

# Identifying Leadership Styles towards Optimizing External Affairs of Libya

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## Abstract

The researcher seeks to obtain the opinion of the research sample to investigate the influence of leadership styles on the performance optimization in minister of foreign affairs of Libya.

## Introduction

This manuscript serves as a bridge between the results of the previous studies with the new findings that the researcher seeks to reach to address the research problem. The main objective of this manuscript is to identify the techniques, methodologies and procedures that the researcher will use in collecting and analysing the data which will give answers to the research questions and thus finding appropriate solutions to the research problem. It commences with a concise explanation of the philosophy, methodology and research design chosen by the researcher to conduct this research and with discussion of the rationale behind choosing them. These are followed by the study population and sampling technique. It equally discusses the study instrumentation and its translation to Arabic language as well as the pilot study will be conducted to ensure its validity and reliability. Finally, the data collection procedure statistical data analysis processes were discussed in the current manuscript.

## Research Philosophies

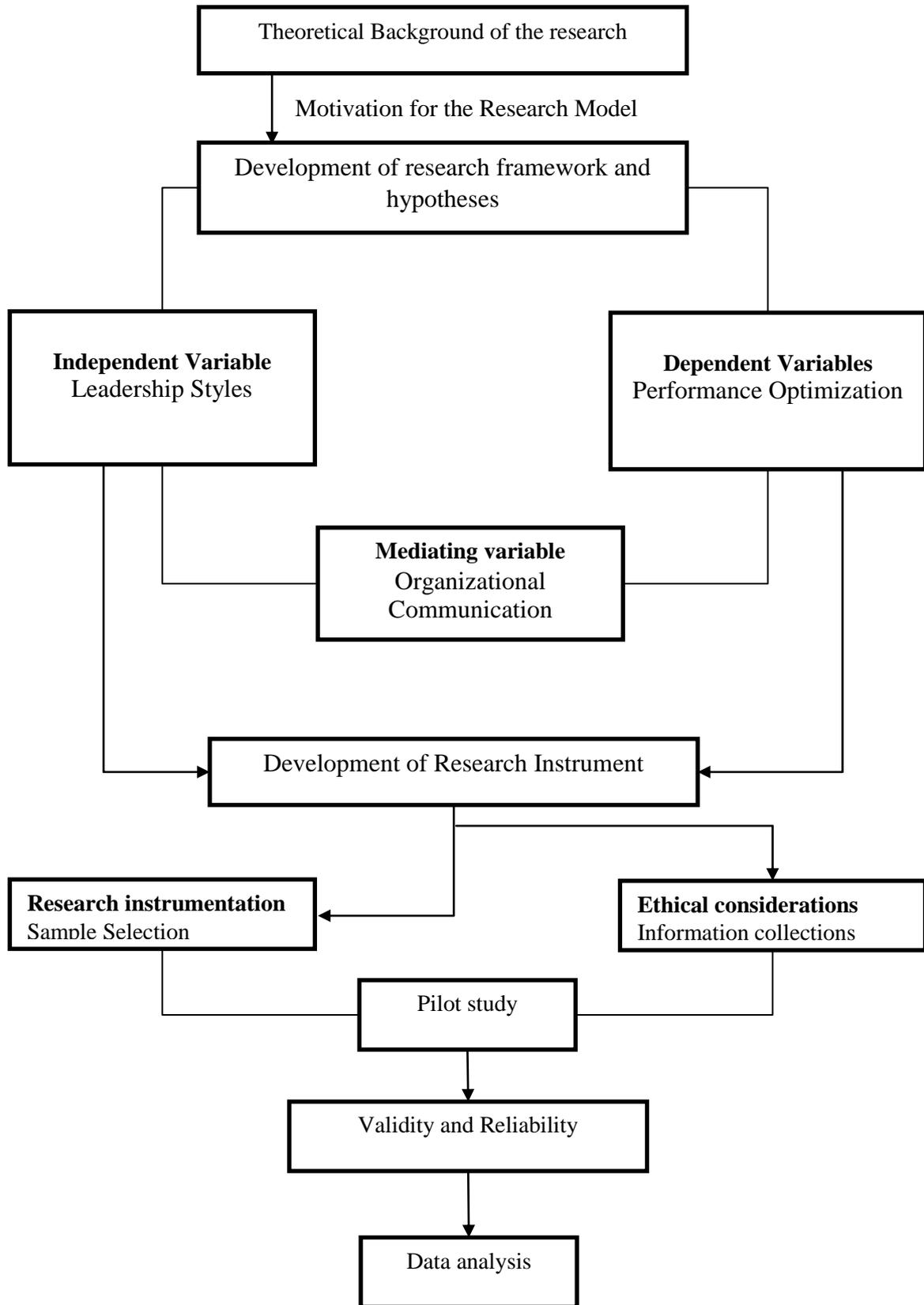
Research philosophies are a set of beliefs shared by researchers on how to recognize and address problems. The choice of philosophy will determine the tools, methods and strategies that will be used by the researcher in collecting data to answer the research questions and achieve the study objectives. Scientific research often proceeds according to one of three philosophies: Positivism, Interpretivism, and Pragmatism (Saunders et al., 2009).

## Research Methodology

The choice of the research methodology depends on the philosophical perspective followed by the researcher. As explained in the previous section, the positivism philosophy was chosen to lead this study. Research methodology is the procedures conducted by researchers to fulfil a research and obtain required data (Guba & Lincoln, 1994). Researchers follow two methodologies in their work of scientific research processes. It can be stated that quantitative methods use measurement tools like questionnaires and tests that consist of inference characteristics and they can be invaluable in studies with cause and effect between variables (Creswell et al. 2013). The approach is used to investigate the causes behind an issue, obtains an appropriate solution for it and inferences and generalizations from the solution.

## Research Design

The research design refers to the overall strategy that this study chooses to integrate different components of the research in a coherent and logical manner. Hence, shows the outline how investigation takes place in a study (Creswell, 2013). As a result of what was discussed above, and since the positivism philosophy and the deductive approach lead this study and seek to collect a quantitative data, and since the research questions of this study are of the type “what”, therefore, the survey strategy is the most appropriate. Quantitative data collected through questionnaires.



**Figure 3.1:** Research Design

## Population for the Study

This study aims at testing the influence of leadership styles on the performance optimization among staff in ministry of foreign affairs of Libya. So, the population of this study is 5300 staff of Ministry of Foreign Affairs and International Cooperation Libya.

## Sampling Procedure

Moving on to sampling procedure, several options are available for the type of sampling to be adopted. The procedure depends on coverage, participants' types and the purpose of the research. In general, there are two main sample procedures in literature and they are probability and non-probability sampling ( Creswell 2013 ). According to Creswell (2013), in probability sampling, every individual has equal opportunity to be selected as a sample, whereas in non-probability sampling, the probability of each individual/object of being selected is not known( Sekaran & Bougie 2012). Moreover, in probability sampling, the samples selected represent the population of which the outcome can be generalized to it ( Sekaran & Bougie 2012). On the above basis and considering the present study the sampling procedure will be applied to select the respondents in this study is simple random sampling. The list of job number registered staff as it is kept in the ministry of foreign affairs of Libya database comprised the sampling frame. From this sampling frame a number of randomly computer generated equal to the required sample size are to be selected. The questionnaire will be sent by HR of ministry of foreign affairs to every staff whose ID will be selected.

## Sample Size

The major assumption concerning the issue of sample size is that, the larger the sample sizes the more confidence one could have on the generalizability of the research (Creswell, 2013). Nevertheless, in order to be sure and to minimize as much as possible the sampling error which is related to the low sample size, a confidence interval was estimated. For instance, Bryman & Bell, (2003), argued that the decision to use a particular sample size is greatly dependent on the number of error such researcher wants to accept. The prominent method among others in determining sample size is the sample size determination of Krejcie and Morgan's (1970). In this regard, the researcher will use 95% confidence interval level at +3 margin of error to arrive at the required sample ( $95\% \pm 3 = 996$ ). In this sense, it is determined based on Krejcie and Morgan's (1970) guidelines for deciding minimum sample size which suggested a sample of at least 357 for a total population of 5300 participants. The guidelines are shown in Table 3.1.

Table 3.1 Krejcie and Morgan's (1970) Sample Size Guidelines

N	S	N	S	N	S	N	S	N	S
10	10	100	80	280	162	800	260	2800	338
15	14	110	86	290	165	850	265	3000	341
20	19	120	92	300	169	900	269	3500	246
25	24	130	97	320	175	950	274	4000	351
30	28	140	103	340	181	1000	278	4500	351
35	32	150	108	360	186	1100	285	<b>5000</b>	<b>357*</b>
40	36	160	113	380	181	1200	291	6000	361

45	40	180	118	400	196	1300	297	7000	364
50	44	190	123	420	201	1400	302	8000	367
55	48	200	127	440	205	1500	306	9000	368
60	52	210	132	460	210	1600	310	10000	373
65	56	220	136	480	214	1700	313	15000	375
70	59	230	140	500	217	1800	317	20000	377
75	63	240	144	550	225	1900	320	30000	379
80	66	250	148	600	234	2000	322	40000	380
85	70	260	152	650	242	2200	327	50000	381
90	73	270	155	700	248	2400	331	75000	382
95	76	270	159	750	256	2600	335	100000	384

*Note: "N" is the population size. "S" is the sample size. The sample size range for the study is highlighted and asterisked*

Table (3.2) Recommended Sample Size Frames

Source	Sample Size	Analytical Method
Barrett (2007)	100	Multiple regression, Factor analysis
Paschke (2009)	200	Multiple regression, SEM, Factor analysis
Tabachnick and Fidell (2013)	200	Multiple regression, SEM, Factor analysis
Jackson (2003)	200	SEM, Multiple regression, EFA and CFA
Hair <i>et al.</i> , (2010)	200	SEM, Multiple regression
Fink and Neumann (2007)	200	SEM
Shah and Goldstein (2006)	400	SEM, Multiple regression, Factor analysis
Hjort and Marmion (2008)	400	SEM, MR, CFA
Collis and Hussery (2013)	200-255	SEM, MR, FA
Schumacker and Lomax (2004)	200 above	SEM

### Instrumentation

The process of collecting, authenticating and developing tools for survey is known as

instrumentation (Newby, 2014). Under this sub-section, the thesis provides the contents, sources and the validity of the instruments utilize to gather data. The items in the questionnaire will be drawn from several authors, with most instruments will be adapted and extracted from standardized ones in literature. The constructs will be modified from their original form to suit the research purpose, objectives and context. The current study will use a questionnaire as instrument towards findings of the research questions as previously stated. According to Oluyinka et al., (2015) questionnaire could be defined as method of gathering information from a related large group of people's opinions. Equally, Creswell, (2013) defines questionnaires are a set of questions designed in sequence to gathered information on a topic from respondents. It is necessary that researcher identify the questions needed to ask and how to design the questions using the most appropriate wording in order to yield the information required. The goal of questionnaires is to acquire the correct information from the respondents in a way that the questions can be understand and suitable for data analysis.

### **The questionnaire designs**

The design of the questionnaire paragraphs is of great importance, because the researcher has only one opportunity to collect data, which must be well invested and ideally for achieving the research objectives (Saunders et al., 2009). Further, the questionnaire provides accurate data if its paragraphs can only be explained and understood by the respondents in one way (Robson, 2002). Moreover, the multiplication of response rates, validity and reliability of data is linked to the design of the questionnaire (Saunders et al., 2009). So, when designing the questionnaire the researcher should consider the following: precision in the design of individual questions, the questionnaire should be clear and easy to understand, and explain the purpose of the questionnaire (Saunders et al., 2009). As cited by Al Kindy et al. (2016), Bourque and Clark (1994) have pointed out that the design of each individual question is either through the adoption, adaptation of questions used in other previous questionnaires, or the development of new questions.

### **Instrument Translation**

The original questionnaire of the current study will be is in English language and accordingly it will be translated into Arabic following established procedures. The translation requirement stemmed from the fact that the study sample comprises of Libyans, whose understanding of Arabic is better than English, on account of the fact that the former is their mother tongue. A proficient Arab translator will be selected as Hendricson (1991) stated that a translator who speaks the same native language is preferred. A quality translation task is better achieved when two different translators are used as this enables errors detection and different interpretations of ambiguous items in the initial version (Guillemin et al. 1991). Therefore, the instrument will be translated by an authorized translator after which the Arabic translated version, is back-translated into English.

### **Statistical Tools and Data Analysis Approaches.**

In this study, several statistical tool will be used in the data analysis process including two main steps. First, in the preliminary analysis stage, SPSS software Version 24.0 will be applied for the purpose of data entry, date screening and descriptive analysis. Next, as the main statistical sage, the current study will apply Covariance-based Structural Equation Modeling (Covariance-based

SEM) using Amos software Version 24.0 to analyse the research measurement and structural models (Kline, 2016).

### **Data Screening and Descriptive Analysis**

The important step prior to data analysis is getting the data ready for analysis. Data screening is the cross-examination of the data before analysis. According to Hair et al., (2012) assumption of normality of data distribution, data screening on missing values and outliers are recommended for key constructs. Meanwhile, SPSS version 24 will be used for data entry, and also for screening and cleaning of the data, before it continued with the analysis of data. The section equally elaborates the process on checking the error and missing values before the data analysis was estimated. The process of data screening allows the removal of abnormal entry or errors from the data set, with careful analysis that involved all the items in the questionnaire. Any item with incomplete answers was removed to avoid causing biasness in the final result of the analyzed data. Equally, Schlomer, Bauman, & Card, (2010) suggested that, any questionnaires that contained more than 10% unanswered items should be dropped from the preliminary analysis.

Moreover, there is only one descriptive statistics will be used in the study, which seeks to estimates and report the demographics information of the respondents. The descriptive analysis (Using SPSS version 24) according to Pallant (2007) will be used to highlight and describes the participants' characteristics, check the data and the variables in case of any violation of assumption. Equally, confirmatory factor analysis (CFA) will be used to examine the validity of the constructs will be used. It should be noted according Kline (2016) that, running CFA is one of the conditions for running full fledged structural equation modelling. Final measure will be employed in the present

In structural equation modelling, there are two models: measurement model and structural model (Kline, 2016). The measurement model signifies how items unite to measure latent variables where structural model indicates how the measured construct join with other construct in a study (Kline, 2016). The measurement model is assessed through Confirmatory Factor Analysis (CFA). CFA is a requirement for measurement model in which the number of factor loadings and their equivalent indicators are clearly defined (Kline, 2016; Hair et al., 2010). CFA is the initial step in SEM analysis to test a model and to see how constructs efficiently represent the latent variables. The measurement models of this research (organizational communication as a moderator between leadership styles and organization optimism) will be assessed through CFA to examine the extent to which the items capture the concepts of the construct in a reliable and valid way. It also employed to test for model fit, construct validity and construct reliability (Awang, 2015).

The most important characteristic of SEM is the ability to evaluate the influence of multiple and interrelated variables. According to Hair et al., (2010), SEM is able to estimate chains of direct and indirect influences among independent variables and dependent variables simultaneously by introducing them into a structural model (Kline, 2016). The structural model is regarded as the full SEM model.

Another justification of using SEM approach is the ability to effectively deal with multicollinearity issues. This happen when too high a correlation exists between indicators of different construct. Multicollinearity could also result to a poor and misleading model evaluation.

SEM approach capable not only to identify the set of indicators leading to a multicollinearity problem, but also for modeling multicollinearity rather than. Just using data reduction or ignoring it.

Furthermore, SEM also seen as an analytical strategy for complex models which include multiple mediator variables (parallel or chain mediation), multiple antecedent variables or multiple consequent variables (Mathieu & Taylor, 2006). More so, most the aforementioned methodological issues can be resolved by SEM alone. For example in this research, the researcher will verify the roles of organizational communication as a moderator between leadership styles and organization optimism. Hence, the full-fledged SEM encompasses a series of procedure to be applied in order to assess the hypothesized conceptual model in this research with latent variables as well as a complex network of relationship.

Hair et, al. (2010) proposed the procedures will be followed by the researcher in the present study while using SEM. In evaluating SEM, Hair et. al, (2010) proposed that, the first stage is to measure the goodness of fit (GOF), such as absolute measure, incremental measure and parsimonious measure. Equally absolute measure is the assessment of the extent the data fits the model Hair et, al. (2010). Chi square ( $X^2$ ) will be used to assess this quality, in which the smaller the Chi square the better the model fit. Meanwhile, the chi-square must be supported by the p value  $p > 0.5$  which reveals that the model fits with the estimated covariance. However, in the case of larger sample the normed chi square is used, which is calculated by  $X^2/df < 3$  this was considered as accepted threshold. The comparative fit indices are important fit indices to be used where value of  $>.90$  is considered to be good fit. Even, the root mean square error of approximation must be between  $<.05$  to  $.08$  all these thresholds are based on Hair et.al, (2010) and Kline (2016) suggestions. Table 3.3 below shows the summary of the fit indices thresholds.

Table 3.3 Fit indices summary

Fit Indexes	Cut-off Points
$X^2$	smaller the better or the one in the model must below the one in the table
p	$> 0.5$
CFI/TLI	$> .90$ above
RMSEA	$<. 05$ to $.08$
$X^2/df$	$<3$ to $<5$

## Conclusion

The manuscript presented the outline of how the research is going to be conducted. This is done after the focus of the study has been highlighted in manuscript one. The manuscript commences from the philosophical background that underpin the study which led to the research paradigm. It explains the research methodology and design. This manuscript discusses the main population and

sample used in the study. The sampling technique, data collection procedures and data analysis procedures were equally explained in this section.

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