Methodological Considerations in Studying Transformational Leadership and its Outcomes

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Abstract
The current paper aims to discuss the methodology of developing a social-structure explanation of employee work performance, emphasizing the importance of transformational leadership behaviours and the three components of organizational commitment in an Arab context. As this research paper adopted the pragmatist view in exploring the phenomenon, choices of lower-level methodological considerations are influenced by such philosophical perspective. The cross-section ‘snapshot’ descriptive questionnaire survey was considered as the most appropriate research approach to gather information. Statistical techniques were proposed as the means to analyse the data.

Keywords Methodology, transformational leadership, commitment, work performance, public organization, Oman

1. Introduction and Background
Since the early 1970s, remarkable efforts have been exerted in Oman in both the private and the public sector with a view to investing in human capital towards achieving a reputable level in the field of human resources development in comparison to other countries [1]. Accordingly, the Omani government has made considerable efforts in developing the country’s infrastructure, as it is deemed to be a pivotal cornerstone for development sustainability. Oman has been transformed from a simple single economy that lacked all types of public services and modern infrastructure into a state with a modern infrastructure, good educational system, diversified economy, and good health system supported by the wise leadership of His Majesty the Sultan of Oman [2].

However, Omani public organizations are now facing immense challenges in various fields, such as employees’ work performance [3]. Researchers have revealed that younger Omani employees exhibit lower affective commitment and normative commitment than their older counterparts [4]. Swailes and Al Fahdi [5] revealed that dissatisfaction with management style has been impacting Omani public employees. It has also been found that immediate superiors have a robust impact on their subordinates’ work performance [6; 7; 8]. Indeed, the quality of an organization’s leadership has a considerable influence on its employees’ effectiveness [9]. Therefore, this entails effective leaders who have appropriate proficiency to deal with unpredictable events that may occasionally arise to increase their employees’ performance.
2. Literature review

Leadership is a broad concept that has been extensively and globally researched, reviewed, discussed and developed for years [10; 11; 12], affecting, it is argued, a variety of organizational outcomes, and it has been proven to be a key factor in organizational effectiveness.

Since competition in private-sector organizations always boosts performance at both an individual and organizational level [13], leadership studies have traditionally concentrated on organizations in the private sector [14]. It has been claimed that there is a scarcity of research on leadership within public-sector organizations [14; 15]. More specifically, in [16] it is asserted that there is a dearth of studies investigating leadership in Arabian Gulf countries.

Leadership research focuses have shifted over the last few decades from the influence of transactional leadership (e.g., economic leader-follower exchanges) to the identification and investigation of those behaviours executed by the leader to inspire and motivate followers to accomplish organizations’ goals [17; 18].

Transformational leaders change their organizations’ culture by first understanding it and then readjusting it with their new vision [19]. Researchers such as Bass and Avolio [20] argue that transformational leadership has some degree of universality. However, Randeree and Chaudhry [21] assert that the universality of transformational leadership may be limited by cultural differences.

Researchers have previously examined the relationship between transformational leadership and performance and found inconsistent results. For example, some researchers have revealed a positive association between transformational leadership and performance [22]. However, other researchers argue that there is no relationship between transformational leadership and performance [23; 24]. The differences in these results may be attributed to various attitudes, such as organizational commitment and view of followers, who can be a pivotal factor in employee performance [25].

Clearly, there is a need for greater attention to be paid to understanding the influence of transformational leadership on work-related attitudes and behaviours such as employee commitment [26; 27; 28] and work performance [29] among non-profit organizations [27; 30; 31].

3. Research methodology

The issue of research methodology is important to any study. A research method is basically a means or procedure for gathering data [32]. Research methodology supports the types of question that can be tackled and the nature of the evidence gathered [33]. Sekaran and Bougie [34] define business research in particular as organized, systematic, data-based, critical, objective scientific inquiry or investigation into a specific problem, undertaken with the intention to get an answer or solution. It has been argued that methodology is a body of knowledge that allows scholars to describe and analyse methods [35]. Cooper and Schindler [36] suggest that management research may cover studies that are reporting, explanatory, descriptive, or predictive. Saunders et al. [37] define research as a process by which individuals attempt to learn things in a systemic way in order to increase their knowledge.

The purpose of this study is to investigate the relationship between transformational leadership behaviours, organizational commitment and work performance in Omani public organizations based on subordinates’ perception. To this end, this paper presents the research methodology employed in this study, including the research design, the target population, sampling procedures, and the sample itself. The instrumentation, data collection procedures, and data analysis will also be described. The paper discusses the two main phases of the methodology: quantitative questionnaire survey and qualitative interview.

4. Research Design

The importance of research design derives from its role as a critical connection between the theories and arguments that inform the research and the empirical data collected [38]. Likewise, Churchill [39] believes that research design provides direction for collecting and analysing data in a certain study. According to Saunders et al. [40] the research process can be represented as an onion. Several layers and approaches are available and must be consistently employed when conducting research. In accordance with the research onion, considerations on several issues must be taken into account before the central point and core of the onion, the data collection and data analysis, is addressed. Figure 1 illustrates the contents of the onion layers. The following subsections explain the contents of the onion’s; philosophies, approaches, strategies, choice, time horizons, and techniques and procedures.

4.1 Research Philosophy

A research philosophy is the first layer of the research onion and is the most crucial one. A research philosophy is a belief or an idea about the collection, interpretation, and analysis of data collected [41]. Research philosophy refers to the development of knowledge in a particular field. The researcher adopts this layer in a specific study to reflect important assumptions about his/her opinion and views and the manner in which he/she understands the world [42]. This will influence the researcher’s strategy in relation to the research plan or method he/she adopts for his/her research. Indeed, the researcher’s specific view and opinion of the association between knowledge and the process by which it is developed is one of the main considerations influencing the choice of a specific philosophy [43].

There are various philosophies explained in the research onion; the major standpoints relate to epistemology,
ontology, and axiology [37]. Each view of research philosophy also has different philosophies attached to it – the most significant are positivism, realism, interpretivism, and pragmatism – that influence the way in which the researcher thinks about the research process.

The pragmatist view will be suitable for the current study to explore the relationship between transformational leadership behaviours, employees' organizational commitment, and work performance. According to Simpson [42], pragmatism seeks to account for lived experience and is part of the history of social science. Pragmatism argues that the most important determinant of the epistemology, ontology and axiology adopted in a study is the research question. This suggests that the research questions and objectives are the most important factors in research philosophy; one may be more appropriate than the other for answering particular questions. Thus, it can be argued that mixed methods, both qualitative and quantitative, are possible, and possibly highly appropriate, within one study [43]. For that reason, Creswell [44] proclaims that instead of focusing on methods, researchers should emphasize the research problem and use all approaches available to understand the problem. Harter [45] claims that pragmatism is concerned more with certain relationships among things and phenomena, specifically between antecedents and consequences. Therefore, pragmatism offers a suitable framework within which to understand leadership [45].

4.2 Research Approach

Research approach is the second layer of Saunders et al.'s research onion [43]. They divide research approach into the deductive approach and the inductive approach. The deductive approach concentrates on using the literature to identify theories and ideas that the researcher will test using data. In contrast, the inductive approach involves collecting data and developing a theory based on the results of data analysis [43]. This study shows a focus on theory testing, as theory was first adopted as the framework for developing and testing hypotheses in a specific research context. This emphasizes that the present study is of the deductive orientation.

4.3 Research Strategy and Time Horizons

Research strategy and time horizons are the third and the fourth layers of Saunders et al.'s research onion [43]. The question now to be considered is whether the present study should be described as exploratory, causal, or descriptive, after having determined the deductive orientation as the
present research approach and taking into account the intention of collecting a large amount of data from a sizeable population efficiently and economically in a highly economic way.

This study will use the survey strategy because it is usually associated with the deductive approach. It is also a popular and common strategy in business and management research and is most frequently used to answer who, what, where, how much and how many [43]. Consequently, it is believed that cross-sectional ‘snapshot’ descriptive survey is the most appropriate option for the current study, as it is conducted at a particular time.

4.4 Research Method

The literature categorizes research methods into quantitative, qualitative, or mixed methods [37; 46]. Determining which research method is most appropriate depends upon different aspects, such as research questions, objectives, and topic. It is postulated that research studies vary from one to another and that each study has its own objectives that ought to be tackled in a suitable manner. Therefore, it is imperative to use the appropriate methods to achieve the research’ objectives and goals [46]. Previous researchers have mainly focused on adopting either a qualitative or a quantitative methodology. Nowadays, management research requires new techniques for scrutinizing research problems and analysing data to explain and clarify social phenomena, because it is becoming increasingly complex and intricate [47].

Quantitative design typically describes factors such as sample size, types of data to be collected, sampling and recruitment techniques, data collection procedures, data management and analysis plans. The quantitative method is used in this research to investigate the relationship between transformational leadership behaviours, organizational commitment and work performance. It is also used to examine the influence of transformational leadership behaviours and organizational commitment on work performance in Omani governmental contexts. According to Robson [48] quantitative research is appropriate in particular when the relationship between variables is measured. Cooper and Schindler [49] suggest that this method should not affect the research result because the participant responses are coded, categorized and reduced to numbers that are manipulated for statistical analysis. It has been noted that reliability is high in survey research [50]. Additionally, this research investigates the relationships between variables; for this, Creswell [51] argues that the appropriate design to examine the relationships between variables is predictive and correlational quantitative research.

Qualitative research is often confirmatory. According to Olds et al. [52] qualitative research is used to collect and test textual data such as surveys, interviews, focus groups, conversational analysis, and observation. Likewise, Creswell [53] states that a qualitative method is used to investigate an issue related to the work of interviewees by obtaining their views, attitudes and perceptions. DiCicco-Bloom and Crabtree [54] suggest that the contribution of qualitative research is based on the meanings that life experiences hold for interviewees. Therefore, a qualitative method will be used to obtain detailed explanation from interviewees based on their experience of how to enhance the influence of transformational leadership behaviours on improvement of organizational commitment and ultimately increase employees’ work performance.

A mixed-approach design uses both quantitative and qualitative methods in a particular study to collect and analyse data [53; 55]. According to Sandelowski [56] mixed-method research can be defined at the technique level as the combination of purposeful and probability sampling, open-ended and closed-ended data collection techniques and narrative and multivariable analyses in which anything can be used together. The objectives of qualitative research are usually exploration and description, whereas the objectives of quantitative research are usually description and explanation [57]. Researchers have asserted that the purpose of a mixed-method design is to obtain a more comprehensive understanding of a studied model and complement the weakness of the quantitative approach [58].

Therefore, based on the research questions and the researcher’s objectives for this study, utilizing a mixed-method design is the most appropriate approach because it is believed that quantitative and qualitative method allow researchers to be more confident of their results, stimulates the creation of inventive methods, new ways of capturing a problem to balance with conventional data-collection methods, and also helps to find out the unexpected dimension of a phenomenon [59]. As this study is a mixed-method design, the researcher will conduct the qualitative aspect of the study first and then will conduct the qualitative interviews.

Many previous researchers have used a quantitative-method research design to collect research data when examining the influence of transformational leadership on organizational outcomes such as organizational commitment and work performance [60; 61; 62; 63; 64]. However, quantitative research does not rule out or control all variables and may exclude relevant human experience [65]. Therefore, a number of researchers have called for studies utilizing mixed-method research to further examine the impact of transformational leadership with these variables to reduce the limitations of purely qualitative or quantitative studies and to combine the benefits of qualitative-theory-building with quantitative-theory testing [27; 66]

5. Study and Target Population

Population is defined as the complete number of components – organizations, individuals, or items – that are
chosen to be measured as the sample of the study [67]. It is argued that, no matter the type of research methods used (quantitative or qualitative) for data collection and analysis, the researchers will inevitably face difficulties in seeking to study everyone, in all places, doing all things [68]. For that reason, researchers are urged to consider choosing a sample to study and then generalize the results to the whole population. For this study population, all public Omani organizations that apply the Law of Civil Service represent the population. According to the Ministry of Civil Service there were 34 organizations applying the Law of Civil Service in 2013 [69]. For this study all these organizations were chosen as the population.

This study identifies the degree to which Omani top-level managers (Director Generals) demonstrate the transformational leadership behaviours based on their subordinates’ perception (Directors). The target population will be Directors in the chosen Omani civil-service organizations. The number of middle-level managers (Directors) in the Omani civil-service sector was 1,512, based on the statistical report produced by the Ministry of Civil Service in 2013 [69]. To capture an accurate sample, the researcher built a list of all director positions in the sample organizations.

### 6. Quantitative Survey Sample Size

There are many approaches, including a number of different formulas, for calculating sample size. Determining the sample size needed to be representative of a given population is crucial for any research. The sample size of this research is based on Krejcie and Morgan’s [70] formula, shown in appendix B. According to Saunders et al. [43], researchers are content to estimate a population’s characteristics at 95% certainty to within plus or minus 3% to 5% of the true values for most business and management research. No calculations are needed [70]. For this research the sample size was required to be representative of the opinions of approximately 1500 Directors of Omani civil-service organizations. Hence, the required sample size was entered into the table at N = 1500. The sample size representative of the Directors in this example is 306.

### 7. Sampling Design Strategy

Sampling is the selection of a subset of cases of the total number of units in order to be able to draw general conclusions about the entire body of units [71; 72]. Researchers select an appropriate method of sampling to generalize results, especially when the population is very large, as it is unusual for a research study to survey the total population due to time and financial constraints. For that reason, Saunders et al. [40] suggest that to achieve the research objective researchers should make a conclusion about the sample of the target population.

Many studies, such as [73; 74], observe that sampling design is usually divided into two categories: probability sampling and non-probability sampling. According to Singleton and Straits [72], probability sampling always involves the process of random selection at some stage. Probability sampling is most commonly associated with surveys and experimental research strategies [40]. Thus, the sample participants for the questionnaires are randomly selected from data of the Ministry of Civil Service to reduce bias associated with selecting certain subpopulations [48]. A random sampling plan generally allows each participant of the selected population to have an equal probability of being selected [53].

### 8. Questionnaire Development Process

The quantitative method comprises two sections; Section “A”, including nine items showing demographic data such as age, sex, management level, and level of education. Section “B” consists of several Likert-scale-type questions that aim at collecting information about transformational leadership behaviours, organizational commitment, and work performance. For the purpose of questionnaire development, Churchill and Iacobucci [39] take an approach that comprises nine steps to develop the research questionnaire. Figure 2 illustrates the procedure.

![Figure 2](source.png)

Source: Churchill and Iacobucci (2002, p. 315)

### 9. Instrument Translation

The survey used in this study was originally written in English. Thus, it was necessary to translate the instrument
into Arabic. Blaschko and Burlingame’s [75] three-step protocol was applied in order to achieve an appropriate Arabic version of the instrument. The instrument was firstly translated into Arabic by a qualified and certified translator with proper experience in translation. Secondly, the translated version was translated back into English by translation experts competent in both English and Arabic. In the third and final step, to verify the accuracy and validity of translation a professional scholar fluent in both English and Arabic compared and evaluated the original English and the re-translated version. Some modification was made after the review.

10. Reliability and Validity of the Survey Instrument

In order to evaluate the validity and reliability of the questionnaire, a pilot test was conducted on a sample of employees with the required knowledge related to the proposed research. Ten participants were randomly chosen from different organizations and requested to fill in the questionnaire. Participants were chosen from middle-management level as they thus represented both leaders and subordinates, i.e., subordinates to the top management level but leaders for their subordinates under their direct management. They were asked to give their opinion on the content of the questions examining transformational leadership behaviours, organizational commitment, and work performance. The participants were also asked to indicate any unclear or uncomfortable wording in the questions in order to estimate how long it would take to fill in the questionnaire and to redesign it according to their comments and criticisms.

It was found that the validity of the quantitative data depends upon the structure of the questions in the questionnaires and how accurately they are related to the research area [76]. The instrumentation of the proposed research was adapted from previously conducted reliable research studies; nevertheless, the reliability of the study was examined with the Cronbach’s Alpha technique, a reliability value greater than 0.70 indicating an acceptable statistical testing level [77; 78].

11. The Study Procedures for the Collection of Quantitative Data

Data collection is the process of gathering information from various sources to answer research questions [51]. There are many collection channels to collect survey research data, such as post, telephone, interview, internet-based survey, email, and by-hand delivery [72; 74; 79]. Dorfman and House [80] asserted that there is inherent difficulty in conducting organizational research in the Sultanate of Oman, particularly in the field of leadership. Therefore, Omani scholars have suggested that researchers should gather information from Omani organizations by taking advantage of their personal and informal contacts [81; 82; 83]. It has also been suggested that making initial contact with a key corporate representative may increase response rate [84].

In order to ease data collection, an introductory letter was firstly obtained from the Universiti Teknologi Malaysia describing the research field and stating the importance of cooperation with the researcher to simplify the study process. Moreover, supporting letters were obtained from the Royal Court Affairs (the employer) and from the Ministry of Higher Education to encourage the public organization to cooperate and confirm that the researcher had been given permission to conduct his research.

Considering confidentiality, a letter from the researcher described the general purpose of the study and the survey instructions; participants were advised that their participation was entirely voluntary and that they could withdraw at any stage without any prejudice. Moreover, the participants were advised that all the data collected via this study would remain strictly confidential and gave their permission that the information may be published, provided that neither their professional positions nor their names were identified.

The researcher contacted the organizations via key persons and explained the kind of help needed. The key person in each organization distributed and collected all the respective questionnaires. The key person in each organization was selected and briefed about what was required and asked to follow up questionnaire collection within a certain period of time.

The participants were given around a month to answer the questionnaire. Then, the researcher followed up the key persons by various methods, such as personal visits, phone conversations, and emailing successive reminders aiming to encourage participants to complete the questionnaires so they could be collected on time.

12. Interview Technique Research design

Interview questions were formulated after a thorough review of the methodology phase one. The aim behind this technique was to ensure sharper and more insightful interview questions about the topic; the results would then definitely reinforce the results obtained from the methodology phase one. A pilot test was first conducted to determine whether the interview questions were understandable and applicable in addressing the research propositions.

For example, the interviewees were asked to explain whether they believed Omani public top managers demonstrated transformational leadership behaviours such as articulating a vision and fostering the acceptance of group goals. They were also required to describe the degree to which they thought Omani public employees’ work performance was influenced by their organizational commitment. Moreover, the respondents were asked to give their suggestions, if any, for enhancing leaders’
behaviours to encourage employees’ organizational commitment and work performance.

13. Participants in the Interviews

It has been argued that there are no rules in qualitative methods for sample size; generally, researchers interview small groups [85]. Initially, a heterogeneous group of six experts from middle-management level were invited to participate from different public organizations. The interview lasted for 30-40 minutes and was conducted face to face. All interviews were recorded using a tape recorder with the permission of the participants; notes were also taken during these interviews. The schedule incorporated a list of transformational leadership behaviours and organizational outcomes. An introductory letter and consent form were sent to all potential participants to request an interview. Subsequently, follow-up calls were carried out to contact non-responsive recipients and to confirm the interview time with respondents who agreed to participate. Furthermore, 12 experts from middle management were contacted by email to participate in the second means of data collection. Experts who accepted to participate were asked to email responses back within one week and to agree to all the contents of the consent form. This technique was considered important for the formulation of the concepts as well as the fulfillment of the study. The experts were involved with the aim of obtaining richer data, which in turn would reinforce phase one of the methodology.

14. The Study Procedures for the Collection of Qualitative Data

A qualitative method was used to explain and validate quantitative results from the questionnaire phase. In order to acquire and elicit extra information from interviewees, an interview technique (IT) was conducted in two distinct ways. First, personal interviews were conducted in the form of semi-structured interviews. This format allows researchers to encourage conversations with participants, and gives participants the flexibility to elaborate giving upon information that they think relevant to the research topic (Mann and Stewart, 2000, cited in [86]). Firmin and Gilson [87] believe that researchers also have freedom to navigate during such interviews, moving away from scripted questions, allowing the participants to lead the interview in the direction of their own interests and personal constructs. The second means of data collection was indirect interviews (i.e., by email). Here, definite questions were emailed to potential participants in advance so that they would be aware of the types of questions that would be asked.

15. Data Analysis Strategy

The Statistical Package for Social Sciences (SPSS.20) was utilized to analyse the collected data and test the research questions, expectations and hypotheses. Many researchers have suggested that statistical techniques are a major tool for data analysis, specifically in social-science research [38]. As the research involved different research questions and objectives, a number of statistical tools were used.

Analyses of means, standard deviations (SD) and Pearson’s correlations were used to describe and explore the relationships between all the variables used in the study. Descriptive statistics were thus used to provide a description of the mean and standard deviation for transformational leadership behaviours, employees’ organizational commitment and work performance.

Moreover, multiple regression analysis was also used to investigate the relationship between the independent variable and dependent variable. A multiple regression analysis is appropriate when a single-metric dependent variable is hypothesized to be related with multiple metric independent variables [88; 89].

In addition, the multiple regression analysis was used to test mediation relationship; the researcher used the procedure and conditions described by [90; 91]. In their meditational model (Figure 3), Baron and Kenny [91] assume a three-variable system such that there are two causal paths feeding into the outcome variable: the direct impact of the independent variable (Path c) and the impact of the mediator (Path b). There is also a path from the independent variable to the mediator (Path a). They argue that, generally, a given variable may be said to function as mediator when it meets the following criteria: [1] variations in level of the independent variables (IVs) significantly account for variations in the presumed mediator (path-a); [2] variation in the mediator significantly account for variations in the dependent variables (DVs) (path-b); and [3] when path-a and path-b are controlled, previously significant relations between the IVs and DVs are no longer significant, with the strongest demonstration of mediator occurring when path-c is zero.

In order to place confidence intervals around the indirect effect of the predictor on the dependent variable, their distribution must first be determined. Theil [92] suggested that maximum-likelihood procedures or procedures that have similar asymptotic properties, such as three-stage least-squares techniques, are generally used for estimating structural equation models. Sobel [93] proposed a method for assessing the significance of indirect effects in structural equation models. He provided an approximate significance

![Figure 3. Baron & Kenny's (1986) Meditational Model](image)
test for the indirect effect of the independent variable on the dependent variable via the mediator. As shown in Figure 3, the path from the independent variable to the mediator is denoted as a and its standard error is sa; the path from the mediator to the dependent variable is denoted as b and its standard error is sb. The exact formula, given multivariate normality for the standard error of the indirect effect or ab, is this:

\[
\sqrt{b^2s_b^2 + a^2s_a^2 + sa^2sb^2}
\]

Moreover, data from the interview technique (IT) was subjected to content analysis. Although it has been argued that qualitative data has no single, standardized procedure for analysis [37] the transcribed data were coded based on the key factor and issues identified in the literature review and the employee quantitative survey. The responses were analysed thematically and emergent themes subsequently categorized. Data obtained through these interviews were qualitatively analysed, i.e., in the form of comments and descriptions, to provide basic research evidence to support the quantitative data obtained from the phase one methodology.

16. Summary

This paper highlighted a description of the research methodology and data-collection processes used to investigate the research questions. Specifically, it included the sampling design, survey instrument, data collection and data analysis.

Previous studies have examined relationships between transformational leadership, employees’ organizational commitment and work performance by utilizing quantitative methods. However, the current study extends this stream of research by responding to calls for mixed-research methods [66] when examining these relationships among non-profit public organizations [27]. The results of the research are expected to add to transformational leadership literature in general and to the Omani literature specifically.

17. References


