

**The Effect of Leader-Member Exchange Theory on
Organizational Change: The Case of Ethiopian Roads
Administration**

By: Eyuel Bogale (GSD/8448/11)

**PROJECT WORK FOR THE PARTIAL FULFILMENT OF THE
REQUIREMENT FOR MASTER OF ARTS IN BUSINESS LEADERSHIP
(MBL)**

Advisor: Fisseha A. (Ass. Prof.)



ADDIS ABABA UNIVERSITY

SCHOOL OF COMMERCE

Business Leadership (MBL) Program

**Addis Ababa
October, 2022**

STATEMENT OF DECLARATION

I declare that the project work entitled “**The Effect of Leader-Member Exchange Theory on Organizational Change: The Case of Ethiopian Roads Administration**” is my original work and all sources of material used for the work have been duly acknowledged.



EYUEL BOGALE TADESSE

STATEMENT OF CERTIFICATION

This is to certify that, this project work “**The Effect of Leader-Member Exchange Theory on Organizational Change: The Case of Ethiopian Roads Administration**”, undertaken by EYUEL BOGALE TADESSE in partial fulfilment of the requirements for Master of Arts in Business Leadership at Addis Ababa University School of Commerce, is an original work and not submitted earlier for any Degree either at this university or any other university.



FISSEHA A. (ASS. PROF.)

Research Project Advisor

ADDIS ABABA UNIVERSITY
SCHOOL OF COMMERCE
BUSSINESS LEADERSHIP (MBL) PROGRAM

The Effect of Leader-Member Exchange Theory on Organizational Change: The Case of Ethiopian Roads Administration

By: EYUEL BOGALE TADESSE

Approval of Examiners:

**Fisseha A.
(Ass. Prof.)**

Advisor



Signature

14 November 2022

Date

**Zegeye M.
(PhD)**

Internal Examiner



Signature

14 November 2022

Date

**Hagos G.
(PhD)**

External Examiner



Signature

8 November 2022

Date

Acknowledgment

First and foremost, praise and thanks to the God, the Almighty, for his showers of blessings. My sincere thanks, go to my advisor, Fesseha Afework (Ass. Professor), for his support and pertinent comments I received during the whole time of my study. This study would not be successful without the keen willingness of cooperation of the Ethiopian Roads Administration employees who provided me with responses for my questionnaires. Thus, my gratitude is also extended to the management and employees of the Ethiopian Roads Administration. I must express my very profound gratitude to my family for providing me with unfailing support and continuous encouragement throughout my life and time of study. This accomplishment would not have been possible without them. Last but not the least, I would like to thank my friends and classmates for being there for me in times of need. Thank you.

Table of Contents

STATEMENT OF DECLARATION.....	i
STATEMENT OF CERTIFICATION.....	ii
Acknowledgment.....	iv
List of Tables.....	viii
List of Figures.....	ix
Acronyms/ Abbreviations.....	x
ABSTRACT.....	xi
CHAPTER 1: INTRODUCTION.....	1
1.1. Background of the Study.....	1
1.2. Statement of the Problem.....	3
1.3. Research Objectives.....	5
1.3.1. General Objective.....	5
1.3.2. Specific Objectives.....	5
1.4. Research Questions.....	5
1.5. Significance of the Study.....	5
1.6. Scope of the Study.....	6
1.7. Limitation of the Study.....	6
1.8. Definition of Terms.....	6
1.9. Organization of the Study.....	7
CHAPTER 2: REVIEW OF RELATED LITERATURE.....	8
2.1. Introduction.....	8
2.2. Leader – Member - Exchange.....	9
2.2.1. Theoretical Outline.....	9
2.3. Measuring LMX.....	14
2.3.1. The LMX-7 Scale.....	15
2.3.2. The LMX Multi-Dimensions Scale.....	15
2.4. Organizational Change.....	17
2.5. Organizational Change in the Public Sector.....	22
2.6. Success Metrics of Organizational Change.....	23
2.6.1. Organizational Level Success Metrics.....	23
2.6.2. Individual Level Success Metrics.....	24

2.6.3.	Change Leadership Success Metrics.....	24
2.7.	The Effect of LMX on Organizational Change.....	24
2.8.	Review of Empirical Studies.....	25
2.9.	Conceptual Framework of the Study.....	26
CHAPTER 3: RESEARCH METHODOLOGIES		28
3.1.	Research Design.....	28
3.2.	Research Institution, Population and Sampling	29
3.2.1.	Sample Design	29
3.2.2.	Sample Size.....	30
3.3.	Description of the Study Variables	31
3.4.	Data Collection.....	31
3.5.	Data Analysis	32
3.6.	Reliability and Validity	33
3.7.	Ethical Considerations.....	34
CHAPTER 4: RESULTS AND DISCUSSION.....		35
4.1.	Introduction	35
4.2.	Response Rate and Demographic Data	35
4.2.1.	Response Rate.....	35
4.2.2.	Demographic Data	35
4.3.	Results and Discussion of Descriptive Statistics.....	37
4.4.	Correlation Analysis.....	38
4.5.	Regression Analysis Results	39
4.5.1.	Multi-Collinearity	39
4.5.2.	Model Fit.....	40
4.5.3.	Coefficients of the Multiple Regression Analysis	41
4.5.4.	Interpretation and Discussion of the Model.....	43
CHAPTER 5: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION		45
5.1.	Introduction	45
5.2.	Summary of Findings	45
5.2.1.	Prevalence of LMX in ERA.....	45
5.2.2.	Effect of LMX on Organizational Change.....	46
5.2.3.	Extent of the Effect of LMX on Organizational Change.....	46
5.3.	Conclusions	46

5.4. Recommendations	48
5.5. Limitation and Suggestion for Further Study.....	49
References.....	50
Annex-I: Data Collection Tool	57
Annex-II: Collected Raw Data.....	62

List of Tables

Table 1: Reliability Statistics	33
Table 2: Demographic Profile of Respondents	36
Table 3: Results of Descriptive Statistics	37
Table 4: Correlation Analysis - Pearson Correlation Coefficient	38
Table 5: Multi-Collinearity Coefficients	40
Table 6: Multiple Regression Analysis Coefficients	41
Table 7: Adjusted Multiple Regression Analysis Coefficients	42
Table 8: Model Summary	42

List of Figures

Figure 1: Model of the Leader Member Exchange Developmental Process	10
Figure 2: LMX Antecedents and Consequences Theoretical Framework	11
Figure 3: Change Implementation in Organization	20
Figure 4: Conceptual Framework of the Study	28
Figure 5: Regression Standardized Residual	43

Acronyms/ Abbreviations

- ERA The Ethiopian Roads Administration
- LMX Leader – Member Exchange
- LMX – MDM Leader – Member Exchange Multi-Dimensions

ABSTRACT

Leadership is rather a complicated concept that have been evolving for years and challenging organizations in selecting a suiting style. Organizational change is deemed unavoidable for any organization irrespective of their missions and visions. As change implementation success depends on many factors, one is the human relations aspect between employees, particularly among leaders and their followers. This study intends to examine the existence of Leader-Member-Exchange theory, the possible effect and the extent of Leader Member Exchange influence on organizational change implementation in the Ethiopian Roads Administration. As s data collection tool, the study used list of questionnaire inquiries directed to a sample of the employees of the target institution. The collected data is then analyzed to acquire descriptive, correlational and causative information to answer the research questions, draw conclusions and produce recommendations. Consequently, it is found that portion of the leader-follower relations in the Ethiopian Roads Administration, in differing degree, as Leader-Member-Exchange with and the sample employees believe that LMX would have positively influenced the success rate of organizational change. Thus, it is concluded that there is an effect generated by LMX type leadership on implementation of organizational change in the target institution and it can be predicted that the change success rate based on the level of LMX leadership in ERA to a confidence level of 85% using a developed model from the collected data. As a result, the management of the target institution is advised to acknowledge Leader-Member-Exchange theory as a contemporary leadership concept and thus, are recommended to create enabling conditions so as to promote the same. Moreover, whenever the Ethiopian Roads Administration aims to launch a certain organizational change programme it is advisable to assess the quality of Leader-Member-Exchange as such relation quality determines the success rate of the change success to a degree equaling 85%. Lastly, the target organization is advised to use prediction models prepared through this study and other similar ones prior to implementing organizational change.

Keywords: *Leader-Member Exchange, Leader-Member Exchange Multidimensionality, Organizational Change*

CHAPTER 1: INTRODUCTION

1.1. Background of the Study

The Merriam Webster English dictionary defines the term 'Change' as to make different in some particular, to make radically different, to replace with another, to undergo a modification of and so forth. Change is recognized as the act of changing or modifying something in order to make it different. Change is the replacement of something old with something newer or better, especially when it is of the same sort. In a broad sense, change refers to the act of creating, changing, giving, or starting something new.

As stated by (Lewis, Organizational Change Creating Change Through Strategic Communication, 2011), organizational, civic, and personal life all frequently involve change. Change is sometimes desired and sometimes resisted but mostly forced upon an individual, a society or an organization. Making change is mostly important in order to address previous mistakes, facilitate learning, and achieve progress. The opportunity for growth, development, the expansion of resources, and the grasping of an opportunity that, if ignored, might have unfavorable effects are some of the reasons why change can be significant.

The term "Organizational Change" refers to actions taken by a firm or business to modify a key aspect of its organization on which it runs, or its internal processes. Changes might be triggered by the need of their survival and could be forced to undergo organizational reform in its culture, the underlying technology or major infrastructure. Successful change calls for a successfully executed change management strategies and practices, whereby everyone involved is supported in accepting and adjusting to change in the change management efforts.

The competitive business environment has been pushing organizations, whether they be public or private, to adopt and implement change initiatives. Scholars have pointed out various critical success factors for such initiatives, one being a customized and visible leadership support and commitment (Pitman, 1994). Despite the fact that nearly all organizations aspire for an all-out change, not all are seen to succeed mainly due to lack of strategic leadership to mitigate the structural change resistance (Cable, 2008).

As for leadership, it means the capacity of a person or a group of people to influence and direct followers, subordinates or other members of an organization. Due to the complexity of the idea, researchers have been studying leadership and developing theories for a long time. Most theories on leadership are said to make their ultimate goal to investigate the traits of successful leaders and advance custom models for certain situations.

Some scholars like (Hao & Rashad, 2015) argue in a changing organization, a leader is considered the change agent thereby a successful leader is mostly accountable for fostering an environment in which workers are prepared for a shared goal and motivated through effective communication, generating original ideas and plan clear change actions. Moreover, it has been discussed that leadership plays a different role at every stage of change and the leader bears the responsibility of directing and manage the workforce in motivating to give their best efforts in support of organizational change. Hence, various theories has been presented to define how this relation of a leader and its followers, particularly, in a changing organization, by various scholars.

One theory named Leader-Member Exchange (LMX) theory which is a relationship-based and a vertical bilateral relational theory of leadership. This theory discusses the human natured relation that a leader develops with his followers and the effect of this relation on the organization. The leadership making model of the LMX theory gives emphasis on the ways a leader develops partnership with each of the subordinates. LMX tends to developed on the base of characteristics of the working relationship than a personal or friendship relationship (George & Mary, 1995). In the nutshell, a strong LMX relationship is expresses via professional support, two-way trust, respect, and obligation (Schriesheim, Castro, & Cogliser, 1999).

It is theoretically tested that high quality leader-member exchange relations have been shown to correlate with relatively higher rate of organizational change implementation i.e. LMX is found to be one way to mitigate an anticipated organizational change resistance. It should be noted that one of the main structural impediments for a planned organizational change is a general change resistance psychological makeup. Employees in high-quality LMX relationships are more likely to receive subtle information about the planned change, have a greater opportunity to participate in the change design, and develop greater human to human trust in management than employees in low-quality

LMX relationships. As a result, employees in high-quality LMX relationships are less likely to oppose change (Dam, Oreg, & Schyns, 2008).

In case of the target study institution, the Ethiopian Roads Administration, considering its nature of being a public institution it is expected to undergo organizational changes to deliver the services that are burdened on it. As can be understood from (Voet, 2016), the causes of changes in public organizations might greatly differ; from regime changes to reform strategies and financial hardships. However, most organizations of such nature, find it difficult to flawlessly execute and accomplish organizational transformation. The main cause of failures, in this regard, seems to arise from environmental and structural features and nature duality, being professional and public-service institutions, of organizational mission (McNulty & Ferlie, 2004).

Considering the local knowledge on the relationship between change leadership style and the commitment to change of change recipients is limited to few researches. Further, investigated awareness regarding the above relation on public organizations remains vague. Thus, this study examines to what extent the relation between the leader and the subordinate is affected by the bureaucratic features that often characterize public organizations and tries to create a justifiable tie between the leader-member exchange relation on the success of organizational change implementation principally on the target study institution, the Ethiopian Roads Administration.

1.2. Statement of the Problem

One of the main attributes of realization of change initiatives is the positive impact of the change agents and the motives of the intended change. Leaders are considered the change agents and initiators of change, in most cases, and leader's acceptance within team influences team effectiveness. Good leaders would not find it challenging to be accepted by their followers, to the contrary if they are not good enough, they will not be accepted by their subordinates and influencing change becomes a real challenge (Carter, Ulrich, & Goldsmith, 2005).

Accordingly, organizations intending to successfully undergo changes of any kind should make sure the capacity of their leaders at all levels with respect to handling resistance and withstanding opposition (Armenakis, Harris, & Mossholder, 2013).

As discussed by (Weiner, 2009), there is a directly proportional relation between organizational change implementation to human nature. Thus, change recipients shall exhibit the required determination towards achieving the intended change. Here, it should be noted that the quality of leader – subordinate relationship influences employee willingness towards change.

Leader Member Exchange is an imperative tool for the successful implementation of organizational change of any institution, be it public or not. As it assures good relation between leadership and follower, LMX gives wider range of influence for leaders upon their followers. As a result, the tenure and quality of the relationship shall increase the employee the success rate of organizational change (Usman, Ramsha, & Mushtaq, 2014). In other words, the quality of LMX relationships plays a role in organizational change implementation. It is presumed that organizational change is successfully implemented by insuring good level of LMX relation is demonstrated for extended period of time (Stacie & Daniel, 2008).

Many organizational change projects fail because their change design and implementation strategy development overlook to incorporate the human elements of the intended change and thus, change is portrayed as inanimate external entity. Previous studies show the employee's level of resistance to change could help with coaching an employee through change as well as provide the opportunity to identify employees who might be more resistant to change based on their current outlooks. The coaching development between an employee and their boss has a favorable effect on employee behavior and change acceptance.

As per the reviews made so far, there are not so many studies on the effect of leader-member exchange leadership on accomplishment of organizational change initiatives in the public sector our country. Specifically on the target institution, the Ethiopian Roads Administration, studies with such intention are not found. Further, it is noted that the Ethiopian Roads Administration has developed organization change programs initiated by various causes and has been trying to implement the same. As a government institution, the Administration is expected to accomplish the goals of the intended public guideline.

As a result, the problem to be studied by this study is intended to investigate the effect and relation of leadership theories, specifically leader member exchange type, on

success of organizational change both in terms of previous theoretical studies and the practical relevance of studies in case of the target institution, the ERA.

1.3. Research Objectives

1.3.1. General Objective

The general objective of the study is to scrutinize the effect of leader-member exchange leadership theory on realization of organizational change initiatives within the Ethiopian Roads Administration.

1.3.2. Specific Objectives

1. To assess the existence of perceived relationship between managers and employees in Ethiopian Road Administration.
2. To examine if LMX has an effect on organizational change implementation success in Ethiopian Road Administration.
3. Explore the extent of the effect of LMX leadership on accomplishment of organizational change within the Ethiopian Roads Administration.

1.4. Research Questions

1. What is the status of the practice of Leader-Member Exchange type leadership in the Ethiopian Roads Administration?
2. Does leader-member exchange leadership affect the process of realization of organizational change in the organization?
3. What is the extent of the effect of LMX type leader-follower relationship between employees and their manager to the success level of the organizational change initiatives in the Ethiopian Road Administration?

1.5. Significance of the Study

The study shall be expected to be useful in giving important advice and guidance to the Ethiopian Roads Administration's leadership and change management practices in strengthening current leader-member exchange leadership practices, if any, and ensuring that it is implemented to its maximum potential. It is intended to imply the possible options of improving the existing rate of change initiative accomplishment by recommending tailor-made dimensions of the leader-member exchange leadership theory.

1.6. Scope of the Study

Procedurally, this study attempts to adopt quantitative researching method which is intended to enable acquire quantitative information regarding relations between dependent and independent variables. As the theoretical scope of this study is bound to investigating LMX practice, if any, and employees' organizational change acceptance level in the subject organization.

The test subject of this study i.e., physically, this study only focuses only on the Ethiopian Roads Administration, a public organization whose office is found in Addis Ababa. The sampling technique adopted to select study sample out of the whole work force is stratified random sampling that categorizes work forces in to a minimum of two groups. Following, the selected sample is tested with structures questionnaires, which is deemed the primary data source.

1.7. Limitation of the Study

This study, and its outputs, might be limited by lack of cooperation from respondents. As the primary source of data is collected from the randomly selected respondents, their willingness to give a response to a reasonable accuracy is of a prime requirement. Moreover, time constraint would probably be found a challenge too. Lastly, the study is bound only in the head office level and no geographically dispersed offices are included under this study.

1.8. Definition of Terms

Some terms that are uses repetitively within this study are defined below:

- **Leadership:** the simplistic definition of Leadership is the action of leading a group of people or an organization. The ability of an individual or a group of individuals to influence and guide followers in an organization is referred to as leadership. It involves making sensible decisions, developing and conveying clear vision, defining attainable goals, and providing followers with the information and resources needed to reach those goals (Winston & Kathleen, 2006).

-
- **Leader-Member-Exchange Leadership (LMX):** LMX is a relationship-based, a give and take two-way dyadic leadership theory. According to this view, leadership is defined by the quality of the exchange relationship that leaders build with their followers. Trust, liking, and mutual respect characterize high-quality exchanges, and the type of the relationship quality has implications for employees' job-related well-being and effectiveness. This theory explores the way leaders and members develop relations that contribute to growth (Bauer & Erdogan, 2015).
 - **Organizational Change:** Is a measure taken by a given organization either spontaneously or in response to technological, legal or market change stimulants. Organizational Change examines both the process through which a corporation or organization changes its operating methods, technology, organizational structure, overall structure, or strategies, as well as the consequences of these changes (Arif, Zahid, Kashif, & Sindhu, 2017) and (Daft, 2005).

1.9. Organization of the Study

This study paper is organized in five chapters, the first being an introductory portion under this chapter a reader is made acquainted to the core concept, the research questions, hypothesis and scope of the study. The second chapter shall be review of related literatures. The research design and method adopted shall be discussed under the third chapter. The information acquired from performed studies shall be disclosed under chapter four along with the adopted analysis and interpretations. The last chapter would discuss the conclusions drawn from the study and forward recommendations for implementation.

CHAPTER 2: REVIEW OF RELATED LITERATURE

2.1. Introduction

LMX theory, first introduced as Vertical-Dyad-Linkage, emerged in the 70's with a founding principle that states leaders differentiate in how they treat their followers through various sorts of exchanges resulting in varied quality connections between the leader and each follower (Dansereau, Graen, & Haga, 1975). As discussed by the theory of leader-member exchange (LMX), a special kind of relation start to be developed between leaders and followers that is influenced by the internal societal exchange. It is accorded that the existence of LMX relations and the quality of such exchanges within the organization would greatly influence the success of the intended result (Graen & Uhl-Bien, 1991).

Consequently, work and social interactions, that are included under LMX, occur between leaders and followers and the leader is burdened with the responsibility of cultivating such relations customized for each member. Quality of relations directly influence treatment to be given to followers i.e., high quality relation result in favorable treatments from supervisors. The main target of Leader-Member-Exchange leadership is realizing high-quality interpersonal relations between leaders and followers (Dansereau, Graen, & Haga, 1975).

In relation, the LMX theory was first formulated by considering the possibility of exchanges aside from work behavior and it is assumed as a multi-dimensional hypothesis. In LMX theory, currencies of exchange include affect, loyalty and professional respect between members. Beyond the theory, it has been discovered that leader-member exchange has a substantial influence on organizational output efficiency and profitability (Bauer & Erdogan, 2015).

Organizational transformation has become a need in the highly competitive economy. It may be argued that to beat the competition, change is the only way for businesses to thrive. However, organizational change should certainly be considered by organizations to survive in the harshest of economic environments. To compete in a highly competitive and dynamic environment, organizations must continually adapt their organizational structure, systems, processes, or technology (Chrusciel & Field, 2003).

As stated by (Stacie & Daniel, 2008), organizational change is described as a planned shift in the day-to-day activities of leaders and followers including their respective professional and personal behaviors to realize a predetermined results. Organizational change is the assemblage of individual efforts in altering everyday actions from what has been considered correct. Hence, organizational change is the act of implementation of a new idea and routine (Daft, 2005).

In the nutshell, the quality of LMX interactions is found to impose substantial impact on the outcomes of organizations. This means a high quality LMX relationship has been found to significantly lead to high levels of job satisfaction, high levels of organizational commitment, low levels of stress, high levels of organizational citizenship behavior, high levels of motivation, low intention to quit, less burnout, goal attainment, high productivity, and a variety of other organizational outcomes based on our theoretical review of existing literature (Okharedia, 2015).

2.2. Leader – Member - Exchange

2.2.1. Theoretical Outline

According to (Yukl, 2010) relationships between managers and subordinates go through three chronological stages that occur one after the other. The stages are role taking, role making and routinization. The first stage under LMX relations is role taking which involves a member joining a group. During this stage, the leader is expected to assess the skills and abilities that the new member brings onto the group.

Subsequent to the same, the new member of the group get task assignment as part of the team, as a result role making occurs. During this stage leaders expect the new members of their teams to work hard and be loyal in the course of suiting to the new role. Following the performance of the new member, the leader subconsciously demarcates the member as in-group or out-group.

If the member proves oneself to be skilled, loyal and trust worthy the leader presumes the member to be in-group, the inner circle formed between the leader and the skilled and loyal members. The members inside this group, mostly, resemble their leader in behavior and work ethics they also enjoy the utmost attention from the leader and get improvement opportunities. On the other hand, members perceived as out-group are

assumed to lack either skill suiting their task or the loyalty the leader expects. Typically, out-group member involvement in this group is made confined and unchallenging since they have less access to the leader and generally do not have opportunities for growth or progress. (Liden & Dienesch, 1986)

The LMX relation shall be sealed with routinization, the last phase in the exchange relation. During this period, routines start to be developed between in-group members and the leaders by showing trust, respect, empathy, patience and persistence. To the contrary, out-group members start to despise the leaders and the same is reflected by the leaders. Liden, has pointed a model on the LMX developmental process as represented below:

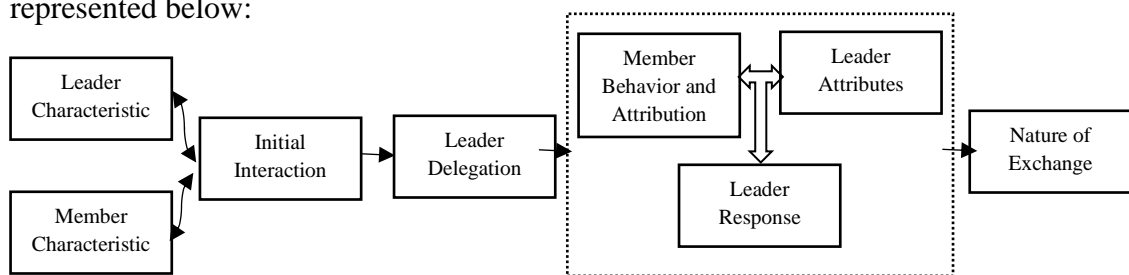


Figure 1: Model of the Leader Member Exchange Developmental Process

There are various theories underpinning theories to be explored with the LMX to promote proper understanding towards the later. The first is the social exchange theory (SET), as stated by (Cropanzano & Mitchell, 2005), an employee expects something back to the efforts made. Reciprocally, when an employees receive purposeful help and support from leaders, they feel more compelled and responsible to them. Thus, pursuant to this theory, the exchange between leaders and followers would continue and as a result, feeling of mutual obligations between the parties are created (Coyle-Shapiro & Shore, 2007).

Following, the Transformational Leadership Theory (TLT) which characterizes a leader who stimulates and inspires followers to achieve intended results as transformational leader (Langton, Robbins, Judge, & Breward, 2016). Transformational leader gives attention to the concerns developed by the followers and their development needs. Moreover, such leader is capable to inspire, arouse and excite followers to exert extra effort towards achieving organizational and team goals. This theory, focuses on the fact that how leaders create positive change in the followers whereby the followers give back what the leader expects.

The role-making theory, the third theory to explore, suggests that relationship between leaders and followers in the dyad formation, develops in the process of role making and role expectations. The relations is deemed to be developed in three stages one being leader initiating role, then the leader evaluates the subordinate against the expected role execution lastly the role routine stage commences where the direction of the of the relation is defined. It is likely that the leader finds the important abilities, motivations, and limits of the member during this process of role initiation, role making, and role routing in order to sustain a solid connection. However, as the subordinates respond fairly, this connection may strengthen. (Epitropaki & Martin, 2005).

LMX is highly rooted in role taking and social exchange such that it is based on a dyadic loyalty, commitment, support and trust i.e., both leaders and followers influence the process. The model of LMX antecedents and consequences that constitute follower characteristics and interpersonal relations tend to influence LMX relation quality. Once the process of creating quality LMX is completed the team receives consequences (Sin, Nahrgang, & Morgeso, 2009). The following figure depicts a theoretical framework meant to give insight on how LMX mediates links between antecedents and outcomes in leader-follower relation.

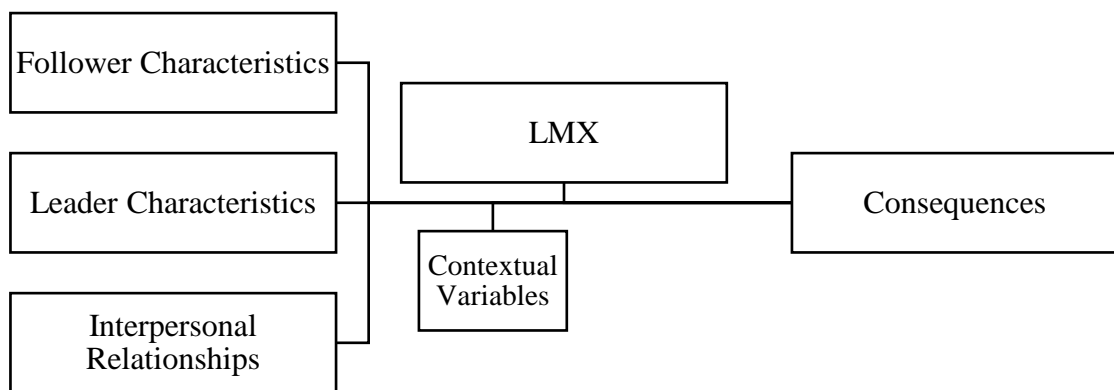


Figure 2: Leader-Member Exchange Antecedents and Consequences Theoretical Framework

Follower characteristics, (traits like competence, agreeableness, openness, locus of control and extraversion) coupled with leader characteristics (traits like expectations from followers, contingent behavior, agreeableness and extraversion) and supported by interpersonal relationships (perceived similarity, liking, integration, self-prompt and assertiveness) play the antecedent role in leader member relation.

As can be noted from the figure, contextual variables like LMX measures use, work setting, participant location and cultural dimensions influence the relation in a lesser extent than LMX to deliver the supposed consequences. The expected positive consequences are improved job performance, realization of organization change goals, satisfaction, empowerment, justice and affective commitment.

Rather than leader or follower attributes, traits or behaviors, as in other leadership theories, the core unit of study in LMX theory is the leader-follower interaction. Leadership has been viewed from this perspective as a two – way connection between a leader and a follower oriented largely at achieving common goals. As a result, relationships can range from low LMX quality, which are limited to exchanges related to the employment contract and are primarily task oriented in nature, to high LMX quality, which are characterized by high trust, interaction, support, and rewards, resulting in employees and supervisors being loyal to one another and sharing mutual feelings of liking and respect (Martin, Thomas, Legood, & Dello Russo, 2017).

One way to characterize low-quality LMX interactions is that the relation between the leader and the follower is only based on economic exchanges, that is, exchanges based on the formal requirements of the employment contract in which workers accomplish what is required of them and are compensated appropriately. High-quality exchanges, on the other hand, go beyond the legal contract and are founded on trust, mutual duty, and mutual respect, resulting in affective attachment (Martin, Guillaume, Thomas, Lee, & Epitrop, 2015). The quality of the LMX connection determines how leaders respond to specific job demands by workers by providing extra resources such as autonomy, knowledge, and the capacity to participate in decision-making. These components illustrate why the LMX relationship's quality affects employee work performance. From the aspect of interpersonal communication, high-quality LMX interactions may add to employees' inner drive to do a good job, increasing the likelihood that individuals in high-quality LMX relationships will become involved in their work. Supervisors in high-quality LMX relationships are assumed to demonstrate to provide their followers with greater intrinsic and extrinsic benefits ranging from empowerment, praise to salary increase; thereby, resulting in more favorable attitudes about work. Furthermore, followers in a high-quality relationship are known to be optimistic and self-efficacious, and such beliefs are major predictors of work engagement (Breevaart & Bakker, 2015).

The LMX theory has such strengths that it emphasizes on the specific relationships between the leader and each subordinate. As a result, a divided study of relation between a leader and the followers can be done and an improvement idea can be forwarded. Moreover, the LMX theory is considered a robust explanatory theory to describe the role of quality relationships between leaders and followers. As role making is one of the core concept in the theory, it is assumed that role making decides on the quality of relations between the leader and the subordinates. Further, as the LMX discusses the significance of communication in leadership, it promotes a clear and unbiased communication scheme between the leader and followers. In summary, LMX is considered highly practical and valid for most scenarios (Engle & Lord, 1997).

According to researches on the matter, building quality Leader-Member Exchange type leadership is highly influenced by leaders. How the leader is perceived by the followers is the building block to LMX i.e., the better the leader is perceived as rewarding based on follower performance the better followers are aroused to create closer relation. As a result, the direct involvement and the perceived importance of an individual in the vertical dyad influences the understanding to their respective behaviors. In conclusion, good quality LMX relations may be considered fundamental to furtherance of organizational performance (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2011).

As argued by (Kraimer, Robert, & Berrin, 2006), because the leadership style stipulated by the LMX breaches the norms and traits of a good leader, it may not be the optimal leadership model to utilize in some businesses. It is assumed that a successful leader must be able to play to the strengths of the team members, regardless of their talents and expertise. Yet, while the Leader-Member Exchange theory is used, it is difficult to preserve team cohesion whereby segregating a subset of the group as incompetent may elicit personal sentiments that limit future growth chances.

Moreover, from fairness point of view some scholars argue categorizing a subordinate as an out-group and not giving another option to prove oneself is considered harsh and not fair. Furthermore, the somewhat varied character of multiple team members necessitates separate examination to ensure varying attributes among the professionals rather than forcing everyone to look alike abide to the leader (Anderson, Baur, & Griffith, 2017). As a result, a leader who wishes to adopt the LMX and who has already segregated the out-group is encouraged to reevaluate the members of the out-group.

Following, it is recommended the leader should reestablish the connection with team members that are deemed to be out-group. Lastly, the leader should provide a custom trainings and growth schemes to experiment with additional tasking responsibilities.

Challenges in the public sector result into more complex job demands that necessitate employee creativity (Jung, 2014). Some of these demands are even fundamentally opposed, such as efficiency vs. service quality and public ideals. Thus, a leader is expected consistently set performance goals to provide explicit direction, assistance, and feedback.

To meet organizational objectives, numerous government agencies have developed employee performance management. It should be emphasized that constant employee performance management and Leader-Member Exchange (LMX) play great role in achieving organizational goals as employee performance management stimulates individual creativity and LMX is thought to act as a moderator in this relationship. LMX refers to the many exchange relationships that employees build with their line managers, which result in varying degrees of transferred resources, information, and support. Employee performance management is perceived as supporting rather than controlling when employees perceive high-quality LMX. Employee performance management in the organization is understood through their unique LMX connection (Audenaert, Decramer, George, & Bram , 2016).

2.3. Measuring LMX

The LMX, by its nature, is not a unidimensional construct rather it is more suitably considered as multidimensional. According to (Schriesheim, Castro, & Cogliser, 1999) effective leadership is dependent on the particular characteristics of leaders as well as the type of relation between the followers is the critical component of effective leadership. As a result, leaders must increase the contacts that foster the quality of the leader-follower relationship and, as a result, the organizational collective effort toward a common objective.

LMX has been measured using a wide range of metrics varying from 2-item, negotiating latitude model, to 14-item scale. In some cases, the Leader Behavior Description Questionnaire (LBDQ), has been used as a substitute for LMX scales (Williams, Podsakoff, & Hu, 1992).

2.3.1. The LMX-7 Scale

The Leader-Member Exchange 7 questionnaire (LMX-7) was developed to measure the quality of working relationships between leaders and followers (George & Mary, 1995). Respondents self-report the degree of reciprocal respect, trust, and duty exchanged in their leader-subordinate interactions in this 7-item questionnaire to investigate how the quality of LMX relationships influences individual, interpersonal, and organizational aspects such as work satisfaction, communication motivations, and organizational identity. LMX is similarly connected to, but not the same as, active empathetic listening and perceived listening quality. Although the LMX-7 remains one of the most widely used psychometric measures of LMX, scholars continue to argue whether the construct is unidimensional or multidimensional (Munshi & Haque, 2017).

The questionnaire score, completed by both leaders and followers, reflects the quality of the leader-member interactions and shows the extent to which the connections are typical of partnerships, as stated in the LMX model. The scoring interpretation is categorized into five as very high, high, moderate, low and very low depending on the total numerical value (George & Mary, 1995).

2.3.2. The LMX Multi-Dimensions Scale

As stated by (Liden & Dienesch, 1986), LMX should be measured in a four level multi-dimensions of affection, loyalty, contribution and professional respect. On the other hand, according to (Joseph, Newman, & Sin, 2011), the LMX multidirectional scale can be modeled hierarchically, with four first-order factors (affection, loyalty, contribution, and professional respect) and a second-order global factors (organizational commitment, justice, job satisfaction, trust and honesty). Here, despite the fact that several researchers evidence the empirical adequacy of the hierarchical confirmatory factor analysis models for the LMX-MDM, scholars in the area tend to evaluate it only as a global construct, without considering its dimensions. Conversely, it is known that advice, workflow, and friendship are some of the exchange types that have been recognized exchange relationships between individuals are certainly multidimensional. Thus, both roles and interactions between leaders and followers have several dimensions. Based on the theoretical framework presented by (Liden & Maslyn, 1998) the following sections of this paper explores the ‘Dimensions of LMX’:

2.3.2.1. Affection

Affection refers to the liking that the subordinate has for his boss and vice versa, which is mainly based on personal affection prior to professional admiration and liking. The follower's primary respect, mostly, sourced from the follower's awareness regarding the leader's professional performance reputation in the past. This perception can be based on historical information about the leader, comments made by other individuals, awards or recognition achieved. Thus, it is possible, although not necessary, that the leader has developed an image of immediate professional respect before the subordinate knows him or work with him (Côrtes, Santos, & Elizabeth, 2019).

The reverse is also true such that, affection means the leaders liking to the subordinate mostly based on the personal response received during the role making stage of the relation. Hence, in general note, affection implies the reciprocal attachment between members of a dyad based mostly on interpersonal attraction rather than job or professional ideals. It is known that interpersonal liking between leaders and followers play substantial role in forging LMX relation (Liden & Dienesch, 1986).

2.3.2.2. Contribution

The amount of perceived contribution by both members should have a greater impact on the number, complexity, and criticality of tasks assigned to and accepted by the subordinate. This is because the superior must have faith in the subordinate's capacity and desire to execute difficult, long, or vital duties. The subordinate should also be confident in his or her own abilities, be prepared to undertake a bigger responsibility, and be confident that the leader will provide direction, advise, support, and suitable resources.

Contribution also refers to the perception of the part played by each of the leader and follower in bringing about the intended organizational targets and the respective efforts exerted by the members of the vertical dyad towards helping LMX advancement (Liden & Dienesch, 1986).

2.3.2.3. Loyalty

Loyalty, as per the LMX-MDM, is the degree to which a leader and a member openly support one other's activities and character is referred to as loyalty. It is the level of trust

in the personal character of the other member of the dyad. This personality is based on habitual behavior and is typically constant from scenario to scenario (Liden & Dienesch, 1986).

Loyalty is particularly concerned with the degree to which dyad members defend each other in their immediate surroundings from outside factors. Interactions with the environment, as well as caution when engaging with others outside the work group, should be more sensitive to the loyalty component than the other dimensions. High loyalty should also be demonstrated in long-term growth of the subordinate since the superior may be more certain of benefiting from developmental actions if the connection is maintained (Liden & Maslyn, 1998).

2.3.2.4. Professional Respect

This dimension is defined shortly as the personal admiration given by one member of a dyad to another based on the latter's reputation in the field of work. This reputation is often formed on the dyad member's knowledge, skill, and competency. Clarification of expectations and work tasks improves the other's sense of competence and, as a result, trust in the other's ability. LMX leaders with high motivational skills, inspire employees to face everyday challenges and tackle past, current and possible problems with innovative and inventive working practices and continuous and persisted effort (Maslyn & Uhl-Bien , 2001).

Further, organizational members may be interested in creating reciprocal ties with persons of high expert power thereby intending to acquire pertinent professional abilities to be utilized in the organization (Chris & Umemezia, 2019).

2.4. Organizational Change

The growing interest in economic, social, and environmental sustainability has significant consequences for traditional ideas on organizational performance, design, and development. Based on how astonished most businesses were by the current economic downturn, economy, as well as a relative scarcity of socially and environmentally relevant capabilities in the majority of enterprises, there is ample evidence that the Organizational design characteristics on which we have depended for years have outlived their usefulness. Organizations that rely on old design concepts and

effectiveness measurements are unable to react to challenges for change initiated by new economic, social, and environmental results (Pasmore, Shani , & Woodman, 2010).

Change, refers to a system of planned periodic alterations to one or more organizational aspects such as people, structure, and technology. Change is frequently viewed as the destruction of old buildings and the construction of new ones it is the shifting of an organization between two points in time (Usman T. , Ramsha, Mushtaq, & Ajmal, 2014).

As stated by (Stacie & Daniel, 2008), organizational change is described as a planned shift in the day-to-day activities of leaders and followers including their respective professional and personal behaviors to realize a predetermined results. Organizational change is the collection of numerous individual acts that result in a shift in directions and/or procedures that impact how organizations functioned before. While an organization adopts new thinking, practices, designs and habits the organization can be inferred as changing (Daft, 2005).

It should be mentioned that organizational change examines both the process through which a corporation or organization changes its operating techniques, technology, administrative structure, overall structure, or strategy, as well as the consequences of these changes. Typically, organizational change occurs in reaction to, or as a result of, external or internal influences. External influences causing change include government rules and regulations, production and processes, the market place, labor markets technology, political and social events, and company internationalization (Lewis, 2011).

If executed correctly, Organizational Change assures businesses improve business strategies, work processes, structures, technology, organizational cultures, and management styles to produce quantifiable outcomes. These modifications may be prompted by the deployment of a new mandate, method, technology, or strategy. Goal achievement, progress, and even the avoidance of crisis very often involve implementing planned changes. Change is sometimes required to repair previous mistakes and achieve learning and progress. Thus, organizational transformation may be defined as a process in which an organization's most desirable and acceptable future is envisioned and a road map is established to encourage this new shape. Organizational

leadership faces several internal and external pressures to effect organizational transformation.

On the other hand, while decision makers might frequently agree on the problems to be solved, the principles involved in solving them, and even the precise adjustments to be made in a given circumstance, making the change happen, through the implementation of ideas and improvements, can be extremely difficult (Lewis, 2011).

Change is often necessary because it gives possibilities for growth, development, growing resources, and capitalizing on a window of opportunity that, if missed, might have severe implications. Leaders who are stuck in the process of implementing change and are unable to act efficiently and effectively in putting an innovative concept into reality quickly enough may be unable to achieve the benefits of even the finest ideas.

If organizations, weather be public or otherwise, attempting to innovate are unable to quickly and easily introduce new ideas into the marketplace or operations, the window for innovation may close. Most outstanding ideas can only be realized if they are implemented well. Alternatively, change procedures can be misguided or unneeded, and possibly catastrophic in their outcomes.

Organizational change is a complicated, continuing activity with unintended or deliberate repercussions. As per, (Michael & Anna, 2017), despite being viewed as a fundamental component of organizational life, it is assumed that roughly half of all organizational change failures occur because change agents were unable to create adequate relationship with the subjects of the change, i.e., leaders were unable to persuade employees. Moreover, (Moore, 2018) states that nearly 75% of all organizational change programs fail because leaders do not create the necessary support and motivation among employees. Thus a lack of change leadership skills as a factor, notably the capacity to communicate effectively and encourage people, which has a substantial impact on a leader's ability to effectively execute change and promote innovation. As a result, an organization with a strong leader-follower influence line is likely to achieve a high rate of organizational change (Kotter, 1995).

The contemporary organizational change theories are based on components i.e., stepwise implementation requirements to assure successful change. It is argued that the following four apparatuses should work in connection supporting each other to acquire

successful change implementation in organizations; if one of the four fail from the onset of change, the efforts are bound to fail (Kelley, 2016). The four components are change planning, change leadership, change management and change maintenance as depicted in the figure below as adopted from (Kelley, 2016).

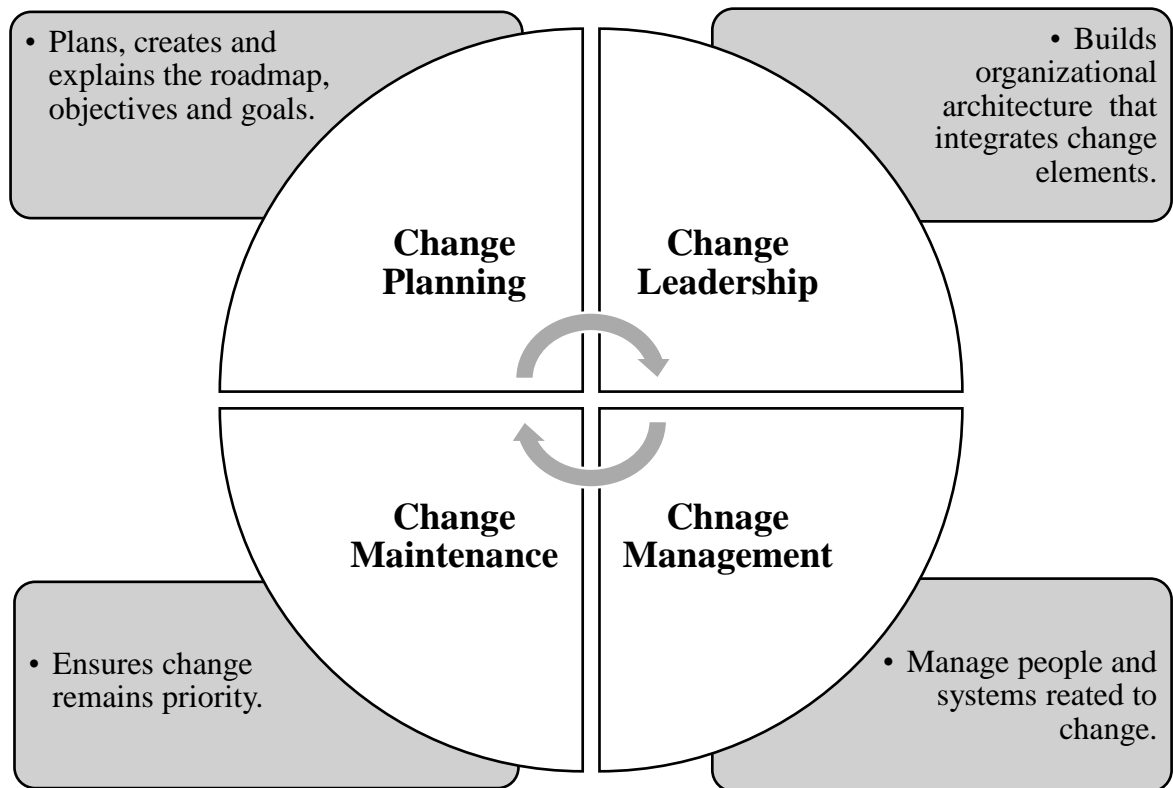


Figure 3: Change Implementation in Organization

Change Planning

Organizations at this stage shall form the change roadmap aiming to explain the need for change, its objectives, aims, and success measurement for effective change implementation. Because most change management difficulties are connected to the existing situation, knowledge of what is currently happening is essential for this phase describing what the organization does and how it does it. This stage should acknowledge the fact that although the existing practices are not okay, the employees are familiar and accustomed to current practices.

Thus, planning should make sure it has set forth strategies to make the change acceptable by the majority of the employee.

Change Leadership

As change is unsettling for all parts of an organization, when it comes, all eyes will turn to the leadership team for direction, support, and strength. Hence, leaders are expected to actively develop an organizational architecture that combines all components of organizational transformation from the start to ensure successful change implementation. As leaders are expected to duly understand the need for change and the plan set for the same, they hold vital information and extensive understanding of the present, transitional, and future states.

Change Management

Change management is the primary step of managing the people involved, systems, resources, and other relevant moving elements or activities that change requires to reach its ultimate goals in companies, as change is both an institutional and an individual journey for employees. This phase ruthlessly controls and drives change transition to ensure that change continues on track and is sustainable and effective. Change management mostly takes care of the transition state, during which productivity may decline if the change is not properly managed. Employees in the transition state must adopt new viewpoints and acquire new ways of acting while continuing to do every day work.

Change Maintenance

During this phase, change is reinforced and maintained until it is measured, proclaimed successful, transmitted, and ingrained. This is the momentum keeper such that, an organizational upkeep after it recognizes that change is occurring as anticipated. This phase guarantees that the importance of change is maintained.

Here, lessons learned are recorded in order to understand what may be done to improve the success of future change projects. People are more likely to adapt to change in the future if current change activities are effective since they would develop faith in the organizational overall transition process.

2.5. Organizational Change in the Public Sector

There is a lot of evidence that government institutions and cultures make them more resistant to change than private organizations, diminishing overall organizational health and effectiveness. This indicates that the public becomes more aware of the quality of services provided by public organizations and compares them to those provided by private organizations. As a result, there is increased pressure on public service organizations to improve their performance, as well as prospects for private sector supply of public services (Flynn, 2007).

High-performing government agencies are indifferent from well-run private businesses as both have admirable aims, are well-designed, adopt logical systems, promote tight accountability, and are lead with capable leaders. However, the enormous contrasts in their goals, cultures, and operating environments provide completely distinct challenges. The most difficult task in effecting effective change and significant, persistent performance improvement in the public sector is not so much discovering solutions. The said solutions are deemed typically uncomplicated and mostly involve working around four distinct impediments like assignment of proper leaders, timing and duration of tenures of leaders, promoting flexible bureaucracy and assuring limited stakeholder involvement (Deserti & Rizzo, 2015).

Change studies typically acknowledge the existence of a persistent struggle between change and preservation inside governmental organizations. Such institutions, which are established in certain working ways, tend to protect their status quo and resist change (Schein, 2004). The reasons for this conservative attitude have been investigated and linked to a variety of internal and external factors, all of which combine to create a general lack of incentive to abandon a certain present for an uncertain future, resulting in a common situation in which business as usual is chosen over newer trends. In this context, innovation and change are frequently considered as a last resort, which most public organizations accept only after the current techniques are proved they no longer work as they did (Diefenbach, 2009).

There is a lot of evidence that government institutions and cultures make them more resistant to change than private organizations, diminishing overall organizational health and effectiveness. It should be noted that there are five key components of successful

public institution change i.e., committed leadership, compelling communication, cadence and coordination in delivery, capability of change and clear change purpose (Checinski, Dillon, & Hiero, 2019).

In summary scholars advise public organizations in specific terms to look for the following key factors to realize successful change: plan, communicate, integrate, motivate, build confidence, manage workload and evaluate results (Ball, 2021).

2.6. Success Metrics of Organizational Change

Measuring change success is presented in various aspects by different scholars, generally the measurement approaches could be direct or indirect (Smith, 2002). Direct measurement involves Change Prevalence Studies like overall productivity measures and customer satisfaction comparisons. Direct change success metrics are mostly characterized by extended researching period that kicks-off during the inception/planning phase of the change.

On the other hand, in most organizations undergoing change, measuring the people side of change is becoming an expectation, if not a necessity. Effective organizational change is the outcome of two-tier actions, the first of which is the leadership and organization providing the appropriate tool, technology, and system for the intended change, and the second of which is the employees implementing the change in their job (McAllister, 2020). As a result, the criteria for measuring the rate of success of organizational transformation should include both layers. Individual level measurements and organizational level metrics are examples of the aforesaid notion. Furthermore, the performance of change agents should be measured, and this may be classified as change leader performance metrics (Szamosi, 2015).

2.6.1. Organizational Level Success Metrics

These metrics are related with the change program attaining the targeted organizational results. Such indicators should provide a regarding the success of the change action in delivering the goals. These aspect of the metrics measures the efficiency of change communication inside and outside the organization, employee perception of performance improvement, uniformity of change objectives and bureaucracy and favoritism prevention (McAllister, 2020).

2.6.2. Individual Level Success Metrics

These indicators show if the persons affected by the change are making progress on their change journeys. Individual growth can be a leading sign of overall project success since the individual is the unit of change (Szamosi, 2015). Many of these indicators indicate where employees are in the transformation process and how far they have progressed. The measures include awareness of change goals, self-assessment of behavioral improvement, change acceptance, problem solving capacity and confidence in absorbing the change.

2.6.3. Change Leadership Success Metrics

The success metric included under this category are linked to the actual actions carried out by the change management team. While monitoring these efforts is beneficial, the other two outcome-oriented categories of person and project performance are required to establish whether the change management actions are effective. The items measure the change leadership readiness to solve problems encountered, clarity of communication, consistency of change leadership, employee workload control and performance tracking activities (McAllister, 2020).

2.7. The Effect of LMX on Organizational Change

According to the leader-member exchange (LMX) idea, there is a link between the supervisor and the employee and there is a clear link between supervisor-employee relationships and performance. Poor quality LMX interactions limit employees' proactive activity and result in less commitment and reaction. Many studies have shown that there is a strong and positive association between leader-member exchange relationships and organizational change (Arif, Zahid, Kashif, & Sindhu, 2017).

Pursuant to studies on organizational change, most highlight the importance of leadership. Effective leaders tend to give assistance that gradually alters the employees' core values, beliefs, and attitudes so that they can embrace and comprehend the change initiatives. Proactive managers who serve as change coaches and advocates are more successful than managers who merely monitor for indicators of opposition to change in preparing people for change efforts. The characteristics of the leader (or change agent) are also significant in the process of making preparedness. Leadership with high-quality

LMX facilitates the development of essential culture and shapes employee behavior (Armenakis, Harris, & Mossholder, 2013).

To avoid any resistance to change, it is critical that unfavorable attitudes about change be overcome in order for change to be successful. The change process suggests that organizing personnel for the change is necessary for a successful transition. This entails the leader making proactive attempts to influence the beliefs, attitudes, and behaviors of the employees who will be participating in the change endeavor (Chris & Umemezia, 2019). The effectiveness of change implementation is determined on the change targets' views about change. Similarly, the failure of change is due to employees' unwillingness to change. In general, it is stated that commitment to change is dependent on the leader-member exchange as well as the partnership members' understanding and views about the planned change (Bauer & Erdogan, 2015).

2.8. Review of Empirical Studies

The effect of LMX leadership on implementation of organizational change is studied via numerous studies. For this specific study reviewing three studies that are deemed relevant is found necessary. One has explored the LMX influence on organizational change resistance with surveys performed on target case organizations (Cable, 2008). The study after collecting data has used regression methods to depict the positive relationship as change resistance would diminish as LMX increased, but strengthen as LMX decreased since leader member exchange behavior is proved to increase productivity, job satisfaction, and supervisor satisfaction.

Another study conducted by (Arif, Zahid, Kashif, & Sindhu, 2017) has found that LMX has a positive impact on post-change organizational performance. The study has shown that performance after execution of change is dependent on overall success rate of the initiated change. Numerically, the study depicts a one point raise in organizational change success rate brings nearly similar point rise in improved organizational performance.

Further, (Nigus, 2020) has empirically explored the effect of LMX on organizational change readiness in a target institution. He has used correlation analysis between the four dimensions of LMX with change readiness and found a positive relation. The relationship between change readiness and contribution dimensions is found significant

at 99%, implying that employee readiness to organizational change is significantly influenced by each member's opinion of the activities aimed toward joint goals. On the other hand, the correlation between change readiness and affect is 95%, implying mutual understanding and interpersonal affection between leaders and followers positively influences change readiness.

As per the study, personal respect is proved to greatly influence change readiness with a 99% relation. Thus, the higher the dyad members respect their corresponding member's professional ability, knowledge, skill and competence the higher the employee change readiness will be. This inference can be explained by considering the fact that professional respect promotes a sense of mutual confidence.

The relationship between change readiness and the loyalty dimension is also found to significant with a 99% point i.e., loyalty that is exhibited publically between leaders and followers positively influences change readiness. This is because likewise to personal respect, the sense of loyalty encourages confidence in relations.

2.9. Conceptual Framework of the Study

This study intends to explore the effect of leader-member exchange leadership on implementation of organizational change on the target institution, the Ethiopian Roads Authority. As a result, the conceptual framework shall be designed in order to test organizational change implementation that is measured with observed success rate in organizational, individual and leadership levels.

Subsequently, the studied change implementation achievement is tested with the application of multidimensional leader-member exchange behaviors i.e., affect, loyalty, contribution and professional respect dimensions. The anticipated relation between the LMX dimensions and organizational change implementation success measures is hypothesized to be statistically significant directly proportional. That means the better the LMX quality, the improved the organizational change success will be. The following figure shows the conceptual framework of this study:

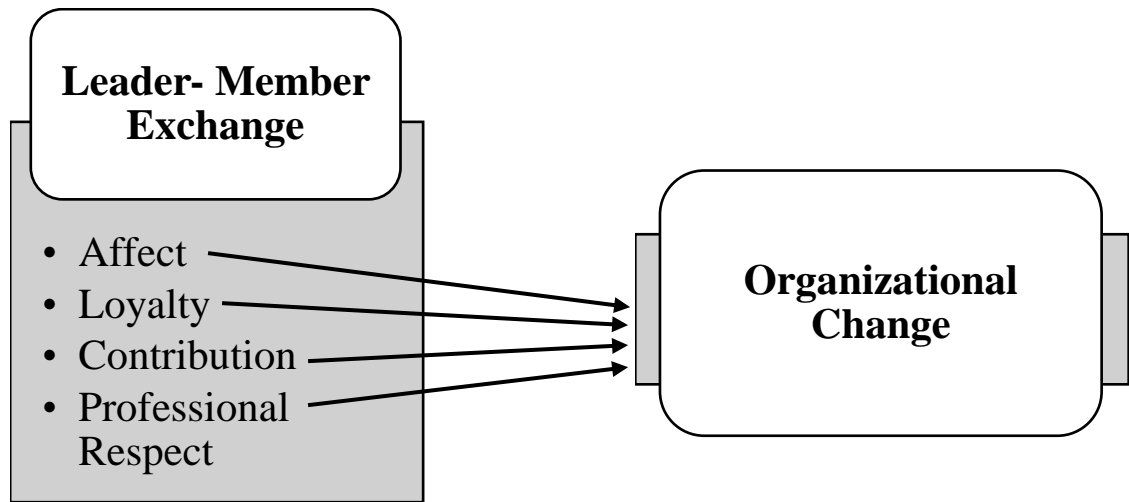


Figure 4: Conceptual Framework of the Study

Source: (Dulebohn, Bommer, Liden, Brouer, & Ferris, 2011)

CHAPTER 3: RESEARCH METHODOLOGIES

3.1. Research Design

A research design is a strategy, approach, and structure for examining research problems. It is the entire study plan or program as it outlines what the investigator will do, from developing hypotheses and their operational implications through analyzing the final results. The design is a procedure used by a researcher to answer the research questions in a valid, objective, accurate, and cost-effective manner. (Kumar, 2011).

Through the forgoing section of this document, the research problems have been defined and objectives have been set. Further, the conceptual framework has been drawn based on the review of theoretical literatures. As the study is intended to assess the effect of LMX on accomplishment of organizational change a target institution, it should be designed to integrate the two theoretical concepts named earlier into the actual scenario of the organization, the Ethiopian Roads Administration. The study is expected to correlate the concept of LMX theory and organizational change theory and assess it in context of the subject institution, ERA.

The study relies on quantitative study methods, since it should correlate the theories and examine the quantitative measures of change success in the context of the ERA. The quantitative research method often focuses on measuring or counting, and it comprises collecting and evaluating numerical data as well as using statistical tests. This strategy is excellent for reducing subjectivity. As the aim of this study is to assess the extent of effect of LMX in organizational change, the quantitative nature of the study will explain the statistical association of the dependent and independent variables.

Explanatory research methods are used to establish a cause and effect link between variables, such as characteristics of Leader-Member Exchange and measure its potential effects on organizational change. In addition, the study has adopted a standard measuring closed-ended questions to collect data.

In terms of time referencing, this research has adopted a one-time or cross-sectional research timeline. Cross-sectional research is a snapshot of the study group at a given point in time selected to limit the scope to a particular time period and is the easiest to administer because it is not required to capture the changing process (Leavy, 2017).

Hence, for this study it shall be used to analyze data of the variables collected at one given point in time across a sample population or a pre-defined subset.

3.2. Research Institution, Population and Sampling

The research institution, the Ethiopian Roads Administration, starting from its formation in 1951 until thus far has been undertaking the planning, designing, construction and maintenance of the roads running through the territories of country. As a public institution, it was forced to adopt various changes over the years initiated from political interests, policy reforms and internal change inspirations. Although it is highly argued, the ERA is said to be a well-organized non-profit public institution, in comparative approach. If the above statement is to be accepted, one can assume that through the years, the ERA has been undergoing successful transition from regime to regime and from political ideology to the next.

Currently, the Ethiopian Roads Administration is organized to be led by a Director General and four deputies. Under the deputy director generals there are 19 directorates and 43 teams that are responsible to execute engineering and administration operations. The total work group is composed of public servants, employees of ERA, and corporate provided services, employees of other private corporations.

This study only focuses on the employees and leadership of the ERA. As per the information acquired from the Human Resources Directorate, the total employee of the Administration is currently 422 out of which 68 are members of the middle and higher leadership, i.e. officials that are team leaders of above. Further, out of the non-leadership employees 101 workers are stationed across the road construction and maintenance projects found the country, with a duty of representing the interest of the Ethiopian Roads Administration.

3.2.1. Sample Design

Sample design is a specific strategy for selecting a sample from a specified population. It refers to the method or approach used by the researcher to pick things for the sample. Sample design also results in a technique for determining the number of objects to be included in the sample, i.e., the sample size. As a result, sample design is set prior to data collection (Myers & Well, 2002).

Out of the available sampling methods available, this study has adopted a stratified sampling technique, a probability sampling method that involves dividing the population into subpopulations that differ in important ways. The strata was developed based on the status of the specific subject, being a leader or a follower.

3.2.2. Sample Size

The number of items chosen from the population to form an optimal sample is referred to as sample size. The members of the selected sample are expected to portray the characters of the populations and the researcher must make sure that stratifications replicate the actual forms of the general population (Sekaran & Roger, 2016).

In connection, based on the selected stratified sampling method, the sample size shall be determined for the whole population satisfying the geographical and employment requirements and proportional stratification shall be applied.

For this study, the total population is 422 out of which 68 are considered leadership. Thus, the followers are 354 and 101 employees are stationed out of the head quarter i.e., are located at road construction and maintenance road projects; hence, the total number of followers that are geographically eligible to this study are 253. Therefore, the total population consists of 321 works with 21.18% leaders and 78.82% followers.

Now, sample size is determined by using one of the predetermined formulas that are used to decide sample sizes. Most formulas fashioned to calculate sample sizes, require researcher to know something about the population, like the mean standard deviation. However, for cases that are deemed to represent the study i.e., no detailed information regarding the characteristics of the population generalized formulas are adopted. For this study Slovin's formula is used to decide on the sample size with 95% confidence level, the degree of certainty regarding how well a sample represents the overall population within the chosen margin of error (Bluman , 2014).

$$n = \frac{N}{(1+N*e^2)}$$

*Where: n is sample size
N is total population and
e is margin of error*

$$n = \frac{321}{(1 + 321 * 0.05^2)} = 178$$

Therefore, a total sample size is calculated to be 178 which shall further be stratified based on the proportionality; which resulted, 38 leadership and 140 subordinates to be sampled.

3.3. Description of the Study Variables

The study is aimed at explaining the effect of, if any, LMX on the implementation of organizational change. Leader member exchange is measured with its multi-dimensions of loyalty, affect, contribution and professional respect. On the other hand organizational change implementation success shall be measured by levels of applications i.e., organizational, individual and change leadership level.

Independent variables are considered the cause is and their values remain unaffected by other variables. Thus, dimensions of affect, loyalty, contribution and professional respect are considered independent variables. Conversely, the organizational change implementation measures of organizational, individual and change leadership are dependent variables where by their values are expected to fluctuate as the independent variable changes.

3.4. Data Collection

In researches, data collecting is one of the time-consuming procedures that is duly considered a crucial procedure. Any error in its implementation leads to incorrect data, which leads to incorrect conclusions. Thus, careful data gathering is essential to avoid erroneous data collection and conclusion (Sekaran & Roger, 2016). As the study is correlational, it aims to acquire primary data that demonstrates correlations between dimensions of LMX and organizational change implementation. Correlations could be positive, which means the two corresponding variables rise or fall at the same time.

This study uses quantitative surveys to pose closed-ended questions with a predefined list of possible responses. The standardized questions of measures were developed earlier by (Liden & Maslyn, 1998) and has been serving the same purpose since then. Further, the organizational change implementation success are also measured by a standardized scale prepared by (Szamosi, 2015). The data collected through the said method shall be analyzed with respect to the research questions by applying the suiting

data processing statistical method and tool. Based on the results, the study can generalize the results since the questions and answers are uniform.

The primary data collecting tool is questionnaire with three sections. The first question intends to explore the demographic background of the respondent. Demographic information included gender, age, educational qualification, years of experience in the organization and status within the organization. The second and third sections of the questionnaire consists of twenty seven five-point Likert scale questions grouped in to two sections related to the dimensions of Leader-Member Exchange leadership and organizational change components respectively.

3.5. Data Analysis

The data gathered through questionnaires was tallied, graded and classified. After collecting and scoring qualitative data, the data was loaded into the Statistical Package for the Social Sciences (SPSS) program for analysis. As a result, descriptive, multiple regression, and correlation analysis approaches were utilized to characterize and summarize data, as well as to determine how the independent variables influence the dependent variables, if they do.

With correlative analysis, the study tries to determine if the independent variables have any influence linearly on the dependent one; while with regression analysis, the study tries to describe the cause and effect relation between the two types of the variables. Pursuant to (Kenny & Little, 2017), multiple regression describes the link between several independent variables and one dependent variable in general. A dependent variable is described as a function of numerous independent variables, each with its own coefficient, plus a constant term. The multiple regression equation takes the following form:

$$Y = b_1X_1 + b_2X_2 + \dots + b_nX_n + C$$

Here, the b_i 's ($i = 1, 2 \dots n$) are the regression coefficients, which represent the value at which the organizational change implementation variables, dependent ones, change when the level of LMX multidimensional, independent, variables change.

3.6. Reliability and Validity

The principles of reliability and validity are used to assess the quality of research. They reflect the accuracy with which a method, approach, or test measures something. The consistency of a measure is referred to as reliability, whereas the correctness of a measure is referred to as validity. The consistency of the test with repeated trials is referred to as reliability, and it reflects the amount to which changes in data measurement are attributed to random variability inherent in the testing procedure rather than genuine differences in the variable being researched. The accuracy or internal consistency of a test is sometimes referred to as reliability, and it does not require comparison with an external standard (Litwin & Fink, 1995).

The validity of a test relates to how well it really examines the trait being studied as determined by external standards; this is also known as the test's accuracy or external consistency. In contrast to reliability, validity assesses a study instrument's non-random, systematic error. As a result, reliability and validity are important indicators of the strength of the relationship, or correlation, between distinct variables. The correlation between findings received on repeated administrations of a test is known as reliability, and the correlation between the test and a reference standard is known as validity (Litwin & Fink, 1995).

Cronbach's alpha is a measure of internal consistency or reliability of quantitative test results for a sample of examinees; thus, an alpha value equaling or greater than 0.80 ($\alpha \geq 0.80$) is considered acceptable for reliable scale (Lavrakas, 2008).

As the study uses two scales, two Cronbach alpha values should be calculated for Leader Member Exchange Multi-Dimensional scale and for organizational change implementation scale. The table below depicts the results of the computation:

Table 1: Reliability Statistics

<i>Scale</i>	<i>Cronbach's alpha</i>	<i>N of Items</i>
LMX-MDM	0.945	12
Organizational Change implementation	0.947	15

As can be noted, the alpha values for both scales are greater than 0.80 and thus, pursuant to (Lavrakas, 2008), both scales are reliable. In support of the result, it is worthwhile to recall both scales were developed and tested by other scholars and their reliability is proved over time.

3.7. Ethical Considerations

To satisfy the ethical responsibilities of the research and because ethical issues in research are crucial, the information gathered from respondents is only utilized for study purposes and is kept strictly secret and the researcher utilized correct citation, followed truthful data collection and analysis, maintained data confidentiality, acquired the approval of the case organization and staffs, and kept the identity of respondents unanimous based on their consent. The questioners utilized were designed and given to the respondents with as much ethical language as feasible.

Moreover, participants were actively instructed and encouraged to offer an honest and sincere answer, opinion, or recommendation throughout the survey. The researcher additionally ensured that the respondents were aware of the study's aims and their involvement in its completion, and that the research only assessed important components.

CHAPTER 4: RESULTS AND DISCUSSION

4.1. Introduction

This chapter condenses the results presentation and their interpretation towards creating inference to the research questions. The results part is a section that contains a description of the key findings of the conducted study without presenting any conclusion or implications analysis. Thus, the findings must be presented in prose with tables, charts, and graphs.

The discussion section, which follows the results, will include an explanation of the results. In this part, the findings will be related to research questions and shall explain how the findings may be generalized. Arguments will be presented in support of key points; as opposed to the results section, the discussion shall explain what results imply and describe why they matter.

4.2. Response Rate and Demographic Data

4.2.1. Response Rate

The primary research data collection tool utilized was a structured questionnaire distributed to a randomly selected employees. As discussed under section 3.2 of this paper, out of the general employee population, a sample totaling 178 employees was selected and the questionnaire was distributed. It should also be noted that the sample size is stratified so that a suitable questionnaire is delivered to the respective sample subjects. Thus, as stated under section 3.2.2. of this paper, the sample is divided to 38 leaders and 140 follower employees.

However, out of the distributed 178 questionnaires only 132 were returned and two were not complete. Therefore, the net responded survey result that is accepted as reliable data is collected from 130 questionnaires; therefore the response rate is computed to be 73%. According to (Baruch, 2008), a response rate more than 70% is rated as good and is acceptable to be used as data source.

4.2.2. Demographic Data

Here, it is worthwhile to recall the sample subjects are permanent employees of the Ethiopian Roads Authority stationed at the Addis Ababa head office. The sample

subjects were asked to forename their demographic profile just to provide a profile information about the respondents. The demographic data is not used to infer any statistical meaning to the research questions.

Table 2: Demographic Profile of Respondents

No.	Description	Status	Value	Percentage
1.	Sex	Male	102	62.96%
		Female	60	37.04%
2.	Age Group	21 - 30	61	37.65%
		31-40	69	42.59%
		41-50	25	15.43%
		>50	7	4.32%
3.	Education Level	Less Than Diploma	3	1.85%
		Diploma	14	8.64%
		B.Sc./ BA	123	75.93%
		M.Sc./ MA	21	12.96%
		More Than M.Sc./ MA	1	0.62%
4.	Experience in Organization	< 2	35	21.60%
		2 - 5	65	40.12%
		5 - 10	41	25.31%
		10 - 15	12	7.41%
		>15	9	5.56%

As can be seen from the table above, 62.96% of the sample are male and the prevailing age group is from 31 to 40 with a percentage share of 42.59%. As can be expected, B.Sc. or B.A. degree holders take 75.93% of the total sample subjects, followed by M.Sc. or M.A. degree holders amounting 12.96% of the total. From the result, it can be interpreted that, nearly 80% of the sample employees have stayed in the organization for a period more than two years and they have gone through an organizational change process at least once. Moreover, 90% of the respondents are at least a degree holder and thus, it can reasonably assumed that they have responded to the questionnaires knowing the consequences therein.

4.3. Results and Discussion of Descriptive Statistics

The data collection tool, questionnaire, is a structured five point Likert scale that aims to measure the respondents perception of the level of the Leader-Member Exchange multidimensional indicators, affect, loyalty, contribution and professional-respect. Moreover, the questionnaire measures the respondents' insight on the organizational change success indicated via organizational, individual and change leadership level.

Table 3: Results of Descriptive Statistics

<i>No.</i>	<i>Description</i>	<i>Mean</i>	<i>Standard Deviation</i>	<i>Number</i>	
1.	LMX-MDM	Affect	3.47	0.77	130
		Loyalty	3.43	0.67	130
		Contribution	3.71	0.63	130
		Professional Respect	3.82	0.63	130
2.	Organizational Change Success	3.47	0.54	130	

Descriptive statistics, as framed by (Hayes, 2021), are succinct explanatory figures that present a summarized information on a specific data collected from a sample of a population. As can be noted from Table 2, the average values of LMX-MDM indicators as perceived by the study respondents are 3.47, 3.43, 3.71 and 3.82 for affect, loyalty, contribution and professional respect respectively. On the other hand, the standard deviation of the collected responses for Leader-Member Exchange multidimensional indicators are 0.77, 0.67, 0.63 and 0.75 for affect, loyalty, contribution and professional respect respectively.

Thus, as for an answer to the first research question of asserting the existence of LMX in the target institution, one can interpret the above result as, the respondents contemplate that the relation between the leaders and followers is to some extent characterized as LMX, especially with professional respect point of view. Similarly, the respondents had expressed their respective perceptions regarding the levels of organizational change success indicators found at organizational, individual and change leadership. The table presented above gives the average rated response i.e., 3.43, is

somewhat higher than the middle response of neutrality; thereby, closing to agreeing change initiatives have been executed to a reasonable degree.

4.4. Correlation Analysis

As argued by (Hayes, 2021), correlation analysis is a statistical approach for determining the strength of a probable relation between two numerically measured continuous variables. Through this study, it is aimed to check whether LMX affects organizational change success and the degree of the probable relation. Thus, the correlation between each LMX-MDM parameters and organizational change success is presented by the under shown table. Correlation shall be measured using Pearson's Correlation Coefficient which is used assesses the strength of a two-variable linear connection. The Coefficient has a value ranging from -1 to 1, with -1 indicating total negative linear correlation, 0 indicating no connection, and + 1 indicating total positive correlation (Hayes, 2021).

Table 4: Correlation Analysis - Pearson Correlation Coefficient

<i>Correlations</i>					
	<i>Org. Change</i>	<i>Affect</i>	<i>Loyalty</i>	<i>Contribution</i>	<i>Prof. Respect</i>
<i>Org. Change</i>	1.000	0.765	0.867	0.866	0.802
<i>Affect</i>	0.765	1.000	0.763	0.719	0.720
<i>Loyalty</i>	0.867	0.763	1.000	0.774	0.781
<i>Contribution</i>	0.866	0.719	0.774	1.000	0.753
<i>Prof. Respect</i>	0.802	0.720	0.781	0.753	1.000

Now, from this correlation analysis it has been shown that linear relation between the dependent variable, organizational change, and each of the four independent variables of LMX-MDM indicators.

As an answer to the second research question of checking whether LMX influences implementation of organizational change or not, based on the values of the Pearson's coefficients, it can be deduced that there is a linear relation between the variables and the relation, in all of the four cases, is positive. In other words, LMX-MDM indicators are positively related to organizational change success. Further scrutiny to the resulting values indicate that the order of influence of the four LMX-MDM indicators is loyalty

(0.867), contribution (0.866), professional respect (0.802), and affect (0.765). Therefore, one can expect a one-point increase in the values of the four dimensions would result in different impacts in realization of organizational change i.e., loyalty, having more correlation to the success rate of organizational change, bring more positive impact.

Moreover, the result herein duly aligns with the empirical results produced by (Cable, 2008); such that, the four LMX-MDMs have positive correlations to organizational change. Similarly, as theoretically discussed by (Arif, Zahid, Kashif, & Sindhu, 2017), a positive correlation exists between loyalty, contribution, professional respect and affect on the success rate of organizational change.

4.5. Regression Analysis Results

Regression is a statistical method that attempts to determine the strength and character of the relationship between one dependent variable and a series of other independent variables. Regression measures the correlation between variables in a data collection and determines whether those correlations are statistically significant.

For cases where various independent variables are required to be represented in a single formula, a type of regression called Multiple Regression is used. Multiple regression, in general, discusses the link between several independent or predictor variables and one dependent or criterion variable. It is a statistical technique that uses several explanatory variables to predict the outcome of the dependent variable.

As much as multiple regression is helpful in drawing relational inference and predict output of one variable based on others, there are some precondition that should be fulfilled by the data set. For the sake of this study, nonexistence of multi-collinearity in the data and model fit shall be checked prior to proceeding to regression analysis.

4.5.1. Multi-Collinearity

The linear relationship between two or more variables is referred to as multi-collinearity. It's a data issue that might jeopardize the accuracy of the model parameter estimates. The Variance Inflation Factor (VIF) measures the severity of multi-collinearity in regression analysis. It is a statistical term that denotes the increase in variance of a regression coefficient due to collinearity. Tolerance is just the reciprocal

value of VIF, and either of the two values can be used to detect multi-collinearity. In general, a VIF more than 4 or tolerance less than 0.25 suggests the possibility of multi-collinearity and necessitates additional examination (Miles, 2014).

Table 5: Multi-Collinearity Coefficients

<i>No.</i>	<i>Independent Variables</i>	<i>Collinearity Statistics</i>	
		<i>Tolerance</i>	<i>VIF</i>
1.	Affect	0.361	2.772
2.	Loyalty	0.265	3.777
3.	Contribution	0.329	3.038
4.	Professional Respect	0.312	3.210

From the table presented above, it can be noted that all values of VIFs are below 4 and thus the multi-collinearity relations between the independent variables are tolerable. In other words, it can be deduced that no independent variable is in an excessive multi-collinearity relation with other independent variable. In summary, the data set can be related with regression analysis with respect to multi-collinearity precondition.

4.5.2. Model Fit

Model fitness tests or goodness-of-fit are statistical techniques used to determine how well the real (observed) data points fit into the produced model. It describes the difference between actual and predicted data points in the context of a statistical or machine learning model.

There are several ways for calculating goodness-of-fit. The R^2 test method is widely accepted and gives insight on the model fitness for a given data set. Moreover, the residual distribution normality test performed with the Shapiro-Wilk test also delivers the intended result. Regardless of the adopted test methods, the results comparably depict whether a mode is fit for a data set or not.

In furtherance of this study, the model R^2 value shall be studied after the regression is performed and fitness shall be checked. As a general thumb rule, a model with R^2 value greater than 70% is considered to be a very good fitting model for a data set. In support of the same, the residual distribution graph shall be checked for normality of residual distribution.

4.5.3. Coefficients of the Multiple Regression Analysis

In order to answer the final research question of the study and know the extent of the effect of LMX on implementation of organizational change a model generated with multiple linear regression is utilized. As discussed under section 3.5 of this document, a multiple regression model would result in coefficients for each predicting variables and a constant value, so that a linear equation is generated.

Using the data set gathered by the data collection tool and utilizing the data analysis tool i.e., SPSS, a model characterized the summary table below is generated. This model assumes all independent variables have statically significant influence on the dependent variables.

Table 6: Multiple Regression Analysis Coefficients

No.	Independent Variables	Coefficients		Sig.
		Beta	Std. Error	
1.	(Constant)	0.481	0.118	0.000
2.	Affect	0.059	0.039	0.136
3.	Loyalty	0.302	0.052	0.000
4.	Contribution	0.350	0.050	0.000
5.	Professional Respect	0.110	0.051	0.034

The above table can be interpreted as the constant value of the regression model is 0.481, this is the y-intercept. All independent variables are assumed to have a statically significant influence on the dependent variable. Thus, coefficients of 0.059, 0.302, 0.350 and 0.110 are generated for affect, loyalty, contribution and professional respect respectively. The final form of the model is as shown below:

$$Y = 0.059 * A + 0.302 * L + 0.35 * C + 0.11 * PR + 0.481$$

Before testing model fitness, one peculiar number in the table given above should have been addressed i.e., significance P-Value for affect amounting 0.136. Based on a 95% confidence coefficient computation a P-Value equaling or lesser than 5% is tolerable. However, the said P-Value is greater than the tolerable threshold. As a result, it can be deduced that, 'Affect' as LMX-MDM has little statistical influence on implementation

of organizational change and should be eliminated from the regression model (Miles, 2014). Therefore, in pursue of developing a representing model, the study has rebuilt multiple linear regression equation by excluding the ‘Affect’ parameter in the independent variables list.

Table 7: Adjusted Multiple Regression Analysis Coefficients

<i>No.</i>	<i>Independent Variables</i>	<i>Coefficients</i>		<i>Sig.</i>
		<i>Beta</i>	<i>Std. Error</i>	
1.	(Constant)	0.494	0.118	0.000
2.	Loyalty	0.329	0.049	0.000
3.	Contribution	0.368	0.049	0.000
4.	Professional Respect	0.126	0.051	0.014

The above adjusted table can be interpreted as the constant value of the regression model is 0.494. The independent variables that are deemed to have a significant statistical influence on the dependent variable are given with coefficients 0.329, 0.368 and 0.126 for loyalty, contribution and professional respect parameters respectively. The final adjusted form of the model is as shown below:

$$Y = 0.329*L + 0.368*C + 0.126*PR + 0.494$$

Now, noting all the P-Values are led than 0.05, we proceed to testing the model for its fitness. In doing so, the R² value is extracted from the model summary table presented hereunder. Moreover, the normality of the residual distribution is visually checked from the presented figure.

Table 8: Model Summary

<i>Model Summary</i>				
<i>Model</i>	<i>R</i>	<i>R²</i>	<i>Adjusted R²</i>	<i>Std. Error of the Estimate</i>
1	0.924	0.853	0.851	0.20656

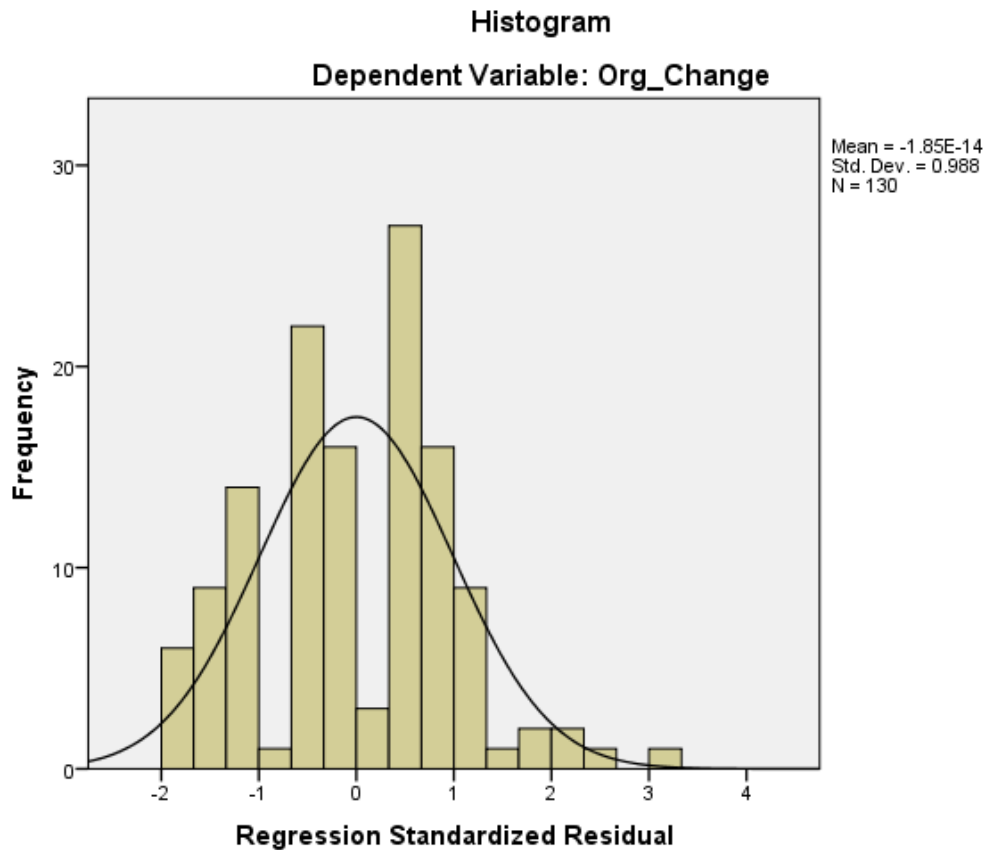


Figure 5: Regression Standardized Residual

From the two model fit criteria presented above, it is concluded that the produced model fairly fits the data set and can be used to predict dependent values based on values of independent variables. This is because, the R^2 value for the model is 0.853 or 85.3% which is found in the acceptable margin. Further, from the histogram, one can note that the standardized residual is normally distributed, which can further be confirmed with a closer to 0 mean and a closer to 1 standard deviation values.

In conclusion, the linear model illustrated above is a fitting model that fairly represents the effect of LMX-MDM parameters on organizational change implementation. The respective and collective effects of the parameters are discussed here under.

4.5.4. Interpretation and Discussion of the Model

The developed model aims to explore the extent of the effect of LMX leadership on accomplishment of organizational change within the Ethiopian Roads Administration. The LMX is assessed with respect to the multidimensional parameters of affect, loyalty, contribution and professional respect. However, through the course of formulating the

model, it is proved that the affection segment of the LMX-MDM has no or little statistical significance to the supposed intention of the model.

To the contrary, the remaining aspects of the LMX-MDM are proven to influence the organizational change in the target institution. Based on the data collected, 85% of the success rate of organizational change is influenced by three LMX parameters of loyalty, contribution and professional respect. It should be noted that, the remaining portion of the source of the influence is other variables that are out of the scope of this study.

As pointed out on section 2.8 of this paper, (Nigus, 2020) has also produced similar model relating employee change readiness with LMX-MDMs. Thus, the researcher has deduced change readiness has positive and significant relation between LMX multidimensions and employee readiness for change. Thus, the results produced by this study are well supported by results of earlier studies.

CHAPTER 5: SUMMARY OF FINDINGS, CONCLUSION AND RECOMMENDATION

5.1. Introduction

This study aims to assess the effect of LMX leadership on of organizational change in the target institution, the Ethiopian Roads Administration. It specifically intended to assess the existence of LMX type relationship between the leaders and followers of the organization, to examine whether or not LMX has an effect in of organizational change and lastly to explore the extent of the effect.

Based on reviews of related literatures, the study has assumed that LMX has an influence on of organizational change and the relation is assumed to be positive i.e., the better the level of LMX the higher the success rate of organizational change. Accordingly, the study has adopted methods to explore the objectives.

The study has utilized standardized data collection questionnaires to assess the employee perception regarding the existence LMX type leadership, compute correlation coefficients based on the collected data to know whether LMX has correlational relation with success rate of organizational change. Lastly, a regression analysis is done to know the extent of the effect of the same thereby characterizing the relation with a model.

5.2. Summary of Findings

5.2.1. Prevalence of LMX in ERA

Regarding the existence and level of leader-member exchange leadership in the target organization, the study has summarized the collected data and learned that the employees of the organization perceive LMX slightly exists. Professional respect leads the sore followed by contribution, affect and loyalty respectively. The aggregate response average is 3.60, which indicates responses are positioned somewhere between neutrality and agreeability to the existence.

5.2.2. Effect of LMX on Organizational Change

The study, from the correlation analysis, has found that all parameters of LMX-MDM have a positive correlation with organizational change implementation. The Correlation analysis, through the Pearson's coefficient, has depicted that the influence relationship between LMX-MDM and implementation of organizational change; thereby, loyalty, contribution, professional respect and affect have correlational connection in their order of appearance. *(Details of the results and discussions of the analysis is are presented in section 4.4 of the study)*

5.2.3. Extent of the Effect of LMX on Organizational Change

Founded on the results of the regression analysis, the study has shown that the 'affect' parameter of the LMX-MDM has no or little statistically significant effect on implementation of organizational change programs. Thus, a model excluding the said parameter is generated and the model is proved to represent 85% of the factors influencing success rate of organizational change. The influence of LMX-MDMs is hierarchized from contribution to loyalty and professional respect, with coefficients of 0.368, 0.329 and 0.126 respectively. The constant value of the model is 0.494. In connection, the fitness of the model is checked and confirmed. Therefore, given the values of LMX-MDM parameters, one can predict the outcome of an organizational change program with 85% accuracy. *(Details of the results and discussions of the analysis is are presented in section 4.5 and 4.6 of the study)*

5.3. Conclusions

Leader-Member Exchange Leadership, from its theoretical conception in the 70's, has evolved and is proven to assist organizational success in aspects of organizational performance. When it comes to public organizations, the same rule applies regardless of the general organizational missions.

As change is inevitable, organizations including the public ones, would undergo either forced or self-inflicted organizational change. Despite the push factor, changes are known to be complicated and tedious for most organizations. On the top of the same, predicting the success rate of a planned change, given some measurable organizational facts, implementation has always been a challenge for most organizations.

In point of fact, the success rate of organizational change mostly depends on the human factors some of which are commitment, change readiness and employee interpersonal relations. Considering interpersonal relations, the most determinant of the relations is the vertical dyad relation between leaders and their followers. This is where LMX leadership shall be introduced in organizational change implementation such that dictating the vertical dyad interpersonal relation of leaders and their followers.

The Ethiopian Roads Administration is one of the oldest governmental institutions that has continued to deliver its mission burdened by the successive governmental administrative. Currently, the administration arguably claims itself to be one of the best performing public institutions especially in contract administration and engineering procurement. If the claim is assumed true, to the slightest of possible degrees, it is normal to also assume the organization had been implementing organizational change with good quality.

Through this study, it is proved that, the sample employees believe that leader-member exchange leadership exists in a lower level. This is explored by the general mean of responses directed by the members of the sample, which stands a little afar from midway value of neutrality and alleging LMX existence. The mean of the response stands with a value of 3.60 on a 5 point scale, for which a value of 1 means no existence and 5 means complete presence.

In addition, it can be concluded that all measuring aspects of the LMX-MDM have a positive correlation to organizational change implementation. In other words, it is confirmed that in the Ethiopian Roads Authority, the quality of LMX leadership has a positive influence on success rate of organizational change. Based on the results of the correlational analysis it is concluded that loyalty and contribution dimensions of the LMX-MDM have the most influence on the dependent variable.

Lastly, is it concluded that despite the fact that the affect dimension has a positive relation to organizational change implementation, the magnitude of the effect is not statically significant. Moreover, it is confirmed that a model generated with the collected data hierarchizes the potential influences of the multidimensional parameters with coefficients. In conclusion, leader member leadership influences organizational change implementation in the Ethiopian Roads Authority. The extent by which the

earlier affects the latter is 85% and the remaining push factor shall be attributed to other unexplored factors.

Lastly, the Ethiopian Roads Administration can predict the success rate of any planned organizational change program based on the level of leader-member exchange leadership in the organization with a confidence level of 85%, provided that a representing data is collected from the employees using LMX-MDM scale.

5.4. Recommendations

As stated repeatedly, this study has pointed out the mild existence of leader-member exchange leadership in the Ethiopian Roads Administration. In addition, it is confirmed that LMX positively influences the success of organizational change implementation programs. Considering the deciding threshold of LMX in the success of change implementation in ERA, it is found that LMX significantly affects the same.

Thus, in view of the foregoing, the following points are recommended by the study to be adopted by the subject public institution:

- The ERA top management is advised to acknowledge leader-member exchange leadership theory as a contemporary leadership concept; further, as it is proved to positively influence many performance aspects of an institution the top management is encouraged to create enabling conditions for the leader-follower system and promote a good quality LMX.
- Specific to this study, LMX has shown a statically significant positive effect in realization of organizational change in ERA. Thus, the Ethiopian Roads Administration is strongly advised to institutionally adopt LMX leadership in order to increase the success rate of organizational change implementation.
- The ERA is recommended to use predefined prediction models before undertaking any organizational change. In doing so, the organization can prepare the field for the successful realization of change. Moreover, in doing so the organization might be enabled to devise change implementation strategies based on the results of the model.

5.5. Limitation and Suggestion for Further Study

As discussed under section 1.7 of this study the study is limited geographically to head office. However, change programs in the Ethiopian Roads Administration are expected to include all offices and branches that are scattered within the country. Thus, for future studies it is recommended that all branch offices are represented regardless of their geographical location.

In addition, since the scope of this study limited to study only the effect of LMX on implementation of organizational change, future studies are recommended to focus on exploring the effect of LMX on another aspects of the organization especially organizational performance.

It is recalled that, section 4.5 of this study has discussed that the ‘affect’ parameter of the LMX-MDM has no or little statistical significance in its influence on the dependent variable. Considering this is against most reviewed literatures which claimed that all parameters of the LMX-MDM influence change implementation. Hence, future studies are recommended to explore why such factual inconstancy occurred specific to the Ethiopian Roads Administration.

Despite concluding LMX has an effect on organization change implementation, this study has not commented on how to realize LMX type relations between leaders and followers. Therefore, future studies are recommended to scrutinize applicable strategies towards realizing LMX type relations in the ERA.

-/-

References

1. Graen, G. B., & Uhl-Bien, M. (1991). *The Transformation of Professionals into Self-Managing and Partially Self-Designing Contributors: Towards a Theory of Leadership-Making*. Lincoln: Maximilian Press.
2. Anderson, H. J., Baur, J. E., & Griffith, J. A. (2017). What works for you may not work for Me: Limitations of present leadership theories for the new generation. *The Leadership Quarterly*, 245-260.
3. Arif, M., Zahid, S., Kashif, U., & Sindhu, M. I. (2017). International Journal of Organizational Leadership relationship in organizational change management. *International Journal of Organizational Leadership*, 32-41.
4. Armenakis, A. A., Harris, S. G., & Mossholder, K. (2013). Creating Readiness for Organizational Change. *Human relations*, 46-72.
5. Audenaert, M., Decramer, A., George, B., & Bram, V. (2016). When employee performance management affects individual innovation in public organizations: the role of consistency and LMX. *The International Journal of Human Resource Management*, 815-834.
6. Ball, S. (2021, January 24). *Australian Institute of Business*. Retrieved from Key Factors for Successful Change Management: <https://www.aib.edu.au/blog/organisations-culture/7-key-factors-successful-change-management/>
7. Baruch, Y. (2008). Survey response rate levels and trends in organizational research. *SAGE Journals*, 1139-1160.
8. Bauer, T. N., & Erdogan, B. (2015). *Leader-member exchange (LMX) theory: The relational approach to leadership* *The Oxford Handbook of Leader-Member Exchange*. New York: Oxford University Press.
9. Bluman, A. G. (2014). *Elementary Statistics: A Step by Step Approach, Ninth Edition*. Penn Plaza: McGraw-Hill Education.
10. Breevaart, K., & Bakker, A. B. (2015). Leader-member exchange, work engagement, and job performance. *Journal of Managerial Psychology*, 754-770.

-
11. Cable, D. M. (2008). Employee Resistance to Organizational Change: Managerial Influence Tactics and Leader–Member Exchange. *Journal of Applied Psychology*, 453-462.
 12. Carter, L., Ulrich, D., & Goldsmith, M. (2005). *Best Practices in Leadership Development and Organization Change*. San Francisco: Pfeiffer, John Wiley & Sons, Inc.
 13. Checinski, M., Dillon, R., & Hiero, S. (2019, March 5). *Putting people at the heart of public-sector transformations*. Retrieved from www.mckinsey.com: <https://www.mckinsey.com/industries/public-and-social-sector/our-insights/putting-people-at-the-heart-of-public-sector-transformations>
 14. Chris, O., & Umemezia, E. (2019). Leader-member exchange and its implications on organization outcomes. *International Journal of Management Reviews*, 451-468.
 15. Chrusciel, D., & Field, D. W. (2003). From Critical Success Factors into Criteria for Performance Excellence – An Organizational Change Strategy. *Journal of Industrial Technology*, 22-38.
 16. Côrtes, M. G., Santos, M. G., & Elizabeth, K. P.-P. (2019). Multidimensional Measure of Leader-Member Exchange: Psychometric Properties. *Psico-USF*, 569-581.
 17. Coyle-Shapiro, J., & Shore, L. M. (2007). The employee-organization relationship: where do we go from here? *Human resource management review*, 166-179.
 18. Cropanzano, R., & Mitchell, M. (2005). Social Exchange Theory: An Interdisciplinary Review. *Journal of Management*, 874-900.
 19. Daft, R. L. (2005). *Types of Planned Change*. Chennai: Thoman South Western.
 20. Dam, v. K., Oreg, S., & Schyns, B. (2008). Daily work contexts and resistance to organizational change: the role of leader-member exchange, development climate, and change process characteristics. *Applied Psychology : An International Review*, 313-334.

-
21. Dansereau, F. J., Graen, G., & Haga, W. J. (1975). A vertical dyad linkage approach to leadership within formal organizations: A longitudinal investigation of the role making process. *Organizational Behavior and Human Performance*, 46-78.
 22. Deserti, A., & Rizzo, F. (2015). Design and Organizational Change in the Public Sector. *The Design Management Institute* , 85-98.
 23. Diefenbach, T. (2009). New Public Management in Public Sector Organizations: The Dark Sides of Managerial Enlightenment. *Public Administration Insight* , 892-909.
 24. Dulebohn, J. H., Bommer, W. H., Liden, R. C., Brouer, R. L., & Ferris, G. R. (2011). A meta-analysis of antecedents and consequences of leader-member exchange: Integrating the past with an eye toward the future. *Journal of Management*, 1715-1759.
 25. Engle , E. M., & Lord, R. G. (1997). Implicit theories, self-schemas, and leader-member exchange. *Academy of Management Journal*, 988–1010.
 26. Epitropaki, O., & Martin, R. (2005). From Ideal to Real: A Longitudinal Study of the Role of Implicit Leadership Theories on Leader–Member Exchanges and Employee Outcomes. *Journal of Applied Psychology*, 659-676.
 27. Flynn, N. (2007). *Public sector management*. New York: SAGE Publications Limited.
 28. George, B. G., & Mary, U.-B. (1995). Relationship-Based Approach to Leadership: Development of Leader-Member Exchange (LMX) Theory of Leadership over 25 Years: Applying a Multi-Level Multi-Domain Perspective. *Leadership Quarterly*, 219-247.
 29. Hao, M. J., & Rashad, Y. (2015). How Effective Leadership can Facilitate Change in Organizations through Improvement and Innovation. *Global Journal of Management and Business Research*, 12-23.
 30. Hayes, A. (2021, March 1). *Financial Analysis - Descriptive Statistics*. Retrieved from [Investopedia: https://www.investopedia.com/terms/d/descriptive_statistics.asp](https://www.investopedia.com/terms/d/descriptive_statistics.asp)

-
31. Joseph, D. L., Newman, D. A., & Sin, H.-P. (2011). *Leader–Member Exchange (LMX) Measurement: Evidence for Consensus, Construct Breadth, and Discriminant Validity*. Bingley: Emerald Group Publishing Limited.
 32. Jung, C. S. (2014). Organizational Goal Ambiguity and Job Satisfaction in the Public Sector . *Journal of Public Administration Research and Theory*, 955-981.
 33. Kelley, B. (2016). *Charting Change*. New York: Palgrave Macmillan.
 34. Kenny, D. A., & Little, T. D. (2017). *Regression Analysis and Linear Models*. New York: The Guilford Press.
 35. Kotter, J. P. (1995). *Leading Change, why Transformation Efforts Fail*. Boston: Harvard Business Review.
 36. Kraimer, M. L., Robert, L. C., & Berrin, E. (2006). Justice and Leader-Member Exchange: The Moderating Role of Organizational Culture. *Academy of Management Journal*, 395-406.
 37. Kumar, R. (2011). *Research Methodology Guide*. London : SAGE Publications Ltd.
 38. Langton, N., Robbins, S. P., Judge, T. A., & Breward, K. (2016). *Organizational Behaviour: Concepts, Controversies, Applications*. Ontario: Pearson Canada Inc.
 39. Lavrakas, P. J. (2008). *Encyclopedia of Survey Research Methods*. Thousand Oaks: SAGE Publications.
 40. Leavy, P. (2017). *Research Design: Mixed Methods* . New York: The Guilford Press.
 41. Lewis, L. K. (2011). *Organizational Change Creating Change Through Strategic Communication*. Chichester: John Wiley & Sons Ltd.
 42. Liden, R. C., & Dienesch, R. M. (1986). Leader-member exchange model of leadership: A critique and further development. *The Academy of Management Review*, 618-634.
 43. Liden, R. C., & Maslyn, J. (1998). Multidimensionality of Leader-Member Exchange: An Empirical Assessment through Scale Development. *Journal of Management*, 43-72.

-
44. Litwin, M. S., & Fink, A. (1995). *How to Measure Survey Reliability and Validity*. Thousand Oaks: SAGE Publications.
45. Martin, R., Guillaume, Y., Thomas, G., Lee, A., & Egitrop, O. (2015). Leader–Member Exchange (LMX) and Performance: A Meta-Analytic Review. *Personnel Psychology*, 67-121.
46. Martin, R., Thomas, G., Legood, A., & Dello Russo, S. (2017). Leader–member exchange (LMX) differentiation and work outcomes: Conceptual clarification and critical review. *Journal of Organizational Behavior*, 151-168.
47. Maslyn, J., & Uhl-Bien, M. (2001). Leader-member exchange and its dimensions: Effects of self-effort and other's effort on relationship quality. *Journal of Applied Psychology*, 697-708.
48. McAllister, S. (2020, April 11). *www.empower.prosci.com* . Retrieved from [www.prosci.com : https://empower.prosci.com/measuring-the-effectiveness-of-change-management](https://empower.prosci.com/measuring-the-effectiveness-of-change-management)
49. McNulty, T., & Ferlie, E. (2004). Process Transformation: Limitations to Radical Organizational Change within Public Service Organizations. *SAGE Journals*, 1389-1412.
50. Michael, B., & Anna, W. E. (2017). Organizational change and development. *Annual Review of Psychology*, 339–367.
51. Miles, J. (2014, September 29). *Tolerance and Variance Inflation Factor*. Retrieved from Wiley Online Library: <https://doi.org/10.1002/9781118445112.stat06593>
52. Moore, M. E. (2018). *An Exploration of the Causes of Success and Failure of Managed Change*. Minneapolis: Walden University Scholar Works.
53. Munshi, J. D., & Haque, S. (2017). Leader-LMX and Follower-LMX Impact Similarly on Dyad Exchange as Measured on LMX-7-scale. *International Journal on Leadership*, 11-22.
54. Myers, J. L., & Well, A. D. (2002). *Research Design and Statistical Analysis*. Mahwah: Lawrence Erlbaum Associates, Inc. Publishers.

-
55. Nigus, A. G. (2020). *The Effect of Leader-Member Exchange Leadership on Employee Readiness for Organizational Change: The Case of East Africa Bottling Share Company*. Addis Ababa.
 56. Okharedia, A. A. (2015). Understanding the relationship between leader member exchange (LMX) and organizational commitment. *The Business and Management Review*, 50-68.
 57. Pasmore, W. A., Shani , A. B., & Woodman, R. W. (2010). *Built to Change Organizations and Responsible Progress: Twin Pillars of Sustainable Success*. Bingley: Emerald Group Publishing Limited.
 58. Pitman, B. (1994). Critical success factors to organizational change. *Journal of Systems Management* , 40-41.
 59. Schein, E. H. (2004). *Organisational Culture and Leadership*. San Francisco: Jossey-Bass.
 60. Schriesheim, A. C., Castro, S. L., & Cogliser, C. (1999). Leader-member exchange (LMX) research: A comprehensive review of theory, measurement, and data-analytic practices. *The Leadership Quarterly*, 63-113.
 61. Sekaran, U., & Roger, B. (2016). *Research Methods for Business*. West Sussex: John Wiley & Sons Ltd.
 62. Sin, H.-P., Nahrgang, J. D., & Morgeso, F. P. (2009). Understanding Why They Don't See Eye to Eye: An Examination of Leader–Member Exchange (LMX) Agreement. *Journal of Applied Psychology*, 1048 –1057.
 63. Smith, M. E. (2002). Success rates for different types of organizational change. *Journal of Performance Improvement*, 26-33.
 64. Stacie , A. F., & Daniel , M. C. (2008). Employee Resistance to Organizational Change: Managerial Influence Tactics and Leader–Member Exchange. *American Psychological Association*, 453-462.
 65. Szamosi, L. T. (2015). Development of a measure to assess organizational change. *Journal of Organizational Change Management*, 184-201.

-
66. Usman, T., Ramsha, M., Mushtaq, A., & Ajmal, W. (2014). Impact of Leader Member Exchange on Organizational Performance and Commitment with Organizational Culture as Moderator: A Non-Monetary Tactic to Enhance Outcome. *International Journal of Scientific & Engineering Research*, 92-117.
 67. Voet, J. (2016). Change leadership and public sector organizational change. *The American Review of Public Administration*, 660-682.
 68. Weiner, B. J. (2009). A theory of Organizational Readiness for Change. *Implementation Science*, 4-27.
 69. Williams, M. L., Podsakoff, P. M., & Hu, V. (1992). Effects of group-level and individual-level variation in leader behaviours on subordinate attitudes and performance. *Journal of Occupational and Organizational Psychology*, 115-129.
 70. Winston, B. E., & Kathleen, P. (2006). An Integrative Definition of Leadership. *International Journal of Leadership Studies*, 6-66.
 71. Yukl, G. (2010). *Leadership in Organizations*. New Jersey: Prentice Hall.

Annex-I: Data Collection Tool

Questionnaire (For Members)

No.	Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. LMX - Multidimensional Measure						
Affect						
1.	I like my supervisor very much as a person.					
2.	My supervisor is the kind of person one would like to have as a friend.					
3.	My supervisor is a lot of fun to work with.					
Loyalty						
4.	My supervisor defends my work actions to a superior, even without complete knowledge of the issue in question.					
5.	My supervisor would come to my defense if I were "attacked" by others.					
6.	My supervisor would defend me to others in the organization.					
Contribution						
7.	I do work for my supervisor that goes beyond what is specified in my job description.					
8.	I am willing to apply extra efforts, beyond those normally required, to meet my supervisor's work goals.					
9.	I do not mind working my hardest for my supervisor.					
Professional Respect						
10.	I am impressed with my supervisor's knowledge of his/her job.					
11.	I respect my supervisor's knowledge of and competence on the job.					
12.	I admire my supervisor's professional skills.					
2. Organizational Change Success Measurement						
Organizational Level						
1.	The organization has effectively communicated the need for change for employees and stakeholders.					
2.	The organizational performance is improved because of the change.					

<i>No.</i>	<i>Question</i>	<i>Strongly Disagree</i>	<i>Disagree</i>	<i>Neutral</i>	<i>Agree</i>	<i>Strongly Agree</i>
3.	The objectives of the initiated change are met.					
4.	The goals of the initiated change are common throughout the organization.					
5.	The organization has successfully prevented bureaucracy and favoritism.					
Individual Level						
6.	I have fully understood the needs for change and its goals.					
7.	I have fully accepted the change plan and acted according to my assignment.					
8.	My professional behavior is influenced positively by the change.					
9.	I have successfully solved the problems I faced in my journey.					
10.	I was confident I could handle the new normal and adjusted myself accordingly.					
Change Leadership Level						
11.	My supervisor was ready to assist me to solve the problems I encountered.					
12.	My superior was clearly communicating issues related to change.					
13.	My supervisor was consistent in decision while leading the change					
14.	My supervisor has been protecting me from excessive workload.					
15.	My supervisor was following my performance and giving me advises on improvement ideas.					

Questionnaire (For Leaders)

No.	Question	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
1. LMX - Multidimensional Measure						
Affect						
1.	I like my subordinate very much as a person.					
2.	My subordinate is the kind of person one would like to have as a friend.					
3.	My subordinate is a lot of fun to work with.					
Loyalty						
4.	My subordinate defends my work actions to a superior, even without complete knowledge of the issue in question.					
5.	My subordinate would come to my defense if I were "attacked" by others.					
6.	My subordinate would defend me to others in the organization.					
Contribution						
7.	I do work for my subordinate that goes beyond what is specified in my job description.					
8.	I am willing to apply extra efforts, beyond those normally required, to meet my subordinate's work goals.					
9.	I do not mind working my hardest for my subordinate.					
Professional Respect						
10.	I am impressed with my subordinate's knowledge of his/her job.					
11.	I respect my subordinate's knowledge of and competence on the job.					
12.	I admire my subordinate's professional skills.					
2. Organizational Change Success Measurement						
Organizational Level						
1.	The organization has effectively communicated the need for change for employees and stakeholders.					

2.	The organizational performance is improved because of the change.					
3.	The objectives of the initiated change are met.					
4.	The goals of the initiated change are common throughout the organization.					
5.	The organization has successfully prevented bureaucracy and favoritism.					
Individual Level						
6.	I have fully understood the needs for change and its goals.					
7.	I have fully accepted the change plan and acted according to my assignment.					
8.	My professional behavior is influenced positively by the change.					
9.	I have successfully solved the problems I faced in my journey.					
10.	I was confident I could handle the new normal and adjusted myself accordingly.					
Change Leadership Level						
11.	I was ready to assist my subordinates to solve the problems they encountered.					
12.	I was clearly communicating issues related to change.					
13.	I was consistent in decision while leading the change					
14.	I have been protecting my subordinates from excessive workload. (<i>during the execution of the change</i>)					
15.	My supervisor was following my performance and giving me advises on improvement ideas.					

Annex-II: Collected Raw Data

No	Sex	Age	Edu. Lev.	Exper in Org.	LMX - MDM												Organizational Change Implementation														
					Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 13	Q 14	Q 15
1	M	2	3	3	4	4	3	5	4	3	5	4	4	5	3	4	4	4	4	5	4	3	5	5	4	4	4	4	2	3	4
2	M	2	3	4	4	5	4	4	4	4	4	4	3	5	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	3	
3	M	2	3	4	5	5	4	5	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
4	M	3	3	4	4	4	4	4	4	4	4	5	4	4	3	4	4	5	4	4	4	4	5	5	4	4	4	3	3	3	
5	M	3	3	5	4	5	4	4	4	4	4	4	3	5	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	3	
6	M	2	4	3	4	4	3	3	4	3	4	4	4	5	4	4	4	4	4	3	3	4	3	4	4	4	4	3	3	3	
7	M	2	3	4	5	5	4	5	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
8	F	2	4	5	4	4	4	4	3	4	4	4	3	4	3	4	3	4	4	4	4	3	3	4	3	4	3	3	3	3	
9	M	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3	
10	M	2	4	4	5	5	4	5	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
11	M	2	3	4	4	4	4	4	3	4	4	4	4	5	4	4	4	4	5	5	5	4	5	4	4	4	4	3	3	4	
12	M	2	3	4	4	4	4	4	3	4	4	4	3	4	3	4	3	4	4	4	4	3	3	4	3	4	3	3	3	3	
13	F	2	3	5	4	5	4	4	4	4	4	4	3	5	4	4	4	4	4	4	3	4	4	4	4	4	4	3	4	3	
14	F	4	3	5	5	5	4	5	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
15	M	3	3	5	4	4	4	4	3	4	4	4	3	4	3	4	3	4	4	4	4	3	3	4	3	4	3	3	3	3	
16	F	3	3	5	5	5	4	5	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
17	M	3	3	4	4	4	4	4	4	4	4	5	4	4	3	4	4	4	4	4	3	4	4	4	5	5	4	4	3	3	
18	M	4	5	5	4	5	4	4	4	4	4	4	3	5	4	4	4	4	4	4	3	4	4	4	4	4	4	3	4	3	

No	Sex	Age	Edu. Lev.	Exper in Org.	LMX - MDM											Organizational Change Implementation														
					Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 13	Q 14
19	M	2	4	3	4	4	3	3	4	3	4	4	4	5	4	4	4	4	4	3	3	4	3	4	4	4	3	3	3	3
20	M	3	3	5	5	5	4	5	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4
21	F	2	4	3	4	4	4	3	3	3	4	5	4	4	3	3	3	2	3	3	3	4	3	4	4	4	3	3	3	3
22	M	3	3	3	4	4	3	3	4	3	4	4	4	5	4	4	4	4	3	3	4	3	4	4	4	4	3	3	3	3
23	M	2	4	3	5	5	4	5	4	4	4	4	4	4	5	4	4	4	3	3	4	3	3	4	4	4	4	3	3	4
24	M	3	3	3	5	5	4	5	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4
25	F	3	4	3	4	4	4	4	3	4	4	4	3	4	3	4	3	4	4	4	4	3	3	4	4	3	3	3	3	3
26	M	4	3	3	4	4	4	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	4	4	3	3	3	3
27	F	1	3	2	4	4	4	3	3	3	4	5	4	4	3	3	3	2	3	3	3	4	3	4	4	4	3	3	3	3
28	M	1	3	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
29	F	1	3	2	3	3	3	2	2	3	3	2	2	2	3	3	2	4	3	2	2	2	3	2	3	3	3	3	3	2
30	M	1	3	1	2	2	1	2	2	2	3	2	2	2	3	3	2	2	1	3	2	3	3	3	2	2	1	2	2	2
31	M	2	3	2	4	4	4	4	4	4	4	5	4	4	3	4	4	4	4	3	4	4	4	5	5	4	4	3	3	3
32	M	1	3	2	4	5	4	4	4	4	4	4	3	5	4	4	4	4	4	3	4	4	4	4	4	4	4	3	4	3
33	M	1	3	2	4	4	3	3	4	3	4	4	4	5	4	4	4	3	3	4	3	4	4	4	4	4	3	3	3	3
34	F	1	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
35	M	1	3	2	3	3	3	2	2	3	3	2	2	2	3	3	2	4	3	2	2	2	3	2	3	3	3	3	3	2
36	M	2	4	2	4	4	4	3	2	2	3	3	2	2	2	3	2	3	2	2	2	3	3	2	3	3	3	3	3	4

No	Sex	Age	Edu. Lev.	Exper in Org.	LMX - MDM											Organizational Change Implementation														
					Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 13	Q 14
37	F	2	3	3	2	2	1	2	2	2	3	2	2	3	3	2	2	2	2	1	3	2	3	3	3	2	1	2	2	2
38	M	1	3	2	4	4	4	2	3	4	4	4	4	5	4	4	4	4	5	5	5	4	5	4	4	4	3	3	4	
39	F	2	3	3	4	4	4	2	3	4	4	4	3	4	3	4	4	4	4	4	4	3	3	4	3	3	3	3	3	
40	F	2	2	2	4	5	4	4	4	4	4	4	3	5	4	4	4	4	3	4	4	4	4	4	4	4	3	4	3	
41	M	1	3	2	5	5	4	5	4	4	4	4	4	4	5	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
42	F	2	3	3	4	4	4	2	3	4	4	4	3	4	3	4	3	4	4	4	4	3	3	4	3	3	3	3	3	
43	F	2	3	3	5	5	4	3	4	4	4	4	4	4	5	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
44	M	2	3	2	4	4	4	4	4	4	4	5	4	4	3	4	4	5	4	4	4	4	5	5	4	4	3	3	3	
45	M	2	2	2	4	5	4	2	4	4	4	4	3	5	4	4	4	4	3	4	4	4	4	4	4	4	3	4	3	
46	M	2	3	2	2	2	1	2	2	2	3	2	2	2	3	3	2	2	1	3	2	3	3	3	2	1	2	2	2	
47	M	2	3	2	5	5	4	2	4	4	4	4	4	4	5	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
48	M	2	3	3	4	4	4	3	3	3	4	5	4	4	3	3	3	2	3	3	3	4	3	4	4	3	3	3	3	
49	M	1	3	1	4	4	3	3	4	3	4	4	4	5	4	4	4	3	3	4	3	4	4	4	4	3	3	3	3	
50	F	1	3	1	5	5	4	2	4	4	4	4	4	4	5	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
51	M	1	3	1	5	5	4	2	4	4	4	4	4	4	5	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
52	F	1	2	2	4	4	4	3	3	4	4	4	3	4	3	4	3	4	4	4	4	3	3	4	3	3	3	3	3	
53	F	1	3	1	4	4	4	3	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	4	3	3	3	3	
54	F	4	1	4	4	4	4	3	3	3	4	5	4	4	3	3	3	2	3	3	3	4	3	4	4	3	3	3	3	

No	Sex	Age	Edu. Lev.	Exper in Org.	LMX - MDM											Organizational Change Implementation														
					Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 13	Q 14
55	M	2	3	1	5	5	4	2	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
56	M	2	2	2	4	4	3	2	4	3	5	4	4	5	3	4	4	4	5	4	3	5	5	4	4	4	4	2	3	4
57	F	1	3	1	4	5	4	4	4	4	4	4	3	5	4	4	4	4	4	3	4	4	4	4	4	4	3	4	3	
58	F	2	3	2	5	5	4	2	4	4	4	4	4	4	5	4	4	4	3	3	4	3	3	4	4	4	4	3	3	4
59	M	1	4	2	4	4	4	4	4	4	4	5	4	4	3	4	4	5	4	4	4	4	5	5	4	4	3	3	3	
60	M	2	4	2	4	5	4	4	4	4	4	4	3	5	4	4	4	4	4	4	3	4	4	4	4	4	3	4	3	
61	F	1	3	2	4	4	3	2	4	3	5	4	4	5	3	4	4	4	4	5	4	3	5	5	4	4	4	2	3	4
62	F	3	3	3	4	5	4	4	4	4	4	4	3	5	4	4	4	4	4	3	4	4	4	4	4	4	3	4	3	
63	M	2	3	3	5	5	4	2	4	4	4	4	4	4	5	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
64	M	1	3	3	4	4	4	4	4	4	4	5	4	4	3	4	4	4	4	4	3	4	4	4	5	5	4	4	3	3
65	M	2	2	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
66	M	2	3	3	3	3	3	2	2	3	3	2	2	2	3	3	2	2	2	3	2	2	2	3	2	3	3	3	3	2
67	M	3	3	2	2	2	1	2	2	2	3	2	2	2	3	3	2	2	1	3	2	3	3	3	3	2	1	2	2	2
68	M	2	3	3	4	4	4	3	4	4	4	5	4	4	3	4	4	4	4	3	4	4	4	5	5	4	4	3	3	3
69	F	3	3	2	4	5	4	3	4	4	4	4	3	5	4	4	4	4	4	3	4	4	4	4	4	4	3	4	3	3
70	M	2	3	3	4	4	3	3	4	3	4	4	4	5	4	4	4	3	3	4	3	4	4	4	4	3	3	3	3	3
71	F	2	3	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
72	F	3	3	2	3	3	3	2	2	3	3	2	2	2	3	3	2	2	2	3	2	2	2	3	2	3	3	3	3	2

No	Sex	Age	Edu. Lev.	Exper in Org.	LMX - MDM												Organizational Change Implementation														
					Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 13	Q 14	Q 15
73	F	3	3	3	4	4	4	3	2	2	3	3	2	2	2	3	2	3	3	2	3	2	2	3	3	2	3	3	3	3	4
74	M	2	3	2	5	5	4	2	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
75	M	1	3	2	4	4	4	4	3	4	4	4	3	4	3	4	3	4	4	4	3	3	3	4	3	3	3	3	3	3	
76	F	1	4	3	5	5	4	3	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
77	F	1	3	3	2	2	1	2	2	2	3	2	2	2	3	3	2	2	2	1	3	2	3	3	3	2	1	2	2	2	
78	M	1	3	3	4	5	4	4	4	4	4	4	3	5	4	4	4	4	4	4	3	4	4	4	4	4	4	3	4	3	
79	M	2	2	3	4	4	3	3	4	3	4	4	4	5	4	4	4	4	4	3	3	4	3	4	4	4	3	3	3	3	
80	M	1	3	1	5	5	4	3	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
81	M	2	3	2	4	4	4	3	3	3	4	5	4	4	3	3	3	3	2	3	3	3	4	3	4	4	3	3	3	3	
82	M	1	4	2	4	4	3	3	4	3	4	4	4	5	4	4	4	4	4	3	3	4	3	4	4	4	3	3	3	3	
83	M	2	4	2	5	5	4	3	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
84	F	1	3	1	5	5	4	3	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
85	M	3	3	3	4	4	4	4	3	4	4	4	3	4	3	4	3	4	4	4	4	4	3	3	4	3	3	3	3	3	
86	M	2	3	2	4	4	4	4	4	4	4	4	4	4	4	4	3	3	4	3	4	4	4	4	4	4	3	3	3	3	
87	M	1	3	1	4	4	4	3	3	3	4	5	4	4	3	3	3	3	2	3	3	3	4	3	4	4	3	3	3	3	
88	F	4	1	5	5	5	4	3	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
89	M	2	3	2	4	4	3	3	4	3	5	4	4	5	3	4	4	4	5	4	3	5	5	4	4	4	4	2	3	4	
90	M	3	3	3	4	5	4	4	4	4	4	4	3	5	4	4	4	4	4	4	3	4	4	4	4	4	4	3	4	3	

No	Sex	Age	Edu. Lev.	Exper in Org.	LMX - MDM												Organizational Change Implementation														
					Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 13	Q 14	Q 15
91	M	2	3	2	5	5	4	3	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4	
92	M	3	3	3	4	4	4	4	4	4	4	5	4	4	3	4	4	5	4	4	4	4	5	5	4	4	3	3			
93	F	2	3	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	
94	M	4	2	4	3	3	3	2	2	3	3	2	2	2	3	3	2	2	2	3	2	3	3	3	3	3	3	3	2		
95	M	3	3	3	4	4	4	3	2	2	3	3	2	2	2	3	2	2	3	3	2	3	3	2	3	3	3	3	4		
96	F	3	3	3	4	4	4	4	4	4	4	5	4	4	3	4	4	5	4	4	4	5	5	4	4	3	3				
97	F	2	3	2	4	5	4	4	4	4	4	4	3	5	4	4	4	4	4	4	4	4	4	4	4	3	4	3			
98	M	1	3	1	4	4	3	3	4	3	4	4	4	4	5	4	4	3	3	4	4	4	4	3	3	3	3	3			
99	F	1	4	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4			
100	F	1	3	1	3	3	3	2	2	3	3	2	2	2	3	3	2	2	2	3	2	3	3	3	3	3	3	2			
101	M	1	3	1	4	4	4	3	2	2	3	3	2	2	2	3	2	2	3	3	2	3	3	2	3	3	3	3	4		
102	M	1	3	1	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	3	3	3	3		
103	M	2	4	2	5	5	4	3	4	4	4	4	4	4	5	4	4	3	3	4	3	3	4	4	4	3	3	4			
104	F	2	3	2	4	4	4	3	3	4	4	4	4	5	4	4	4	5	5	5	4	5	4	4	4	3	3	4			
105	M	2	3	2	4	4	4	2	3	4	4	4	3	4	3	4	3	4	4	4	3	3	4	3	3	3	3	3			
106	M	1	3	1	4	5	4	4	4	4	4	4	3	5	4	4	4	3	4	4	4	4	4	4	4	3	4	3			
107	F	2	3	2	2	2	1	2	2	2	3	2	2	2	3	3	2	2	3	3	3	3	3	2	1	2	2	2			
108	M	2	3	2	4	4	4	3	3	4	4	4	3	4	3	4	3	4	4	4	4	3	3	4	3	3	3	3			

No	Sex	Age	Edu. Lev.	Exper in Org.	LMX - MDM											Organizational Change Implementation																
					Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 1	Q 2	Q 3	Q 4	Q 5	Q 6	Q 7	Q 8	Q 9	Q 10	Q 11	Q 12	Q 13	Q 14	Q 15	
109	F	3	3	3	5	5	4	2	4	4	4	4	4	4	5	4	4	4	4	3	3	4	3	3	4	4	4	3	3	4		
110	F	3	3	3	4	4	4	4	4	4	4	5	4	4	3	4	4	5	4	4	4	4	5	5	4	4	3	3				
111	M	2	3	2	4	5	4	4	4	4	4	4	3	5	4	4	4	4	4	4	4	4	4	4	4	3	4	3				
112	F	1	3	2	4	4	3	3	4	3	4	4	4	5	4	4	4	4	3	3	4	3	4	4	4	3	3	3	3			
113	F	1	2	1	5	5	4	3	4	4	4	4	4	4	5	4	4	4	3	3	4	3	3	4	4	4	3	3	4			
114	M	1	3	2	2	2	1	2	2	2	3	2	2	2	3	3	2	2	2	1	3	2	3	3	3	2	1	2	2	2		
115	M	1	4	1	4	4	3	3	4	3	4	4	4	5	4	4	4	4	3	3	4	3	4	4	4	3	3	3	3			
116	M	1	3	2	5	5	4	3	4	4	4	4	4	4	5	4	4	4	3	3	4	3	3	4	4	4	3	3	4			
117	F	2	3	2	5	5	4	3	4	4	4	4	4	4	5	4	4	4	3	3	4	3	3	4	4	4	3	3	4			
118	M	2	3	2	4	4	4	4	3	4	4	4	3	4	3	4	3	4	4	4	4	3	3	4	3	3	3	3	3			
119	M	2	2	2	4	4	4	2	4	4	4	4	4	4	4	4	4	4	3	4	4	4	4	4	4	3	3	3	3			
120	F	1	3	1	4	4	4	4	4	4	4	5	4	4	3	4	4	4	4	3	4	4	4	5	5	4	4	3	3			
121	M	2	3	2	4	4	4	2	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4			
122	F	2	3	3	2	2	1	2	2	2	3	2	2	2	3	3	2	2	1	3	2	3	3	3	2	1	2	2	2			
123	F	1	3	1	4	4	4	3	2	2	3	3	2	2	2	3	2	3	2	2	3	3	2	3	3	3	3	3	4			
124	F	2	2	2	4	4	4	4	4	4	4	5	4	4	3	4	4	4	3	4	4	4	5	5	4	4	3	3				
125	M	1	3	2	4	5	4	4	4	4	4	4	3	5	4	4	4	4	3	4	4	4	4	4	4	3	4	3				
126	M	1	3	2	2	2	1	2	2	2	3	2	2	2	3	3	2	2	1	3	2	3	3	3	2	1	2	2	2			

