called items and represented by rectangles) which represent the questions in the questionnaire. The terms 'e_1-e_{12} and z_1' are called the error terms. Single headed arrows indicate the paths that define the causal relationships whereas double headed arrows indicate covariance (Hox & Bechger, 1998). Furthermore, SEM could be recursive or non-recursive with recursive model having unidirectional causal relationships and independent error terms while non-recursive models having bi-directional causal relationship (Arbuckle & Wothke, 1999; Byrne, 2001; Kline, 1998; Ullman, 2001).

Decisions to be made based on the solutions provided by SEM require an assessment of the unidimensionality of the model, convergent validity, reliability and discriminant validity (Janssens et al., 2008). In addition path analysis needs to be carried out to check the causal link between the independent and dependent variables. The theory provided above gives a strong support for SEM to be adopted.

3.21 Confirmatory Factor Analysis

Confirmatory factor analysis assumes that the covariances between a set of manifest variables can be understood by a smaller number of underlying latent factors (Hox & Bechger, 1998). CFA enables the researcher to assess the various parameters such as correlation, covariance, variances and factor loadings and estimate them as well as assess the goodness fit of the model to the data. CFA uses one of the widely used iterative methods namely maximum likelihood (ML) estimation to estimate the parameters in a model. The reason for using ML estimation is that it is highly resistant to violations in normality which could alter the parameter estimates. Although there are other types of factor analysis such as exploratory factor analysis (EFA), CFA scores over EFA in that EFA assumes an arbitrary model while CFA defines a structural regressions model which is imposed on data (Hox & Bechger, 1998). Furthermore, unlike EFA, CFA can specify the structural model exactly and test whether it is acceptable. CFA is widely used in leadership literature (e.g. Hooijberg & Lane, 2005) and so provides support to use CFA in this research.

3.22 Unidimensionality and Common method bias

Further to the discussion on SEM and CFA, the researcher applied two important tests to the model in order to assess the unidimensionality characteristic of the model and the presence of common method bias in the data collected. Unidimensionality refer to the existence of one underlying dimension in common in a model and is tested using the output generated by the SEM modeling software AMOS (Janssens et al., 2008). Two criteria were tested which were the regression weight estimate (should be > 0.5) and the critical ratio (C.R.> ±1.96) (Janssens et al. 2008). As far as the common method bias test was concerned, the average variance extracted (AVE) method was used in this research. Common method bias is generally caused due to many reasons which include some sources having a common rator, item characteristic effect of the questionnaire (e.g. ambiguous items in the questionnaire), item context effect such as grouping effects of the questionnaire and measurement context effects caused by such things as the measurement of predictor and criterion variables together) (Meade et al., 2007).

3.23 Chapter summary

This chapter covers the research methodology adopted and implemented. Beginning from the philosophical aspects, the chapter has discussed the epistemological, ontological, approaches to research, research methods, rationale for the choice of the research philosophy, approach and method, research design, research strategy and data analysis aspects. In addition, this chapter has provided the outcome of the pilot study as well as the modifications that were carried out in the research model and hypotheses.

Chapter 4

Data analysis

4 Introduction

This chapter discusses in detail the various statistical analyses conducted using the data. Demographic analysis, descriptive statistics, model specifications, Confirmatory Factor Analysis (CFA), Structural Equation Modeling (SEM), path analysis and hypotheses verification are discussed in the following sections.

4.1 Demographic

There were 171 valid and useable responses to the questionnaire. SPSS version 18.0 was used to analyse the demographic aspects. Appendix VI provides the mean, median and standard deviation pertaining to the responses. It can be seen that out of the valid 171 responses received, the distribution of respondents showed that 44.4% were female and 55.6% were male. There is almost equal participation by respondents of both genders. In regard to the place (country) of residence, 76.6% of the responses belonged to the category 'others'. The 'other' category comprised respondents from Canada, Egypt, France, India, UK and USA. However the combined strength of responses from participants residing in countries such as Bahrain, Canada, UK and US, accounted for 23.4% whereas that of respondents from Egypt, France and India accounted for 76.6%. Interestingly it can be seen that the combined strength of respondents from India and UK alone was 89.5% indicating that overwhelming responses were obtained from only two countries. The majority of the respondents belonged to the age group 30-39 (35.7%) while 32.2% belonged to the age group 40-49. The remaining respondents belonged to either of the age groups 20-29 and above 50. Lastly, with regard to the number of years worked in or associated with business schools, the majority of the respondents belonged to the range 6-10 years. 26.9% indicated that they had been working or associated with the business schools for 5 years or less with another 25.7% indicating that they had been working or associated with business schools for over 11 years but less than 15 years. The percentage of respondents either working or associated with business schools for 16 year or more was 9.4%.

4.2 Descriptives

Analysis of descriptives involved assessing the median, standard deviation, normality, skewness and kurtosis of data as well as multicollinearity. Table 4.1 provides the descriptive data analysis. Detailed reports from SPSS are provided in Appendix VI. From Appendix VI, it can be seen that there is no missing value reported by SPSS. The median provides a measure of the central tendency of the responses (Szafran & Austin, 2012). It can be seen that the median for all the constructs centred around the responses 3 or 4 in the 5-point Likert scale. This indicated that respondents were neutral or oriented towards either agreeing to the statement in the questionnaire for constructs Organisational Structure, Leadership Practice, LEADER-A, LEADER-B, LEADER-C, LEADER-D and LEADER-E. For the construct Management Style the responses were centred around 'sometimes and often' indicating that different managing styles were observed. With regard to organisational structure it can be seen that responses were found to centre around 'neutral and agree' indicating that the respondents believe that organisational structure is an important factor that affects leadership practice. Organisational culture was also found to be moving around the category 'others' and the median of 6 indicates that the responses are predominantly belonging to the category 'others' (see Appendix VII). In a total response of 160 under 'others' category 121 responses were from India and 22 were from UK indicating that 75.6% of respondents from 'others' category were from India while 13.75% were from UK. This shows that 'others' category was predominantly comprised two nationals namely Indian and British, with both of them accounting for 88.35% of responses under 'others' category. There was no response from other GCC countries while responses from four other countries namely Canada, Egypt, France and USA accounted for just 11.65% of the responses. Thus overall as far as organisational culture was concerned the responses were heavily skewed (the majority were from India/of Indian culture).

For the construct Decision Quality the responses were around 'Neither low nor high' and 'High' indicating that decision quality was not low. Again with respect to the construct Leadership Effectiveness the responses were either 'Neither low level nor high level effectiveness' or 'high level effectiveness' indicating that their perceptions of the effectiveness of deans was on the high side.

No.	Constructs	Median	Standard deviation	Skewness	Kurtosis
1	LEADER-A	3 to 4	0.897 to 0.977	(-0.632) to (-0.393)	(-0.210) to (0.450)
2	LEADER-B	3 to 4	0.961 to 0.975	(-0.69) to (-0.202)	(-0.44) to (0.345)
3	LEADER-C	3	0.92 to 1.026	(-0.656) to (-0.092)	(-0.644) to (-0.031)
4	LEADER-D	3 to 4	0.971 to 1.052	(-0.716) to (-0.387)	(-0.396) to (0.488)
5	LEADER-E	4	0.884 to 0.962	(-0.811) to (-0.614)	(0.302) to (0.992)
6	Leadership Practice	3 to 4	0.865 to 1.088	(-0.910) to (-0.193)	(-0.405) to (1.239)
7	Management Style	3 to 4	1.00 to 1.172	(-0.564) to (-0.024)	(-0.732) to (0.087)
8	Organisational Structure	3 to 4	0.973 to 1.127	(-0.687) to (0 .051)	(-0.669) to (0.062)
9	Organisational Culture	6	1.58	-1.57	0.78
10	Decision Quality	3 to 4	0.915 to 1.002	(-0.844) to (-0.523)	(0.081) to (0.721)
11	Satisfaction	3 to 4	1.09 to 1.213	(-0.994) to (-0.032)	(-0.773) to (0.112)
12	Leadership Effectiveness	3 to 4	1.058 to 1.123	(-0.696) to (-0.444)	(-0.353) to (-0.057)

Table 4.1, Provides the descriptive data analysis for the leadership model constructs

Finally for measuring Satisfaction four different scales were used with a median found to lie between 3 and 4. The first scale varied from 'Distant' to 'Near'. Responses provided were around 'Neither distant not near' and 'Somewhat near'. For the second scale the points varied from 'Insincere' to 'Sincere'. Responses provided were around the points 'Neither insincere nor sincere' and 'Somewhat sincere'. For the third scale the points varied from 'Unfriendly' to 'Friendly'. The responses were around the points 'Neither unfriendly nor friendly' and 'Somewhat friendly'. Thus overall the satisfaction levels were on the positive side of the scale.

As far as the standard deviation readings were concerned, it can be seen that the maximum deviation for any construct was 1.58 (for the control variable Organisational Structure). Research shows that standard deviation values lie in the range 1 to 2 for a normally distributed data. Thus it can be seen that the data distribution with respect to standard deviation figures indicate normality. However more tests of normality were conducted in terms of skewness and kurtosis. Skewness values for a normally distributed data set should not exceed absolute values of 1.5 while kurtosis values should not exceed 3.0 (DeCarlo, 1997). It can be seen from Table 4.1 that values reported by SPSS for skewness and kurtosis are within limits. As far as multicollinearity is concerned, correlation analysis between items provides a

measure of the presence or absence of multicollinearity. Correlation between items should not exceed 0.8 or 0.9 if multicollinearity is absent. Thus the data collected was checked for normality, an important need for conducting CFA and SEM, prior to undertaking a detailed statistical analysis.

4.3 Leadership models analysis

Two models were assessed. One was the leadership style model (Figure 2.3). The other was the leadership effectiveness model (Figure 2.4).

4.4 Reliability analysis

Table 4.2 provides the internal consistency analysis of the data collected for the Leadership style model, conducted using SPSS version 18. As far as reliability figures are concerned it can be seen that except for the construct LEADER-C the other reliability figures for the rest of the constructs, the value of alpha is greater than the reference value 0.7 chosen are either acceptable or good.

Measurement Items (Interval Scale)	Items	Cronbach's Alpha	Reliability Results	Inter-Item Correlation (range)	Item-Total Correlation (range)
LEADER-A	7	0.853	Good	0.355-0.644	0.567-0.647
LEADER-B	5	0.83	Good	0.311-0.632	0.475-0.705
LEADER-C	3	0.664	Acceptable	0.234-0511	0.358-0.620
LEADER-D	3	0.72	Acceptable	0.36-0.518	0.5-0.626
LEADER-E	4	0.749	Acceptable	0.371-0.466	0.513-.57
LEADPRAC	25	0.95	Good	0.213-0.648	0.507-0.725

Table 4.2, Internal consistency analysis of the leadership style model

For the construct LEADER-C even though the alpha figure of 0.664 is lower than 0.7, alpha figures of 0.6 and above can be considered acceptable (e.g. Cooksey, 1997). Thus it can be inferred that the data is generally reliable and the construct LEADER-C was retained for further analysis.

Two internal consistency measures were also measured, namely, item-item correlation and item-total correlation to confirm the reliability of the data. Item-item correlation should exceed 0.3 and item-total correlation should exceed 0.5. However from Table 4.2 it can be seen that inter-item correlations for some items under constructs LEADER-C and LEADERPRAC had lower than 0.3 and item-total correlations for

some items under two constructs LEADER-B and LEADER-C were lower than 0.5. A decision was taken not to delete the items at this stage due to the importance given to the contents of those items causing concern. Further statistical analysis was carried out without deleting these items and a decision was left to be taken after conducting further statistical tests. Besides, reliability tests did not include tests on the control variable organisational structure as this variable was only used to test its relationship with individual items of the constructs leadership practice, management style and organisational setting.

4.5 Validity

It can be seen from Table 4.2 that for the constructs LEADER-A, LEADER-B, LEADER-D and LEADER-E the inter-item correlation ranged from medium to large while for the constructs LEADER-C and LEADPRAC the inter-item correlations ranged from small to large with most of them higher than medium and with a few items contributing for smaller correlation (see Appendix VIII). Similarly, with respect to item-total correlation, for all the constructs except for some items under LEADER-B and LEADER-C the value exceeded 0.5 (see Appendix IX). Since almost all items had high inter-item and item-total correlation it can be considered that convergent validity is acceptable. After testing the content and convergent validity the next test was to conduct the discriminant validity. From Appendix X it can be seen that correlation between no two items under any construct exceeded 0.8 indicating the existence of discriminant validity. This also indicated that multicollinearity is not present.

Further to assessing the reliability and validity at the item level of the leadership style model, the next step was to conduct the reliability and validity analysis at the construct level prior to conducting analysis of the model using SEM. Reliability and validity are two distinct aspects that although closely related are different (Bollen, 1989) because a measure may be reliable (consistent) but not valid (accurate) and vice-versa (Holmes-Smith et al., 2006). Thus following sections discuss these two issues as part of the confirmatory factor analysis. At this point prior to conducting the confirmatory factor analysis the influence of the control variable on observed variables measuring leadership practice was tested. In addition its relationship with

the observed variables used to measure management style and organisational structure are also tested. Correlational analysis was used to test the relationship. The results are provided in Table 4.3.

Items pertaining to constructs Leadership Practice, Management Style and Organisational Structure	Control Construct item (Place or residence)	Evaluation of correlation
Leadership practice: Please rate on a scale of 1 to 5 to what extent does your dean typically engage in the following behaviours? Choose the response number that best applies to each statement and record it in the box to the right of that statement.		
Follows through on the promises and commitments that he/she makes (Q7.9).	-0.173*	Small
Asks for feedback on how his/her actions affect other people's performance (7.14).	0.162*	Small
Speaks with a genuine conviction about the higher meaning and purpose of our work (7.23)	0.159*	Small
Management style: Please indicate your opinion on a scale of 1 to 5 about the Dean of your college as a leader on the following:		
Takes time to explain how a job should be carried out (Q5.1)	0.247**	Small
Organisational structure: Please rate how strongly you agree or disagree on a scale of 1 to 5 that the statement below generally describe your College:		
I have to ask my boss before I do almost anything (Q6.4)	0.238**	Small
Any decision I make has to have my boss's approval (Q6.5)	0.178*	Small
*. Correlation is significant at the 0.05 level (2-tailed).		
**. Correlation is significant at the 0.01 level (2-tailed).		

Table 4.3, Correlation between the control variable and some Items pertaining to constructs Leadership Practice, Management Style and Organisational Structure

From Table 4.3 it can be seen that correlation between organisational culture (measured by place of residence) and two items (Q7.14 and Q7.23) of leadership practice is positive and statistically significant while the correlation between organisational structure and one item (Q7.9) of leadership practice is negative but statistically significant. It is possible that the results indicate that organisational culture influences leadership practice to some extent.

None of the other items of the constructs leadership practice, management style, and organisational structure did not have a statistically significant correlation with place of residence.

4.6 Construct reliability

Literature shows that a common way to measure construct reliability is using squared multiple correlations (SMC). AMOS version 18 was used to generate SMC report. Prior to conducting the construct reliability it is necessary to describe the constructs of the leadership style model. Table 4.4 describes the constructs used in this research as part of the leadership style model.

No.	Name of Constructs	Number of observed variables measuring the construct	Codes of constructs measured	Definition of Constructs
1.	Leadership Construct A	Q8.1-Q8.7 (7)	LEADER-A	Leadership style A
2.	Leadership Construct B	Q9.1-Q9.5 (5)	LEADER-B	Leadership style B
3.	Leadership Construct C	Q10.1-Q10.3 (3)	LEADER-C	Leadership style C
4.	Leadership Construct D	Q11.1-Q11.3 (3)	LEADER-D	Leadership style D
5.	Leadership Construct E	Q12.1-Q12.4 (4)	LEADER-E	Leadership style E
6.	Leadership Practice	Q7.1-Q7.25 (25)	LEADERPRAC	Leadership Practice

Table 4.4, List of constructs used in the leadership style model

The initial leadership style model is depicted in Figure 4.1.

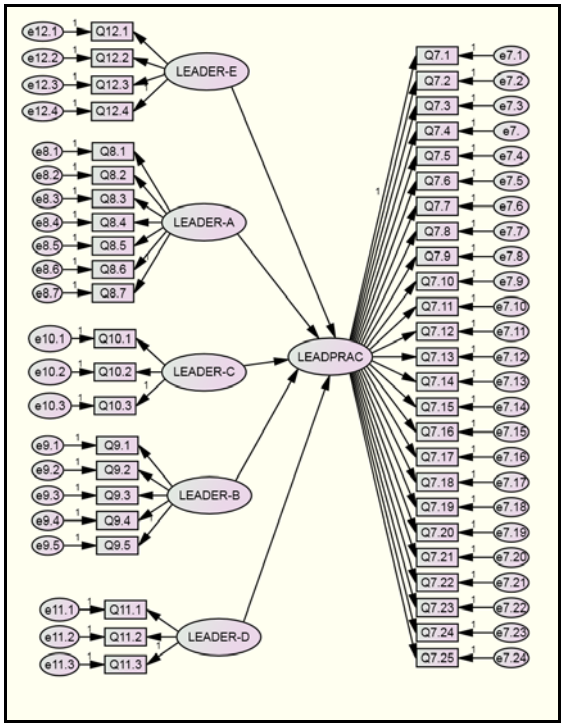


Figure 4.1, Initial leadership style model

In Figure 4.1, the ellipse represents the latent variable, the rectangle indicates the observed variable, 'e' indicates the error component and the single headed arrows indicate variance. Double headed arrows indicate covariance. Data from SPSS was used to test the SMC. The minimum value of SMC that is acceptable in statistical analysis of reliability of constructs is 0.3 (Holmes-Smith et al., 2006). Table 4.5 shows that two items Q10.2 (SMC=0.179) and Q7.14 (SMC=0.268) are contributing to lower SMC and were deleted. Although Q7.23 and Q9.5 also contributed to SMC lower than 0.3 since the values were very close to 0.3 were retained to carry out further statistical tests.

Squared Multiple Correlations	
	Estimate
Q12.1	0.502
Q12.2	0.377
Q12.3	0.423
Q12.4	0.414
Q11.1	0.524
Q11.2	0.528
Q11.3	0.354
Q10.1	0.582
Q10.2	0.179
Q10.3	0.561
Q9.1	0.589
Q9.2	0.565
Q9.3	0.483
Q9.4	0.597
Q9.5	0.294
Q8.1	0.478
Q8.2	0.498
Q8.3	0.426
Q8.4	0.465
Q8.5	0.484
Q8.6	0.418
Q8.7	0.416

	Estimate
Q7.25	0.468
Q7.24	0.431
Q7.23	0.291
Q7.22	0.5
Q7.21	0.424
Q7.20	0.557
Q7.19	0.495
Q7.18	0.408
Q7.17	0.401
Q7.16	0.432
Q7.15	0.305
Q7.14	0.267
Q7.13	0.51
Q7.12	0.432
Q7.11	0.488
Q7.10	0.387
Q7.9	0.479
Q7.8	0.468
Q7.7	0.417
Q7.6	0.495
Q7.5	0.41
Q7.4	0.571
Q7.3	0.35
Q7.2	0.456
Q7.1	0.507

Table 4.5, SMC for the leadership style model

Squared Multiple Correlations	Estimate
Q12.1	0.502
Q12.2	0.379
Q12.3	0.421
Q12.4	0.413
Q10.1	0.689
Q10.3	0.477
Q11.1	0.532
Q11.2	0.52
Q11.3	0.35
Q9.1	0.589
Q9.2	0.566
Q9.3	0.483
Q9.4	0.597
Q9.5	0.293

	Estimate
Q8.1	0.478
Q8.2	0.498
Q8.3	0.426
Q8.4	0.466
Q8.5	0.483
Q8.6	0.419
Q8.7	0.414

Q7.25	0.466
Q7.24	0.429
Q7.23	0.29
Q7.22	0.498
Q7.21	0.421
Q7.20	0.56
Q7.19	0.497
Q7.18	0.413
Q7.17	0.399
Q7.16	0.432

	Estimate
Q7.15	0.299
Q7.13	0.51
Q7.12	0.435
Q7.11	0.489
Q7.10	0.383
Q7.9	0.48
Q7.8	0.468
Q7.7	0.418
Q7.6	0.494
Q7.5	0.409
Q7.4	0.575
Q7.3	0.347
Q7.2	0.461
Q7.1	0.507

Table 4. 6 SMC after deleting items in the leadership style model

After deleting the items it can be seen from Table 4.6 that all the SMCs are above 0.3 are very close to 0.3. Thus it can be said that construct reliability exists. After conducting reliability test discriminant validity test was conducted.

4.7 Discriminant validity

In order to conduct discriminant validity AMOS version 18 was used. The model used for testing with AMOS is reproduced in Figure 4.2.

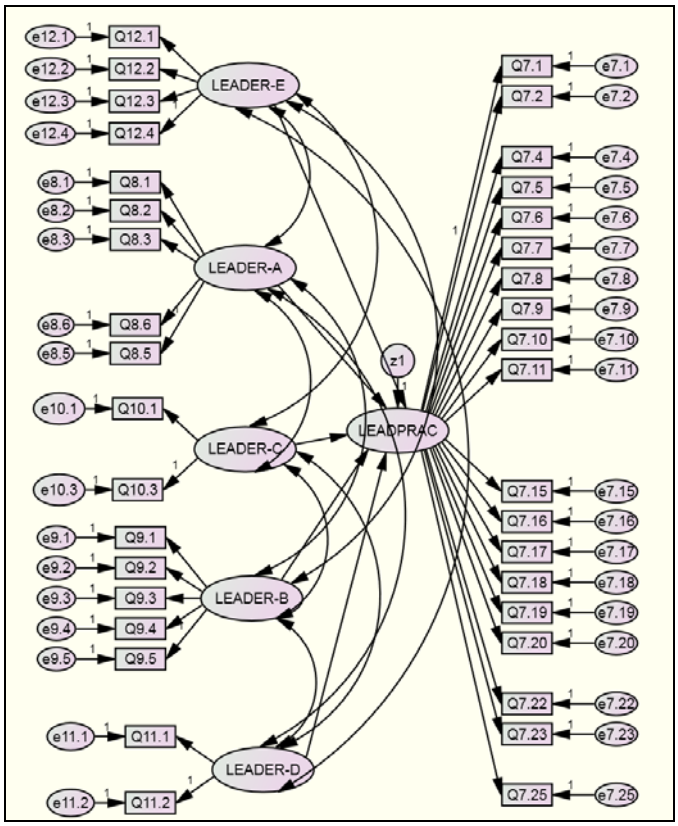


Figure 4.2, Leadership style model used for conducting discriminant validity

Discriminant validity tests involve measuring the sample correlations, standardized residual covariance and goodness fit of the model to data. Appendix XI provides the sample correlation values for all items and Table 4.7 provides the correlations between the constructs. Table 4.7 shows that correlation between no pair of constructs exceeds 0.9 indicating that the correlation test on constructs has produced satisfactory results (Holmes-Smith et al. 2006).

			Estimate
LEADER-A	<-->	LEADER-E	.871
LEADER-C	<-->	LEADER-E	.502
LEADER-B	<-->	LEADER-E	.854
LEADER-D	<-->	LEADER-E	.683
LEADER-A	<-->	LEADER-C	.498
LEADER-A	<-->	LEADER-B	.901
LEADER-A	<-->	LEADER-D	.736
LEADER-B	<-->	LEADER-C	.533
LEADER-D	<-->	LEADER-C	.718
LEADER-B	<-->	LEADER-D	.889

Table 4. 7 Correlations: Leadership style model

This also indicated that multicollinearity is not present. Similarly the test of standardized residual covariance was conducted and results are provided in Appendix XII which shows certain covariances are higher than the reference value of 2.0. Although Jöreskog and Sörbom (1993) argue that covariance values should not exceed 2.58 a more stringent figure of 2.0 was set for this research.

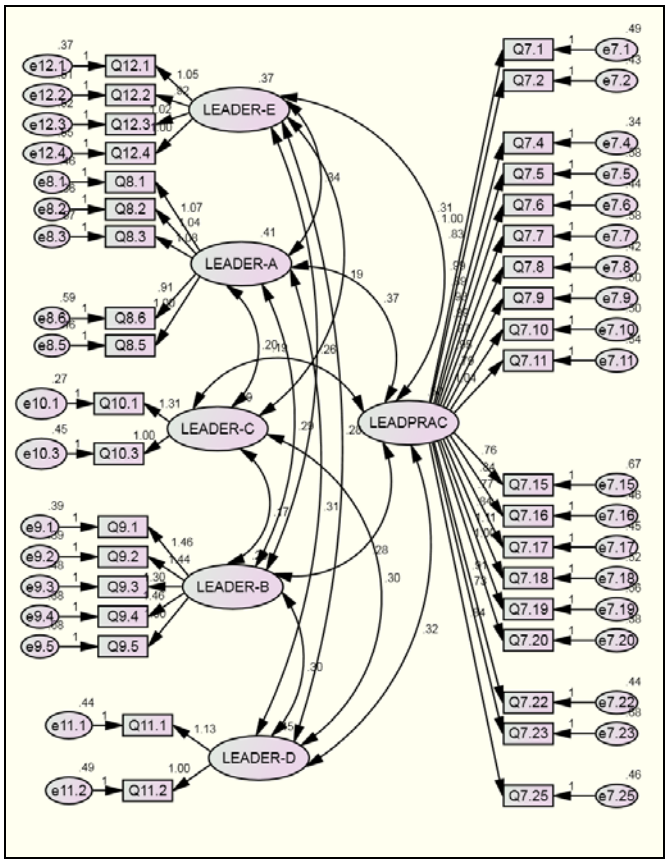


Figure 4.3, Leadership model tested for construct reliability and validity

After deleting certain items causing concern the final covariance matrix accepted was given in Appendix XIII. Even though some covariances were still higher than 2.0 they were accepted as the number of such items were very few and the values were closer to 2.0. Thus the model that has been accepted after deleting items based on covariance is provided in Figure 4.3.

After determining the optimum number of factors through CFA and testing the reliability and validity of the data, the next step taken was to confirm the fitness of the theoretical model to data (Long & Perkins, 2003). Commonly reported indices include Normed Fit Index (NFI), Non-Normed Fit Index (NNFI, also known as TLI),

Incremental Fit Index (IFI), Comparative Fit Index (CFI), and root mean square error of approximation (RMSEA) (Schreiber et al. 2006). Although there is no agreement on which of these indices need to be reported because each one of them provides different information, more than one index is generally reported. In line with this argument, IFI, TLI, CFI, RMR (root mean square residual) and RMSEA indices were reported. Values of IFI, TLI and CFI should exceed 0.9 although some argue that no absolute test is available to insist on the minimum value of indices as 0.9 (Hair et al., 1998). Marsh et al. (1988) argue that goodness fit index (GFI) values could be accepted at 0.85. If one goes by the argument of Marsh et al. (1988), then from Table 4.8, it can be seen that all the index values exceed 0.85. Similarly, with respect to the RMR value, the value should be as small as possible with a zero indicating a perfect fit (Schreiber et al. 2006). In Table 4.9, it can be seen that RMR value is reported as 0.051 and is considered to be acceptable. Similarly, RMSEA values that are generally considered to be acceptable should be less than 0.06-0.08 (Schreiber et al. 2006). From Table 4.10, it can be seen that RMSEA value at 0.064 is within the acceptable level. Thus in general it can be inferred that the model fits data.

Model	IFI Delta2	TLI rho2	CFI
Default model	.871	.858	.869
Saturated model	1.000		1.000
Independence model	.000	.000	.000

Table 4.8, IFI, TLI and CFI index values for the leadership style model

Model	RMR
Default model	.051
Saturated model	.000
Independence model	.344

Table 4.9, RMR index values for the leadership style model

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.064	.057	.070	.001
Independence model	.169	.164	.174	.000

Table 4.10, RMSEA index values for the leadership style model

The discussions given above have provided the statistical analysis of the model using CFA. From this model the initial model was specified for conducting the SEM as the first step in SEM is to specify the initial model. The initial model is a diagram in

which the hypothesized relationships amongst the exogenous and endogenous variables are expressed (Kline, 1998) including mediators and moderators. Thus the leadership style model specified for this research is provided in Figure 4.4.

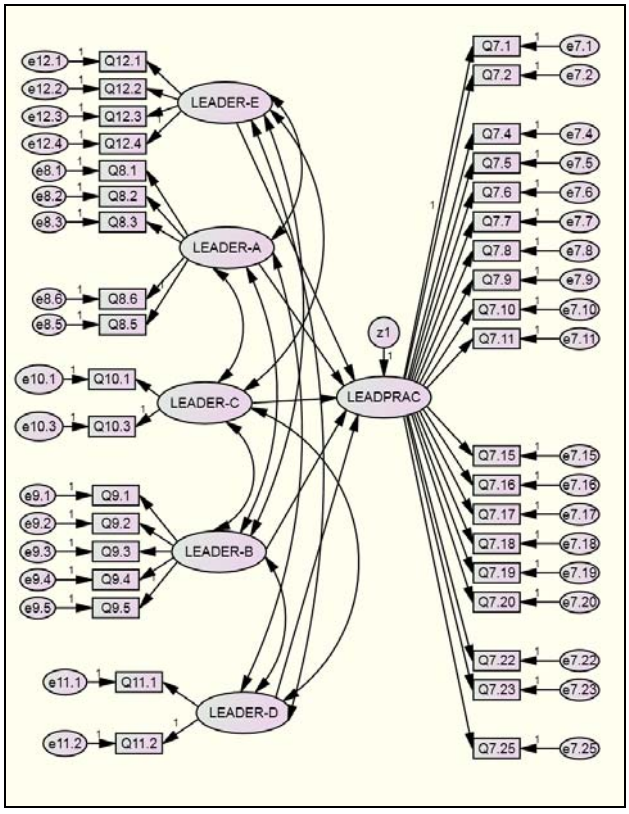


Figure 4.4, Initially specified leadership style model

4.8 Model fit

Prior to assessing the fitness of the model, the model was tested to know whether it could be identified as part of the SEM. Recursive models are identifiable (Abramson et al., 2005). AMOS produces a report as part of the Analysis Summary whether model is recursive or not. It was found from the AMOS report that the model is recursive. Thus the specified model was considered to be identified. Fitness of the model is tested with respect to sample size (Hox & Bechger, 1998). Similarly parsimony is another aspect that needs to be measured as part of SEM (Arbuckle & Wothke, 1999; Ullman, 2001). A model is parsimonious if there are fewer parameters in comparison to number of degrees of freedom (Schermelleh-Engel et al., 2003). Parameters are those such as variances and covariances while the degree of freedom

(df) is defined as: (number of non-redundant elements in the variance–covariance matrix - the number of model parameters to be estimated) (Kunnan, 1998). Parsimonious nature of the model is measured using Chi-square report (Abramson et al. 2005) generated by AMOS. From Table 4.11 it can be seen that the number of degrees of freedom measured for the initial leadership model was 614 whereas the number of parameters measured was 89 indicating that there are far fewer parameters when compared to degrees of freedom. From this it can be concluded that the initial leadership style model is parsimonious.

CMIN

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	89	1039.774	614	.000	1.693
Saturated model	703	.000	0		
Independence model	37	3912.709	666	.000	5.875

Table 4.11, Chi-square measurement

Having assessed the parsimony of the model, the minimum sample discrepancy function was tested in order to examine whether the model fits in the population. Minimum sample discrepancy function is measured using the CMIN value reported by AMOS when the p-value of significance is greater than 0.05 indicating the acceptance of the null hypothesis (Arbuckle, 2010). From Table 4.11, it can be seen that CMIN value measured was 1039.774 and the p-value is not significant at 0.05 but at 0.000 leading to the rejection of the null hypothesis and hence indicating lack of fit of the model to the population. The Bollen-Stine Bootstrap (Default model) method is commonly used to check whether the null hypothesis could be accepted or not (e.g. Bollen & Stine, 1992). From the report of AMOS (Table 4.12) it can be seen that the Bollen-Stine bootstrap 'p' value is significant at 0.104 indicating that the model could fit the population if the valid responses obtained from a sample population of 171 is increased to 180. Bollen-Stine bootstrap method is a simulation method offered by AMOS that could be used to confirm whether the lower sample size was the reason for the lack of fit of the model to the population tested using the CMIN value provided in Table 4.11. It can be concluded that the model did fit to the population and the minimum sample discrepancy function test is satisfactory.

Bollen-Stine Bootstrap (Default model)

The model fit better in 180 bootstrap samples.

It fit about equally well in 0 bootstrap samples.

It fit worse or failed to fit in 20 bootstrap samples.

Testing the null hypothesis that the model is correct, Bollen-Stine bootstrap p = .104

Table 4.12, Bollen-Stine Bootstrap simulation model report from AMOS

While the fitness of the population to the model has been tested above the next aspect tested was the population discrepancy function which provides a measure of the unbiased estimate of model fit to population values thereby freeing the measurement from sample size effects (Curran et al. 2002). A commonly used measure to test population discrepancy is the RMSEA. The values of RMSEA that are considered as reasonable and acceptable are those less than 0.08 (Browne and Cudeck, 1993). From Table 4.13, it can be seen that RMSEA value for the initial leadership style model was measured as 0.064 indicating that the model satisfies the population discrepancy function.

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.064	.057	.070	.001
Independence model	.169	.164	.174	.000

Table 4.13, Population discrepancy function measurement

The final test of model fit conducted was to test the goodness of fit of the initial leadership style model to data which was tested using the indices IFI, TLI, CFI and RMR. It can be seen from Table 4.14 that as explained in Section 4.7 the values of IFI, TLI, CFI and RMR are within acceptable range, showing that the model fitness has been tested and accepted.

Model	RMR	IFI	TLI	CFI
Default model	.051	.871	.858	.869

Table 4.14, Goodness of fit test measures of the initial leadership style model

4.9 Model estimation

Model estimation involved analyzing the initial leadership style model using the data collected. The Maximum Likelihood (ML) method is the most widely used method

for model estimation using AMOS (Abramson et al., 2005). Model estimation involved estimation of those parameters that include unanalysed associations between the independent latent variables (exogenous variables), direct relationship between the exogenous and endogenous variables, variance and error variance of all variables (Kline, 1998). Prior to estimating the relationships the sample correlations and standardized residual covariances were tested to confirm the validity of the data that fits the model. Sample correlations provided in Appendix XIII indicate that the correlation values are lower than the acceptable value of 0.8 or 0.9. Similarly the covariance values were within the reference value of 2.0 with only one value between Q8.5 and Q9.5 measured as 2.138 which is close to 2.0. Thus the final specified model was arrived at. The final model referred to as the leadership style model is provided in Figure 4.5 and Figure 4.6. Reporting both unstandardized and standardised estimates of the structural model is recommended (e.g. Abramson et al., 2005) as unstandardized estimate provides information about exogenous variables while standardised estimates provide information about endogenous variables (Abramson et al., 2005).

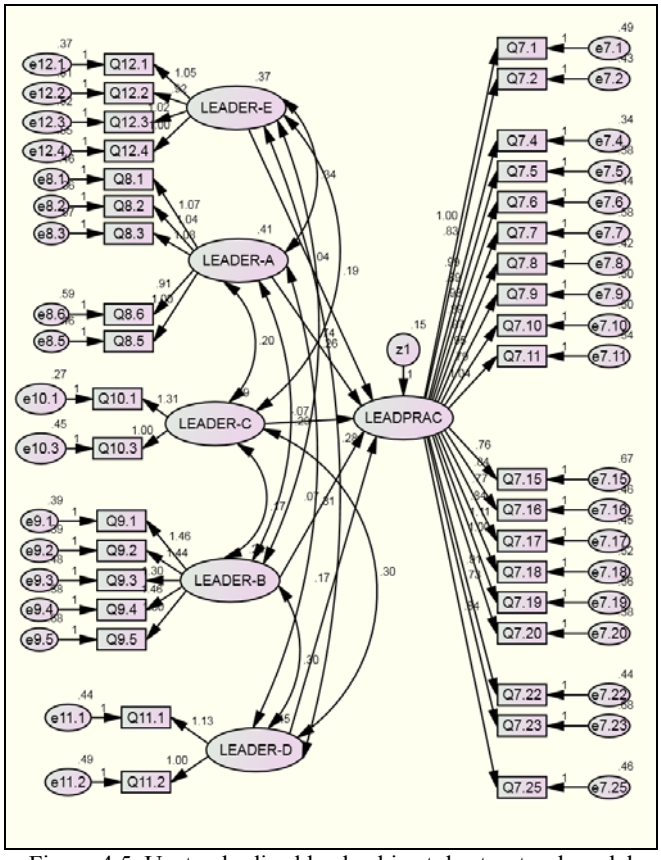


Figure 4.5, Unstandardised leadership style structural model

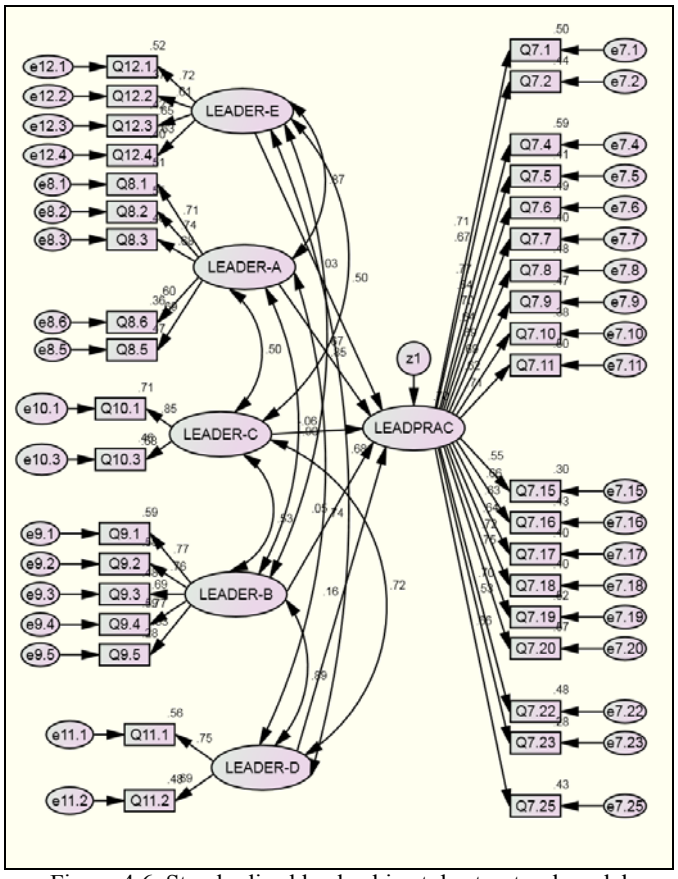


Figure 4.6, Standardised leadership style structural model

Further to the above tests path analysis was conducted by examining the regression weights reported by AMOS and is provided in Table 4.15.

Regression Weights: Leadership style model							
			Estimate	S.E.	C.R.	P	Label
LEADPRAC	<---	LEADER-C	-.065	.260	-.252	.801	par_34
LEADPRAC	<---	LEADER-D	.166	.613	.271	.786	par_37
LEADPRAC	<---	LEADER-A	.737	.365	2.017	.044	par_40
LEADPRAC	<---	LEADER-B	.066	1.066	.062	.951	par_41
LEADPRAC	<---	LEADER-E	.040	.308	.128	.898	par_44

Table 4.15, Regression weights for the leadership style model

Further, from the SMC generated by AMOS Table 4.16 for the construct LEADPRAC it was seen that the exogenous variables LEADER-A, LEADER-B, LEADER-C, LEADER-D, and LEADER-E account for 69.5% variance in the endogenous variable LEADPRAC which indicates a very high degree of explanation.

Squared Multiple Correlations: Leadership style model			
			Estimate
LEADPRAC			.695

Table 4.16, Variance in endogenous variable accounted for by exogenous variables

The regression weight generated by AMOS leads to an understanding of the direct effect of the exogenous variables on the endogenous variable and allows for the comparison of the effect of each one of the exogenous variables on the endogenous variable. As can be seen from Table 4.15, none of the regression estimates are significant except the one between the exogenous variable Leader A and endogenous variable Leadership Practice as the p-value of significance is not lower than 0.05. The relationship LEADER-A → LEADPRAC is only valid as the p-value at 0.044 is significant. Thus the results indicate the hypothesis H1a is accepted while the hypothesis H1b, H1c, H1d and H1e are rejected.

The direct and positive effect of LEADER-A (standardised regression weights, Table 4.17) on the leadership practice (LEADPRAC) is strong (regression weight 0.667). This finding clearly indicates that the construct LEADER-A has a direct, positive, strong and singular impact on the leadership practice. The construct LEADER-A represents transactional leadership style. Hence the leadership practice of the deans of business schools in the HEIs appears to be that described as the transactional leadership style. That is to say that transactional leadership style determines the leadership practice of the deans of business schools in the HEIs.

			Estimate
LEADPRAC	<---	LEADER-C	-.058
LEADPRAC	<---	LEADER-D	.157
LEADPRAC	<---	LEADER-A	.667
LEADPRAC	<---	LEADER-B	.048
LEADPRAC	<---	LEADER-E	.034

Table 4.17, Standardized Regression Weights: Leadership style model

While the remaining leadership styles do not have a statistically significant relationship with the leadership practice, from the covariance table it can be seen that the four leadership constructs LEADER-B, LEADER-C, LEADER-D, and LEADER-E, have statistically significant association with the construct LEADER-A. From Table 4.18, it can be seen that all the associations are significant and positive with figures showing a medium to small association between the variables. From theoretical framework it can be seen that the constructs LEADER-B, LEADER-C, LEADER-D, and LEADER-E indicate transformational, laissez-faire, democratic and autocratic leadership styles respectively.

			Estimate	S.E.	C.R.	P	Label
LEADER-A	<-->	LEADER-D	.313	.060	5.262	***	par_32
LEADER-B	<-->	LEADER-D	.303	.060	5.049	***	par_33
LEADER-B	<-->	LEADER-C	.170	.044	3.875	***	par_35
LEADER-D	<-->	LEADER-C	.298	.064	4.678	***	par_36
LEADER-A	<-->	LEADER-C	.198	.050	3.992	***	par_38
LEADER-A	<-->	LEADER-B	.294	.057	5.131	***	par_39
LEADER-A	<-->	LEADER-E	.337	.061	5.504	***	par_42
LEADER-C	<-->	LEADER-E	.189	.049	3.835	***	par_43
LEADER-D	<-->	LEADER-E	.276	.058	4.783	***	par_45
LEADER-B	<-->	LEADER-E	.265	.055	4.841	***	par_46

Table 4.18, Covariances, leadership style model

The results indicate that the leadership practice of deans of business schools in the HEIs is predominantly transactional. However transactional leadership style was seen to have a strong correlation and association with the remaining four leadership styles. That is to say, deans, while exhibiting transactional leadership style as the dominant style, also appear to exhibit other leadership styles in combination with the transactional style in varying proportions. The results can be summarized as the following:

- Transactional and transformational leadership styles have a medium correlation
- Transactional and laissez-faire leadership styles have a small correlation
- Transactional and democratic leadership styles have a medium correlation
- Transactional and autocratic leadership styles have a medium correlation
- Transformational and laissez-faire leadership styles have a small correlation
- Transformational and democratic leadership styles have a medium correlation
- Transformational and autocratic leadership styles have a small correlation
- Laissez-faire and democratic leadership styles have a medium correlation
- Laissez-faire and autocratic leadership styles have a small correlation
- Democratic leadership and autocratic styles have a small correlation
- The path transactional leadership to leadership practice is significant

The model was tested for the presence of common method bias. Common method bias could be tested using the Average Variance Extracted (AVE) figures. AVE for a model should not be below 0.5 for a construct (Janssens et al., 2008). The AVE was

computed based on AMOS report pertaining to the model in Figure 4.3 and reported in Table 4.19.

	LEADER-A	LEADER-B	LEADER-C	LEADER-D	LEADER-E	LEADPRAC
LEADER-A	**0.47**					
LEADER-B	0.812	**0.484**				
LEADER-C	0.248	0.533	**0.587**			
LEADER-D	0.542	0.889	0.516	**0.52**		
LEADER-E	0.752	0.729	0.252	0.683	**0.428**	
LEADPRAC	0.684	0.619	0.185	0.453	0.539	**0.447**

Table 4.19, Average variance extracted report for the model in Figure 4.3.

From Table 4.19 it can be seen that except for the construct LEADER-E rest of the AVE values are either higher than 0.5 or close to 0.5. This means that on average the items measuring the construct (LEADER-E) could have more error than variance explained by the construct on the items measuring the construct (Hair et al., 2006). However, this error could be caused due to many reasons such as psychological factors affecting the participants (Bollen & Long, 1993; Byrne, 2001; Joreskog, 1993; Schumacker & Lomax, 2004). Another reason could be the possibility of the items measuring the construct may be actually measuring other latent variables besides the hypothesized construct in the study (Kline, 2005; Maruyama, 1998; Schumacker & Lomax, 2005; Tanaka, 1993) (which is also termed as discriminant validity). However considering the fact that discriminant validity was established for this model, it is reasonable to conclude that the reason for a lower value of AVE than the reference value of 0.5 could be extraneous to the one related to the items. Despite this situation it must be pointed out here that since the other indicators of validity of the constructs including convergent validity have been found to be acceptable it is possible to infer that the results of the statistical tests explain the theorised constructs. This argument is supported by others (Hair et al., 2006). Hence it can be concluded that method bias is not present in the data.

After analyzing the data for common method bias, the next test carried out was the test of unidimensionality. Unidimensionality could be tested by assessing the regression weights report generated by AMOS (Janssens et al. 2008). The minimum values suggested (e.g. Janssens et al., 2008) are as follows:

Estimates: Exceeding 0.5

C.R.: Exceeding ±1.96

p-value of significance: Less than 0.05

From Table 4.20 it can be seen that these values have been met and therefore it was concluded that the leadership style model is unidimensional.

Regression Weights: Specified leadership style model (Figure 4.4)							
			Estimate	S.E.	C.R.	P	Label
Q8.5	<---	LEADER-A	1.000				
Q8.6	<---	LEADER-A	.913	.126	7.243	***	par_1
Q8.3	<---	LEADER-A	1.079	.134	8.037	***	par_2
Q8.2	<---	LEADER-A	1.043	.119	8.784	***	par_3
Q8.1	<---	LEADER-A	1.073	.127	8.425	***	par_4
Q9.5	<---	LEADER-B	1.000				
Q9.4	<---	LEADER-B	1.458	.213	6.849	***	par_5
Q9.3	<---	LEADER-B	1.298	.200	6.477	***	par_6
Q9.2	<---	LEADER-B	1.438	.211	6.820	***	par_7
Q9.1	<---	LEADER-B	1.458	.213	6.836	***	par_8
Q11.2	<---	LEADER-D	1.000				
Q11.1	<---	LEADER-D	1.126	.135	8.362	***	par_9
Q10.3	<---	LEADER-C	1.000				
Q10.1	<---	LEADER-C	1.311	.203	6.458	***	par_10
Q12.4	<---	LEADER-E	1.000				
Q12.3	<---	LEADER-E	1.021	.147	6.935	***	par_11
Q12.2	<---	LEADER-E	.916	.139	6.611	***	par_12
Q12.1	<---	LEADER-E	1.046	.140	7.474	***	par_13
Q7.1	<---	LEADPRAC	1.000				
Q7.2	<---	LEADPRAC	.826	.098	8.440	***	par_14
Q7.4	<---	LEADPRAC	.989	.101	9.741	***	par_15
Q7.5	<---	LEADPRAC	.892	.110	8.089	***	par_16
Q7.6	<---	LEADPRAC	.934	.105	8.906	***	par_17
Q7.7	<---	LEADPRAC	.894	.111	8.066	***	par_18
Q7.8	<---	LEADPRAC	.870	.100	8.741	***	par_19
Q7.9	<---	LEADPRAC	.949	.109	8.713	***	par_20
Q7.10	<---	LEADPRAC	.788	.100	7.851	***	par_21
Q7.11	<---	LEADPRAC	1.043	.116	8.956	***	par_22
Q7.15	<---	LEADPRAC	.756	.109	6.940	***	par_23
Q7.16	<---	LEADPRAC	.841	.101	8.349	***	par_24
Q7.17	<---	LEADPRAC	.775	.096	8.032	***	par_25
Q7.18	<---	LEADPRAC	.840	.104	8.056	***	par_26
Q7.19	<---	LEADPRAC	1.113	.121	9.171	***	par_27
Q7.20	<---	LEADPRAC	1.002	.105	9.527	***	par_28
Q7.22	<---	LEADPRAC	.906	.103	8.811	***	par_29
Q7.23	<---	LEADPRAC	.725	.109	6.671	***	par_30
Q7.25	<---	LEADPRAC	.841	.101	8.322	***	par_31

Table 4.20, Test of unidimensioinality of specified leadership style model in Figure 4.4

After analyzing the leadership style model, the next step taken was to analyse the leadership effectiveness model as the main area of research is to understand the relationship between the construct leadership practice (determinant) and construct leadership effectiveness (determined). The following sections deal with the main research model.

4.10 Leadership effectiveness model

The initial leadership effectiveness model is provided in Figure 4.7.

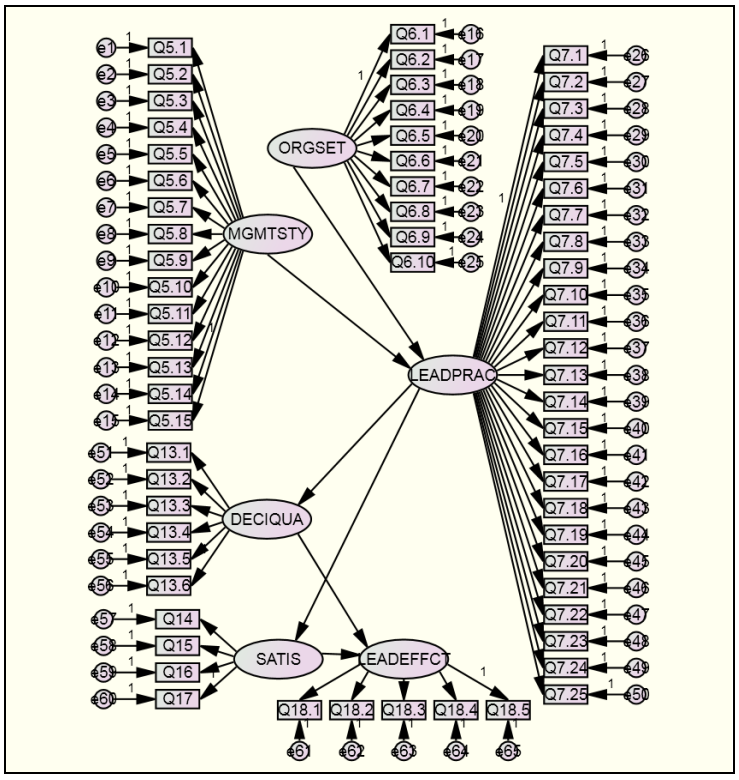


Figure 4.7, Initial leadership effectiveness model

The main variables, their coding, the items used to measure them, their coding and description are provided in Table 4.21.

No.	Name of Constructs	Number of observed variables measuring the construct	Codes of constructs measured	Definition of Constructs
1.	Management Style	Q5.1-Q5.15 (15)	MGMTSTY	Management Style of the Dean
2.	Organisation Structure	Q6.1-Q6.10 (10)	ORGSET	Organisation Structure of business school
3.	Leadership Practice	Q7.1-Q7.25 (25)	LEADERPRAC	Leadership Practice of the Dean
4.	Decision Quality	Q13.1-Q13.6 (6)	DECIQUA	Decision Quality of the decisions taken
5.	Satisfaction	Q14-Q17 (4)	SATIS	Follower Satisfaction
6.	Leadership Effectiveness	Q18.1-Q18.5 (5)	LEADEFFCT	Leadership Effectiveness of the Dean

Table 4.21, Constructs used in the leadership effectiveness model

Statistical analysis of the leadership effectiveness model is similar to that described in Sections 4.3 to 4.9. Thus while the theory pertaining to the various tests were not described in this section, the results of the statistical analysis and the findings only were discussed.

4.11 Reliability and the validity analysis pertaining to the leadership effectiveness model at the item level

Measurement Items (Interval Scale)	Items	Cronbach's Alpha	Reliability Results	Inter-Item Correlation (range)	Item-Total Correlation (range)
MGMTSTY	15	0.911	Good	0.107-0.579	0.349-0.721
ORGSET	10	0.831	Good	0.074-0.536	0.377-0.603
LEADPRAC	25	0.95	Good	0.213-0.648	0.507-0.725
DESIQUA	6	0.882	Good	0.407-0659	0.659-0.754
SATIS	4	0.805	Good	0.386-0.615	0.567-0.723
LEADEFFCT	5	0.909	Good	0.577-0.737	0.697-0.815

Table 4.22, Internal consistency results of leadership effectiveness model

It can be seen that the reliability results based on Cronbach's alpha measures for the six constructs are above the reference value of 0.7 set for this research and were found to be good. As far as internal consistency measurement were concerned, it can be seen that the results for the constructs DESIQUA, SATIS and LEADEFFCT were found to have inter-item correlations with a range exceeding 0.3 and item to total correlations

with a range exceeding 0.5. However some concerns were there with regard to the constructs MGMTSTY, ORGSET and LEADPRAC with some of the correlations found to be lower than the minimum level of 0.3 and 0.5. Keeping in view the importance of the content of the items it was decided that the items would not be dropped at this stage as more rigorous statistical tests to follow would provide the basis to either retain or drop the items causing concern. Thus it was concluded that the data were reliable.

With regard to validity, content validity and convergent validity were checked using the methods provided in Section 3.12. Expert input and pilot study outcomes enabled the finalization of the contents and format of the survey questionnaire and the final instrument used is provided in Appendix II. As far as convergent validity is concerned, it can be seen that internal consistency measures could be used to check the validity and from Table 4.22 as well as the discussions given above in this section, it could be seen that inter-item correlations ranged from small to large whereas the item to total correlations ranged from 0.349 to 0.815. This demonstrated that convergent validity was achieved. Further, discriminant validity was checked and it was found that in no case the correlation exceeded 0.9 with the maximum value found in the case of the construct LEADEFFCT which was reported as 0.815. Thus discriminant validity was achieved. SPSS reports concerning the internal consistency analysis are provided in Appendix XIV. This also indicated that multicollinearity is not present. Further to analyzing the reliability and validity of the data for the leadership effectiveness model at the item level, the next section deals with the reliability and validity aspects at the construct level.

4.12 Reliability and validity analysis pertaining to the leadership effectiveness model at the construct level

As explained earlier, content validity, convergent validity, construct reliability and discriminant validity are tested at the construct level. Each one of these aspects is discussed next. In order to do so the initial model that was to be tested was defined and is given in Figure 4.8. The initial model has been reproduced as drawn by AMOS based on the model developed and depicted in Section 4.10.

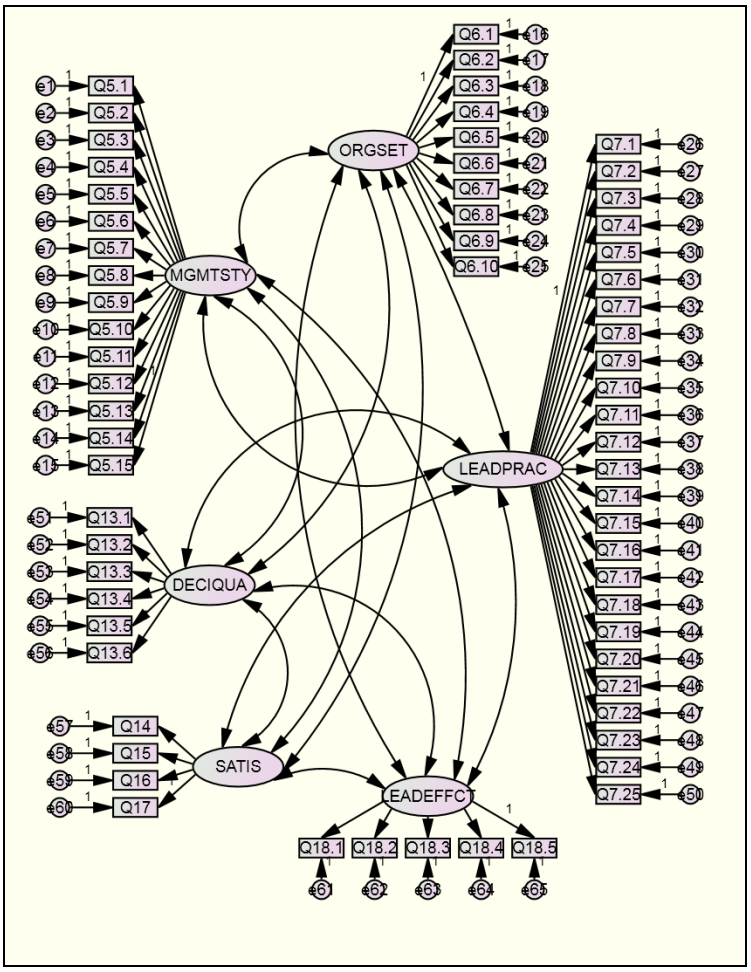


Figure 4.8, Initial leadership effectiveness model

4.13 Construct reliability of leadership effectiveness model

Construct reliability was tested using SMC. Table 4.23 provides the final list of items that satisfied the criterion that no SMC is less than 0.3 in the initial leadership effectiveness model.

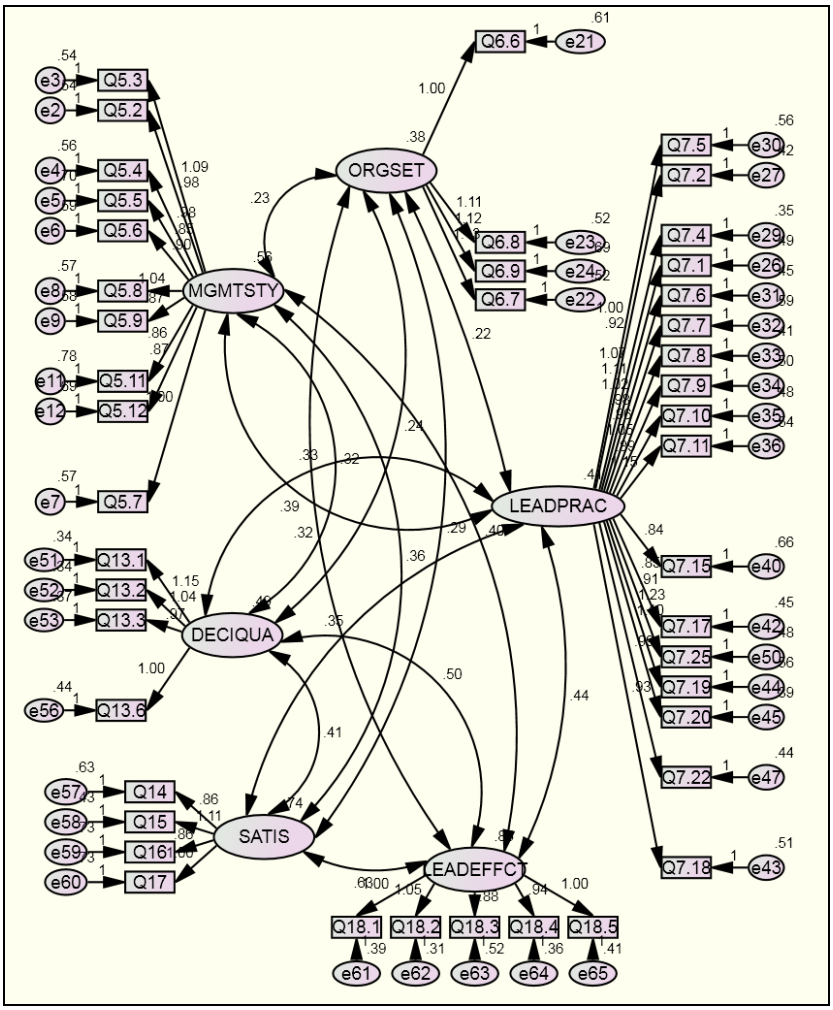
Squared Multiple Correlations: Initial leadership effectiveness model			
	Estimate	Q7.16	0.426
Q7.25	0.455	Q7.15	0.301
Q6.10	0.545	Q7.13	0.523
Q18.1	0.68	Q7.12	0.456
Q18.2	0.749	Q7.11	0.49
Q18.3	0.554	Q7.10	0.394
Q18.4	0.679	Q7.9	0.477
Q18.5	0.681	Q7.8	0.479
Q14	0.463	Q7.7	0.429
Q15	0.679	Q7.6	0.494
Q16	0.427	Q7.5	0.409
Q17	0.503	Q7.4	0.561
Q13.1	0.571	Q7.3	0.34
Q13.2	0.652	Q7.2	0.482
Q13.3	0.537	Q7.1	0.509
Q13.4	0.472	Q5.1	0.135
Q13.5	0.504	Q5.2	0.505
Q13.6	0.599	Q5.3	0.557
Q6.9	0.378	Q5.4	0.483
Q6.8	0.443	Q5.5	0.358
Q6.7	0.407	Q5.6	0.431
Q6.6	0.386	Q5.7	0.485
Q6.2	0.065	Q5.8	0.483
Q6.1	0.298	Q5.9	0.39
Q7.22	0.497	Q5.10	0.527
Q7.21	0.407	Q5.11	0.333
Q7.20	0.554	Q5.12	0.38
Q7.19	0.489	Q5.13	0.402
Q7.18	0.416	Q5.14	0.345
Q7.17	0.381	Q5.15	0.419

Table 4.23, SMC report from AMOS for the Initial leadership effectiveness model

4.14 Discriminant validity at the construct level of the leadership effectiveness model

Further to testing the SMC the sample correlation and standardized residual covariance were tested as part of the CFA. The tested leadership effectiveness model is provided in Figure 4.9. The AMOS results are provided in Appendix XV. From Appendix XV it can be seen that none of the correlations between constructs exceeded 0.8 and none of the standardized residual covariance values exceeded 2.0. In addition to the above tests the goodness fit of the model was tested and is provided in Figure 4.9. It can be seen that RMR and RMSEA values are in line with the reference

values specified in Section 4.7 while IFI, TLI and CFI are above the minimum value of 0.85 specified in Section 4.7.



RMR= 0.057
IFI= 0.876
TLI=0.866
CFI=0.874
RMSEA=0.059

Figure 4.9, Initial leadership effectiveness model tested for sample correlation and standard residual covariance

The initial leadership effectiveness model has been tested for both reliability and validity aspects at both the item level and construct level. Furthermore, the initial model was subjected to CFA leading to the tested model given in Figure 4.9. Thus the stage has been set for conducting the SEM on the initial leadership effectiveness model tested.

4.15 Structural leadership effectiveness model

The first step in the SEM is to specify the model which is given in Figure 4.10.

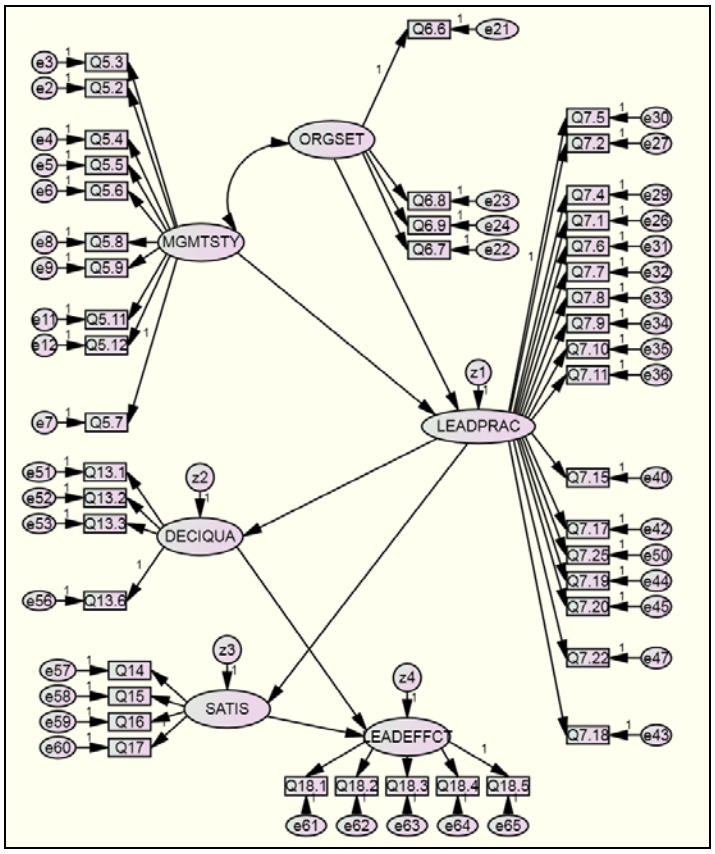


Figure 4.10, Leadership effectiveness model specified for analyzing using SEM

After specifying the leadership effectiveness model, the model fit and model estimation of the leadership effectiveness model were assessed as part of the SEM. An important step in SEM is to identify the model. From AMOS report the model was found to be recursive (AMOS provides the analysis summary). Recursive models are identifiable (Abramson et al., 2005). Thus the specified model was considered to be identified. Next leadership effectiveness model fitness was assessed using measures of parsimony, minimum sample discrepancy function, measures based on the population discrepancy, comparison to a baseline model, and a goodness of fit index (GFI) and related measures. In Table 4.24, a comparison of the number of parameters and the degrees of freedom shows that there are fewer parameters than degrees of freedom. Thus it could be concluded that the parsimony of the model was established.

Sample discrepancy function was assessed using Chi-Square values generated by Bollen-Stein Bootstrap method in AMOS and the null hypothesis was accepted (Table 4.25) as the p-value of significance was measured as 0.249 indicating a model with a better fit at 151 bootstrapped samples. As far as population discrepancy measure was concerned RMSEA value was found to be satisfactory at 0.058 (Table 4.26) and the goodness of fit measures (Table 4.27) were found to be acceptable. Thus the leadership effectiveness model that was specified in Figure 4.10 was considered to fit the data.

Model	NPAR	CMIN	DF	P	CMIN/DF
Default model	87	1157.144	733	.000	1.579
Saturated model	820	.000	0		
Independence model	40	4404.410	780	.000	5.647

Table 4.24, Measures of parsimony of the leadership effectiveness model

The model fit better in 151 bootstrap samples.
It fit about equally well in 0 bootstrap samples.
It fit worse or failed to fit in 49 bootstrap samples.
Testing the null hypothesis that the model is correct, Bollen-Stine bootstrap p = .249

Table 4.25, Bollen-Stine Bootstrap (Leadership effectiveness model)

Model	RMSEA	LO 90	HI 90	PCLOSE
Default model	.058	.052	.065	.018
Independence model	.165	.161	.170	.000

Table 4.26, Population discrepancy measure

Model	IFI Delta2	TLI rho2	CFI
Default model	.884	.875	.883
Saturated model	1.000		1.000
Independence model	.000	.000	.000

Table 4.27, Goodness of fit of the leadership effectiveness model

With regard to the next step of model estimation, the same procedure as was described under Section 4.9 was followed. Prior to estimating the relationships the sample correlations and standardized residual covariances were tested to confirm the validity of the data that fits the model. Sample correlation between the variables MGMTSTY and ORGSET was found to be 0.463 (Table 4.28) confirming convergent

validity while standardised covariance values were below the 2.0 value fixed as the limit (Appendix XVI) after deleting items causing concern.

			Estimate
MGMTSTY	<-->	ORGSET	.463

Table 4.28, Sample correlation of moderating variables leadership effectiveness model

The finally specified research model thus is provided in Figure 4.11. The model was named as the dean's leadership effectiveness model.

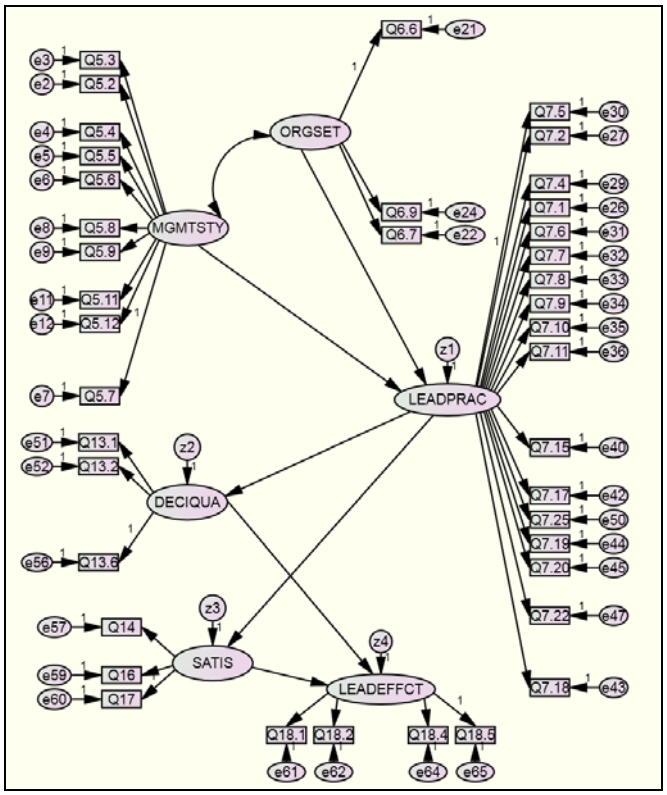


Figure 4.11, Finally specified dean's leadership effectiveness model

The dean's leadership effective model was analysed using AMOS and the relationship between the variables were estimated using regression weights. In order to assess the regression weights of the paths in the model, both unstandardized and standardized output from AMOS were reported (Figures 4.12 and Figures 4.13 respectively). The path analysis is provided in Table 4.29. The regression weights provided an understanding of the direct and indirect impact of the exogenous variable (leadership

practice) on the endogenous variable (leadership effectiveness) as well as the influence of the moderating variables management style and organisational structure on the exogenous variable. Table 5.29 clearly shows that all the paths between the variables found in the dean's leadership effectiveness model are significant with the p-values found to be significant at the 0.01 level.

Regression Weights: Dean's leadership effective model							
			Estimate	S.E.	C.R.	P	Label
LEADPRAC	<---	ORGSET	.192	.081	2.364	.018	par_36
LEADPRAC	<---	MGMTSTY	.614	.093	6.621	***	par_37
DECIQUA	<---	LEADPRAC	.863	.122	7.079	***	par_38
SATIS	<---	LEADPRAC	.927	.148	6.272	***	par_39
LEADEFFCT	<---	DECIQUA	.530	.111	4.770	***	par_40
LEADEFFCT	<---	SATIS	.661	.120	5.528	***	par_41

Table 4.29, Path analysis of the dean's leadership effective model

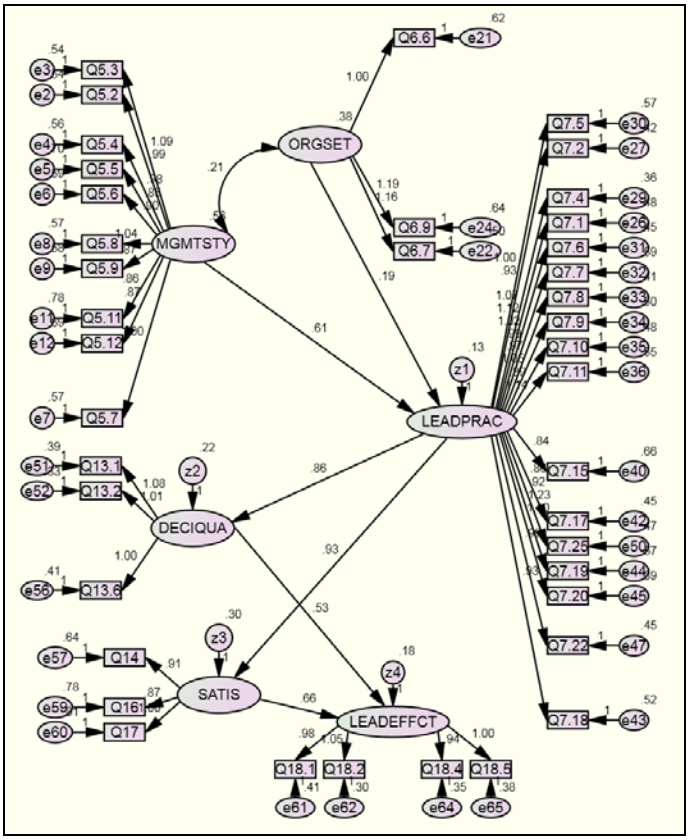


Figure 4.12, Unstandardised estimates of dean's leadership effective model

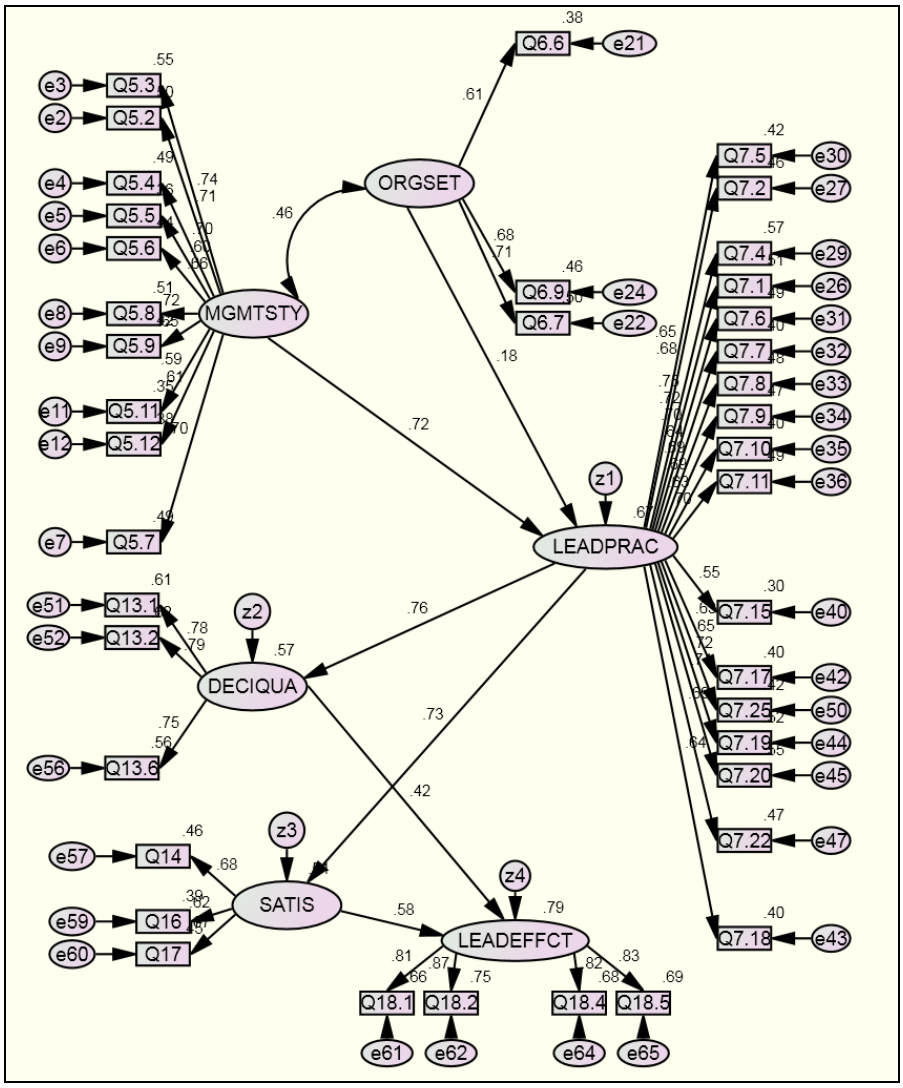


Figure 4.13, Standardised estimates of dean's leadership effective model

From Table 4.29 it can be concluded that the hypotheses H2, H3, H4, H5, H6 and H7 are accepted. Furthermore, an inspection of Table 4.29 indicates that leadership practice has large and positive effect on decision quality (regression weight 0.863) and follower satisfaction (regression weight 0.927). Similarly, decision quality has a large and positive effect on leadership effectiveness (regression weight 0.53) while follower satisfaction has a large and positive effect on leadership effectiveness (regression weight 0.661). Each one of these regression weights indicate the amount of variance in the dependent variable accounted for by the independent variable.

It is reasonable to conclude that leadership practice, while directly exerting influence on decision quality and follower satisfaction in the positive direction, exerts indirect

but positive influence on leadership effectiveness through the mediating variables of decision quality and follower satisfaction. That is to say that if leadership practice is high then leadership decision quality and follower satisfaction is high and hence leadership effectiveness is high and vice versa.

It can be seen that the management style of leaders influences leadership practice positively and shows a good effect (regression weight 0.614), while organisation structure exerts small influence on leadership practice although in the positive direction (regression weight 0.192). Thus it is reasonable to conclude that while management styles of leaders in business schools have a large and positive influence on leadership practice, organisational structure has only a small but positive influence on the leadership practice. It can be concluded that management style acts as a more important moderator of leadership practice than organisational setting.

It can be seen from Table 4.30 that management style and organisational structure vary with each other, have medium correlation and the variation is in the positive direction (Table 4.30). This indicates that when management style is on a high, organisational structure is on a high and vice-versa.

Covariances: Dean's leadership effective model							
			Estimate	S.E.	C.R.	P	Label
MGMTSTY	<-->	ORGSET	.212	.055	3.844	***	par_35

Table 4.30, Relationship between the moderating variables

The following statements can be made with respect to the various paths.

- Management practice and organisational structure are correlated
- Management practice and leadership practice path is significant
- Organisational structure and leadership practice path is significant
- Leadership practice and decision quality path is significant
- Leadership practice and follower satisfaction path is significant
- Decision quality and leadership effectiveness path is significant
- Follower satisfaction and leadership effectiveness is significant

Whether any method bias was there in the collected data and whether the models are unidimensional was examined. With regard to method bias, the average variance extracted (AVE) method was used and with regard to unidimensionality the regression weights report produced by AMOS was used.

4.16 Average variance extracted (AVE) for the leadership effectiveness model

The AVE table generated for the specified model given in Figure 4.10 is provided in Table 4.31.

	MGMTSTY	ORGSET	LEADPRAC	DECIQUA	SATIS	LEADEFFCT
MGMTSTY	**0.45**					
ORGSET	0.257	**0.438**				
LEADPRAC	0.65	0.299	**0.458**			
DECIQUA	0.367	0.305	0.552	**0.59**		
SATIS	0.312	0.295	0.415	0.46	**0.518**	
LEADEFFCT	0.346	0.315	0.569	0.591	0.634	**0.668**

Table 4.31, Average variance extracted report from AMOS for the specified leadership effective model provided in Figure 4.10

From Table 4.31, it can be seen that the main variable LEADPRAC shows that the AVE is 0.458. As explained in Section 3.22 this value should be higher than 0.5. However the value 0.458 is very close to 0.5 and with the remaining variables DECIQUA, SATIS and LEADEFFCT having higher AVE (0.59, 0518 and 0.668 respectively) it can be concluded that method bias is not present. It can be noted that the AVE for MGMTSTY and ORGSET though lower than the acceptable value of 0.5 still those values are very close to 0.5 and hence it is reasonable to conclude that method bias is not present.

4.17 Unidimensionality

Unidimensionality was tested using the Table 4.32. Three important criteria were checked. The estimate, the CR value and the p-value of significance were assessed. The minimum value acceptable for estimates is 0.5, C.R. is ±1.96 and p-value is less than 0.05. Table 4.32 shows that these conditions are met indicating the unidimensionality characteristic of the dean's leadership effective model.

Regression Weights: dean's leadership effective model							
			Estimate	S.E.	C.R.	P	Label
Q5.7	<---	MGMTSTY	1.000				
Q5.12	<---	MGMTSTY	.865	.115	7.530	***	par_1
Q5.11	<---	MGMTSTY	.859	.119	7.227	***	par_2
Q5.9	<---	MGMTSTY	.871	.109	7.986	***	par_3
Q5.8	<---	MGMTSTY	1.037	.118	8.758	***	par_4
Q5.6	<---	MGMTSTY	.903	.112	8.098	***	par_5
Q5.5	<---	MGMTSTY	.850	.115	7.418	***	par_6
Q5.4	<---	MGMTSTY	.984	.115	8.561	***	par_7
Q5.2	<---	MGMTSTY	.985	.114	8.651	***	par_8
Q5.3	<---	MGMTSTY	1.092	.120	9.080	***	par_9
Q7.5	<---	LEADPRAC	1.000				
Q7.2	<---	LEADPRAC	.927	.118	7.878	***	par_10
Q7.4	<---	LEADPRAC	1.071	.124	8.617	***	par_11
Q7.1	<---	LEADPRAC	1.117	.135	8.264	***	par_12
Q7.6	<---	LEADPRAC	1.025	.127	8.083	***	par_13
Q7.7	<---	LEADPRAC	.987	.132	7.475	***	par_14
Q7.8	<---	LEADPRAC	.968	.120	8.052	***	par_15
Q7.9	<---	LEADPRAC	1.051	.131	8.002	***	par_16
Q7.10	<---	LEADPRAC	.893	.120	7.468	***	par_17
Q7.11	<---	LEADPRAC	1.145	.141	8.127	***	par_18
Q7.15	<---	LEADPRAC	.841	.128	6.586	***	par_19
Q7.17	<---	LEADPRAC	.857	.115	7.455	***	par_20
Q7.25	<---	LEADPRAC	.920	.121	7.608	***	par_21
Q7.19	<---	LEADPRAC	1.227	.148	8.313	***	par_22
Q7.20	<---	LEADPRAC	1.098	.129	8.538	***	par_23
Q7.22	<---	LEADPRAC	.991	.124	7.992	***	par_24
Q6.6	<---	ORGSET	1.000				
Q6.9	<---	ORGSET	1.194	.203	5.877	***	par_25
Q13.6	<---	DECIQUA	1.000				
Q13.2	<---	DECIQUA	1.009	.105	9.634	***	par_26
Q13.1	<---	DECIQUA	1.076	.112	9.600	***	par_27
Q17	<---	SATIS	1.000				
Q16	<---	SATIS	.870	.130	6.692	***	par_28
Q14	<---	SATIS	.912	.128	7.140	***	par_29
Q18.5	<---	LEADEFFCT	1.000				
Q18.4	<---	LEADEFFCT	.935	.074	12.625	***	par_30
Q18.2	<---	LEADEFFCT	1.047	.077	13.687	***	par_31
Q18.1	<---	LEADEFFCT	.976	.079	12.412	***	par_32
Q6.7	<---	ORGSET	1.158	.195	5.934	***	par_33
Q7.18	<---	LEADPRAC	.929	.124	7.475	***	par_34

Table 4.32, Test of unidimensionality of specified leadership style model in Figure 4.8

4.18 Chapter summary

Detailed statistical analysis pertaining to the data collected and its fit to the theoretical model identified in Chapter 3 was presented. Using the appropriate statistical techniques the reliability and validity of the data were assessed. The influence of the control variable on leadership practice and the association between management style, organisational structure and organisational culture was found to exist. CFA provided the basis for deleting variables not needed for the model. SEM enabled model fit test, model estimation and path analysis to be conducted. The research model was analysed in two steps, first as the leadership style model and the next as the leadership effectiveness model, which are line with the proposed theoretical model in Chapter 3. The hypotheses developed and provided in Chapter 3 were tested.

Chapter 5

Discussion

5 Introduction

This chapter provides discussion on the research questions and explains the outcome of the hypothesis testing.

5.1 Research question 1 (RQ1)

What are the critical factors that influence deans as leaders of business schools?

Critical factors are those that influence the progress of an orientation (Al-Nofal et al., 2004). An orientation is could be particular interests, activities, or aims of an organisation or business. An example of factors that fit the definition of critical factors could be those factors that determine the success or failure of an orientation, for instance the success or failure of leadership in HEIs. Keeping in view this definition, the critical factors that influence the deans as leaders of business schools were identified using following process:

- Critical review of the purpose of business schools and leadership literature (Chapter 2).
- Definition of the critical leadership factors that influence deans of business schools using the literature review (Chapter 2).
- Understanding of the combined effect of the critical leadership factors on the deans of business schools through a research relationship model (Chapter 3).
- Assessment of the function of the critical leadership factors by testing the relationship amongst the factors using the research methodology provided in Chapter 4 and the outcomes of statistical analysis of data collected outlined in Chapter 5.

The critical factors identified as influencing the deans of business schools as leaders are presented in Table 5.1.

No.	Critical factors	Type of factor	Function of the factor	Corroboration with previous research (examples)	Interrelation with other critical factors
1.	**Leadership styles**				
	Transactional	Independent	Determines leadership practice. Explains the leadership practice in terms of leadership style.	Basham, (2010)	a. Positively associated with transformational, laissez-faire, democratic and autocratic styles b. Determines leadership practice and has a medium effect in the positive direction. c. Indirectly related to other critical factors decision quality, follower satisfaction and leadership effectiveness.
	Transformational	Independent	Correlated with Transactional style.	Basham, (2010)	Positively associated with transactional, laissez-faire, democratic and autocratic styles.
	Laissez-Faire	Independent	Correlated with Transactional style.	Humphreys (2001)	Positively associated with transactional, transformational, democratic and autocratic styles,
	Democratic	Independent	Correlated with Transactional style.	Muhammad et al. (2009)	Positively associated with transactional, transformational, laissez-faire and autocratic styles.
	Autocratic	Independent	Correlated with Transactional style.	Muhammad et al. (2009)	Positively associated with transactional, transformational, laissez-faire and democratic styles.
2.	**Leadership practice**				
	As a predicted factor	Dependent	Determined by transactional leadership style and assumes the influence of the style as practice. In addition, since transactional leadership style has medium to large association with the remaining four leadership styles, it is expected that leadership practice will have traces of those	Muhammad et al. (2009)	Acts as a predicted factor and is dependent on transactional leadership style.

			four styles that do not significantly relate to leadership practice directly.		
	As a predictor	Independent	a. Determines the leadership effectiveness indirectly. b. Determines decision quality directly. c. Determines follower satisfaction directly. d. Moderated by management style. e. Moderated by organisational structure. f. Acts as a proxy for leadership styles.	Muhammad et al. (2009)	Acts as a determinant of the effectiveness of deans of business schools as leaders indirectly and has a positive but medium effect on leadership effectiveness. Acts as antecedents to the decision quality and follower satisfaction and is positively related to them. Affected by management style and organisational setting.
3.	**Management style**	Moderator	Affects leadership practice.	Kotter (1990)	Acts as an important correlate of leadership practice
4.	**Organisational structure**	Moderator	Affects leadership practice.	Northouse, (2004)	Acts as an important correlate of leadership practice
5.	**Decision quality**	Mediator	Mediates between leadership practice and leadership effectiveness.	Muhammad et al. (2009)	Determines leadership effectiveness directly and is determined by leadership practice. Acts as the link between leadership practice and leadership effectiveness.
6.	**Follower satisfaction**	Mediator	Mediates between leadership practice and leadership effectiveness	Bycio et al., 1995	Determines leadership effectiveness directly and is determined by leadership practice. Acts as the link between leadership practice and leadership effectiveness.
7.	**Leadership effectiveness**	Dependent	Determines the effectiveness of the deans as leaders reflecting the style of leadership.	Yukl, 1998	Acts as a predicted factor that depends on leadership styles and could be used to determine the performance of leaders indicating the style of leadership that need to be adopted to lead a business school successfully.
8.	**Organisational culture**	Control	Has influence on leadership practice	Nyberg et al., (2005)	Can act as a moderator of the relationship between leadership behaviour and

					other constructs for instance perceived job satisfaction of followers.
			Has association with management style.	Nyberg et al. (2005); Mehr (2012)	Management and culture are part of an organisation. Indicates that management in association with culture could affect the leadership process.
			Has association organisational structure	Nyberg et al. (2005)	Organisational structure and culture could influence leaders and subordinates

Table 5.1, Critical factors identified as influencing the deans of business schools as leaders

It can be seen that 7 critical factors have been identified as influencing deans of business schools as leaders.

5.2 Research question 2 (RQ2)

How are the critical factors related to each other, in the context of leadership effectiveness of deans of business schools?

The theoretical framework (Chapter 2) explains how the critical factors could be related in terms of a conceptual model (Figure 2.2). A more detailed explanation on how the conceptual model was verified in order to examine the validity of the relationship between the critical factors is provided next.

To begin with, the finally specified models pertaining to leadership styles and a dean's leadership effectiveness are depicted in Figures 5.1 and 5.2 respectively. In both the figures the thick solid lines indicate statistically significant paths while in Figure 5.1 the thin lines indicate paths that are not statistically significant.

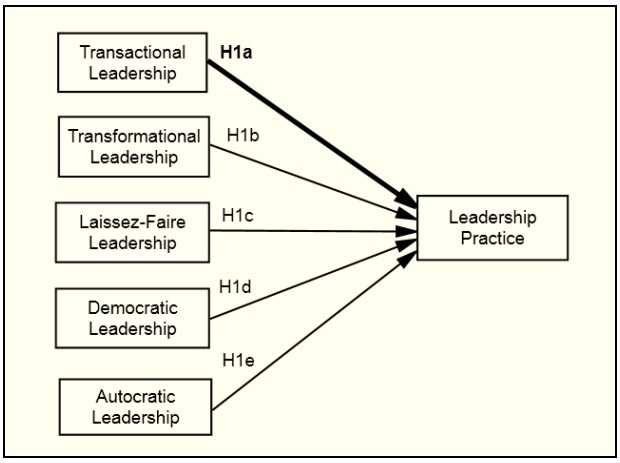


Figure 5.1, Finally specified leadership style model

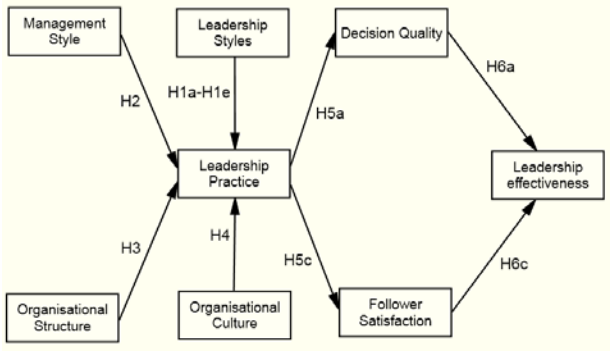


Figure 5.2, Finally specified dean's leadership effectiveness model

In order to understand the causal relationship between the independent and dependent variables in both the models, it was decided that the results of each one of the models will be discussed separately under two different sections. Thus the leadership style model will be discussed next followed by a discussion on the dean's leadership effectiveness model.

5.3 Leadership style model

In Figure 5.1 the path between transactional leadership styles and leadership practice only is statistically significant implying that the leadership practice is predominantly of a transactional style. From Section 4.9 it can be seen that the path LEADER-A → LEADPRAC is showing that the construct LEADER-A, indicating transactional leadership style, has a direct effect on the construct LEADPRAC (leadership practice) with a correlational weight of 0.667 (see Table 4.17). The interpretation of this figure is that a one standard deviation variation in the construct LEADER-A produces a 0.69

standard deviation variation in the construct LEADPRAC, which is considered as large. Thus it can be interpreted that transactional style has a large effect on leadership practice of deans of business schools.

From Table 4.15, it can be seen that the paths LEADER-B → LEADPRAC, LEADER-C → LEADPRAC, LEADER-D → LEADPRAC and LEADER-E → LEADPRAC are not statistically significant indicating that the four leadership styles transformational, laissez-faire, democratic and autocratic represented by LEADER-B, LEADER-C, LEADER-D and LEADER-E respectively, do not have an effect on the construct LEADPRAC (leadership practice). This result indicates that the respondents believe that the leadership style that is manifesting in leadership practice of the deans of business schools is predominantly transactional in nature.

It is important to understand the association between the independent variables as depicted in Table 4.18. It can be seen from the covariance data in Table 4.18 that the association between the constructs LEADER-B (transformational leadership style) and LEADER-C (laissez-faire leadership style) at 0.170 is the lowest and between the constructs LEADER-A (transactional leadership style) and LEADER-E (autocratic leadership style) at 0.337 is the highest. This can be interpreted that each leadership style supports the other. For instance, transactional leadership style supports the remaining four leadership styles as much as the four leadership styles supporting transactional. This interpretation applies to each one of the five leadership style constructs although the extent of inter-construct support between individual constructs varies.

Thus considering that there is a significant association between the independent variables and that there is only one statistically significant relationship between the independent variable (LEADER-A) and the dependent variable (LEADPRAC), it is reasonable to conclude that the four leadership styles namely LEADER-B, LEADER-C, LEADER-D and LEADER-E exert an effect on the dependent variable through the construct LEADER-A. Therefore, it is reasonable to conclude that there is a combined effect of all the independent variables on LEADPRAC.

Table 4.16 indicated that the five independent variables account for 69.5% of the variation in the dependent variable leadership practice. While this could appear and mean that leadership practice is determined by the leadership styles under investigation, in the case of deans of business schools studied in this research, the transactional leadership style is the one that dominates.

The above results find partial support from other research. Foremost, the only significant relationship found between transactional leadership style and leadership practice finds support from Bass (1985) and Muhammad et al. (2009). Bass (1985) argues that transactional leadership is the most prevalent style of leadership. Muhammad et al. (2009) found that the transactional leadership style is the most used by leaders of HEI. Thus the findings of this research are in line with similar findings in the leadership literature.

However, in regard to the relationship between transformational leadership style and leadership practice, no significant relationship was observed. While finding support with some research, this is found to be contrary to the findings and arguments of some other. For instance Leithwood (1994) found that transformational leadership is found to have a positive effect on educational institutions' outcomes as this form of leadership style enables leaders to provide support to faculty, nurture cooperation and inspire the faculty to work toward achieving institutional goals. Hallinger and Heck (1998) support these arguments. In another study Gill et al. (2010) found a relationship between transformational leadership of instructors and students' educational satisfaction. Similar findings were reported by Yukl (2009) who argues that transformational leadership enhances follower motivation and performance more than transactional leadership.

Although these examples indicate that the results of the study described in this dissertation with regard to the relationship between transformational leadership style and leadership practice do not support research findings described in the literature, it is imperative to understand that a high degree of correlation was found between transformational and transactional styles in this research. From Table 5.2 it can be seen that the correlation between the construct LEADER-A (transactional leadership

style) and LEADER-B (transformational leadership style) is large (0.901). This indicates that transactional and transformational leadership styles have complementary effect on each other, an argument supported by Bass and Avolio (1994) and Felfe and Schyns (2004). This could be interpreted in a way that although the statistical findings of the research indicate no significant relationship between transformational leadership style and leadership practice, the strong correlation between transactional leadership style and transformational leadership style indicates that leaders will exhibit some or all elements of what comprises the transactional leadership style as well as those which comprise the transformational leadership style. Thus the findings of this research are seen to strengthen arguments provided in the contemporary leadership literature which indicate that in HEIs although transactional leadership styles are prevalent and determine leadership practice, there are few leaders, whether in higher education or anywhere else, who use, exclusively, one style or another.

Correlations: Leadership style model			
			Estimate
LEADER-A	<-->	LEADER-D	.736
LEADER-B	<-->	LEADER-D	.889
LEADER-B	<-->	LEADER-C	.533
LEADER-D	<-->	LEADER-C	.718
LEADER-A	<-->	LEADER-C	.498
LEADER-A	<-->	LEADER-B	.901
LEADER-A	<-->	LEADER-E	.871
LEADER-C	<-->	LEADER-E	.502
LEADER-D	<-->	LEADER-E	.683
LEADER-B	<-->	LEADER-E	.854

Table 5.2, Correlations: Standardised leadership style model

Further to examining the effect of transactional and transformational leadership on leadership practice and between themselves, the relationship between laissez-faire leadership style and leadership practice is discussed. The results of this research clearly indicate lack of a significant relationship between laissez-faire leadership style and leadership practice although the association between laissez-faire and transactional leadership styles is found to be significant. The results of this research find support from extant literature and also contradict some other research outcomes.

For instance Muhammad et al. (2009) found that laissez-faire leadership style is not found in higher levels of management as senior managers tend to possess a transformational leadership style. Instead, they report that laissez-faire leadership style is found in the lowest management level and middle managers. Here managers imply academicians managing the educational activities. Similarly while Kurland et al. (2010) reported a lack of support to the relationship between transactional and laissez-faire styles and leadership performance in their study on heads of schools, Sadeghi and Pihie (2012) found that heads of departments adopted a combination of transactional, transformational and laissez-faire styles. Although results are not consistent with regard to literature on laissez-faire style, it is argued that leaders adopt laissez-faire leadership style if they want to avoid certain issues like decision making, responding to urgent questions and getting involved when important issues arise (Sadeghi and Pihie, 2012). Another point raised by Sadeghi and Pihie (2012) shows that leaders in HEIs in general lack an understanding of laissez-faire style. This could imply that if they had an understanding about the laissez-faire style, then they might adopt particular style of leadership including laissez-faire through appropriate reasoning. The results of this research do not support research findings that find laissez-faire style is related to leadership practice but support some other findings highlighted above that do not support the relationship between laissez-faire and leadership practice.

However unlike the case of transformational leadership style, laissez-faire style was found to have a correlation of 0.498 (see Table 5.2) with the transactional leadership style and its association with transactional leadership is found to be significant (0.198) (see Table 4.18) as a covariant. Although this indicates a large correlation between transactional and laissez-faire leadership styles, the correlation between transformational and transactional leadership styles was found to be larger (0.910) (see Table 5.2). Similar arguments can be given to this correlation and association between laissez-faire and transactional styles as those given for the relationship between transactional and transformational styles. That is, that although laissez-faire does not have a significant effect on leadership practice (see Table 4.15) directly, its association with transactional leadership is positive and high correlation could be interpreted as transactional leadership and laissez-faire leadership styles support each

other. This argument leads to a further interpretation that laissez-faire style my exert its influence on leadership practice individually, as associate complementer of transactional leadership style, indicating the presence of laissez-faire leadership style alongside transactional leadership styles by leaders in the business schools. Thus, at this stage it can be seen that although the predominant leadership style prevalent in the deans of business schools is transactional, the leadership practice of deans is expected to exhibit some degree of transformational and laissez-faire leadership styles also. This argument finds support in the research findings of Bass and Avolio (2004), Chen and Baron (2006), Rukmani et al. (2010), Sung (2007), Grosso (2008) and Erkutlu (2008).

In practical terms, this phenomenon could be interpreted to indicate that although deans are leaders exhibiting a transactional leadership style such as providing followers with something they want in return for something the deans seek, those deans could still exhibit both transformational and laissez-faire style. That is to say, that depending upon the situation, they may still stimulate and motivate followers (examples transformational style attributes) or avoid making decisions (example of laissez-faire style attributes) when needed.

As in the case of transformational and laissez-faire styles, democratic leadership style was not found to have any significant relationship with leadership practice (see Table 4.15). However, democratic and transactional leadership styles were found to have a significant association with each other as covariants (0.313) (see Table 4.18), and the correlation between the two was found to be large (0.736) (see Table 5.2). Democratic leaders are found to be participative (Vroom & Yetton, 1973; Bass, 1990) and encourage collaboration within members of a group. They are people-oriented (Khan et al., 2011). However, the results of this research suggest that deans of business schools are not oriented to be democratic leaders but transactional leaders. That is to say deans of business schools as leaders may exhibit less of a participative leadership characteristic but more of a seeking leadership characteristic and act against providing support to a follower through democratic process. Despite this finding, as in the case of transformational and laissez-faire styles, democratic leadership style has a significant association with transactional leadership style

indicating that as a covariant, democratic style is likely still to manifest in the leadership styles of deans of business schools albeit through its association with transactional leadership style.

Although this result is contradictory to the results of Muhammad et al. (2009) who found that senior managers in HEIs are not only exhibiting transactional, transformative and laissez-faire style but also democratic styles, the findings of Muhammad et al. (2009) were limited by the Malaysian context. However, others like Bass and Riggio (2005) argue that a democratic leadership style can be considered to be a form of transformative leadership style implying that democratic leadership co-exists with transformational leadership style. In the face of contradictory research findings in the leadership literature, it is possible to conclude that the findings of this research could be still aligned with the argument of some (e.g. Bass and Riggio 2005). The findings of this research indicate that democratic leadership style is likely to affect leadership practice through its association with transactional leadership style, and implies that in a combination of leadership styles, democratic leadership style can coexist with other leadership styles. This argument is similar to the findings of Bass and Riggio (2005). Hence two aspects come to the fore. Firstly, that in the combination of different leadership styles, individually democratic style does not have a direct and significant relationship to leadership practice. Secondly, as an associate correlate of transactional leadership style, democratic leadership style can exert its influence on leadership practice. In simple terms this means that deans could be predominantly transactional leaders, but could also exhibit elements or aspects of the democratic leadership style.

As far as autocratic leadership style is concerned, from Table 4.15, it can be seen that autocratic leadership style does not have a statistically significant relationship with leadership practice. Further, autocratic leadership style has a significant and positive association with transactional leadership style as a covariant (0.337) and has a significantly high degree of correlation (0.871) next to the correlation between transactional and transformational styles (0.901). While the results of this study are in contradiction to the findings of Muhammad et al. (2009) who reported that leaders in HEIs practice an autocratic style, it is in line with the arguments of Leithwood et al.

(1997) and Day, et al., (2000) who argue that authority needs to be distributed and need not be placed in the hands of one person. However, the significant and positive association of autocratic leadership style with transactional leadership style highlights that deans of business schools are autocratic when needed. For instance where there is a need to produce quality decisions, where leaders need to impose their authority in order to elicit unanimity from decision makers such as committee members to ensure that subordinates or followers agree upon the implementation of an important decision, leaders need to use an autocratic style of leadership (Muhammad et al. 2009). These arguments imply that the lack of direct and significant relationship between autocratic leadership style and leadership practice is supplemented by the significant association and a high degree of correlation between autocratic leadership style and transactional leadership practice.

It is important to note again that the association amongst the five leadership styles has been found to be significant and positive as covariants (Table 4.21) with large correlations between each pair of styles (Table 5.2). This could be interpreted in a way that the respondents have indicated that deans of business schools have portrayed all the five leadership styles in them, although the one that has manifested as the over-riding style in their practice as leaders is the transactional leadership style. Thus it could be considered that the remaining four styles supplement the transactional leadership style and could act as moderators. It can also be interpreted that since the four leadership styles transformational, laissez-faire, democratic and autocratic leadership styles and transactional leadership style are interrelated with each other positively, it is possible that when one leadership style is enhanced the other styles are also enhanced. In the leadership practice that was found to be essentially transactional, it is still possible to find traces of leadership behaviour pertaining to transformational, laissez-faire, democratic and autocratic leadership styles

A salient conclusion based on these findings is that amongst the five leadership styles, it is the transactional leadership style that is having a significant and positive influence on leadership practice implying that the deans of business schools essentially exhibit a transactional leadership style and the remaining four leadership styles could act as moderators of transactional leadership style.

5.4 Dean's leadership effectiveness model

From Figure 5.2 it can be seen that all the paths between the different variables have been shown to be statistically significant. The independent variable leadership practice and the dependent variable leadership effectiveness are related through paths LEADPRAC → DECIQUA → LEADEFFCT and LEADPRAC → SATIS → LEADEFFCT.

Table 5.28 showed that LEADPRAC has a large and positive effect (0.863) on DECIQUA. This indicates that the leadership practice of deans of business schools, which was found to be transactional, influences the quality of decisions taken by deans. One standard deviation variation in LEADPRAC results in a 0.863 standard deviation variation on decision quality. The effect is that when leadership practice is high, quality of decision taken by deans is high, and vice-versa.

Similarly from Table 4.29, it can be seen that DECIQUA has a large and positive effect (0.53) on the leadership effectiveness (LEADEFFCT) of deans of business schools. That is to say, a one standard deviation increase in the quality of decision taken by deans of business schools as leaders results in a 0.53 standard deviation increase in the effectiveness of deans as leaders. Thus the indirect effect of LEADPRAC on LEADEFFCT through DECIQUA (i.e. through the path LEADPRAC → DECIQUA → LEADEFFCT) is (0.863 X 0.53) = 0.457 which means that a one standard deviation change in leadership practice of deans results in a 0.457 standard deviation change in the effectiveness of deans as leaders when mediated by decision quality. That is, leadership practice of deans has a medium effect on leadership effectiveness in the positive direction mediated by decision quality.

From Table 4.29 it can also be seen that LEADPRAC has a large and positive effect on SATIS (0.927). This indicates that the transactional leadership style practice of deans of business schools influences followers' satisfaction. Here the term 'followers' means faculty and administrative staff. The high β (estimate in the Table) value (0.927) indicates that a one standard deviation increase in leadership practice results in a 0.927 standard deviation increase in followers' satisfaction. Similarly, Table 4.29

indicates that SATIS has a large and positive effect on the dependent variable LEADEFFCT (β =0.661). This can be interpreted in a way that a one standard deviation increase in followers' satisfaction will result in a 0.661 standard deviation increase in leadership effectiveness of deans of business schools. The effect is that if followers' satisfaction increases so does leadership effectiveness of deans of business schools. Therefore for the path LEADPRAC → SATIS → LEADEFFCT the indirect effect of LEADPRAC on LEADEFFCT is (0.927 X 0.661) = 0.613. The interpretation of this path analysis is that a one standard deviation change in leadership practice of the deans of the business schools will effect a change of 0.613 standard deviation change in leadership effectiveness, mediated by followers' satisfaction and the direction of change is positive. That is when leadership practice increases, so does leadership effectiveness mediated by followers' satisfaction and vice-versa.

After discussing the indirect effect of LEADPRAC on LEADEFFCT through two different paths, it is necessary to consider the total effect of LEADPRAC on LEADEFFCT. From Table 5.3a it can be seen that the total effect of LEADPRAC on LEADEFFCT is 0.744 which means that a one standard deviation increase in leadership practice of the deans of business schools will effect an increase of 0.744 standard deviation in leadership effectiveness of deans of business schools in the positive direction and through paths comprising both the mediating variables. That is, when leadership practice increases, leadership effectiveness will increase. Both decision quality and follower satisfaction mediate in the positive direction implying that leadership practice determines both decision quality and follower satisfaction which in turn determine the leadership effectiveness.

Standardized Total Effects (Dean's leadership effectiveness model)						
	ORGSET	MGMTSTY	LEADPRAC	SATIS	DECIQUA	LEADEFFCT
LEADPRAC	.185	.719	.000	.000	.000	.000
SATIS	.135	.527	.732	.000	.000	.000
DECIQUA	.140	.545	.758	.000	.000	.000
LEADEFFCT	.137	.535	.744	.582	.420	.000

(a)

Standardized Direct Effects (Dean's leadership effectiveness model)						
	ORGSET	MGMTSTY	LEADPRAC	SATIS	DECIQUA	LEADEFFCT
LEADPRAC	.185	.719	.000	.000	.000	.000
SATIS	.000	.000	.732	.000	.000	.000
DECIQUA	.000	.000	.758	.000	.000	.000
LEADEFFCT	.000	.000	.000	.582	.420	.000

(b)

Standardized Indirect Effects (Dean's leadership effectiveness model)						
	ORGSET	MGMTSTY	LEADPRAC	SATIS	DECIQUA	LEADEFFCT
LEADPRAC	.000	.000	.000	.000	.000	.000
SATIS	.135	.527	.000	.000	.000	.000
DECIQUA	.140	.545	.000	.000	.000	.000
LEADEFFCT	.137	.535	.744	.000	.000	.000

(c)

Table 5.3, Effects decomposition for dean's leadership effectiveness model path for independent variables

After statistically assessing the influence of the independent variable in the dean's leadership effectiveness model, the results were compared with the findings reported in the literature review. Each one of the paths LEADPRAC → DECIQUA → LEADEFFCT and LEADPRAC → SATIS → LEADEFFCT was analysed separately and are discussed next.

5.5 The path LEADPRAC → DECIQUA → LEADEFFCT

The results given above with regard to the influence of leadership styles on leadership effectiveness mediated by decision quality are partially in line with the findings of Muhammad et al. (2009). Muhammad et al. (2009) found that transactional, autocratic, democratic and laissez faire leadership styles of leaders in the higher education institutions exert influence on the decision quality of leaders in HEIs to some extent while transformational leadership style was not found to influence on the

decision quality of leaders in HEIs. Muhammad et al. (2009) concluded that decision quality could be considered as a leadership effectiveness indicator. That is to say, that only transactional, autocratic, democratic and laissez faire leadership styles of leaders in HEIs have some influence on leadership effectiveness.

However in this research it was found that the transactional leadership style is the only one that exerts a significant influence on decision quality indirectly through leadership practice and exerts a significant influence on leadership effectiveness indirectly through leadership practice and decision quality. The outcome of this research has shown that the effect of transactional leadership style and hence transactional leadership practice, on leadership effectiveness, mediated by decision quality is significant and large and is in the positive direction. But these results are in contradiction with the findings of Bogler (2001) who found a small but negative influence of transactional leadership style on the followers' satisfaction (a proxy for leadership effectiveness). It must be noted that the research conducted by Bogler (2001) was not on HEIs although the context was the educational sector.

It can be seen that the research outcomes of this research support the research findings of Muhammad et al. (2009) to some extent. However it must be said in particular that with respect to decision quality, when considered as an antecedent of leadership effectiveness, the results of this research have yielded a different result when compared to the findings of either Muhammad et al., (2009) or Bogler (2001). One reason could be that both Muhammad et al. (2009) and Bogler (2001) did not treat leadership effectiveness as a separate dependent variable but treated variables considered as proxies of leadership effectiveness. While the extant literature shows that leadership effectiveness could be dealt with as a separate dependent variable (Sections 2.19.7, 2.19.9 and 2.19.10), the outcomes of this research support that point and can be considered as a clear extension to the models developed by Muhammad et al. (2009) or Bogler (2001). It demonstrates how a dominant leadership style (transactional style) manifests as a leadership practice in deans of business schools and influences the quality of decisions made by the deans and shows that their effectiveness as leaders could be enhanced. Overall, the finding that leadership

practice is linked to decision quality and effectiveness of leaders is supported by the findings of others (e.g. Vroom et al., 1998).

It can be seen that the four leadership styles, transformational, laissez-faire, democratic and autocratic, act as covariant to transactional style and hence could be considered to be associated with transactional style, a finding supported by the findings of Muhammad et al. (2009) and Bogler (2001). Thus, while transactional style might be the dominant style that determines decision quality and hence leadership effectiveness of deans of business schools, such a determination invariably has a combination of all the five leadership styles although in varying degrees. This is an important corollary that emanates from the discussion above. The implication is that deans as leaders of business school exhibit transactional leadership style which influences the quality of the decisions made by them and their effectiveness as leaders of business schools.

5.6 The path LEADPRAC → SATIS → LEADEFFCT

The results with respect to the path LEADPRAC → SATIS → LEADEFFCT find alignment with the findings of some and contradiction with others. For instance, Bycio et al. (1995) argue that transactional contingent reward style is positively related to follower satisfaction while Bass (1985) and Avolio and Bass (1988) argue that transformational leadership style is more effective in comparison to the transactional leadership style in achieving higher follower job satisfaction. In the face of contradicting arguments, the findings of this research strengthen the arguments of Bycio et al. (1995) and support their finding that transactional leadership styles have a higher influence on follower job satisfaction in comparison to other leadership styles. Furthermore, while the literature shows that transactional and transformational leadership styles are the dominant leadership styles that affect follower satisfaction, the findings of this research indicate that the four leadership styles transformational, laissez-faire, democratic and autocratic, as covariants associated with transactional leadership style, could be considered as exerting their influence on follower satisfaction. Thus traces of all the five leadership styles could be found in the deans of business schools which in turn could be said to have effect on follower satisfaction.

Follower satisfaction has been found to be related to leadership effectiveness in extant literature, an argument that supports the findings of this research. For instance Avolio and Bass (1994) found an association between effective leadership and follower satisfaction in the education sector. Similar arguments are echoed by Hooijberg and Denison (2002). Thus, the validity of the path SATIS → LEADEFFCT established in this research finds support from leadership theory. This argument in conjunction with the arguments given above, leads to a conclusion that the path LEADPRAC → SATIS → LEADEFFCT is valid and is verified based on the theoretical support found in the leadership literature. The implication of these arguments is that deans of business school practice transactional leadership style that influences the satisfaction of their followers (faculty and staff) and their effectiveness as leaders.

After discussing the relationship between leadership style, leadership practice, decision quality, follower satisfaction and leadership effectiveness, the next step was to consider the moderating effect of (i) management style of leaders and (ii) the organisational structure respectively, on leadership practice.

5.7 Influence of management style on leadership practice

Table 4.29 showed that MGMTSTY has a large, direct and positive effect on LEADPRAC (0.614). That is, a one standard deviation change in management style of deans of business schools results in a 0.614 standard deviation change in leadership practice. The interpretation is that the higher the degree of management style higher is the degree of leadership practice manifesting in the deans and vice-versa. In simple terms to practice transactional leadership style, deans are expected to have management styles that can support the leadership, a lack of which may hinder them in their ability to be leaders. An implication of this is that good management style for instance is expected to support the deans to practice transactional leadership style and vice-versa. This finding is corroborated by the findings of others (e.g. Mitchell & Cunningham, 1990). Mitchell and Cunningham (1990) claim that management needs to be ingrained in leaders if they have to be effective leaders implying that management is an essential supporting component of leadership concept. Similar sentiments have been echoed by others, for instance Ramsden (1998) who argues that it is important to link management to leadership in the academic environment. It is

important to note here that management style has been identified as a moderating factor as this research has identified management style as a construct that interacts with the impact of a single variable 'leadership practice' on leadership effectiveness. Thus, the findings of this research support findings posited in the leadership literature.

5.8 Influence of organisational structure on leadership practice

As in the case of the relationship between management styles on leadership practice, from Table 4.29 it can be seen that ORGSET is having a small but positive effect on LEADPRAC (0.192). That is, a one standard deviation increase in organisational structure in business schools could result in a 0.192 standard deviation increase in leadership practice. The interpretation is that the greater the organisational structure, the greater will be the leadership practice and vice-versa. In the context of business schools it implies that greater organisational structure could lead to greater transactional leadership practice of deans. These findings are supported by similar findings of Parry and Proctor-Thomson (2002) who found that there is a relationship between organisational setting (integrity in leadership) and transactional leadership. Although Parry and Proctor-Thomson (2002) did not exactly use organisational structure as the organisational setting, the fact that organisational setting affects leadership practice is an important supporting argument that enabled the findings of this research to be verified with that of others. The results of this research therefore could be construed to further strengthen existing theory that support the arguments provided above. In addition, as in the case of management style, organisational structure was identified as a moderating variable as this research has identified organisational setting as a construct that interacts with the impact of a single variable 'leadership practice' on leadership effectiveness.

5.9 Influence of organisational culture on leadership practice and its association with management style and organisational structure

Organisational culture was used in this research a control variable. From Table 4.3 it can be seen that organisational culture represented by its proxy, place of residence, has shown a positive correlation with two observed variables (Q7.14 and Q7.23) of leadership practice and a negative correlation with one observed variable (Q7.9) of leadership practice. Although the correlation coefficients are small, the correlation is

statistically significant (p-value <0.05). This implies that place of residence can affect leadership practice and the wordings of the items used to measure the observed variables lead to the inference that place of residence influences particular type of leadership practice. For instance the items Q7.14 and Q7.23 could be identified with transformational leadership style (Sandbakken, 2004) as they appear to measure certain characteristics of transformational leadership style. However in the instance of Q7.9 there is a negative correlation (statistically significant) indicating that the leadership style could be that of a typical style of a transformational leadership indicating unethical behaviour, a trait explained by Bass (1999) under transformational leadership style and the negative correlation may explain the type of leadership practice. The result in all the three cases indicates that the control variable, namely, organisational culture, can influence leadership practice. One important aspect of the analysis provided in Section 4.5 is the lack of correlation with the remaining observed variables that were used to measure leadership practice. Possible reasons for this could be the lower sample size and heavily skewed (non-normal) distribution of data (Osborne, 2010) pertaining to place of residence. Furthermore, considering the fact that most of the responses were obtained from respondents in India and UK the influence of organisational culture on leadership practice could be interpreted as though that the culture prevailing in both India and UK is nearly matching with a transformational leadership practice.

In addition, organisational culture has shown a positive correlation with the two moderating variables (see Table 4.3). This indicates that in combination with these two moderating variables, organisational culture could affect the relationship between leadership practice and leadership effectiveness. Overall the findings of this research indicate that organisational culture needs to be included as an important variable to understand the leadership process in the business schools.

These arguments provide knowledge on how the critical factors that influence deans as leaders of business schools could be related to each other (see Figures 5.1 and 5.2). Two models have been developed linking the critical factors, the leadership styles model and the dean's leadership effectiveness model. The relationship amongst the variables have been tested and verified. The relationship between the independent

variables and dependent variables indicate that transactional leadership style is the dominant style that has an effect on leadership practice of deans of business schools; similarly transactional leadership practice as an independent variable has been shown to have an effect indirectly on leadership effectiveness of deans of business schools mediated by decision quality and follower effectiveness. In addition, leadership practice has been shown to be moderated by management style and organisational structure a summary about the acceptance or rejection of the hypotheses developed for this research is provided in Table 5.4.

No.	Hypothesis	Result
H1a	There is a positive influence of transactional leadership style on the dean as business school leader.	Accepted
H1b	There is a positive influence of transformational leadership style on the dean as business school leader.	Rejected
H1c	There is a positive influence of laissez-faire leadership style on the dean as business school leader.	Rejected
H1d	There is a positive influence of democratic leadership style on the dean as business school leader.	Rejected
H1e	There is a positive influence of autocratic leadership style on the dean as business school leader.	Rejected
H2	Management style positively influences leadership practice of dean as business school leader.	Accepted
H3	Business school organisational effectiveness influences leadership practice of dean as business school leader.	Accepted
H4	Organisational culture influences leadership practice of Dean as business school leader.	Accepted
H5a	The leadership practice of dean as business school leader is positively related to decision quality.	Accepted
H5c	There is a positive relationship between the leadership practice of dean as business school leader and followers' satisfaction.	Accepted
H6a	Quality of decisions made by dean as business school leader is positively related to leadership effectiveness.	Accepted
H6c	Followers' satisfaction with the dean as business school leader is positively related to leadership effectiveness.	Accepted

Table 5.4, Verification of hypotheses

5.10 Chapter summary

This chapter has addressed the two research questions set for this research using the findings of the statistical analysis provided. The discussions indicate that results of this research are somewhat contradictory to the outcomes of the research conducted by some involved in leadership research,. All studies, even the worst ones, are

‘unique’, Ahlam! ‘Unique’ means ‘no one else has ever done x’. If I open the door of my office at 09.22 on Wednesday 9 July, it’s unique (no one else, including me, had opened my door at that time). ‘Unique’ doesn’t mean ‘great, brilliant’ and, in research terms, to say ‘my research is unique’ is to say what all research is (all research is unique), so it’s redundant. Nor can any “one to one comparison” be made with our research to someone else’s (which is why this bit had to be deleted). And, we don’t normally make any comparison. It’s instead that we look at our results in light of those of others. ‘In light of’ and not ‘compare with’. However with regard to leadership theory in general, from the literature review it can be seen that while the majority of leaders are found to possess transformational leadership styles, with a few accounted for under the transactional leadership style, the results in this research are aligned to the transactional leadership style theories.

Chapter 6

Conclusions

6 Introduction

This chapter provides conclusions to the research. The conclusions highlight the contributions made to theory and practice. The chapter further discusses the limitations of this research and offers recommendation for future research.

6.1 Initial research settings

This research has focused on the leadership styles of deans of business schools and investigated the relationship between leadership practice (a variable that is influenced by the leadership styles) and leadership effectiveness to gain knowledge on how leadership styles translate and influence dean's effectiveness as leaders. Leadership behaviour in various industries and how business leaders are often not able to deliver as leaders of their organisations has been the subject of both research and debate, and this includes within business schools in the higher education sector. Literature is scarce, however, on the issue of deans of business schools as leaders which is a major gap. Hardly any study has been conducted relating to the leadership style, or styles, that prevail in business schools and how these styles affect deans' performance as leaders. This gap in the literature and lack of understanding about the leadership concept called for an examination of the factors associated with leadership behaviour in business schools. There is a need to better understand the prevailing leadership style in business schools and how it influences the effectiveness of leaders of business schools. Thus the following sections discuss how the findings of this research contribute to leadership theory and practice.

6.2 Contribution to theory

The literature review (Chapter 2) on research related to leadership in general and HEIs in particular has shown that research has often produced inconsistent or contradictory or inconclusive results, or has only addressed the issue partially, leaving a gap with respect to many organisational contexts. Chief amongst the contexts that

needs to be further addressed in the leadership literature is leadership in business schools in the HEI sector, and deans in particular as leaders. From a theoretical perspective this research addresses this important gap in the leadership literature. Principally the research has established which type of leadership style is prevalent in the business schools, what type of leadership style is practised, how the leadership practice could influence leadership effectiveness, what factors moderate the leadership practice and what type of leadership factors mediate between leadership practice and leadership effectiveness. This research effort therefore advances the current understanding of the leadership behaviour of deans of business schools and of the factors that affect the leadership behaviour and which are affected by leadership effectiveness.

Chief amongst the contributions to theory is the identification of factors that influence leadership process in business schools where deans are the leaders (see Section 3.12) and what are considered to be the challenges. Those factors representing challenges discussed in Chapter 2 have been reduced to quantifiable variables and categorized under four types. Leadership style acts as the determinant of leadership practice exhibited by deans. Leadership practice exhibited by deans acts as the determinant of the leadership effectiveness, which acts as the dependent variable. Leadership effectiveness as a factor determines the extent to which deans as leaders may play their part/role in accomplishing the goals of the business school. Management styles, organisational settings and organisational culture as factors were found to be moderating variables that impact the relationship between leadership practice and leadership effectiveness. Decision quality of deans and follower satisfaction were found to be factors that act as mediators between leadership practice and leadership effectiveness. These findings contribute to knowledge related to leadership theory viewed in the context of the business school leadership. While the contributions find arguments in the literature that do or do not support them (see Section 5.3), those contributions have attempted to distinguish four different types of variables as influencing the leadership process at the business schools in which deans are the leaders. In particular, the explanation on the important role played by decision quality in shaping the effectiveness of the deans as leaders with a particular leadership practice is novel, as hitherto the role of decision quality as a mediator between

leadership practice and leadership effectiveness had not been investigated in leadership theory (Chapter 2 and Chapter 4).

A central contribution to knowledge is the determination of the leadership style (in terms of the leadership practice exhibited by deans) that influences the leadership effectiveness. The leadership style identified that has been found to influence leadership practice of deans' of business schools has been the transactional leadership style. This finding supports the findings of some and contradicts others. For instance Bass (1985) found that the transactional leadership style is prevalent and Muhammad et al. (2009) found that transactional leadership style is the most used by leaders of HEI. However, Leithwood (1994) found that transformational leadership style is the one that has the most positive effect on educational institutions' outcomes. Despite contradictions in the literature, the findings of this research show that the transactional leadership style is the style used/practised by deans. Thus this research has established the significant relationship that exists between transactional leadership style and leadership practice of deans. In essence it can be concluded that deans exhibit transactional leadership practice. Additionally the research has established that there is no statistical significance in the relationship between transformational, laissez-faire, democratic and autocratic leadership styles on the one hand and leadership practice on the other. This finding finds mixed support from others (see Section 5.3).

An important by-product of this research is the knowledge it contributes in terms of testing the influence of five different leadership styles on leadership behaviour concurrently. While the transactional style has been found to have significant relationship with leadership practice exhibited by deans, handling five leadership styles concurrently provided additional knowledge on the interaction between transactional leadership as the independent variable and the other four variables. The interplay between five leadership styles is a complex affair (see Section 4.9) and the knowledge generated on this interplay provides a strong base for the argument that there is some moderating effect of transformational, laissez-faire, democratic and autocratic leadership styles on transactional style. Moderators interact in the relationship of one variable's impact on another's (Baron & Kenny, 1986). For instance transactional leadership style is found to be highly correlated to

transformational leadership style (see Section 5.3) implying that in the relationship between transactional leadership style and leadership practice, transformational leadership could have an indirect effect. Such an interaction could be interpreted as though transformational style complements transactional style and the resultant style could be considered as the better description of (there's no such thing as any 'ultimate' leadership, Ahlam) the leadership practice exhibited by deans an argument supported by Bass and Avolio (1994) and Felf and Schyns (2004). The results discussed in Section 5.3 further point out that the arguments made for transformational leadership style could be extended to laissez-faire, democratic and autocratic leadership styles. Thus the effect of the four leadership styles may indicate that while the transactional leadership style could be the dominant style affecting leadership practice, it is highly likely that the remaining four styles indirectly affect leadership practice too.

This research contributes to an understanding of how management style, organisational settings and organisational culture as moderators could interact in their influence on the relationship between leadership practice and leadership effectiveness. While the relationship between management style and leadership practice is contentious in the sense that some (e.g. Wilson et al., 2006) argue that leadership and management could represent the same concept and others argue the contrary (e.g. Kotter, 1990), the findings of this research has confirmed the arguments of Kotter (1990) and Drucker (1998), who argued that an essential influencing factor of leadership is the management style. The results imply that deans who exhibit predominantly transactional leadership styles are expected to be strongly associated with good management style to be effective leaders. Similarly organisational setting (represented by organisational structure of business schools) and organisational culture (represented by place of residence) have been found to be associated with leadership practice, indicating that organisational structure and organisational culture interact in the relationship between leadership practice and leadership effectiveness. While the influence of organisational structure on leadership practice is an area that is under-investigated, the results of this research confirm other research (e.g. Northouse, 2004) that has suggested that there could be a relationship between organisational structure and leadership practice exhibited by deans. The results imply that the use of

a particular leadership style by deans, in this case, the transactional leadership one, is associated with the organisational structure (i.e. organisational centralization of authority and organisational formality see Section 2.19.5) in which they work as leaders. In addition the finding that organisational culture influences leadership practice exhibited by deans confirms similar findings in leader research, for instance Latham (2013) who argued that organisational culture affects leader behaviour. From these findings it is possible to infer that leadership practice exhibited by deans is an inherent leadership attribute of deans that is largely shaped by such factors as leadership style, management style, organisational structure and organisational culture.

Finally while leadership literature (e.g. Brown, 2003) shows in general that follower commitment is an important antecedent of leadership effectiveness, this research found that follower commitment is not significantly related to leadership effectiveness or leadership practice in the context of the business school leadership. This is another significant finding because leaders could focus more on follower satisfaction and decision quality and less on the follower commitment although similar findings in the extant literature are not found.

In summary, the contributions of this research to theory as follows:

- Deans of business schools exhibit a predominantly transactional leadership style.
- The relationship between leadership style of deans and their practice of leadership is moderated by transformational, laissez-faire, democratic and autocratic leadership styles in varying proportions.
- Transactional leadership practice of deans influences their effectiveness as leaders through the mediators of decision quality and follower support.
- Transactional leadership practice of deans as leaders is associated with their management style, the organisational culture and structure of the business schools in which they work, which act as moderators in the relationship between deans' leadership practice and their effectiveness.
- Linkage between leadership styles and practice determines the leadership style exhibited by deans as leaders.

- Transformational leadership style, widely believed to be the most practised or favoured leadership style in organisations including HEIs, is not significantly related to leadership practice of deans.
- The results point out that when tested concurrently the five leadership styles are strongly associated with each other although only one (transactional) of them is dominant and significantly related to leadership practice.

The model that has been tested in Chapter 4 contributes to knowledge by providing a way using which it is possible to relate moderating and mediating factors to leadership constructs.

6.3 Contribution to practice

The findings of this research have implications and utility, either directly or indirectly, for a wide range of stakeholders in the HEI sector, namely the deans of business schools, the academics within business schools and administrative staff, the institutional managers in HEIs, and also the student. The findings of this research provide the following opportunities.

Firstly, to the deans of business schools. Deans who have been criticized for having failed to show leadership skills (Ivory et al. 2007) can now use specific factors identified in this research and the relationship amongst them to see how/if or in what ways knowledge of these might help them to address the challenges that they face in leading the business schools effectively. The model developed and tested in this research provides a practical way by which deans of business schools could look attheir leadership style and their management style, the organisational structure of the school and organisational culture. Additionally, if the deans want to change aspects of their leadership style then the model offers guidance using which they can focus on certain aspects of leadership styles through training, including decision quality and improving follower satisfaction. The guidance offered by the model could benefit not only business schools in general but also academic and administrative staff in particular,. In addition, the model could be used as a basis to understand whether effective leadership could steer business school students to be better leaders as some studies show a linkage between the leadership behaviour in the education sector and

student achievement (Leithwood & Jantzi, 1999a, 1999b; Leithwood et al. 2004a; Silins & Mulford, 2002b; Silins et al. 2002). In addition, the findings could be used by deans to further understand what 'successful leadership' in education means and how such a leadership can further educational practices as well as student learning (Louis et al., 2010).

Secondly, to the academic and administrative staff as followers, who stand to benefit from the model and the findings in understanding the leadership style practised by the dean in their business schools. For instance, academic and administrative staff can act as the mirror to the deans and reflect images of those deans on the effectiveness of their leadership through an expression of their satisfaction or otherwise with them. Academic and administrative staff have the unique position to judge the deans from the perspective as followers of deans as leaders using the model. Academic and administrative staff could understand better the type of leadership style exhibited by the deans. With the guidance of the model it is possible to inform the followers about the management style of the dean, the organisational structure needed by all who work in the school, including the deans as leaders, the organisational culture adopted by the deans, quality of decisions taken by the deans as leaders and effectiveness of their leaders.

Thirdly, to managers in HEIs, who could gain an understanding of the leadership style of deans of business schools. The managers can train the deans to further develop their leadership styles, and likewise observe and if necessary seek to change their management style, and hence positively influence decision quality and follower satisfaction, alongside helping to ensure that they make the best contribution that they can to ensuring that the organisational structure and organisational culture are those which have been shown to be beneficial.

6.4 Limitations of this research

While some argue (see Section 2.18) that follower commitment is a very common construct that is part of any research that is concerned with the concept of leadership, the findings of this research raises questions on reasons for not finding follower commitment as a significant construct. It is likely that the follower commitment

measures adapted in this research based on OCQ (see Section 2.19.8) may need further refinement in terms of the content that is applicable to leadership aspects in the HEI sector. Or it is quite likely that, as argued by Bass (1999), commitment as a concept needs to be further investigated and the current level of understanding of the concept is inadequate for applying the existing measurement scales in leadership research.

From the methodological point of view the research adapted the positivist philosophical stance that led to the adoption of the deductive approach and quantitative research method. Although the choice is based on the support available in the leadership literature for the use of positivist philosophical stance, deductive research approach and quantitative research method (e.g. Holt et al., 2012), some views opposing the use of positivist philosophical stance, deductive research approach and quantitative research method are making their point (e.g. Alvesson, 1996).

A smaller than desired sample size is a frequent limitation in any research and this research is no exception. The data was collected from a multi-country sample and lack of sufficient data to see if, for example, contextual cultural differences between countries/regions might have led to different results in different contextual settings. Another possible limitation that could have affected this research is the use of organisational culture as a control variable instead of as a moderating variable.

The data was collected from HEIs in India and UK (more particularly India) which comprised 88.35% of the total responses received for this research. Thus the findings are limited to the Indian and UK cultures only. Further, as data was gathered from various schools, there is also the question of organisational culture (rather than the country culture) to consider. That is, the followers of a particular school in a particular university might be different in a different kind of school with a different kind of organisational culture. Thus the findings of this research may suffer due to the limitation that it has studied the influence of national culture on deans as leaders in place of organisational culture.

In addition this research has not considered the influence of demographic aspects in terms of age, gender, backgrounds and length of working in the organisation, on deans as leaders. For instance, if 85% of the followers were female, then the results could be different as literature informs that females have different perceptions of leaders and leadership. Not considering the influence of demographic aspects could be a limitation of this research. Besides, this research has not observed the deans from the point of view of leadership. Instead the research findings are based on data obtained from the followers and their perspective of deans as leaders. Study of the deans themselves from leadership perspective might have produced different findings which could be a limitation.

6.5 Recommendation for future research

The model developed in this research suggests other challenges such as change management, staff succession, strategic direction and funding that need to be further explored as factors that could act as mediators between leadership practice and leadership effectiveness.

Management style, organisational factors have been dealt with as moderating factors instead of independent variables. Future studies could examine the influence of management style and organisational factors as independent variables to gain insight on how these two factors can be controlled to achieve leadership effectiveness and student achievement. Similarly, organisational culture has been dealt with as a control variable. Further investigations could use organisational culture as an independent variable and analyse its influence on leadership effectiveness and student achievement.

From the theoretical perspective the finding that the transactional leadership style is the only style that has been found to have significant relationship with leadership practice is somewhat unexpected. If one takes cognizance of the literature review in Section 2.8 pertaining to transformational leadership style, it can be seen that the most prevalent leadership style in organisations is the transformational leadership style. Similarly the arguments on democratic leadership provided in Section 2.10 indicate that some have highlighted the need to look at democratic and other styles of

leadership in organisations. Additionally there is a strong correlation that has been found to exist between transformational and transactional leadership constructs (see Section 4.7) showing that transactional and transformational leadership styles are both used/complement each other. There is a need to understand why the leadership style practised by deans is predominantly transactional. Another point of contention could be that despite having a very high correlation between transactional and transformational leadership styles, why the leadership practice is predominantly transformational. It must be borne in mind that some have argued that leadership in the education sector is indeed transactional.

Follower commitment as a mediating variable, which was found statistically insignificant in this research, could be introduced in future research and measured using a different instrument. This may yield results that may provide insight into the influence of additional mediating variables in the model and hence provide wider understanding of the leadership practice-leadership effectiveness of deans as leaders mediated by newer factors. The use of interpretive philosophy that is linked to subjective ontology, inductive research approach and qualitative research method is recommended in future research, using which it is possible to understand the leadership behaviour of deans in terms of experiences, feelings, ideas and observing real life happenings on site with respect both the followers and deans. Study of the contextual cultural differences between countries/regions might in different contextual settings produce different results. Lastly, future research efforts could include student related factors.

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Appendix I

Research Study - Leadership Styles in Higher Education

Dear Sir or Madam

I am a PhD student in Brunel University, UK, doing my research in the area of leadership in higher education institutions. The title of my research is "An empirical study on the relationship between leadership styles and leadership effectiveness mediated by decision quality in Higher Education Institutions (HEI) with a focus on the deans of business schools". The purpose is to assist the leadership in the business Schools in HEIs by providing them with an idea about the type of leadership style they should adopt that could enable them to be effective leaders. Towards achieving this purpose as part of my research I need to collect data from academic and administrative staff who coordinate with the Dean. I have developed a self-administered questionnaire to facilitate ease of completing the survey. Answering the questionnaire will enable me to collect the data required to understand this crucial area of HEI administration. I would be very grateful for your participation in the survey, to enable me to complete my PhD research. I humbly request you to spare a few moments of your valuable time to answer this questionnaire and return to me as soon as possible. I guarantee that the information provided by you will be solely used for the purpose of this research only and will be treated in strict confidence. I assure you that all the information provided by you will be kept confidential and will not be allowed to be used by any third party. Should you require any clarification please do not hesitate to contact me on the telephone number or e-mail provided below.

Thank you for your kind support and cooperation in this important study.

Yours sincerely

Ahlam Hassan
PhD student
Brunel University, UK

Email:
Mobile: + 973 39478965
Kingdom of Bahrain.

Section 1: Demographic information; (Please tick "**X**" to whichever applies below.)

Gender	Male	
	Female	

Place of residence	Bahrain	
	GCC	
	Other	

Age	20 - 29	
	30 - 39	
	40 - 49	
	50 or above	

Number of years worked or associated with the Business School	5 or below	
	6 - 10	
	11 - 15	
	16 - 20	
	20 or above	

Section 2:

Please rate with an "**X**" each item on each of the twelve scales shown, to indicate your level of agreement on the five point Likert scale:

Management style:

The scale used for this construct is: 1 = Never; 2 = Seldom; 3 = Sometimes; 4 = Often; 5 = Always

	Management style	**1**	**2**	**3**	**4**	**5**
	Please indicate your opinion on the scale of 1 to 5 about the Dean of your college as a leader on the following:					
1	Takes time to explain how a job should be carried out					
2	Explains the part that members are to play in the team					
3	Makes clear the rules and the procedures for others to follow in detail					
4	Organizes his/her own work activities					
5	Lets people know how well they were doing					
6	Lets people know what was expected of them					
7	Encourages the use of uniform procedures to get things accomplished					
8	Makes attitude of self clear to others					
9	Assigns others to particular tasks					
10	Makes sure that others understood their part in the group					
11	Delegates the work that is wanted to do be done by others					
12	Asks others to follow standard rules and regulations					
13	Makes working on the job more pleasant					
14	Goes out of his/her way to be helpful to others					
15	Respects others' feelings and opinions					
16	Is thoughtful and considerate of others					
17	Maintains a friendly atmosphere in the team					
18	Does little things to make it pleasant for others to be a member of the team					
19	Treats others as equals					
20	Gives others advance notice of change and explains how it will affect them					
21	Looks out for others' personal welfare					
22	Is approachable and friendly towards others					

Organisational structure:
The scale used for this construct is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Organisational Structure	**1**	**2**	**3**	**4**	**5**
	Please rate how strongly you agree or disagree on the scale of 1 to 5 that the statements below generally describe your College					
1	There can be little action in my college until a superior approves a decision					
2	A person who wants to make his/her own decisions would be quickly discouraged					
3	Even small matters have to be referred to someone higher up for a final answer					
4	I have to ask my boss before I do almost anything					
5	Any decision I make has to have my boss's approval					
6	The College has a large number of written rules and policies					
7	A "rules and procedures" manual exists and is readily available within this College					
8	There is a complete written job description for most jobs in this institution					
9	The College keeps a written record of everyone's job performance					
10	There is a formal orientation program for most new members of the College					

Leadership practice:

The scale used for this construct is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Leadership practice	1	2	3	4	5
	Please rate on a scale of 1 to 5 to what extent does your dean typically engage in the following behaviours? Choose the response number that best applies to each statement and record it in the box to the right of that statement.					
1	Sets a personal example of what he/she expects of others					
2	Talks about future trends that will influence how our work gets done.					
3	Seeks out challenging opportunities that tests his/her own skills and abilities.					
4	Develops cooperative relationships among the people he/she works with					
5	Praises people for a job well done.					
6	Spends time and energy making certain that the people he/she works with adhere to the principals and standards we have agreed on.					
7	Describes a compelling image of what our future could be like.					
8	Challenges people to try out new and innovative ways to do their work.					
9	Actively listens to diverse points of view.					
10	Makes it a point to let people know about his/her confidence in their abilities.					
11	Follows through on the promises and commitments that he/she makes.					
12	Appeals to others to share an exciting dream of the future.					
13	Searches outside the formal boundaries of his/her organization for innovative ways to improve what we do.					
14	Treats others with dignity and respect.					
15	Makes sure that people are creatively rewarded for their contributions to the success of our projects					
16	Asks for feedback on how his/her actions affect other people's performance.					
17	Shows others how their long-term interests can be realized by enlisting in a common vision.					
18	Asks "what can we learn?" when things don't go as expected.					
19	Supports the decisions that people make on their own.					
20	Publicly recognizes people who exemplify commitment to shared values.					
21	Builds consensus around a common set of values for running our organization.					
22	Paints the "big picture" of what we aspire to accomplish.					
23	Makes certain that we set achievable goals, make concrete plans, and establish measurable milestones for the projects and programs that we work on.					
24	Gives people a great deal of freedom and choice in deciding how to do their work.					
25	Finds ways to celebrate accomplishments.					
26	Is clear about his/her philosophy of leadership?					
27	Speaks with a genuine conviction about the higher meaning and purpose of our work.					
28	Experiments and take risks, even when there is a chance of failure.					
29	Ensures that people grow in their jobs by learning new skills and developing themselves.					
30	Gives the teacher leaders of the team lots of appreciation and support for their contributions.					

Transactional leadership

The scale used for this construct is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Transactional Leadership	1	2	3	4	5
	Please rate how strongly you agree or disagree on a scale of 1 to 5 the dean of your college as a leader, in making decisions on the following:					
1	Keeps work moving at a rapid pace					
2	Urges staff to beat previous targets					
3	Pushes for growth					
4	Gives purpose and direction, conveys a collective sense of mission, and emphasizes task importance					
5	Encourages people to lead, model behavior expected, offers challenging assignments					
6	Displays a high drive, acts ethically, tackles poor performance, and admits mistakes					
7	Develops strong working relationships, builds rapport quickly (transact)					

Transformational Leadership

The scale used for this construct is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Transformational Leadership	1	2	3	4	5
	Please rate how strongly you agree or disagree on a scale of 1 to 5 the dean of your college as a leader, in making decisions on the following:					
1	Co-operates effectively with others to achieve goals (transform)					
2	Remains focused on vision and goals (transform)					
3	Advocates the imperative for change and innovation (transform)					
4	Regards challenges as opportunities (transform)					
5	Willing to take risks in decisions (transform)					

Laissez-Faire Leadership

The scale used for this construct is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Laissez-Faire Leadership	1	2	3	4	5
	Please rate how strongly you agree or disagree on a scale of 1 to 5 the dean of your college as a leader, in making decisions on the following:					
1	Lets staff work in the way they think best					
2	Encourages overtime work					
3	Permits the staff to set their own pace for change					

Democratic Leadership

The scale used for this construct is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Democratic Leadership	1	2	3	4	5
	Please rate how strongly you agree or disagree on a scale of 1 to 5 the dean of your college as a leader, in making decisions on the following:					
1	Listens attentively to what people say					
2	Creates a positive mood					
3	Accepts criticism and learn from it					

Autocratic Leadership

The scale used for this construct is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Autocratic Leadership	1	2	3	4	5
	Please rate how strongly you agree or disagree on a scale of 1 to 5 the dean of your college as a leader, in making decisions on the following:					
1	Schedules the work to be done					
2	Persuades others that his/her ideas are for the employees' advantage					
3	Asks staff follow standard rules and procedures					
4	Encourages the use of standard procedures					

Commitment:

The scale used for this construct is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Commitment	1	2	3	4	5
	Please provide your response on a scale of 1 to 5 on the following:					
1	It would be very hard for me to leave my department right now, even if I wanted to					
2	I do not feel any obligation to remain with my current employer					
3	I would be very happy to spend the rest of my career with this department					
4	One of the few negative consequences of leaving this department would be the scarcity of available alternatives					
5	Even if it were to my advantage, I do not feel it would be right to leave my organization now					
6	I really feel as if this department's problems are my own					
7	Right now, staying with my department is a matter of necessity as much as desire					
8	I do not feel a strong sense of "belonging" to my department					
9	I feel that I have too few options to consider leaving this department					
10	I do not feel "emotionally attached" to this department					
11	I would feel guilty if I left my organization now					
12	I do not feel like "part of the family" at my department					
13	This organization deserves my loyalty					
14	If I had not already put so much of myself into this department, I might consider working elsewhere					
15	Would not leave my organization right now because I have a sense of obligation to the people in it					
16	This department has a great deal of personal meaning for me					
17	Too much of my life would be disrupted if I decided I wanted to leave my department now					
18	I owe a great deal to my organization					

Decision quality:

The scale used for this construct is: 1 = Very low; 2 = Low; 3 = Neither low nor high; 4 = High; 5 = Very high

	Decision quality	1	2	3	4	5
	Please rate on a scale of 1 to 5 the extent to which the following objectives have been achieved by the dean of your college:					
1	Improved academic excellence					
2	Improved quality of service					
3	Improved productivity (student's quality)					
4	Enhanced employee motivation					
5	Increased innovation capacity					
6	Developed and disseminated knowledge					

Satisfaction:

Please see the response boxes in the table below for the response scale options used in this sub-section.

	Satisfaction	1	2	3	4	5
	Please rate your perception of satisfaction on a scale of 1 to 5 with respect to the Dean as a leader against the following:					
1	Closeness	1 (Distant)	2	3	4	5 (Near)
2	Sincerity	1 (Insincere)	2	3	4	5 (Sincere)
3	Friendliness	1 (Unfriendly)	2	3	4	5 (Friendly)
4	Qualification	1 (Unqualified)	2	3	4	5 (Qualified)

Leadership effectiveness

Please see the response boxes in the table below for the response scale options used in this sub-section.

	Leadership effectiveness	1 (Lower level effectiveness)	2	3	4	5 (Higher level effectiveness)
	Please rate your perception of the Dean as an effective leader of the business school on a scale of 1 to 5 in terms of the following performance aspects:					
1	Meeting of leadership performance standards					
2	Overall leadership success					
3	In Comparison to his/her leadership peers					
4	Performance as a role model					
5	Overall effectiveness as a leader					

Thank you again for your valuable time and cooperation.

Appendix II

Main survey questionnaire

Dear Sir/Madam

I am a PhD student in Brunel University, UK. The title of my research is "An empirical study on the relationship between leadership styles and leadership effectiveness mediated by decision quality in Higher Education Institutions (HEI) with a focus on the deans of business schools". The purpose is to assist the leadership in the Business Schools in HEIs by providing them with an idea about the type of leadership style they should adopt that could enable them to be effective leaders. Towards achieving this purpose I need to collect data from academic and administrative staff who coordinate with the Dean. I have developed a self-administered questionnaire and I humbly request you to spare a few moments of your valuable time to answer this questionnaire and return to me as soon as possible. I confirm the information provided by you will be solely used for the purpose of this research only and will be treated in strict confidence and will not be used by a third party. Furthermore, this research has been approved by Brunel Business School Ethical Committee. Should you require any clarification please do not hesitate to contact me on the telephone number or e-mail provided below.

Thank you for your kind support and cooperation in this important study.

Ahlam Hassan

PhD student

Brunel University, UK.

Mobile: +7503247505; +9733947896

Section 1; Includes demographic questions; (Please tick "**X**" to whichever applies)

Gender	Male	
	Female	

Place of residence	Bahrain	
	GCC	
	Other	

Age	20 - 29	
	30 - 39	
	40 - 49	
	50 or above	

Number of years worked or associated with the Business School	5 or below	
	6 - 10	
	11 - 15	
	16 - 20	
	20 or above	

Section 2:
This section comprises twelve different scales measuring twelve different constructs associated with leadership and management styles in the organization.

Management style:

The scale is: 1 = Never; 2 = Seldom; 3 = Sometimes; 4 = Often; 5 = Always

	Management style	**1**	**2**	**3**	**4**	**5**
	Please indicate your opinion on a scale of 1 to 5 about the Dean of your college as a leader on the following:					
1	Takes time to explain how a job should be carried out					
2	Explains the part that members were to play in the team					
3	Makes clear the rules and the procedures for others to follow in detail					
4	Organizes own work activities					
5	Lets people know how well they were doing					
6	Lets people know what was expected of them					
7	Encourages the use of uniform procedures to get things accomplished					
8	Makes attitude of self clear to others					
9	Assigns others to particular tasks					
10	Makes sure that others understood their part in the group					
11	Delegates the work that is wanted to do be done by others					
12	Asks others to follow standard rules and regulations					
13	Respects others' feelings and opinions					
14	Is thoughtful and considerate of others					
15	Maintains a friendly atmosphere in the team					

Organisational structure:

The scale is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Organisational Structure	**1**	**2**	**3**	**4**	**5**
	Please rate how strongly you agree or disagree on a scale of 1 to 5 that the statements below generally describe your College.					
1	There can be little action in my college until a superior approves a decision					
2	A person who wants to make his/her own decisions would be quickly discouraged					
3	Even small matters have to be referred to someone higher up for a final answer					
4	I have to ask my boss before I do almost anything					
5	Any decision I make has to have my boss's approval					
6	The College has a large number of written rules and policies					
7	A "rules and procedures" manual exists and is readily available within this College					
8	There is a complete written job description for most jobs in this institution					
9	The College keeps a written record of everyone's job performance					
10	There is a formal orientation program for most new members of the College					

Leadership practice:

Scale is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Leadership practice	1	2	3	4	5
	Please rate on a scale of 1 to 5 to what extent does your dean typically engage in the following behaviours?					
1	Sets a personal example of what he/she expects of others					
2	Develops cooperative relationships among the people he/she works with					
3	Praises people for a job well done.					
4	Spends time and energy making certain that he/she works with, adhere to the principals and standards we have agreed on.					
5	Describes a compelling image of what our future could be like.					
6	Challenges people to try out new and innovative ways to do their work.					
7	Actively listens to diverse points of view.					
8	Makes it a point to let people know about his/her confidence in their abilities.					
9	Follows through on the promises and commitments that he/she makes.					
10	Appeals to others to share an exciting dream of the future.					
11	Searches outside the formal boundaries of his/her organization for innovative ways to improve what we do.					
12	Treats others with dignity and respect.					
13	Makes sure that people are creatively rewarded for their contributions to the success of our projects					
14	Asks for feedback on how his/her actions affect other people's performance.					
15	Shows others how their long-term interests can be realized by enlisting in a common vision.					
16	Supports the decisions that people make on their own.					
17	Publicly recognizes people who exemplify commitment to shared values.					
18	Builds consensus around a common set of values for running our organization.					
19	Paints the "big picture" of what we aspire to accomplish.					
20	Makes certain that we set achievable goals, make concrete plans, and establish measurable milestones for the projects and programs that we work on.					
21	Finds ways to celebrate accomplishments.					
22	Speaks with a genuine conviction about the higher meaning and purpose of our work.					
23	Experiments and take risks, even when there is a chance of failure.					
24	Ensures that people grow in their jobs by learning new skills and developing themselves.					
25	Gives the teacher leaders of the team lots of appreciation and support for their contributions.					

Five leadership constructs follow in the next five subsections. It is very important.

Leadership Construct A

Scale is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Leadership Construct A	1	2	3	4	5
	Please rate how strongly you agree or disagree on a scale of 1 to 5, whether the Dean of your college as a leader, in making decisions on the following:					
1	Keeps work moving at a rapid pace					
2	Urges staff to beat previous targets					
3	Pushes for growth					
4	Gives purpose and direction, conveys a collective sense of mission, and emphasizes task importance					
5	Encourages people to lead, model behavior expected, offers challenging assignments					
6	Displays a high drive, acts ethically, tackles poor performance, and admits mistakes					
7	Develops strong working relationships, builds rapport quickly					

Leadership Construct B

Scale is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Leadership Construct B	1	2	3	4	5
	Please rate how strongly you agree or disagree on a scale of 1 to 5, whether the Dean of your college as a leader, in making decisions on the following:					
1	Co-operates effectively with others to achieve goals					
2	Remains focused on vision and goals					
3	Advocates the imperative for change and innovation					
4	Regards challenges as opportunities					
5	Willing to take risks in decisions					

Leadership Construct C

The scale is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Leadership Construct C	1	2	3	4	5
	Please rate how strongly you agree or disagree on a scale of 1 to 5, whether the Dean of your college as a leader, in making decisions on the following:					
1	Lets staff work in the way they think best					
2	Encourages overtime work					
3	Permits the staff to set their own pace for change					

Leadership Construct D

The scale is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Leadership Construct D	1	2	3	4	5
	Please rate how strongly you agree or disagree on a scale of 1 to 5. whether the Dean of your college as a leader, in making decisions on the following:					
1	Listens attentively to what people say					
2	Creates a positive mood					
3	Accepts criticism and learn from it					

Leadership Construct E

The scale is: 1 = Disagree strongly; 2 = Disagree; 3 = Neutral; 4 = Agree; 5 = Agree strongly

	Leadership Construct E	1	2	3	4	5
	Please rate how strongly you agree or disagree on a scale of 1 to 5, whether the Dean of your college as a leader, in making decisions on the following:					
1	Schedules the work to be done					
2	Persuades others that his/her ideas are for the employees' advantage					
3	Asks staff follow standard rules and procedures					
4	Encourages the use of standard procedures					

Decision quality:

The scale is: 1 = Very low; 2 = Low; 3 = Neither low nor high; 4 = High; 5 = Very high

	Decision quality	1	2	3	4	5
	Please rate on a scale of 1 to 5 the extent to which the following objectives were achieved by the dean of your college:					
1	Improved academic excellence					
2	Improved quality of service					
3	Improved productivity (student's quality)					
4	Enhanced employee motivation					
5	Increased innovation capacity					
6	Developed and disseminated knowledge					

Satisfaction
Please see the response boxes in the table below for the response scale options used in this subsection.

	Satisfaction	**1**	**2**	**3**	**4**	**5**
	Please rate your perception of satisfaction on the scale of 1 to 5 in terms of the following:					
1	Closeness	1 (Distant)	2	3	4	5 (Near)
2	Sincerity	1 (insincere)	2	3	4	5 (Sincere)
3	Friendliness	1 (Unfriendly)	2	3	4	5 (Friendly)
4	Qualification	1 (Unqualified)	2	3	4	5 (Qualified)

Leadership effectiveness

Please see the response boxes in the table below for the response scale options used in this subsection.

	Leadership effectiveness	**1 (Lower level effectiveness)**	**2**	**3**	**4**	**5 (Higher level effectiveness)**
	Please rate your perception of the Dean as an effective leader of the business school on a scale of 1 to 5 in terms of the following performance aspects:					
1	Meeting of leadership performance standards					
2	Overall leadership success					
3	Comparisons to the person's leadership peers					
4	Performance as a role model					
5	Overall effectiveness as a leader					

Appendix III

Demographic details

Gender					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	95	55.6	55.6	55.6
	Female	76	44.4	44.4	100.0
	Total	171	100.0	100.0	
Place of residence					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	US	5	2.9	2.9	2.9
	UK	22	12.9	12.9	15.8
	Canada	2	1.2	1.2	17.0
	Bahrain	11	6.4	6.4	23.4
	Others	131	76.6	76.6	100.0
	Total	171	100.0	100.0	

No.	Country	Name of the University	Profile	No. of responses
9.	Bahrain	Applied Science University	Academic staff	11
10.	Gulf Cooperation Council (GCC) countries (mainly Kingdom of Saudi Arabia)	King Fahad University for Petroleum and Minerals (KFUPM)	Academic staff	0
Others				
11.	Canada	McGill University	Academic staff	2
12.	Egypt	Suhag University and Ain Shams University	Academic staff	5
13.	France	ISG Paris	Administrative staff	5
14.	India	40 institutions in the states of Gujarat and Maharashtra were approached	Academic and administrative staff	121
15.	UK	Brunel University	Academic and administrative staff	22
16.	USA		Academic staff	5

Age (years)					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	20-29	32	18.7	18.7	18.7
	30-39	61	35.7	35.7	54.4
	40-49	55	32.2	32.2	86.5
	50 or above	23	13.5	13.5	100.0
	Total	171	100.0	100.0	
Number of years worked or associated with Business School					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	5 or below	46	26.9	26.9	26.9
	6-10	65	38.0	38.0	64.9
	11-15	44	25.7	25.7	90.6
	16-20	7	4.1	4.1	94.7
	20 or above	9	5.3	5.3	100.0
	Total	171	100.0	100.0	

Appendix IV

Service Level Agreement

REF No.: HT/BPO/2013/
DATE:

This Service Level Agreement ("SLA") is made and entered into ------ by and between A. Hassan, PhD Student **Ahlia University** located P.O.BOX 10878, GOSI Complex, 1st Floor, Exhibition Road, Manama, Bahrain (here after referred to as "Client") and **Hi-Tech Outsourcing Services** (hereafter referred as "HOS") having its Registered office at 3rd & 4th Floor, Hi-Tech House, B/h. V-Murti Complex, Nr. Gurukul Tower, Gurukul Road, Memnagar, Ahmedabad – 380052 and Branch Offices at 3rd Floor, A Wing (Left Wing), Chanakaya Plaza Complex, New CG Road, Chandkheda, Gandhinagar – 382424 and Plot No. 43 A, 3rd Floor, E Block, Cochin Special Economic Zone (CSEZ), Kakkanad, Cochin – 682037 to document:

This SLA shall remain valid for 2 months from the date of agreement.

Services

- **Requirement Description:** To get the 200 valid responses.
- **Turnaround time:** 10 working days
- **Quality Parameters:** 99%
- **Output Description:** Online website
- **Proposed starting date of project:** As soon as the agreement is signed

Pricing

#	Description	Unit	Currency	Rate	Qty	Total Amount
1	To get responses	Response	USD			

Payment Terms

- Price may vary for any changes in Service requirements (other than as mentioned in this SLA) suggested by Client in the form, source, or quality of input/output data, process methodology, volume, turnaround time, etc.
- HOS will generate the invoice at the end of the month and the Client shall acknowledge the receipt within one or two business days.
- HOS will forward a detailed annexure to Client for a particular job or part of job whichever is completed in a particular month by month end. Client is responsible to approve the details in three working days from the receipt of such annexure. In case if Client does not provide the approval within the given timeline, HOS holds the right to raise an invoice based on the annexure sent. In such cases, any discrepancies can be settled in next invoice.
- **The invoices raised by HOS should be paid within 7 working days from the date of receipt.**

Non-Solicitation & Confidentiality

To protect the Business Interests of both parties, both parties hereto agree as under:

- The parties will not disclose, publish or otherwise reveal any of the Confidential Information.
- The parties will not, either directly or indirectly, except with the written consent of other party, from date hereof till a period of 12 (Twelve) months after the termination of this agreement, engage in material dealings, with, any employee, firm, corporation or any other entity, wherein the employee has, business interest, or the owner of such entity is a relative(one related by blood or marriage) of the employee, or the employee is related to such individual or entity by any other means.
- The parties will not, from date hereof till a period of 12 (Twelve) months after the termination of this agreement, either directly or indirectly, call upon, solicit, divert or take away or attempt to solicit, divert or take away, any employees of the other party.

Termination

Both the Parties shall be entitled to terminate this Agreement by 30 days written notice which shall be effective forthwith if:

- All the outstanding payments for actual work performed by HOS as on date of termination, are paid by the Client within 7 days of the date of termination, failing which, the agreement shall not be deemed terminated.

Both parties agree that they have read and understood the agreement and have agreed to abide by it.

For Hi-Tech

Outsourcing Services,

_____

_____

(Signature and Date) (Signature and Date)

A. Hassan, PhD Student, Ahlia University **Bhanu Gupta – Director**

(Marketing

Phone: +973-17298999 Phone: +91 79 4000 3207

Appendix V
Coding Sheet

Questions' Number (Coding)	Description
	Section 1
	Demographic information
Q1	Gender
Q2	Place of residence
Q3	Age
Q4	Number of years worked or associated with the business School
	Section 2
	Management style: **Please indicate your opinion on the scale of 1 to 5 about the Dean of your college as a leader on the following:**
Q5.1	Takes time to explain how a job should be carried out
Q5.2	Explains the part that members were to play in the team
Q5.3	Makes clear the rules and the procedures for others to follow in detail
Q5.4	Organizes own work activities
Q5.5	Lets people know how well they were doing
Q5.6	Lets people know what was expected of them
Q5.7	Encourages the use of uniform procedures to get things accomplished
Q5.8	Makes attitude of self clear to others
Q5.9	Assigns others to particular tasks
Q5.10	Makes sure that others understood their part in the group
Q5.11	Schedules the work that is wanted to do be done by others
Q5.12	Asks others to follow standard rules and regulations
Q5.13	Respects others' feelings and opinions
Q5.14	Was thoughtful and considerate of others
Q5.15	Maintains a friendly atmosphere in the team
	Organisational Structure: **Please rate how strongly you agree or disagree on the scale of 1 to 5 that the statements below generally describe your College**
Q6.1	There can be little action in my college until a superior approves a decision
Q6.2	A person who wants to make his/her own decisions would be quickly discouraged
Q6.3	Even small matters have to be referred to someone higher up for a final answer
Q6.4	I have to ask my boss before I do almost anything
Q6.5	Any decision I make has to have my boss's approval
Q6.6	The College has a large number of written rules and policies
Q6.7	A "rules and procedures" manual exists and is readily available within this College
Q6.8	There is a complete written job description for most jobs in this institution
Q6.9	The College keeps a written record of everyone's job performance
Q6.10	There is a formal orientation program for most new members of the College
	Leadership practice: **Please rate on the scale of 1 to 5 to what extent does your Dean typically engage in the following behaviours?**
Q7.1	Sets a personal example of what he/she expects of others
Q7.2	Develops cooperative relationships among the people he/she works with
Q7.3	Praises people for a job well done.
Q7.4	Spends time and energy making certain that the people he/she works with adhere to the principals and standards we have agreed on.
Q7.5	Describes a compelling image of what our future could be like.
Q7.6	Challenges people to try out new and innovative ways to do their work.
Q7.7	Actively listens to diverse points of view.
Q7.8	Makes it a point to let people know about his/her confidence in their abilities.
Q7.9	Follows through on the promises and commitments that he/she makes.

Q7.10	Appeals to others to share an exciting dream of the future.
Q7.11	Searches outside the formal boundaries of his/her organization for innovative ways to improve what we do.
Q7.12	Treats others with dignity and respect.
Q7.13	Makes sure that people are creatively rewarded for their contributions to the success of our projects
Q7.14	Asks for feedback on how his/her actions affect other people's performance.
Q7.15	Shows others how their long-term interests can be realized by enlisting in a common vision.
Q7.16	Supports the decisions that people make on their own.
Q7.17	Publicly recognizes people who exemplify commitment to shared values.
Q7.18	Builds consensus around a common set of values for running our organization.
Q7.19	Paints the "big picture" of what we aspire to accomplish.
Q7.20	Makes certain that we set achievable goals, make concrete plans, and establish measurable milestones for the projects and programs that we work on.
Q7.21	Finds ways to celebrate accomplishments.
Q7.22	Speaks with a genuine conviction about the higher meaning and purpose of our work.
Q7.23	Experiments and take risks, even when there is a chance of failure.
Q7.24	Ensures that people grow in their jobs by learning new skills and developing themselves.
Q7.25	Gives the teacher leaders of the team lots of appreciation and support for their contributions.
	Leadership Construct A: **Please rate how strongly you agree or disagree on the scale of 1 to 5, whether the Dean of your college as a leader, in making decisions on the following:**
Q8.1	Keeps work moving at a rapid pace
Q8.2	Urges staff to beat previous targets
Q8.3	Pushes for growth
Q8.4	Gives purpose and direction, conveys a collective sense of mission, and emphasizes task importance
Q8.5	Encourages people to lead, model behavior expected, offers challenging assignments
Q8.6	Displays a high drive, acts ethically, tackles poor performance, and admits mistakes
Q8.7	Develops strong working relationships, builds rapport quickly (transact)
	Leadership Construct B: **Please rate how strongly you agree or disagree on the scale of 1 to 5, whether the Dean of your college as a leader, in making decisions on the following:**
Q9.1	Co-operates effectively with others to achieve goals (transform)
Q9.2	Remains focused on vision and goals (transform)
Q9.3	Advocates the imperative for change and innovation (transform)
Q9.4	Regards challenges as opportunities (transform)
Q9.5	Willing to take risks in decisions (transform)
	Leadership Construct C: **Please rate how strongly you agree or disagree on the scale of 1 to 5, whether the Dean of your college as a leader, in making decisions on the following:**
Q10.1	Lets staff work in the way they think best
Q10.2	Encourages overtime work
Q10.3	Permits the staff to set their own pace for change
	Leadership Construct D: **Please rate how strongly you agree or disagree on the scale of 1 to 5, whether the Dean of your college as a leader, in making decisions on the following:**
Q11.1	Listens attentively to what people say
Q11.2	Creates a positive mood
Q11.3	Accepts criticism and learn from it
	Leadership Construct E: **Please rate how strongly you agree or disagree on the scale of 1 to 5, whether the Dean of your college as a leader, in making decisions on the following:**
Q12.1	Schedules the work to be done

Q12.2	Persuades others that his/her ideas are for the employees' advantage
Q12.3	Asks staff follow standard rules and procedures
Q12.4	Encourages the use of standard procedures
	Decision quality : **Please rate on a scale of 1 to 5 the extent to which the following objectives have been achieved by the dean of your college:**
Q13.1	Improved academic excellence
Q13.2	Improved quality of service
Q13.3	Improved productivity (student's quality)
Q13.4	Enhanced employee motivation
Q13.5	Increased innovation capacity
Q13.6	Developed and disseminated knowledge
	Satisfaction: **Please rate your perception of satisfaction with the Dean as a leader, on the scale of 1 to 5, in terms of the following:**
Q14	Closeness
Q15	Sincerity
Q16	Friendliness
Q17	Qualification
	Leadership effectiveness: **Please rate your perception of the Dean as an effective leader of the business school on a scale of 1 to 5 in terms of the following performance aspects:**
Q18.1	Meeting of leadership performance standards
Q18.2	Overall leadership success
Q18.3	In Comparison to his/her leadership peers
Q18.4	Performance as a role model
Q18.5	Overall effectiveness as a leader

Appendix VI

Descriptive statistics pertaining to minimum, maximum, median, standard deviation, missing data, skewness and kurtosis

	N		Mean	Median	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis	Minimum	Maximum
	Valid	Missing									
Gender	171	0	1.4444	1.0000	.49836	.226	.186	-1.972	.369	1.00	2.00
Place of residence	171	0	5.1754	6.0000	1.57692	-1.569	.186	.773	.369	1.00	6.00
Age (years)	171	0	2.4035	2.0000	.94295	.091	.186	-.879	.369	1.00	4.00
Number of years worked or associated with Business School	171	0	2.2281	2.0000	1.05748	.830	.186	.459	.369	1.00	5.00
Management Style	171	0	3.1813	3.0000	1.17168	-.292	.186	-.732	.369	1.00	5.00
Management Style	171	0	3.2398	3.0000	1.04366	-.024	.186	-.327	.369	1.00	5.00
Management Style	171	0	3.4211	3.0000	1.09996	-.307	.186	-.326	.369	1.00	5.00
Management Style	171	0	3.5205	3.0000	1.05350	-.223	.186	-.467	.369	1.00	5.00
Management Style	171	0	3.4035	3.0000	1.05484	-.321	.186	-.289	.369	1.00	5.00
Management Style	171	0	3.3801	3.0000	1.02410	-.453	.186	-.056	.369	1.00	5.00
Management Style	171	0	3.3977	3.0000	1.06539	-.172	.186	-.536	.369	1.00	5.00
Management Style	171	0	3.3743	3.0000	1.08478	-.399	.186	-.252	.369	1.00	5.00
Management Style	171	0	3.4912	4.0000	1.00216	-.472	.186	.087	.369	1.00	5.00
Management Style	171	0	3.4503	3.0000	1.11758	-.347	.186	-.396	.369	1.00	5.00
Management Style	171	0	3.3275	3.0000	1.09453	-.354	.186	-.204	.369	1.00	5.00
Management Style	171	0	3.6257	4.0000	1.05732	-.502	.186	-.198	.369	1.00	5.00
Management Style	171	0	3.5614	4.0000	1.06303	-.564	.186	.045	.369	1.00	5.00
Management Style	171	0	3.4211	3.0000	1.03379	-.335	.186	-.118	.369	1.00	5.00
Management Style	171	0	3.5439	3.0000	1.10725	-.388	.186	-.302	.369	1.00	5.00
Organisational Structure	171	0	3.2573	3.0000	1.03662	-.566	.186	-.005	.369	1.00	5.00
Organisational Structure	171	0	2.9942	3.0000	.97315	.051	.186	-.410	.369	1.00	5.00
Organisational Structure	171	0	3.0936	3.0000	1.09679	-.133	.186	-.669	.369	1.00	5.00
Organisational Structure	171	0	3.1111	3.0000	1.05966	-.435	.186	-.553	.369	1.00	5.00
Organisational Structure	171	0	3.2164	3.0000	1.07647	-.385	.186	-.535	.369	1.00	5.00
Organisational Structure	171	0	3.3684	3.0000	.99938	-.544	.186	.062	.369	1.00	5.00
Organisational Structure	171	0	3.2515	3.0000	1.00641	-.488	.186	-.220	.369	1.00	5.00
Organisational Structure	171	0	3.1520	3.0000	1.00014	-.346	.186	-.388	.369	1.00	5.00
Organisational Structure	171	0	3.3450	3.0000	1.08640	-.416	.186	-.451	.369	1.00	5.00
Organisational Structure	171	0	3.3333	4.0000	1.12720	-.687	.186	-.346	.369	1.00	5.00

Appendix VI

Descriptive statistics pertaining to minimum, maximum, median, standard deviation, missing data, skewness and kurtosis – continued

	N		N	Median	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis	Minimum	Maximum
	Valid	Valid									
Leadership Practice	171	0	3.3216	4.0000	.99797	-.863	.186	.420	.369	1.00	5.00
Leadership Practice	171	0	3.4854	4.0000	.87687	-.908	.186	1.239	.369	1.00	5.00
Leadership Practice	171	0	3.4737	4.0000	.90953	-.609	.186	.642	.369	1.00	5.00
Leadership Practice	171	0	3.3450	3.0000	.90957	-.693	.186	.570	.369	1.00	5.00
Leadership Practice	171	0	3.4444	4.0000	.98883	-.546	.186	.222	.369	1.00	5.00
Leadership Practice	171	0	3.3801	4.0000	.94025	-.743	.186	.368	.369	1.00	5.00
Leadership Practice	171	0	3.2982	3.0000	.99348	-.702	.186	.187	.369	1.00	5.00
Leadership Practice	171	0	3.2924	3.0000	.89239	-.662	.186	.787	.369	1.00	5.00
Leadership Practice	171	0	3.3743	4.0000	.97633	-.581	.186	.102	.369	1.00	5.00
Leadership Practice	171	0	3.3275	3.0000	.89987	-.647	.186	.415	.369	1.00	5.00
Leadership Practice	171	0	3.2632	3.0000	1.04363	-.389	.186	-.252	.369	1.00	5.00
Leadership Practice	171	0	3.5789	4.0000	1.01078	-.910	.186	.870	.369	1.00	5.00
Leadership Practice	171	0	3.3801	4.0000	1.00086	-.645	.186	.037	.369	1.00	5.00
Leadership Practice	171	0	3.1404	3.0000	1.05337	-.193	.186	-.268	.369	1.00	5.00
Leadership Practice	171	0	3.2105	3.0000	.97745	-.320	.186	-.085	.369	1.00	5.00
Leadership Practice	171	0	3.3860	4.0000	.90270	-.892	.186	.714	.369	1.00	5.00
Leadership Practice	171	0	3.4035	3.0000	.86486	-.554	.186	.642	.369	1.00	5.00
Leadership Practice	171	0	3.3450	3.0000	.93508	-.654	.186	.521	.369	1.00	5.00
Leadership Practice	171	0	3.3216	3.0000	1.08820	-.392	.186	-.405	.369	1.00	5.00
Leadership Practice	171	0	3.2632	3.0000	.94295	-.465	.186	.093	.369	1.00	5.00
Leadership Practice	171	0	3.4503	4.0000	.97113	-.658	.186	.366	.369	1.00	5.00
Leadership Practice	171	0	3.4561	4.0000	.92170	-.577	.186	.482	.369	1.00	5.00
Leadership Practice	171	0	3.1170	3.0000	.97516	-.469	.186	-.191	.369	1.00	5.00
Leadership Practice	171	0	3.3158	3.0000	.99690	-.309	.186	-.066	.369	1.00	5.00
Leadership Practice	171	0	3.4211	3.0000	.90646	-.409	.186	.577	.369	1.00	5.00
Leadership Construct A	171	0	3.3860	3.0000	.96566	-.445	.186	.132	.369	1.00	5.00
Leadership Construct A	171	0	3.5205	4.0000	.89666	-.632	.186	.450	.369	1.00	5.00
Leadership Construct A	171	0	3.4269	4.0000	1.02279	-.501	.186	-.210	.369	1.00	5.00
Leadership Construct A	171	0	3.3626	4.0000	.95030	-.577	.186	-.061	.369	1.00	5.00
Leadership Construct A	171	0	3.3684	4.0000	.93239	-.579	.186	.105	.369	1.00	5.00
Leadership Construct A	171	0	3.2632	3.0000	.96759	-.393	.186	-.058	.369	1.00	5.00
Leadership Construct A	171	0	3.4503	4.0000	.97717	-.548	.186	.176	.369	1.00	5.00

Appendix VI

Descriptive statistics pertaining to minimum, maximum, median, standard deviation, missing data, skewness and kurtosis – continued

	N		N	Median	Std. Deviation	Skewness	Std. Error of Skewness	Kurtosis	Std. Error of Kurtosis	Minimum	Maximum
	Valid	Valid									
Leadership Construct B	171	0	3.4211	4.0000	.97524	-.622	.186	.247	.369	1.00	5.00
Leadership Construct B	171	0	3.6082	4.0000	.96634	-.568	.186	.103	.369	1.00	5.00
Leadership Construct B	171	0	3.3509	3.0000	.96084	-.554	.186	.345	.369	1.00	5.00
Leadership Construct B	171	0	3.4620	4.0000	.97167	-.690	.186	.229	.369	1.00	5.00
Leadership Construct B	171	0	3.1930	3.0000	.97206	-.202	.186	-.440	.369	1.00	5.00
Leadership Construct C	171	0	3.2924	3.0000	.96826	-.656	.186	-.031	.369	1.00	5.00
Leadership Construct C	171	0	2.9708	3.0000	1.02571	-.206	.186	-.644	.369	1.00	5.00
Leadership Construct C	171	0	3.0234	3.0000	.92006	-.092	.186	-.293	.369	1.00	5.00
Leadership Construct D	171	0	3.3509	3.0000	1.00278	-.716	.186	.306	.369	1.00	5.00
Leadership Construct D	171	0	3.4386	4.0000	.97046	-.704	.186	.488	.369	1.00	5.00
Leadership Construct D	171	0	3.2749	3.0000	1.05184	-.387	.186	-.396	.369	1.00	5.00
Leadership Construct E	171	0	3.5029	4.0000	.88367	-.811	.186	.992	.369	1.00	5.00
Leadership Construct E	171	0	3.4912	4.0000	.90987	-.614	.186	.475	.369	1.00	5.00
Leadership Construct E	171	0	3.5263	4.0000	.95373	-.694	.186	.398	.369	1.00	5.00
Leadership Construct E	171	0	3.4035	4.0000	.96149	-.646	.186	.302	.369	1.00	5.00
Decision Quality	171	0	3.3450	4.0000	1.00189	-.844	.186	.500	.369	1.00	5.00
Decision Quality	171	0	3.5146	4.0000	.93530	-.807	.186	.721	.369	1.00	5.00
Decision Quality	171	0	3.3392	3.0000	.91500	-.773	.186	.428	.369	1.00	5.00
Decision Quality	171	0	3.3275	3.0000	.91927	-.560	.186	.081	.369	1.00	5.00
Decision Quality	171	0	3.3275	3.0000	.93198	-.523	.186	.194	.369	1.00	5.00
Decision Quality	171	0	3.4561	4.0000	.97142	-.557	.186	.401	.369	1.00	5.00
Satisfaction	171	0	2.9883	3.0000	1.09000	-.032	.186	-.422	.369	1.00	5.00
Satisfaction	171	0	3.4561	4.0000	1.15916	-.294	.186	-.773	.369	1.00	5.00
Satisfaction	171	0	3.3216	3.0000	1.13062	-.339	.186	-.547	.369	1.00	5.00
Satisfaction	171	0	3.9240	4.0000	1.21271	-.994	.186	.112	.369	1.00	5.00
Leadership Effectiveness	171	0	3.3684	3.0000	1.11616	-.486	.186	-.326	.369	1.00	5.00
Leadership Effectiveness	171	0	3.3801	4.0000	1.12274	-.516	.186	-.353	.369	1.00	5.00
Leadership Effectiveness	171	0	3.3450	3.0000	1.08640	-.444	.186	-.257	.369	1.00	5.00
Leadership Effectiveness	171	0	3.4444	4.0000	1.05781	-.576	.186	-.057	.369	1.00	5.00
Leadership Effectiveness	171	0	3.5556	4.0000	1.12256	-.696	.186	-.132	.369	1.00	5.00

Appendix VII

Frequency table of demographics

Statistics					
		Gender	Place of residence	Age (years)	Number of years worked or associated with Business School
N	Valid	171	171	171	171
	Missing	0	0	0	0
Mean		1.4444	5.1754	2.4035	2.2281
Median		1.0000	6.0000	2.0000	2.0000
Std. Deviation		.49836	1.57692	.94295	1.05748
Minimum		1.00	1.00	1.00	1.00
Maximum		2.00	6.00	4.00	5.00

Appendix VIII

Inter-item correlations for the construct leadership practice (LEADPRAC)

Internal consistency

	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice
Leadership Practice	1.000	.486	.453	.447	.438	.433	.526	.528	.600
Leadership Practice	.486	1.000	.337	.519	.326	.531	.515	.494	.522
Leadership Practice	.453	.337	1.000	.441	.392	.352	.403	.408	.455
Leadership Practice	.447	.519	.441	1.000	.450	.602	.445	.462	.523
Leadership Practice	.438	.326	.392	.450	1.000	.361	.331	.425	.424
Leadership Practice	.433	.531	.352	.602	.361	1.000	.394	.561	.389
Leadership Practice	.526	.515	.403	.445	.331	.394	1.000	.458	.454
Leadership Practice	.528	.494	.408	.462	.425	.561	.458	1.000	.387
Leadership Practice	.600	.522	.455	.523	.424	.389	.454	.387	1.000
Leadership Practice	.439	.371	.341	.486	.503	.457	.291	.488	.402
Leadership Practice	.523	.367	.395	.567	.462	.455	.463	.454	.492
Leadership Practice	.456	.643	.423	.472	.418	.491	.507	.502	.465
Leadership Practice	.513	.533	.357	.540	.464	.508	.477	.441	.474
Leadership Practice	.371	.238	.354	.311	.363	.397	.314	.369	.338
Leadership Practice	.382	.258	.317	.447	.469	.386	.274	.374	.367
Leadership Practice	.429	.468	.328	.517	.321	.519	.592	.531	.456
Leadership Practice	.476	.384	.488	.517	.443	.461	.318	.471	.398
Leadership Practice	.353	.419	.353	.495	.533	.425	.465	.506	.341
Leadership Practice	.527	.433	.445	.648	.561	.518	.444	.381	.517
Leadership Practice	.522	.535	.382	.593	.442	.523	.506	.523	.563
Leadership Practice	.536	.440	.476	.416	.415	.488	.403	.356	.479
Leadership Practice	.473	.467	.449	.541	.447	.573	.403	.531	.456
Leadership Practice	.433	.263	.342	.379	.300	.355	.316	.373	.423
Leadership Practice	.429	.409	.353	.476	.424	.436	.433	.431	.500
Leadership Practice	.454	.555	.377	.415	.466	.467	.467	.472	.439

Appendix VIII
Inter-item correlations for the construct leadership practice (LEADPRAC) - continued
Internal consistency

	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice
Leadership Practice	.439	.523	.456	.513	.371	.382	.429	.476
Leadership Practice	.371	.367	.643	.533	.238	.258	.468	.384
Leadership Practice	.341	.395	.423	.357	.354	.317	.328	.488
Leadership Practice	.486	.567	.472	.540	.311	.447	.517	.517
Leadership Practice	.503	.462	.418	.464	.363	.469	.321	.443
Leadership Practice	.457	.455	.491	.508	.397	.386	.519	.461
Leadership Practice	.291	.463	.507	.477	.314	.274	.592	.318
Leadership Practice	.488	.454	.502	.441	.369	.374	.531	.471
Leadership Practice	.402	.492	.465	.474	.338	.367	.456	.398
Leadership Practice	1.000	.371	.489	.442	.392	.456	.350	.336
Leadership Practice	.371	1.000	.362	.574	.335	.395	.522	.494
Leadership Practice	.489	.362	1.000	.432	.266	.275	.443	.303
Leadership Practice	.442	.574	.432	1.000	.379	.465	.514	.372
Leadership Practice	.392	.335	.266	.379	1.000	.457	.332	.370
Leadership Practice	.456	.395	.275	.465	.457	1.000	.327	.393
Leadership Practice	.350	.522	.443	.514	.332	.327	1.000	.319
Leadership Practice	.336	.494	.303	.372	.370	.393	.319	1.000
Leadership Practice	.396	.497	.453	.544	.213	.409	.448	.380
Leadership Practice	.444	.609	.370	.460	.325	.401	.388	.468
Leadership Practice	.432	.551	.524	.548	.330	.354	.467	.396
Leadership Practice	.328	.387	.494	.513	.386	.364	.378	.434
Leadership Practice	.585	.400	.479	.512	.400	.422	.501	.395
Leadership Practice	.285	.386	.253	.412	.293	.289	.450	.425
Leadership Practice	.402	.457	.366	.427	.378	.324	.419	.499
Leadership Practice	.371	.429	.522	.568	.387	.331	.440	.420

Appendix VIII
Inter-item correlations for the construct leadership practice (LEADPRAC) - continued
Internal consistency

	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice
Leadership Practice	.353	.527	.522	.536	.473	.433	.429	.454
Leadership Practice	.419	.433	.535	.440	.467	.263	.409	.555
Leadership Practice	.353	.445	.382	.476	.449	.342	.353	.377
Leadership Practice	.495	.648	.593	.416	.541	.379	.476	.415
Leadership Practice	.533	.561	.442	.415	.447	.300	.424	.466
Leadership Practice	.425	.518	.523	.488	.573	.355	.436	.467
Leadership Practice	.465	.444	.506	.403	.403	.316	.433	.467
Leadership Practice	.506	.381	.523	.356	.531	.373	.431	.472
Leadership Practice	.341	.517	.563	.479	.456	.423	.500	.439
Leadership Practice	.396	.444	.432	.328	.585	.285	.402	.371
Leadership Practice	.497	.609	.551	.387	.400	.386	.457	.429
Leadership Practice	.453	.370	.524	.494	.479	.253	.366	.522
Leadership Practice	.544	.460	.548	.513	.512	.412	.427	.568
Leadership Practice	.213	.325	.330	.386	.400	.293	.378	.387
Leadership Practice	.409	.401	.354	.364	.422	.289	.324	.331
Leadership Practice	.448	.388	.467	.378	.501	.450	.419	.440
Leadership Practice	.380	.468	.396	.434	.395	.425	.499	.420
Leadership Practice	1.000	.359	.537	.327	.410	.388	.425	.417
Leadership Practice	.359	1.000	.565	.402	.422	.297	.410	.458
Leadership Practice	.537	.565	1.000	.409	.531	.357	.537	.448
Leadership Practice	.327	.402	.409	1.000	.525	.466	.478	.592
Leadership Practice	.410	.422	.531	.525	1.000	.287	.483	.543
Leadership Practice	.388	.297	.357	.466	.287	1.000	.434	.436
Leadership Practice	.425	.410	.537	.478	.483	.434	1.000	.503
Leadership Practice	.417	.458	.448	.592	.543	.436	.503	1.000

Appendix VIII
Inter-item correlations for the leadership construct LEADER-C
Internal consistency

	Leadership Construct C	Leadership Construct C	Leadership Construct C
Leadership Construct C	1.000	.234	.573
Leadership Construct C	.234	1.000	.406
Leadership Construct C	.573	.406	1.000

Appendix IX

Item-total correlation for the leadership construct LEADER-B

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Leadership Construct B	.644	.791
Leadership Construct B	.656	.787
Leadership Construct B	.663	.785
Leadership Construct B	.705	.773
Leadership Construct B	.475	.837

Item-total correlation for the leadership construct LEADER-C

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Leadership Construct C	.470	.575
Leadership Construct C	.358	.728
Leadership Construct C	.620	.378

Appendix X

Discriminant validity-Continued

Inter-item correlations for all items under Leadership Construct A (Leadership style model)

	Leadership Construct A	Leadership Construct A	Leadership Construct A	Leadership Construct A	Leadership Construct A	Leadership Construct A	Leadership Construct A
Leadership Construct A	1.000	.548	.523	.385	.442	.369	.469
Leadership Construct A	.548	1.000	.520	.419	.529	.411	.355
Leadership Construct A	.523	.520	1.000	.397	.445	.427	.389
Leadership Construct A	.385	.419	.397	1.000	.512	.644	.374
Leadership Construct A	.442	.529	.445	.512	1.000	.446	.482
Leadership Construct A	.369	.411	.427	.644	.446	1.000	.465
Leadership Construct A	.469	.355	.389	.374	.482	.465	1.000

Inter-item correlations for all items under Leadership Construct B (Leadership style model)

	Leadership Construct B	Leadership Construct B	Leadership Construct B	Leadership Construct B	Leadership Construct B
Leadership Construct B	1.000	.576	.501	.632	.311
Leadership Construct B	.576	1.000	.529	.589	.357
Leadership Construct B	.501	.529	1.000	.550	.488
Leadership Construct B	.632	.589	.550	1.000	.403
Leadership Construct B	.311	.357	.488	.403	1.000

Inter-item correlations for all items under Leadership Construct C (Leadership style model)

	Leadership Construct C	Leadership Construct C	Leadership Construct C
Leadership Construct C	1.000	.234	.573
Leadership Construct C	.234	1.000	.406
Leadership Construct C	.573	.406	1.000

Appendix X
Discriminant validity-Continued

Inter-item correlations for all items under Leadership Construct D (Leadership style model)

	Leadership Construct D	Leadership Construct D	Leadership Construct D
Leadership Construct D	1.000	.518	.360
Leadership Construct D	.518	1.000	.515
Leadership Construct D	.360	.515	1.000

Inter-item correlations for all items under Leadership Construct E (Leadership style model)

	Leadership Construct E	Leadership Construct E	Leadership Construct E	Leadership Construct E
Leadership Construct E	1.000	.459	.431	.445
Leadership Construct E	.459	1.000	.371	.397
Leadership Construct E	.431	.371	1.000	.466
Leadership Construct E	.445	.397	.466	1.000

Appendix X
Discriminant validity-Continued
Inter-item correlations for all items under Leadership Practice (Leadership style model)

	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice	Leadership Practice
Leadership Practice	1.000	.486	.453	.447	.438	.433	.526	.528	.600	.439	.523	.456	.513	.371	.382	.429	.476	.353	.527	.522	.536	.473	.433	.429	.454
Leadership Practice	.486	1.000	.337	.519	.326	.531	.515	.494	.522	.371	.367	.643	.533	.238	.258	.468	.384	.419	.433	.535	.440	.467	.263	.409	.555
Leadership Practice	.453	.337	1.000	.441	.392	.352	.403	.408	.455	.341	.395	.423	.357	.354	.317	.328	.488	.353	.445	.382	.476	.449	.342	.353	.377
Leadership Practice	.447	.519	.441	1.000	.450	.602	.445	.462	.523	.486	.567	.472	.540	.311	.447	.517	.517	.495	.648	.593	.416	.541	.379	.476	.415
Leadership Practice	.438	.326	.392	.450	1.000	.361	.331	.425	.424	.503	.462	.418	.464	.363	.469	.321	.443	.533	.561	.442	.415	.447	.300	.424	.466
Leadership Practice	.433	.531	.352	.602	.361	1.000	.394	.561	.389	.457	.455	.491	.508	.397	.386	.519	.461	.425	.518	.523	.488	.573	.355	.436	.467
Leadership Practice	.526	.515	.403	.445	.331	.394	1.000	.458	.454	.291	.463	.507	.477	.314	.274	.592	.318	.465	.444	.506	.403	.403	.316	.433	.467
Leadership Practice	.528	.494	.408	.462	.425	.561	.458	1.000	.387	.488	.454	.502	.441	.369	.374	.531	.471	.506	.381	.523	.356	.531	.373	.431	.472
Leadership Practice	.600	.522	.455	.523	.424	.389	.454	.387	1.000	.402	.492	.465	.474	.338	.367	.456	.398	.341	.517	.563	.479	.456	.423	.500	.439
Leadership Practice	.439	.371	.341	.486	.503	.457	.291	.488	.402	1.000	.371	.489	.442	.392	.456	.350	.336	.396	.444	.432	.328	.585	.285	.402	.371
Leadership Practice	.523	.367	.395	.567	.462	.455	.463	.454	.492	.371	1.000	.362	.574	.335	.395	.522	.494	.497	.609	.551	.387	.400	.386	.457	.429
Leadership Practice	.456	.643	.423	.472	.418	.491	.507	.502	.465	.489	.362	1.000	.432	.266	.275	.443	.303	.453	.370	.524	.494	.479	.253	.366	.522

Leadership Practice	.513	.533	.357	.540	.464	.508	.477	.441	.474	.442	.574	.432	1.000	.379	.465	.514	.372	.544	.460	.548	.513	.512	.412	.427	.568
Leadership Practice	.371	.238	.354	.311	.363	.397	.314	.369	.338	.392	.335	.266	.379	1.000	.457	.332	.370	.213	.325	.330	.386	.400	.293	.378	.387
Leadership Practice	.382	.258	.317	.447	.469	.386	.274	.374	.367	.456	.395	.275	.465	.457	1.000	.327	.393	.409	.401	.354	.364	.422	.289	.324	.331
Leadership Practice	.429	.468	.328	.517	.321	.519	.592	.531	.456	.350	.522	.443	.514	.332	.327	1.000	.319	.448	.388	.467	.378	.501	.450	.419	.440
Leadership Practice	.476	.384	.488	.517	.443	.461	.318	.471	.398	.336	.494	.303	.372	.370	.393	.319	1.000	.380	.468	.396	.434	.395	.425	.499	.420
Leadership Practice	.353	.419	.353	.495	.533	.425	.465	.506	.341	.396	.497	.453	.544	.213	.409	.448	.380	1.000	.359	.537	.327	.410	.388	.425	.417
Leadership Practice	.527	.433	.445	.648	.561	.518	.444	.381	.517	.444	.609	.370	.460	.325	.401	.388	.468	.359	1.000	.565	.402	.422	.297	.410	.458
Leadership Practice	.522	.535	.382	.593	.442	.523	.506	.523	.563	.432	.551	.524	.548	.330	.354	.467	.396	.537	.565	1.000	.409	.531	.357	.537	.448
Leadership Practice	.536	.440	.476	.416	.415	.488	.403	.356	.479	.328	.387	.494	.513	.386	.364	.378	.434	.327	.402	.409	1.000	.525	.466	.478	.592
Leadership Practice	.473	.467	.449	.541	.447	.573	.403	.531	.456	.585	.400	.479	.512	.400	.422	.501	.395	.410	.422	.531	.525	1.000	.287	.483	.543
Leadership Practice	.433	.263	.342	.379	.300	.355	.316	.373	.423	.285	.386	.253	.412	.293	.289	.450	.425	.388	.297	.357	.466	.287	1.000	.434	.436
Leadership Practice	.429	.409	.353	.476	.424	.436	.433	.431	.500	.402	.457	.366	.427	.378	.324	.419	.499	.425	.410	.537	.478	.483	.434	1.000	.503
Leadership Practice	.454	.555	.377	.415	.466	.467	.467	.472	.439	.371	.429	.522	.568	.387	.331	.440	.420	.417	.458	.448	.592	.543	.436	.503	1.000

Appendix XI

Discriminant validity of Leadership style model

	Q12.1	Q12.2	Q12.3	Q12.4	Q10.2	Q10.1	Q10.3	Q9.1	Q9.2	Q9.3	Q9.4	Q9.5	Q8.1	Q8.2	Q8.3	Q8.5	Q8.7	Q8.6
Q12.1	1																	
Q12.2	0.459	1																
Q12.3	0.431	0.371	1															
Q12.4	0.445	0.397	0.466	1														
Q10.2	0.237	0.236	0.196	0.257	1													
Q10.1	0.329	0.243	0.323	0.169	0.234	1												
Q10.3	0.268	0.155	0.314	0.202	0.406	0.573	1											
Q9.1	0.49	0.349	0.38	0.382	0.171	0.442	0.297	1										
Q9.2	0.604	0.461	0.429	0.462	0.238	0.337	0.328	0.576	1									
Q9.3	0.297	0.374	0.369	0.438	0.124	0.205	0.21	0.501	0.529	1								
Q9.4	0.454	0.447	0.339	0.404	0.244	0.293	0.218	0.632	0.589	0.55	1							
Q9.5	0.27	0.324	0.245	0.325	0.171	0.302	0.33	0.311	0.357	0.488	0.403	1						
Q8.1	0.461	0.365	0.493	0.357	0.13	0.376	0.281	0.507	0.56	0.443	0.455	0.29	1					
Q8.2	0.536	0.406	0.414	0.396	0.157	0.271	0.213	0.394	0.508	0.442	0.546	0.363	0.548	1				
Q8.3	0.418	0.285	0.42	0.35	0.147	0.224	0.264	0.462	0.551	0.439	0.451	0.301	0.523	0.52	1			
Q8.5	0.395	0.326	0.422	0.338	0.208	0.219	0.305	0.365	0.442	0.505	0.46	0.499	0.442	0.529	0.445	1		
Q8.7	0.315	0.358	0.331	0.35	0.283	0.426	0.433	0.473	0.406	0.326	0.443	0.478	0.469	0.355	0.389	0.482	1	
Q8.6	0.291	0.347	0.365	0.347	0.109	0.307	0.257	0.505	0.319	0.457	0.446	0.34	0.369	0.411	0.427	0.446	0.465	1
Q7.25	0.402	0.333	0.266	0.243	0.203	0.301	0.235	0.377	0.364	0.309	0.346	0.381	0.358	0.402	0.274	0.358	0.316	0.282
Q7.24	0.38	0.314	0.393	0.37	0.187	0.233	0.268	0.353	0.386	0.295	0.377	0.386	0.313	0.348	0.225	0.387	0.451	0.298
Q7.22	0.367	0.32	0.334	0.249	0.164	0.212	0.195	0.361	0.446	0.35	0.42	0.328	0.336	0.416	0.316	0.365	0.3	0.379
Q7.20	0.454	0.226	0.309	0.278	0.16	0.205	0.251	0.435	0.495	0.449	0.496	0.342	0.489	0.533	0.444	0.411	0.401	0.401
Q7.19	0.424	0.327	0.335	0.269	0.13	0.262	0.239	0.426	0.456	0.415	0.493	0.33	0.491	0.503	0.452	0.538	0.433	0.355
Q7.18	0.266	0.284	0.296	0.309	0.176	0.167	0.25	0.33	0.352	0.336	0.367	0.353	0.282	0.346	0.288	0.366	0.402	0.354
Q7.17	0.403	0.382	0.426	0.454	0.219	0.28	0.21	0.404	0.472	0.43	0.407	0.362	0.474	0.41	0.369	0.493	0.403	0.336
Q7.12	0.344	0.201	0.39	0.218	0.204	0.277	0.175	0.461	0.396	0.31	0.391	0.227	0.396	0.302	0.334	0.259	0.342	0.24
Q7.11	0.398	0.297	0.238	0.298	0.227	0.22	0.288	0.341	0.412	0.371	0.442	0.419	0.377	0.437	0.379	0.492	0.454	0.339
Q7.10	0.221	0.356	0.339	0.214	0.138	0.247	0.19	0.318	0.331	0.363	0.438	0.223	0.307	0.4	0.282	0.423	0.306	0.414
Q7.9	0.483	0.361	0.337	0.358	0.24	0.238	0.272	0.445	0.487	0.279	0.443	0.277	0.489	0.482	0.381	0.403	0.464	0.231
Q7.7	0.344	0.188	0.268	0.249	0.124	0.147	0.153	0.374	0.337	0.37	0.387	0.33	0.272	0.274	0.326	0.414	0.394	0.291
Q7.6	0.335	0.379	0.346	0.265	0.195	0.258	0.166	0.46	0.404	0.366	0.438	0.331	0.336	0.392	0.289	0.376	0.389	0.374
Q7.5	0.402	0.351	0.356	0.293	0.222	0.177	0.195	0.335	0.417	0.293	0.422	0.333	0.405	0.454	0.352	0.415	0.346	0.326
Q7.4	0.39	0.363	0.427	0.338	0.15	0.286	0.25	0.479	0.489	0.406	0.511	0.41	0.45	0.478	0.429	0.501	0.506	0.451
Q7.1	0.456	0.356	0.377	0.213	0.216	0.328	0.299	0.47	0.497	0.428	0.465	0.263	0.475	0.449	0.337	0.416	0.418	0.381

	Q7.25	Q7.24	Q7.22	Q7.20	Q7.19	Q7.18	Q7.17	Q7.12	Q7.11	Q7.10	Q7.9	Q7.7	Q7.6	Q7.5	Q7.4	Q7.1
Q7.25	1															
Q7.24	0.503	1														
Q7.22	0.543	0.483	1													
Q7.20	0.448	0.537	0.531	1												
Q7.19	0.458	0.41	0.422	0.565	1											
Q7.18	0.417	0.425	0.41	0.537	0.359	1										
Q7.17	0.42	0.499	0.395	0.396	0.468	0.38	1									
Q7.12	0.522	0.366	0.479	0.524	0.37	0.453	0.303	1								
Q7.11	0.429	0.457	0.4	0.551	0.609	0.497	0.494	0.362	1							
Q7.10	0.371	0.402	0.585	0.432	0.444	0.396	0.336	0.489	0.371	1						
Q7.9	0.439	0.5	0.456	0.563	0.517	0.341	0.398	0.465	0.492	0.402	1					
Q7.7	0.467	0.433	0.403	0.506	0.444	0.465	0.318	0.507	0.463	0.291	0.454	1				
Q7.6	0.467	0.436	0.573	0.523	0.518	0.425	0.461	0.491	0.455	0.457	0.389	0.394	1			
Q7.5	0.466	0.424	0.447	0.442	0.561	0.533	0.443	0.418	0.462	0.503	0.424	0.331	0.361	1		
Q7.4	0.415	0.476	0.541	0.593	0.648	0.495	0.517	0.472	0.567	0.486	0.523	0.445	0.602	0.45	1	
Q7.1	0.454	0.429	0.473	0.522	0.527	0.353	0.476	0.456	0.523	0.439	0.6	0.526	0.433	0.438	0.447	1

Appendix XII

Standardised residual covariance of Leadership style model before item deletion

	Q12.1	Q12.2	Q12.3	Q12.4	Q11.1	Q11.2	Q11.3	Q10.1	Q10.2	Q10.3	Q9.1	Q9.2	Q9.3	Q9.4	Q9.5	Q8.1	Q8.2	Q8.3	Q8.4	Q8.5	Q8.6	Q8.7
Q12.1	0																					
Q12.2	0.284	0																				
Q12.3	-0.356	-0.336	0																			
Q12.4	-0.127	0.033	0.581	0																		
Q11.1	0.738	0.985	0.01	-0.407	0																	
Q11.2	-0.347	0.094	-0.185	0.08	-0.092	0																
Q11.3	-0.672	1.235	-1.711	-0.087	-0.847	0.993	0															
Q10.1	0.472	-0.113	0.703	-1.192	0.463	0.443	0.671	0														
Q10.2	0.978	1.248	0.627	1.427	-0.914	0.226	0.034	-1.102	0													
Q10.3	-0.223	-1.168	0.665	-0.716	-1.151	-0.117	0.078	0.019	1.117	0												
Q9.1	0.313	-0.635	-0.539	-0.456	1.842	0.371	0.466	1.487	-0.089	-0.231	0											
Q9.2	1.78	0.822	0.155	0.61	0.303	-1.23	-1.41	0.265	0.811	0.233	-0.013	0										
Q9.3	-1.482	0.122	-0.2	0.697	0.071	-0.544	-0.68	-1.085	-0.483	-0.949	-0.377	0.076	0									
Q9.4	-0.154	0.516	-1.067	-0.236	0.096	-0.604	0.455	-0.388	0.826	-1.241	0.432	0.086	0.146	0								
Q9.5	-0.713	0.515	-0.687	0.356	-1.215	0.876	0.651	0.95	0.584	1.368	-1.261	-0.613	1.355	-0.186	0							
Q8.1	0.471	0.007	1.304	-0.303	1.003	-2.025	-2.584	0.899	-0.483	-0.204	0.301	1.041	0.077	-0.359	-0.619	0						
Q8.2	1.267	0.403	0.232	0.073	-0.744	-1.517	-0.42	-0.49	-0.182	-1.131	-1.152	0.306	-0.044	0.587	0.193	0.712	0					
Q8.3	0.245	-0.733	0.668	-0.133	1.057	-0.844	-2.108	-0.793	-0.156	-0.21	0.075	1.252	0.323	-0.084	-0.251	0.862	0.7	0				
Q8.4	-0.897	0.128	-0.274	0.732	-0.631	0.227	0.126	-0.086	0.801	-0.518	-0.607	-0.041	1.101	-0.67	0.569	-1.017	-0.733	-0.582	0			
Q8.5	-0.359	-0.509	0.399	-0.569	0.094	0.667	-0.791	-1.089	0.5	0.067	-1.412	-0.4	0.774	-0.34	1.921	-0.453	0.443	-0.114	0.435	0		
Q8.6	-1.248	0.065	0.047	-0.132	1.101	1.27	1.322	0.283	-0.625	-0.264	0.647	-1.469	0.585	-0.102	0.265	-0.918	-0.537	0.06	2.421	-0.046	0	
Q8.7	-0.95	0.219	-0.362	-0.081	1.336	2.593	0.507	1.784	1.629	1.951	0.271	-0.415	-0.989	-0.127	1.989	0.286	-1.183	-0.38	-0.787	0.39	0.58	0
Q7.25	0.635	0.36	-0.689	-0.937	0.317	0.336	0.334	0.702	0.869	-0.074	-0.319	-0.38	-0.694	-0.737	1.207	-0.389	0.045	-1.147	-0.292	-0.421	-1.013	-0.587
Q7.24	0.539	0.294	1.064	0.81	0.485	1.618	0.493	-0.032	0.74	0.47	-0.413	0.085	-0.678	-0.152	1.422	-0.74	-0.405	-1.574	0.456	0.127	-0.637	1.261
Q7.22	0.013	0.048	-0.012	-1.02	0.068	-0.282	0.082	-0.556	0.282	-0.703	-0.718	0.411	-0.384	-0.044	0.386	-0.843	0.008	-0.822	0.238	-0.543	-0.013	-0.972
Q7.21	0.069	0.998	0.437	-1.013	1.768	0.634	0.313	1.293	1.104	1.218	-0.224	-0.196	-1.627	-0.86	-0.013	0.188	-0.568	-1.368	-0.48	-1.242	-0.497	0.438
Q7.20	0.819	-1.355	-0.558	-0.898	0.081	-1.126	-2.051	-0.832	0.13	-0.192	-0.119	0.698	0.555	0.56	0.344	0.702	1.115	0.454	0.782	-0.271	-0.021	-0.013
Q7.19	0.724	0.131	0	-0.77	0.766	-0.107	-1.404	0.077	-0.152	-0.145	0.071	0.539	0.416	0.837	0.421	1.037	1.063	0.836	0.935	1.553	-0.301	0.659
Q7.18	-0.803	-0.034	-0.083	0.113	-0.4	1.22	0.912	-0.818	0.622	0.297	-0.614	-0.249	-0.108	-0.192	1.068	-1.048	-0.36	-0.729	2.333	-0.052	0.128	0.727
Q7.17	0.975	1.275	1.608	2.004	0.333	0.011	-0.964	0.671	1.209	-0.16	0.385	1.307	1.145	0.384	1.242	1.407	0.521	0.362	0.904	1.595	-0.006	0.83
Q7.16	0.28	0.252	-0.084	-0.654	-0.795	-0.439	-0.331	-1.145	1.344	-0.921	-0.476	-1.028	0.168	-0.714	1.382	-1.482	-0.179	-0.998	-0.246	0.224	-0.947	-0.097
Q7.15	-0.725	-0.048	-0.708	-0.027	-1.497	-1.384	0.214	-1.375	-0.803	-0.37	-0.742	0.008	-0.981	-0.335	0.242	-0.319	1.134	-0.489	0.717	-0.736	0.578	-0.361
Q7.13	-0.402	-0.658	-1.438	-1.114	-0.753	-0.109	0.386	-1.336	1.039	0.241	-1.413	-0.853	-1.819	-1.193	0.988	-1.848	-0.353	-2.159	-0.211	-0.248	-1.037	-0.854
Q7.12	0.017	-1.199	0.945	-1.149	1.304	-0.453	-2.37	0.467	0.918	-0.762	0.818	0.124	-0.57	-0.073	-0.645	0.196	-1.058	-0.311	-0.247	-1.514	-1.422	-0.163
Q7.11	0.459	-0.191	-1.14	-0.355	0.092	-0.212	-0.952	-0.407	1.129	0.509	-0.883	0.07	-0.059	0.294	1.584	-0.279	0.342	0.009	0.285	1.07	-0.438	0.981

Q7.10	-1.238	0.981	0.571	-0.964	0.261	0.133	0.999	0.289	0.178	-0.387	-0.622	-0.369	0.358	0.816	-0.468	-0.598	0.443	-0.675	0.892	0.789	0.998	-0.324
Q7.9	1.555	0.659	0.127	0.439	0.007	-0.075	-1.048	-0.144	1.319	0.345	0.427	1.032	-1.124	0.363	-0.158	1.126	0.936	0.086	-0.839	0.053	-1.699	1.15
Q7.8	0.054	-0.695	0.336	-0.749	-0.473	-0.487	-0.964	-0.423	0.599	-0.813	-1.312	-0.634	0.159	-1.173	0.69	-0.387	0.671	-0.455	0.173	0.233	-0.581	-0.474
Q7.7	0.124	-1.263	-0.477	-0.673	1.63	0.62	-1.125	-1.101	-0.069	-0.968	-0.131	-0.483	0.274	-0.007	0.737	-1.214	-1.285	-0.31	1.04	0.488	-0.691	0.585
Q7.6	-0.344	0.801	0.167	-0.79	0.676	-0.512	-0.743	0.051	0.697	-1.047	0.504	-0.057	-0.152	0.204	0.454	-0.809	-0.243	-1.122	0.708	-0.368	-0.037	0.149
Q7.5	0.89	0.811	0.655	-0.085	-0.655	-0.157	0.429	-0.696	1.211	-0.401	-0.546	0.546	-0.634	0.471	0.806	0.458	0.963	0.064	0.726	0.543	-0.22	0.034
Q7.4	-0.02	0.287	0.828	-0.218	0.512	-0.091	-0.641	0.137	-0.029	-0.236	0.328	0.567	-0.032	0.671	1.137	0.178	0.396	0.208	1.089	0.742	0.525	1.198
Q7.3	0.803	-1.323	0.625	-0.557	0.758	0.71	-0.275	1.233	2.508	1.836	0.755	1.125	-0.62	0.388	-0.058	0.365	-0.348	0.553	0.898	0.355	-1.207	0.408
Q7.2	0.825	-0.934	0.644	-0.285	1.617	-0.035	-1.247	1.148	0.216	-0.197	0.508	-0.143	-0.661	-0.542	0.043	0.558	-0.604	-1.271	-0.079	0.048	-1.162	0.367
Q7.1	1.1	0.488	0.517	-1.466	1.418	0.174	-0.733	0.906	0.96	0.607	0.594	1.023	0.562	0.486	-0.428	0.824	0.41	-0.572	0.02	0.068	0.005	0.462

	Q7.25	Q7.24	Q7.22	Q7.21	Q7.20	Q7.19	Q7.18	Q7.17	Q7.16	Q7.15	Q7.13	Q7.12	Q7.11	Q7.10
Q7.25	0													
Q7.24	0.714	0												
Q7.22	0.716	0.244	0											
Q7.21	1.836	0.703	0.809	0										

Q7.20	-0.73	0.561	-0.012	-0.87	0									
Q7.19	-0.273	-0.605	-0.934	-0.64	0.385	0								
Q7.18	-0.222	0.09	-0.528	-1.04	0.654	-1.132	0							
Q7.17	-0.089	1.09	-0.6	0.352	-0.895	0.273	-0.279	0						
Q7.16	-0.057	-0.079	0.444	-0.524	-0.275	-0.888	0.341	-1.104	0					
Q7.15	-0.498	-0.395	0.416	0.152	-0.673	0.167	0.725	0.614	-0.368	0				
Q7.13	0.979	-0.437	0.082	0.637	0.149	-0.523	1.035	-0.897	0.564	0.917	0			
Q7.12	0.837	-0.794	0.095	0.793	0.302	-1.183	0.331	-1.371	0.111	-1.079	-0.481	0		
Q7.11	-0.541	0.019	-1.111	-0.747	0.304	1.333	0.585	0.661	0.774	0.163	0.885	-1.205	0	
Q7.10	-0.623	-0.033	1.721	-0.87	-0.411	0.054	-0.026	-0.664	-0.676	1.44	-0.007	0.918	-0.754	0
Q7.9	-0.363	0.6	-0.391	0.404	0.519	0.331	-1.214	-0.425	0.05	-0.128	-0.218	0.071	0.106	-0.326
Q7.8	0.086	-0.169	0.538	-1.004	0.116	-1.207	0.806	0.501	0.998	0.007	-0.539	0.576	-0.282	0.759
Q7.7	0.318	0.132	-0.666	-0.176	0.232	-0.173	0.597	-1.075	2.027	-0.98	0.181	0.916	0.122	-1.343
Q7.6	-0.141	-0.267	0.857	0.409	-0.056	0.23	-0.308	0.229	0.698	0.018	0.076	0.282	-0.431	0.233
Q7.5	0.358	0.074	-0.083	0.028	-0.464	1.269	1.472	0.483	-1.184	1.457	0.089	-0.093	0.165	1.27
Q7.4	-1.182	-0.224	0.023	-0.865	0.256	1.262	0.096	0.471	0.239	0.383	-0.019	-0.375	0.412	0.166
Q7.3	-0.277	-0.369	0.387	1.186	-0.713	0.347	-0.295	1.453	-0.695	-0.053	-0.753	0.391	-0.2	-0.3
Q7.2	1.072	-0.43	-0.208	-0.008	0.252	-0.591	-0.232	-0.542	0.251	-1.415	0.534	2.252	-1.296	-0.639
Q7.1	-0.335	-0.389	-0.355	0.929	-0.122	0.288	-1.209	0.357	-0.409	-0.065	0.083	-0.183	0.312	-0.026

	Q7.9	Q7.8	Q7.7	Q7.6	Q7.5	Q7.4	Q7.3	Q7.2	Q7.1

Q7.10	0								
Q7.9	-1.007	0							
Q7.8	0.083	0.186	0						
Q7.7	-1.142	0.936	-0.731	0					
Q7.6	-0.225	-0.156	-1.009	-1.067	0				
Q7.5	-0.025	-0.666	-0.55	0.775	-0.438	0			
Q7.4	0.586	0.071	0.261	-0.746	0.186	-0.072	0		
Q7.3	0.587	0.318	0.861	0.59	-1.333	-0.005	-0.789	0	
Q7.2	1.288	0.501	0.782	-0.774	-0.195	-1.057	0.429	0.012	0

Appendix XIII

Standardised residual covariance of Leadership style model after item deletion

	Q12.1	Q12.2	Q12.3	Q12.4	Q10.1	Q10.2	Q10.3	Q9.1	Q9.2	Q9.3	Q9.4	Q9.5	Q8.1	Q8.2	Q8.3	Q8.5	Q8.7	Q8.6
Q12.1	0																	
Q12.2	0.222	0																
Q12.3	-0.369	-0.345	0															
Q12.4	-0.106	0.054	0.652	0														
Q10.1	0.823	0.192	1.059	-0.834	0													
Q10.2	0.874	1.159	0.552	1.364	-1.082	0												
Q10.3	-0.395	-1.314	0.538	-0.817	0.059	0.511	0											
Q9.1	0.446	-0.518	-0.369	-0.257	2.08	-0.078	-0.207	0										
Q9.2	1.518	0.601	-0.024	0.463	0.583	0.661	-0.019	0.016	0									
Q9.3	-1.521	0.089	-0.191	0.736	-0.675	-0.539	-1.042	-0.127	-0.093	0								
Q9.4	-0.241	0.441	-1.096	-0.234	0.042	0.744	-1.373	0.66	-0.149	0.156	0							
Q9.5	-0.781	0.455	-0.713	0.353	1.261	0.523	1.264	-1.106	-0.793	1.356	-0.223	0						
Q8.1	0.255	-0.179	1.148	-0.421	1.146	-0.666	-0.514	0.334	0.667	-0.063	-0.554	-0.769	0					
Q8.2	1.109	0.27	0.138	0.011	-0.201	-0.34	-1.391	-1.052	0.008	-0.118	0.457	0.093	0.414	0				
Q8.3	0.094	-0.86	0.573	-0.197	-0.53	-0.306	-0.464	0.165	0.955	0.245	-0.212	-0.35	0.572	0.478	0			
Q8.5	-0.359	-0.506	0.446	-0.494	-0.706	0.41	-0.083	-1.158	-0.522	0.856	-0.297	1.948	-0.57	0.394	-0.168	0		
Q8.7	-1.032	0.146	-0.397	-0.087	2.102	1.505	1.739	0.43	-0.624	-1.001	-0.182	1.94	0.076	-1.321	-0.52	0.407	0	
Q8.6	-1.031	0.266	0.297	0.141	0.803	-0.61	-0.235	1.151	-1.34	0.893	0.189	0.475	-0.781	-0.331	0.249	0.312	0.834	0
Q7.25	0.595	0.328	-0.685	-0.909	1.026	0.796	-0.195	-0.198	-0.593	-0.725	-0.808	1.148	-0.473	0.019	-1.177	-0.309	-0.56	-0.709
Q7.24	0.344	0.126	0.922	0.696	0.174	0.606	0.24	-0.466	-0.299	-0.865	-0.398	1.232	-0.987	-0.6	-1.757	0.069	1.125	-0.49
Q7.22	-0.047	-0.002	-0.026	-1.008	-0.239	0.199	-0.841	-0.614	0.163	-0.436	-0.141	0.309	-0.949	-0.04	-0.873	-0.448	-0.963	0.291
Q7.21	-0.032	0.91	0.382	-1.042	1.561	1.009	1.053	-0.177	-0.473	-1.718	-0.999	-0.121	0.036	-0.662	-1.46	-1.204	0.398	-0.265
Q7.20	0.63	-1.51	-0.682	-0.993	-0.578	-0.009	-0.428	-0.143	0.295	0.371	0.315	0.161	0.448	0.922	0.27	-0.3	-0.128	0.18
Q7.19	0.422	-0.127	-0.231	-0.968	0.243	-0.334	-0.456	-0.084	0.018	0.116	0.462	0.145	0.657	0.742	0.532	1.388	0.422	-0.227
Q7.18	-0.795	-0.024	-0.037	0.181	-0.491	0.573	0.215	-0.45	-0.4	-0.09	-0.21	1.051	-1.077	-0.334	-0.711	0.105	0.8	0.469
Q7.17	0.792	1.116	1.477	1.898	0.877	1.082	-0.375	0.341	0.931	0.963	0.15	1.065	1.162	0.336	0.183	1.545	0.708	0.146
Q7.12	-0.004	-1.215	0.964	-1.107	0.793	0.854	-0.867	0.959	-0.068	-0.584	-0.125	-0.687	0.131	-1.065	-0.324	-1.391	-0.12	-1.113
Q7.11	0.304	-0.323	-1.238	-0.428	-0.156	1.006	0.299	-0.883	-0.28	-0.208	0.088	1.424	-0.49	0.187	-0.141	1.063	0.89	-0.233
Q7.10	-1.338	0.891	0.513	-0.998	0.54	0.084	-0.546	-0.583	-0.642	0.259	0.669	-0.576	-0.748	0.343	-0.772	0.822	-0.367	1.226
Q7.9	1.366	0.499	0	0.338	0.088	1.184	0.117	0.393	0.641	-1.297	0.125	-0.335	0.876	0.746	-0.094	0.015	1.029	-1.529
Q7.7	0.142	-1.246	-0.424	-0.597	-0.767	-0.115	-1.042	0.046	-0.625	0.301	-0.014	0.726	-1.234	-1.25	-0.283	0.657	0.669	-0.346

Q7.6	-0.39	0.761	0.165	-0.767	0.378	0.619	-1.174	0.625	-0.285	-0.191	0.121	0.388	-0.901	-0.276	-1.159	-0.26	0.171	0.277
Q7.5	0.685	0.634	0.506	-0.206	-0.503	1.073	-0.633	-0.61	0.148	-0.831	0.211	0.611	0.193	0.75	-0.137	0.473	-0.108	-0.085
Q7.4	-0.194	0.135	0.709	-0.305	0.407	-0.165	-0.465	0.318	0.176	-0.202	0.437	0.958	-0.061	0.22	0.037	0.726	1.091	0.744
Q7.1	0.966	0.375	0.437	-1.515	1.185	0.846	0.413	0.622	0.688	0.434	0.305	-0.562	0.632	0.281	-0.696	0.088	0.398	0.241

	Q7.25	Q7.24	Q7.22	Q7.21	Q7.20	Q7.19	Q7.18	Q7.17	Q7.12	Q7.11	Q7.10	Q7.9	Q7.7	Q7.6	Q7.5	Q7.4	Q7.1
Q7.25	0																
Q7.24	0.758	0															
Q7.22	0.948	0.266	0														
Q7.21	1.997	0.666	0.948	0													
Q7.20	-0.643	0.435	0.053	-0.871	0												
Q7.19	-0.334	-0.862	-1.02	-0.779	0.131	0											
Q7.18	0.061	0.187	-0.259	-0.847	0.804	-1.13	0										
Q7.17	-0.038	0.954	-0.57	0.326	-1.002	0.026	-0.177	0									

Q7.12	1.1	-0.733	0.338	0.966	0.412	-1.22	0.633	-1.304	0								
Q7.11	-0.435	-0.075	-1.027	-0.725	0.241	1.112	0.748	0.578	-1.083	0							
Q7.10	-0.484	-0.074	1.852	-0.81	-0.419	-0.091	0.16	-0.695	1.079	-0.74	0						
Q7.9	-0.293	0.47	-0.343	0.391	0.416	0.08	-1.093	-0.538	0.162	0.034	-0.345	0					
Q7.7	0.619	0.24	-0.385	0.034	0.393	-0.16	0.939	-0.966	1.235	0.295	-1.152	0.22	0				
Q7.6	0.098	-0.231	1.088	0.56	0.026	0.157	-0.024	0.274	0.54	-0.331	0.372	-1.08	-0.438	0			
Q7.5	0.387	-0.084	-0.076	-0.021	-0.599	0.984	1.557	0.337	-0.045	0.057	1.215	-0.364	-0.919	-1.046	0		
Q7.4	-1.081	-0.333	0.105	-0.851	0.177	1.014	0.26	0.373	-0.251	0.363	0.172	-0.112	-0.377	0.876	-0.56	0	
Q7.1	-0.197	-0.452	-0.237	0.983	-0.151	0.105	-1.024	0.305	-0.025	0.309	0.017	1.246	0.992	-0.642	-0.272	-1.07	0

Appendix XIV

Internal consistency test (inter-item correlation) of items in the leadership effectiveness model

Management style

	Management Style	Management Style	Management Style	Management Style	Management Style	Management Style	Management Style	Management Style	Management Style	Management Style	Management Style	Management Style	Management Style	Management Style	Management Style
Management Style	1.000	.378	.319	.300	.188	.330	.361	.192	.284	.252	.252	.231	.107	.116	.064
Management Style	.378	1.000	.562	.539	.398	.437	.506	.455	.466	.568	.446	.418	.387	.391	.421
Management Style	.319	.562	1.000	.526	.385	.499	.529	.513	.489	.587	.461	.516	.425	.392	.487
Management Style	.300	.539	.526	1.000	.429	.470	.438	.549	.386	.524	.346	.477	.368	.370	.447
Management Style	.188	.398	.385	.429	1.000	.407	.411	.556	.423	.429	.338	.284	.447	.286	.370
Management Style	.330	.437	.499	.470	.407	1.000	.475	.522	.339	.446	.382	.339	.386	.376	.418
Management Style	.361	.506	.529	.438	.411	.475	1.000	.486	.499	.447	.397	.451	.456	.413	.409
Management Style	.192	.455	.513	.549	.556	.522	.486	1.000	.452	.462	.347	.420	.429	.336	.412
Management Style	.284	.466	.489	.386	.423	.339	.499	.452	1.000	.358	.539	.413	.369	.327	.367
Management Style	.252	.568	.587	.524	.429	.446	.447	.462	.358	1.000	.408	.507	.444	.420	.504
Management Style	.252	.446	.461	.346	.338	.382	.397	.347	.539	.408	1.000	.361	.301	.387	.304
Management Style	.231	.418	.516	.477	.284	.339	.451	.420	.413	.507	.361	1.000	.366	.360	.346
Management Style	.107	.387	.425	.368	.447	.386	.456	.429	.369	.444	.301	.366	1.000	.506	.579
Management Style	.116	.391	.392	.370	.286	.376	.413	.336	.327	.420	.387	.360	.506	1.000	.549
Management Style	.064	.421	.487	.447	.370	.418	.409	.412	.367	.504	.304	.346	.579	.549	1.000

Appendix XIV
Internal consistency test (inter-item correlation) of items in the leadership effectiveness model – continued
Organisational Structure

	Organisational Structure	Organisational Structure	Organisational Structure	Organisational Structure	Organisational Structure	Organisational Structure	Organisational Structure	Organisational Structure	Organisational Structure	Organisational Structure
Organisational Structure	1.000	.334	.398	.354	.266	.425	.248	.331	.339	.374
Organisational Structure	.334	1.000	.474	.377	.276	.184	.074	.098	.169	.200
Organisational Structure	.398	.474	1.000	.482	.536	.296	.165	.239	.165	.193
Organisational Structure	.354	.377	.482	1.000	.603	.417	.161	.250	.263	.299
Organisational Structure	.266	.276	.536	.603	1.000	.401	.302	.308	.212	.236
Organisational Structure	.425	.184	.296	.417	.401	1.000	.445	.420	.392	.423
Organisational Structure	.248	.074	.165	.161	.302	.445	1.000	.476	.485	.475
Organisational Structure	.331	.098	.239	.250	.308	.420	.476	1.000	.401	.471
Organisational Structure	.339	.169	.165	.263	.212	.392	.485	.401	1.000	.415
Organisational Structure	.374	.200	.193	.299	.236	.423	.475	.471	.415	1.000

Appendix XIV
Internal consistency test (inter-item correlation) of items in the leadership effectiveness model – continued
Decision Quality

	Decision Quality	Decision Quality	Decision Quality	Decision Quality	Decision Quality	Decision Quality
Decision Quality	1.000	.632	.642	.458	.407	.557
Decision Quality	.632	1.000	.578	.596	.568	.608
Decision Quality	.642	.578	1.000	.462	.504	.507
Decision Quality	.458	.596	.462	1.000	.602	.550
Decision Quality	.407	.568	.504	.602	1.000	.659
Decision Quality	.557	.608	.507	.550	.659	1.000

Follower Satisfaction

	Satisfaction	Satisfaction	Satisfaction	Satisfaction
Satisfaction	1.000	.568	.538	.386
Satisfaction	.568	1.000	.534	.615
Satisfaction	.538	.534	1.000	.413
Satisfaction	.386	.615	.413	1.000

Leadership Effectiveness

	Leadership Effectiveness	Leadership Effectiveness	Leadership Effectiveness	Leadership Effectiveness	Leadership Effectiveness
Leadership Effectiveness	1.000	.737	.676	.643	.657
Leadership Effectiveness	.737	1.000	.615	.734	.704
Leadership Effectiveness	.676	.615	1.000	.577	.585
Leadership Effectiveness	.643	.734	.577	1.000	.722
Leadership Effectiveness	.657	.704	.585	.722	1.000

Appendix XIV
Internal consistency test (item-total correlation) of items in the leadership effectiveness model – continued

Leadership practice

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Leadership Practice	.694	.948
Leadership Practice	.646	.948
Leadership Practice	.579	.949
Leadership Practice	.725	.947
Leadership Practice	.627	.948
Leadership Practice	.682	.948
Leadership Practice	.627	.948
Leadership Practice	.672	.948
Leadership Practice	.671	.948
Leadership Practice	.606	.949
Leadership Practice	.677	.948
Leadership Practice	.637	.948
Leadership Practice	.709	.947
Leadership Practice	.507	.950
Leadership Practice	.548	.949
Leadership Practice	.644	.948
Leadership Practice	.613	.948
Leadership Practice	.620	.948
Leadership Practice	.669	.948
Leadership Practice	.716	.947
Leadership Practice	.646	.948
Leadership Practice	.692	.948
Leadership Practice	.528	.949
Leadership Practice	.641	.948
Leadership Practice	.678	.948

Appendix XIV
Internal consistency test (item-total correlation) of items in the leadership effectiveness model – continued

Management style

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Management Style	.349	.914
Management Style	.685	.902
Management Style	.721	.901
Management Style	.661	.903
Management Style	.567	.906
Management Style	.623	.904
Management Style	.673	.903
Management Style	.655	.903
Management Style	.609	.905
Management Style	.682	.902
Management Style	.557	.907
Management Style	.584	.906
Management Style	.591	.905
Management Style	.554	.907
Management Style	.602	.905

Organisation structure

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Organisational Structure	.537	.814
Organisational Structure	.377	.829
Organisational Structure	.512	.817
Organisational Structure	.566	.811
Organisational Structure	.552	.813
Organisational Structure	.603	.808
Organisational Structure	.495	.819
Organisational Structure	.525	.816
Organisational Structure	.492	.819
Organisational Structure	.538	.814

Appendix XIV
Internal consistency test (item-total correlation) of items in the leadership effectiveness model – continued

Decision Quality

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Decision Quality	.668	.866
Decision Quality	.754	.851
Decision Quality	.669	.865
Decision Quality	.659	.867
Decision Quality	.680	.864
Decision Quality	.722	.856

Satisfaction

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Satisfaction	.600	.765
Satisfaction	.723	.704
Satisfaction	.596	.767
Satisfaction	.567	.783

Leadership effectiveness

	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
Leadership Effectiveness	.788	.884
Leadership Effectiveness	.815	.878
Leadership Effectiveness	.697	.903
Leadership Effectiveness	.775	.887
Leadership Effectiveness	.771	.888

Appendix XV

Sample correlations of leadership effectiveness model

	Q7.18	Q6.7	Q18.1	Q18.2	Q18.3	Q18.4	Q18.5	Q14	Q15	Q16	Q17	Q13.1	Q13.2	Q13.3	Q13.6	Q6.9	Q6.8	Q6.6
Q7.18	1.0																	
Q6.7	0.2	1.0																
Q18.1	0.4	0.3	1.0															
Q18.2	0.4	0.3	0.7	1.0														
Q18.3	0.4	0.3	0.7	0.6	1.0													
Q18.4	0.4	0.3	0.6	0.7	0.6	1.0												
Q18.5	0.4	0.3	0.7	0.7	0.6	0.7	1.0											
Q14	0.2	0.1	0.5	0.5	0.4	0.4	0.5	1.0										
Q15	0.3	0.2	0.5	0.6	0.5	0.5	0.5	0.6	1.0									
Q16	0.2	0.2	0.4	0.4	0.4	0.4	0.4	0.5	0.5	1.0								
Q17	0.3	0.3	0.6	0.5	0.4	0.5	0.5	0.4	0.6	0.4	1.0							
Q13.1	0.3	0.2	0.6	0.5	0.5	0.5	0.5	0.4	0.4	0.4	0.4	1.0						
Q13.2	0.3	0.2	0.5	0.5	0.5	0.4	0.6	0.4	0.4	0.4	0.4	0.6	1.0					
Q13.3	0.3	0.4	0.5	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.6	0.6	1.0				
Q13.6	0.4	0.3	0.4	0.5	0.4	0.5	0.5	0.3	0.4	0.3	0.4	0.6	0.6	0.5	1.0			
Q6.9	0.3	0.5	0.2	0.3	0.4	0.3	0.2	0.1	0.3	0.3	0.2	0.2	0.3	0.4	0.3	1.0		
Q6.8	0.4	0.5	0.3	0.4	0.4	0.4	0.5	0.3	0.3	0.3	0.3	0.3	0.3	0.2	0.4	0.4	1.0	
Q6.6	0.2	0.4	0.2	0.3	0.4	0.2	0.3	0.2	0.3	0.2	0.2	0.3	0.2	0.3	0.2	0.4	0.4	1.0
Q7.22	0.4	0.2	0.3	0.4	0.4	0.4	0.4	0.3	0.3	0.2	0.2	0.3	0.4	0.4	0.4	0.2	0.3	0.3
Q7.20	0.5	0.2	0.5	0.5	0.4	0.4	0.4	0.3	0.3	0.2	0.4	0.5	0.4	0.5	0.4	0.3	0.3	0.2
Q7.19	0.4	0.2	0.4	0.5	0.5	0.4	0.4	0.3	0.3	0.2	0.3	0.4	0.3	0.4	0.4	0.2	0.3	0.2
Q7.25	0.4	0.2	0.4	0.4	0.4	0.3	0.4	0.4	0.3	0.4	0.3	0.4	0.4	0.4	0.3	0.1	0.3	0.1
Q7.17	0.4	0.2	0.3	0.4	0.3	0.4	0.4	0.4	0.4	0.2	0.3	0.4	0.4	0.4	0.4	0.3	0.2	0.3
Q7.15	0.4	0.1	0.2	0.4	0.3	0.4	0.3	0.2	0.2	0.1	0.2	0.3	0.4	0.3	0.4	0.2	0.3	0.2
Q7.11	0.5	0.2	0.4	0.5	0.5	0.5	0.4	0.3	0.3	0.2	0.3	0.4	0.4	0.4	0.4	0.2	0.2	0.1
Q7.10	0.4	0.3	0.4	0.5	0.4	0.5	0.5	0.3	0.3	0.2	0.4	0.3	0.4	0.3	0.5	0.2	0.4	0.2
Q7.9	0.3	0.3	0.5	0.4	0.4	0.5	0.5	0.4	0.4	0.3	0.4	0.5	0.4	0.5	0.4	0.3	0.3	0.1
Q7.8	0.5	0.2	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.4	0.4	0.5	0.4	0.4	0.3	0.2	0.2
Q7.7	0.5	0.2	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.3	0.3	0.4	0.3
Q7.6	0.4	0.2	0.4	0.4	0.4	0.5	0.5	0.4	0.5	0.3	0.3	0.4	0.4	0.3	0.4	0.3	0.3	0.3
Q7.1	0.4	0.3	0.5	0.5	0.5	0.5	0.5	0.5	0.4	0.3	0.4	0.5	0.5	0.5	0.5	0.3	0.3	0.3

Q7.4	0.5	0.2	0.4	0.5	0.5	0.5	0.5	0.4	0.5	0.2	0.4	0.4	0.3	0.4	0.4	0.2	0.3	0.2
Q7.2	0.4	0.2	0.4	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.3	0.2	0.3	0.3
Q7.5	0.5	0.2	0.4	0.4	0.4	0.4	0.4	0.2	0.2	0.2	0.3	0.4	0.4	0.3	0.4	0.2	0.4	0.3
Q5.3	0.4	0.2	0.4	0.3	0.3	0.3	0.3	0.2	0.4	0.2	0.2	0.4	0.3	0.3	0.3	0.3	0.3	0.2
Q5.2	0.4	0.1	0.3	0.4	0.2	0.3	0.4	0.3	0.3	0.2	0.3	0.4	0.3	0.3	0.4	0.1	0.3	0.2
Q5.4	0.3	0.2	0.4	0.3	0.4	0.3	0.4	0.2	0.3	0.3	0.4	0.4	0.3	0.3	0.3	0.2	0.3	0.2
Q5.5	0.4	0.1	0.3	0.3	0.3	0.4	0.4	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.3	0.2	0.3	0.1
Q5.6	0.4	0.2	0.4	0.4	0.4	0.4	0.4	0.3	0.3	0.3	0.3	0.4	0.4	0.4	0.3	0.2	0.3	0.1
Q5.8	0.4	0.2	0.4	0.3	0.4	0.3	0.3	0.2	0.4	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.2
Q5.9	0.4	0.2	0.3	0.3	0.3	0.4	0.3	0.2	0.3	0.2	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.1
Q5.11	0.4	0.1	0.3	0.3	0.3	0.3	0.3	0.3	0.3	0.1	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.2
Q5.12	0.4	0.3	0.3	0.3	0.3	0.3	0.2	0.2	0.3	0.2	0.3	0.4	0.3	0.4	0.3	0.3	0.2	0.2
Q5.7	0.5	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.3	0.2	0.3	0.4	0.3	0.4	0.3	0.3	0.3	0.3

	Q7 .22	Q7 .20	Q7 .19	Q7 .25	Q7 .17	Q7 .15	Q7 .11	Q7 .10	Q7 .9	Q7 .8	Q7 .7	Q7 .6	Q7 .1	Q7 .4	Q7 .2	Q7 .5	Q5 .3	Q5 .2	Q5 .4	Q5 .5	Q5 .6	Q5 .8	Q5 .9	Q5 .11	Q5 .12	Q5 .7

Q7.22	1.0																										
Q7.20	0.5	1.0																									
Q7.19	0.4	0.6	1.0																								
Q7.25	0.5	0.4	0.5	1.0																							
Q7.17	0.4	0.4	0.5	0.4	1.0																						
Q7.15	0.4	0.4	0.4	0.3	0.4	1.0																					
Q7.11	0.4	0.6	0.6	0.4	0.5	0.4	1.0																				
Q7.10	0.6	0.4	0.4	0.4	0.3	0.5	0.4	1.0																			
Q7.9	0.5	0.6	0.5	0.4	0.4	0.4	0.5	0.4	1.0																		
Q7.8	0.5	0.5	0.4	0.5	0.5	0.4	0.5	0.5	0.4	1.0																	
Q7.7	0.4	0.5	0.4	0.5	0.3	0.3	0.5	0.3	0.5	0.5	1.0																
Q7.6	0.6	0.5	0.5	0.5	0.5	0.4	0.5	0.5	0.4	0.6	0.4	1.0															
Q7.1	0.5	0.5	0.5	0.5	0.5	0.4	0.5	0.4	0.6	0.5	0.5	0.4	1.0														
Q7.4	0.5	0.6	0.6	0.4	0.5	0.4	0.6	0.5	0.5	0.5	0.4	0.6	0.4	1.0													
Q7.2	0.5	0.5	0.4	0.6	0.4	0.3	0.4	0.4	0.5	0.5	0.5	0.5	0.5	0.5	1.0												
Q7.5	0.4	0.4	0.6	0.5	0.4	0.5	0.5	0.5	0.4	0.4	0.3	0.4	0.4	0.5	0.3	1.0											
Q5.3	0.4	0.4	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.5	0.4	0.4	0.4	0.4	0.4	0.4	1.0										
Q5.2	0.4	0.4	0.4	0.4	0.4	0.3	0.4	0.5	0.4	0.4	0.3	0.3	0.4	0.4	0.4	0.4	0.6	1.0									
Q5.4	0.4	0.5	0.4	0.4	0.4	0.2	0.4	0.3	0.5	0.4	0.4	0.3	0.4	0.4	0.4	0.3	0.5	0.5	1.0								
Q5.5	0.4	0.4	0.4	0.3	0.3	0.2	0.4	0.4	0.3	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.4	0.4	0.4	1.0							
Q5.6	0.3	0.5	0.5	0.3	0.4	0.3	0.5	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.4	0.5	0.4	1.0						
Q5.8	0.4	0.5	0.4	0.3	0.3	0.2	0.4	0.3	0.4	0.5	0.5	0.4	0.3	0.4	0.5	0.3	0.5	0.5	0.5	0.6	0.5	1.0					
Q5.9	0.3	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.3	0.4	0.4	0.3	0.3	0.5	0.5	0.4	0.4	0.3	0.5	1.0				
Q5.11	0.2	0.3	0.4	0.2	0.4	0.2	0.4	0.2	0.3	0.3	0.3	0.3	0.4	0.3	0.3	0.3	0.5	0.4	0.3	0.3	0.4	0.3	0.5	1.0			
Q5.12	0.3	0.3	0.3	0.4	0.4	0.2	0.4	0.2	0.4	0.4	0.3	0.2	0.3	0.3	0.3	0.4	0.5	0.4	0.5	0.3	0.3	0.4	0.4	0.4	1.0		
Q5.7	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.4	0.4	0.4	0.5	0.5	0.5	0.4	0.4	0.5	0.5	0.5	0.4	0.5	1.0	

Appendix XV
Standard residual covariance of leadership effectiveness model

	Q7.18	Q6.7	Q18.1	Q18.2	Q18.3	Q18.4	Q18.5	Q14	Q15	Q16	Q17	Q13.1	Q13.2	Q13.3	Q13.6	Q6.9	Q6.8	Q6.6
Q7.18	0.0																	
Q6.7	-0.7	0.0																
Q18.1	-0.4	-0.6	0.0															
Q18.2	-0.7	-0.8	0.2	0.0														
Q18.3	-0.1	0.5	0.6	-0.4	0.0													
Q18.4	0.6	-0.1	-0.4	0.3	-0.4	0.0												
Q18.5	-0.4	-0.3	-0.3	-0.1	-0.3	0.5	0.0											
Q14	-1.1	-1.8	0.1	0.1	0.0	0.1	0.4	0.0										
Q15	-1.1	-0.9	-0.1	-0.2	-0.3	-0.3	-0.5	0.1	0.0									
Q16	-0.3	-1.1	-0.2	-0.1	0.6	-0.5	-0.6	1.1	-0.1	0.0								
Q17	-0.4	0.3	1.2	0.1	0.2	0.1	0.9	-1.1	0.3	-0.6	0.0							
Q13.1	-1.2	-0.9	0.7	0.1	0.8	-0.7	-0.2	0.5	-0.3	0.2	0.7	0.0						
Q13.2	-0.8	-0.7	0.5	-0.4	0.3	-0.6	0.7	0.5	-0.8	0.2	0.6	0.0	0.0					
Q13.3	-1.2	1.2	-0.1	-0.9	0.9	-0.7	-0.7	0.2	-0.8	0.4	0.3	0.4	-0.1	0.0				
Q13.6	0.3	0.7	-0.6	0.7	-0.3	0.5	0.7	-0.1	-0.2	0.0	0.3	-0.4	0.4	-0.4	0.0			
Q6.9	0.4	0.5	-1.6	-0.4	1.2	0.5	-1.0	-1.3	0.7	0.6	0.0	-0.8	0.1	1.4	0.1	0.0		
Q6.8	1.5	0.0	-0.5	1.1	1.4	0.8	1.9	1.0	0.2	0.4	0.8	-0.4	-0.4	-0.7	1.0	-0.5	0.0	
Q6.6	-0.3	0.2	-0.5	-0.6	1.6	-0.9	-0.4	0.0	0.7	0.2	-0.2	0.7	-0.3	0.6	-0.1	-0.1	-0.1	0.0
Q7.22	-0.4	-0.2	-1.5	-1.1	-0.3	-0.7	-0.6	0.1	-1.1	-0.7	-0.8	-0.9	-0.6	-0.1	0.2	-0.6	0.8	0.5
Q7.20	0.7	-0.6	0.2	-0.2	0.2	-0.5	-0.3	-0.7	-0.8	-1.7	0.7	0.3	-0.7	0.7	-0.5	-0.2	0.1	-0.3
Q7.19	-1.2	-0.6	-0.2	0.0	0.7	0.0	-0.3	0.1	-1.2	-1.8	0.2	0.1	-1.2	-0.4	-0.2	-1.0	0.2	-0.1
Q7.25	0.1	-0.4	-0.4	-0.6	-0.1	-0.8	-0.2	1.4	-0.8	1.3	0.4	-0.4	0.8	0.8	-0.5	-1.7	0.4	-1.1
Q7.17	-0.3	0.1	-0.6	-0.2	-0.2	0.2	0.6	1.2	1.0	-0.3	0.3	-0.2	0.5	0.9	1.1	1.0	-0.2	1.1
Q7.15	0.7	-1.0	-1.3	0.0	0.0	1.0	-0.1	0.0	-1.5	-1.6	-0.9	-0.1	0.4	0.5	1.1	0.4	1.6	0.1
Q7.11	0.5	-0.7	0.1	0.2	0.7	0.7	0.1	-0.4	-1.0	-1.0	-0.6	-0.6	-0.6	0.1	0.1	-0.4	-0.4	-1.2
Q7.10	-0.1	0.1	0.5	1.2	0.8	1.4	1.1	0.3	-0.3	-0.5	0.8	-0.5	0.1	-0.6	1.5	0.3	2.0	0.1
Q7.9	-1.2	-0.1	0.3	-0.1	0.5	0.8	0.8	0.8	0.6	0.4	1.5	0.9	0.3	1.2	-0.1	0.2	0.1	-1.3
Q7.8	0.8	-1.3	-0.3	-0.8	0.4	-0.3	-0.3	0.4	-0.2	0.2	0.6	-0.4	0.6	0.4	0.6	0.9	-0.3	-0.4
Q7.7	0.7	-0.2	-0.1	-0.9	0.8	-0.2	0.0	1.2	1.0	1.6	1.0	0.3	-0.6	0.8	-0.4	0.7	1.6	0.5
Q7.6	-0.2	-0.5	-0.2	-0.2	0.4	0.4	0.4	1.3	1.0	-0.1	0.2	-0.7	-0.6	-0.5	-0.2	0.2	0.0	1.1
Q7.1	-1.2	0.0	0.2	0.5	0.9	0.6	0.3	1.8	0.4	0.5	1.2	0.8	0.8	1.3	1.2	0.2	0.8	0.2
Q7.4	0.1	-0.7	-0.8	0.3	0.4	0.1	0.5	0.8	0.7	-1.2	0.2	-0.2	-1.5	-0.8	-0.2	-0.4	0.3	-0.7
Q7.2	-0.1	-0.5	0.1	0.1	1.2	-0.7	0.0	0.8	0.8	1.9	0.7	1.6	-0.2	1.2	-0.3	-0.1	0.2	0.5
Q7.5	1.4	-0.1	-0.3	-0.4	0.5	0.3	0.0	-0.7	-1.9	-1.0	-0.2	-0.4	0.3	-0.3	0.2	0.0	1.7	1.1
Q5.3	0.2	-1.0	0.2	-0.6	-0.8	-0.3	-0.2	-0.7	0.5	-1.1	-1.1	0.4	-0.8	-0.7	-0.1	0.6	0.8	-0.2
Q5.2	0.1	-1.4	-0.7	-0.1	-0.9	-0.5	0.1	0.6	-0.6	-0.4	-0.4	0.8	-0.4	-0.2	0.6	-1.1	0.7	-0.7

Q5.4	-0.3	-0.5	0.1	-0.2	0.6	-0.5	0.6	-0.6	0.1	0.0	1.2	0.7	-0.9	0.2	-0.1	0.3	0.1	-0.3
Q5.5	1.6	-1.0	0.1	0.4	0.1	1.3	1.1	-0.5	0.4	-0.1	0.0	-0.1	-0.6	-1.5	0.8	0.1	1.1	-0.8
Q5.6	0.2	-0.9	1.1	0.4	0.9	0.6	1.0	0.4	0.2	0.6	0.2	1.0	0.6	0.7	-0.4	0.3	0.3	-1.1
Q5.8	0.5	-0.3	0.1	-0.5	1.3	-0.1	-0.3	-0.4	0.7	0.9	0.3	-0.6	-0.5	-0.2	0.1	0.7	0.9	-0.3
Q5.9	1.1	-0.4	0.1	-0.6	-0.1	0.8	0.2	-0.1	-0.5	-0.3	0.1	-0.8	-0.7	-0.3	0.0	0.1	-0.4	-1.0
Q5.11	0.7	-0.7	0.6	0.0	0.2	0.5	0.1	0.6	0.8	-1.0	0.7	0.7	0.1	-0.2	0.3	0.5	0.4	0.3
Q5.12	1.6	0.6	0.6	-0.4	0.2	-0.3	-0.8	-0.8	0.7	0.3	0.5	0.6	0.4	1.3	0.3	0.9	0.3	0.0
Q5.7	1.2	0.1	0.3	-1.2	0.6	-0.3	-0.8	-0.1	-0.4	-1.1	-0.2	0.2	-0.7	0.5	0.1	1.1	0.8	1.0

Appendix XV
Standard residual covariance of leadership effectiveness model -continued

	7.22	Q7.20	Q7.19	Q7.25	Q7.17	Q7.15	Q7.11	Q7.10	Q7.9	Q7.8	Q7.7	Q7.6	Q7.1	Q7.4
Q7.22	0.0													
Q7.20	0.2	0.0												
Q7.19	-0.9	0.2	0.0											
Q7.25	1.2	-0.4	-0.1	0.0										
Q7.17	-0.5	-0.9	0.1	0.2	0.0									

Q7.15	0.5	-0.7	0.0	-0.3	0.6	0.0								
Q7.11	-1.0	0.2	1.1	-0.3	0.6	0.0	0.0							
Q7.10	1.8	-0.5	-0.2	-0.5	-0.8	1.3	-0.9	0.0						
Q7.9	-0.2	0.6	0.2	-0.1	-0.4	-0.2	0.1	-0.4	0.0					
Q7.8	0.6	0.1	-1.4	0.3	0.4	-0.1	-0.4	0.6	-1.0	0.0				
Q7.7	-0.4	0.4	-0.2	0.7	-1.0	-0.9	0.2	-1.3	0.2	0.3	0.0			
Q7.6	1.1	0.0	0.2	0.2	0.3	0.0	-0.4	0.2	-1.1	0.9	-0.5	0.0		
Q7.1	-0.2	-0.1	0.1	-0.1	0.3	-0.1	0.2	-0.1	1.3	0.4	0.9	-0.7	0.0	
Q7.4	0.2	0.3	1.1	-0.9	0.5	0.3	0.4	0.1	0.0	-0.7	-0.4	0.9	-1.0	0.0
Q7.2	0.0	0.4	-0.6	1.4	-0.5	-1.4	-1.3	-0.7	0.7	0.3	1.1	0.7	0.1	0.1
Q7.5	0.0	-0.5	1.1	0.6	0.4	1.3	0.0	1.1	-0.3	-0.3	-1.0	-1.1	-0.3	-0.5
Q5.3	-0.6	-0.7	-0.5	-1.7	-0.1	-0.7	-0.8	-0.4	-0.1	1.0	-0.1	0.0	-0.2	-0.1
Q5.2	0.7	-0.5	0.4	0.2	0.0	0.1	0.2	1.4	-0.1	-0.2	-0.3	-0.9	-0.1	-0.4
Q5.4	0.3	0.7	0.2	0.0	0.0	-1.3	0.3	-0.7	1.7	-0.5	-0.1	-0.6	0.0	-0.2
Q5.5	1.3	0.4	0.1	-0.2	-0.3	-0.3	0.4	0.8	0.1	-0.8	0.2	0.1	-1.0	0.8
Q5.6	-0.7	1.4	1.0	0.0	0.2	-0.1	1.8	-0.2	0.7	0.9	0.6	0.0	-0.2	0.4
Q5.8	0.1	0.3	-0.1	-0.5	-1.2	-1.4	0.4	-0.5	-0.5	1.0	1.1	0.2	-1.0	-0.3
Q5.9	-0.4	-0.8	-0.4	-0.3	1.1	0.0	0.8	0.1	0.0	-0.6	0.7	-1.1	0.5	-0.5
Q5.11	-1.6	-0.6	1.2	-1.3	1.7	-0.2	1.0	-1.0	-0.7	0.0	-0.3	0.2	0.8	-0.9
Q5.12	-0.8	-0.7	-0.9	0.7	1.5	-0.5	0.5	-1.1	0.4	0.6	0.4	-1.4	-0.9	-0.8
Q5.7	0.3	-0.2	0.2	-0.7	0.6	0.9	0.0	0.0	-1.0	-0.3	0.6	-0.2	-0.3	0.0

Appendix XV
Standard residual covariance of leadership effectiveness model - continued

	Q7.2	Q7.5	Q5.3	Q5.2	Q5.4	Q5.5	Q5.6	Q5.8	Q5.9	Q5.11	Q5.12	Q5.7

Q7.2	0.0											
Q7.5	-1.3	0.0										
Q5.3	-0.2	0.0	0.0									
Q5.2	-0.4	0.7	0.4	0.0								
Q5.4	0.6	-0.4	0.1	0.5	0.0							
Q5.5	0.0	-0.5	-0.8	-0.3	0.1	0.0						
Q5.6	0.0	1.1	0.1	-0.4	0.1	0.1	0.0					
Q5.8	0.8	-0.3	-0.2	-0.6	0.5	1.5	0.6	0.0				
Q5.9	-0.7	-0.3	0.1	0.1	-0.8	0.4	-1.1	-0.2	0.0			
Q5.11	-0.7	-0.4	0.3	0.4	-0.8	-0.2	-0.1	-0.9	1.9	0.0		
Q5.12	0.0	1.0	0.7	-0.2	0.6	-1.1	-0.8	-0.2	0.2	0.0	0.0	
Q5.7	-0.4	1.8	0.1	0.1	-0.6	-0.2	0.1	-0.2	0.5	-0.2	0.2	0.0

Appendix XVI

Standard residual covariance of leadership effectiveness structural model

	Q7.18	Q6.7	Q18.1	Q18.2	Q18.4	Q18.5	Q14	Q16	Q17	Q13.1	Q13.2	Q13.6	Q6.9	Q6.6
Q7.18	0													
Q6.7	-0.558	0												
Q18.1	-0.222	0.697	0.197											
Q18.2	-0.537	0.52	0.511	0.225										
Q18.4	0.739	1.124	-0.127	0.384	0.202									
Q18.5	-0.269	0.955	-0.02	0.009	0.611	0.205								
Q14	-1.571	-0.847	0.113	0.012	-0.006	0.348	0							
Q16	-0.562	-0.074	0.121	0.059	-0.384	-0.413	1.388	0						
Q17	-0.669	1.496	1.579	0.407	0.348	1.146	-0.78	-0.04	0					
Q13.1	-1.101	0.295	1.282	0.569	-0.221	0.261	1.49	1.303	1.979	0				
Q13.2	-0.87	0.32	0.896	-0.185	-0.346	0.918	1.29	1.111	1.727	0.193	0			
Q13.6	0.106	1.601	-0.406	0.819	0.566	0.718	0.572	0.779	1.213	-0.334	0.214	0		
Q6.9	0.391	0.092	-0.49	0.702	1.548	0.066	-0.458	1.464	0.99	0.159	1.013	0.818	0	
Q6.6	-0.068	0.129	0.73	0.698	0.317	0.747	0.941	1.2	0.861	1.818	0.684	0.811	-0.283	0
Q7.22	-0.319	-0.102	-1.3	-0.952	-0.559	-0.557	-0.382	-1.028	-1.098	-0.839	-0.669	-0.003	-0.58	0.653
Q7.20	0.752	-0.41	0.45	-0.045	-0.383	-0.18	-1.188	-1.977	0.423	0.413	-0.765	-0.725	-0.132	-0.041
Q7.19	-1.178	-0.401	0.04	0.201	0.135	-0.222	-0.39	-2.04	-0.099	0.246	-1.284	-0.381	-0.98	0.162
Q7.25	0.065	-0.319	-0.234	-0.494	-0.675	-0.17	0.875	0.955	0.084	-0.333	0.7	-0.736	-1.73	-0.937
Q7.17	-0.276	0.203	-0.422	-0.074	0.293	0.664	0.736	-0.619	0.005	-0.094	0.322	0.87	0.944	1.303
Q7.15	0.737	-0.893	-1.165	0.121	1.103	-0.036	-0.343	-1.797	-1.086	-0.052	0.367	0.937	0.419	0.286
Q7.11	0.613	-0.504	0.325	0.403	0.925	0.232	-0.81	-1.216	-0.82	-0.437	-0.685	-0.155	-0.312	-1.015
Q7.10	-0.085	0.262	0.686	1.287	1.515	1.175	-0.135	-0.73	0.586	-0.399	0.01	1.227	0.293	0.293
Q7.9	-1.152	0.063	0.466	-0.017	0.927	0.861	0.273	0.099	1.177	1.018	0.189	-0.397	0.179	-1.144
Q7.8	0.777	-1.185	-0.122	-0.668	-0.196	-0.199	-0.095	-0.097	0.3	-0.299	0.482	0.339	0.908	-0.241
Q7.7	0.739	-0.1	0.035	-0.794	-0.094	0.078	0.717	1.329	0.687	0.407	-0.772	-0.635	0.741	0.613
Q7.6	-0.207	-0.342	-0.023	-0.105	0.56	0.517	0.748	-0.367	-0.066	-0.572	-0.682	-0.478	0.168	1.327
Q7.1	-1.205	0.108	0.424	0.631	0.661	0.401	1.265	0.174	0.912	0.839	0.687	0.872	0.202	0.386
Q7.4	0.2	-0.542	-0.591	0.416	0.236	0.586	0.273	-1.483	-0.098	-0.042	-1.58	-0.414	-0.417	-0.472
Q7.2	-0.128	-0.419	0.303	0.16	-0.571	0.068	0.269	1.579	0.454	1.662	-0.331	-0.543	-0.068	0.633
Q7.5	1.474	-0.009	-0.104	-0.311	0.458	0.09	-1.141	-1.283	-0.464	-0.347	0.261	0.026	0.037	1.327
Q5.3	0.253	-0.801	0.219	-0.624	-0.356	-0.215	-0.899	-1.065	-1.041	0.566	-0.871	-0.248	0.747	0.064
Q5.2	0.136	-1.182	-0.665	-0.125	-0.59	0.067	0.448	-0.458	-0.334	0.962	-0.472	0.471	-1.039	-0.416
Q5.4	-0.266	-0.326	0.177	-0.256	-0.535	0.527	-0.737	-0.04	1.274	0.783	-0.957	-0.233	0.378	-0.029
Q5.5	1.592	-0.778	0.151	0.394	1.303	1.069	-0.666	-0.133	-0.022	0.03	-0.674	0.681	0.228	-0.587

Q5.6	0.196	-0.669	1.112	0.314	0.602	0.931	0.249	0.538	0.245	1.11	0.535	-0.571	0.442	-0.857
Q5.8	0.549	-0.108	0.145	-0.572	-0.097	-0.381	-0.606	0.882	0.385	-0.418	-0.511	-0.061	0.768	-0.009
Q5.9	1.085	-0.196	0.16	-0.65	0.731	0.145	-0.29	-0.333	0.091	-0.659	-0.699	-0.196	0.233	-0.789
Q5.11	0.674	-0.552	0.646	-0.084	0.5	0.039	0.444	-1.054	0.682	0.767	0.085	0.131	0.544	0.574
Q5.12	1.658	0.765	0.652	-0.452	-0.287	-0.884	-0.948	0.304	0.558	0.722	0.413	0.162	0.964	0.234
Q5.7	1.278	0.347	0.339	-1.24	-0.38	-0.853	-0.292	-1.155	-0.146	0.316	-0.734	-0.042	1.251	1.325

Appendix XVI
Standard residual covariance of leadership effectiveness structural model - continued

	Q7.22	Q7.20	Q7.19	Q7.25	Q7.17	Q7.15	Q7.11	Q7.10	Q7.9	Q7.8	Q7.7	Q7.6	Q7.1	Q7.4	Q7.2	Q7.5
Q7.22	0															
Q7.20	0.224	0														
Q7.19	-0.861	0.324	0													
Q7.25	1.16	-0.413	-0.108	0												
Q7.17	-0.484	-0.897	0.131	0.109	0											
Q7.15	0.533	-0.663	0.052	-0.315	0.551	0										
Q7.11	-0.96	0.331	1.202	-0.302	0.596	0.116	0									
Q7.10	1.775	-0.482	-0.153	-0.492	-0.803	1.32	-0.881	0								
Q7.9	-0.2	0.588	0.246	-0.089	-0.452	-0.141	0.103	-0.417	0							
Q7.8	0.633	0.078	-1.385	0.268	0.381	-0.088	-0.383	0.571	-1.068	0						
Q7.7	-0.403	0.388	-0.165	0.665	-1.024	-0.925	0.205	-1.351	0.202	0.211	0					

Q7.6	1.1	0.054	0.184	0.177	0.238	0.036	-0.395	0.175	-1.069	0.91	-0.577	0				
Q7.1	-0.226	-0.124	0.131	-0.118	0.267	-0.133	0.241	-0.183	1.257	0.368	0.842	-0.764	0			
Q7.4	0.269	0.368	1.205	-0.861	0.475	0.399	0.446	0.099	0.05	-0.697	-0.39	0.896	-1.052	0		
Q7.2	0.027	0.367	-0.629	1.399	-0.528	-1.393	-1.256	-0.689	0.668	0.3	1.024	0.711	0.028	0.116	0	
Q7.5	0.036	-0.467	1.119	0.561	0.398	1.391	0.098	1.12	-0.254	-0.277	-0.958	-1.06	-0.287	-0.434	-1.321	0
Q5.3	-0.615	-0.646	-0.41	-1.659	-0.105	-0.632	-0.795	-0.4	-0.146	0.985	-0.075	0.019	-0.265	-0.107	-0.169	0.028
Q5.2	0.69	-0.41	0.412	0.179	0.01	0.078	0.28	1.374	-0.087	-0.192	-0.277	-0.854	-0.159	-0.396	-0.372	0.712
Q5.4	0.331	0.766	0.265	-0.058	-0.013	-1.276	0.308	-0.667	1.661	-0.49	-0.084	-0.642	-0.045	-0.132	0.623	-0.418
Q5.5	1.296	0.411	0.157	-0.25	-0.367	-0.24	0.467	0.822	0.114	-0.779	0.17	0.124	-1.061	0.79	-0.009	-0.516
Q5.6	-0.71	1.396	1.06	-0.061	0.169	-0.031	1.825	-0.17	0.681	0.843	0.584	-0.026	-0.211	0.395	-0.032	1.07
Q5.8	0.102	0.31	-0.059	-0.472	-1.235	-1.353	0.46	-0.494	-0.5	0.991	1.055	0.21	-1.017	-0.279	0.82	-0.297
Q5.9	-0.382	-0.816	-0.332	-0.308	1.108	0.025	0.863	0.121	-0.034	-0.631	0.628	-1.103	0.446	-0.481	-0.714	-0.25
Q5.11	-1.613	-0.598	1.278	-1.28	1.645	-0.144	1.01	-1.014	-0.69	0.012	-0.355	0.216	0.741	-0.842	-0.71	-0.417
Q5.12	-0.745	-0.68	-0.814	0.672	1.541	-0.514	0.587	-1.13	0.446	0.602	0.356	-1.369	-0.942	-0.722	0.04	1.031
Q5.7	0.367	-0.201	0.229	-0.737	0.581	0.886	0.069	0.015	-0.986	-0.325	0.547	-0.213	-0.339	0.024	-0.364	1.795

Appendix XVI
Standard residual covariance of leadership effectiveness structural model – continued

	Q5.3	Q5.2	Q5.4	Q5.5	Q5.6	Q5.8	Q5.9	Q5.11	Q5.12	Q5.7

Q5.3	0									
Q5.2	0.415	0								
Q5.4	0.057	0.509	0							
Q5.5	-0.762	-0.35	0.082	0						
Q5.6	0.092	-0.357	0.089	0.101	0					
Q5.8	-0.231	-0.598	0.557	1.479	0.579	0				
Q5.9	0.053	0.064	-0.827	0.369	-1.097	-0.17	0			
Q5.11	0.288	0.362	-0.785	-0.202	-0.081	-0.89	1.902	0		
Q5.12	0.707	-0.191	0.575	-1.053	-0.802	-0.226	0.17	0.005	0	
Q5.7	0.066	0.103	-0.63	-0.159	0.127	-0.203	0.489	-0.194	0.244	0