# The effects of Transformational Leadership on Tacit Knowledge Sharing in Higher Education Institutions in Addis Ababa: The Mediating Effect of Adhocracy Culture

**Zewditu Girma[1] and Mulu Melaku[2]**

*Abstract*

*The purpose of this study was to examine the significant effects of transformational leadership on tacit knowledge sharing through adhocracy culture in the context of Higher Education Institutions in Addis Ababa. In validating the posited theoretical model, the study used quantitative research method with descriptive and explanatory designs. Using a self-administrated questionnaire, 82 sample responses were collected by using simple random sampling technique from employees working in two private and two government universities in Addis Ababa. In testing the direct effects of transformational leadership and indirectly through adhocracy culture in predicting tacit knowledge sharing, a correlation test followed by stepwise regression analysis and mediation test was performed. The results of this study provided empirical evidence that transformational leadership style would have no significant effect directly on the tacit knowledge-sharing behavior of followers, while it has a significant effect indirectly through adhocracy culture in the organization. Theoretically, the study contributes to the body of knowledge in leadership literature, while practically, the study findings contribute in revealing that leaders with transformational behavior would be more successful in raising tacit knowledge-sharing behavior of employees when they can maintain the adhocracy culture in the organizations.*

**Keywords***: Adhocracy Culture, Higher Educational Institution, Tacit Knowledge Sharing, Transformational Leadership.*

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# 1. INTRODUCTION

## 1.1. Background of the Study

Higher Education Institutions (HEIs) are knowledge-intensive organizations comprised of experts who contribute to the delivery of knowledge base education and idea generation (Chugh, 2015; Dhamdhere, 2015; Murumba, et al., 2020; Owusu- Agyeman, 2019). They are the core producers of new science and are centers of knowledge-creating, delivering, and learning for society. To compete in the global pressures, extracurricular activities, research, interdisciplinary subjects, and complexity of the global education market in today's knowledge economy, suitable policies need to be designed regarding the information and knowledge sharing among academic professionals within HEIs (Dhamdhere, 2015). Universities, like other institutions, play a crucial role in advancing knowledge management practices (Bekele, 2018). Therefore, it is imperative for academic leaders in HEIs and staff to prioritize knowledge and experience sharing, as underscored by Murumba, et al. (2020) and Suppiah and Sandhu (2011).

There are two types of knowledge viz. explicit knowledge and Tacit Knowledge (Chugh, 2015; Dhamdhere, 2015; Murumba, et al., 2020). Explicit Knowledge is recorded and well-documented information expressed in formal language; articulated, captured, presented, and codified in various forms of sort of printed books and journals and digital assets and policies; and shared without the need for discussion. Tacit knowledge is considered as skills, ideas, and experiences that people may have in their minds but often not codified, hence, difficult to access (Bratianu, 2013; Dhamdhere, 2015). Tacit knowledge may indicate an organization's innovativeness and is a foundation of the organization's competitive advantage (Philemon, 2008; Ipe, 2003; Nonaka, 1994; Suppiah and Sandhu, 2011). As 75 percent or more of an organization's knowledge may be categorized into tacit knowledge, HEIs have to manage their tacit knowledge to take advantage of the existing professional capabilities or skills, talent, and experience for their innovative performance and sustainable development in the modern global economy (Chugh, 2015; Suppiah and Sandhu, 2011).

Theoretical and empirical literature revealed that leadership has been regarded as one of the most important factors in determining organizational knowledge sharing (Bartol and Srivastava, 2002; Chennamaneni, 2006; Gachoka, 2018; Hossein and Ahmadi, 2013; Kidwell, et al., 2000; Murumba, et al., 2020; Waheeda and Shaheeda, 2016). Leaders in HEIs should have the ability to

establish harmonious relationships with the community, apply leadership principles by the level of subordinate maturity, work with the higher education (HE) management team, and successfully realize HE goals productively by predetermined provisions (Amey, 2006; Avey, et al., 2008; Kwek, et al., 2010; Zhang, et al., 2017). Even though leadership styles used in HE differs from one leader to another according to their organizational values (Dunn, et al., 2012), transformational leadership is a type of leadership, that is required nowadays in the practice of HE management (Amey, 2006; Sunaengsih, et al., 2021; Zhang, et al., 2017) and for the effectiveness of HEI's culture through influencing followers' attitudes and building commitment in major changes in the organization's objectives and strategies (Al-Husseini and Elbeltagi, 2018; Lin and Hsiao, 2014, and Owusu-Agyeman, 2019).

As argued by several scholars, knowledge sharing behavior may be significantly predicted by transformational leadership, through developing a collaborative culture, facilitating multi-disciplinary teamwork, and developing learning and knowledge management strategies in organizations (Al-Husseini and Elbeltagi, 2018; Befekadu, 2014; Lin and Hsiao, 2014; Sayyadi, 2019). Transformational leader ideally influences through role modeling, openness to sharing of ideas, exploring new opportunities in terms of power, charisma, self-confidence, trust and consistency, and high ethical and moral conduct (Onwubiko, 2022; Lee and Ahn, 2007; Smith, et al., 2004; Srivastava, et al., 2006). This leader inspirationally motivates followers by demonstrating enthusiasm and optimism, communicating expectations and shared vision, and integrating followers' mental and emotional participation into the organization's day-to-day operations and decision-making processes (Bass and Avolio, 1993; Chugh, 2015; Sunaengsih, et al., 2021; Waheeda and Shaheeda, 2018).

Additionally, this intellectually stimulates the leader and values creativity and autonomy among the followers and instills behaviors that encourage followers to be innovative and creative by questioning assumptions, reframing problems, and looking at old problems in new ways (e.g., Bass and Avolio, 1993; Herman and Michel, 2010). The individualized consideration of a transformational leader addresses the specific needs and desires of followers and maintains the well-being and integrity of others, which would be the key element in developing the followers' leadership potential and at the same time influence their attitude towards tacit knowledge-sharing (Bass, 1997; Bass and Bass, 2008). The transformational leader develops a sense of concern and

focuses on ensuring that followers can meet increased productivity, and various needs and goals of an organization (Hallinger, 2003), which in turn would enhance employees' willingness, positive cultural perceptions, and values to tacit knowledge sharing.

Furthermore, as revealed in the literature, organizational culture has significant effects on the behaviors of employees and leadership since it affects the flexibility of the organization for improved innovation and the freedom of employees to explore new opportunities and the workflow (Chen and Huang, 2007; Kim and Lee, 2006; Lin and Hsiao, 2014; Hossein, 2013; Rowley, 2000). As knowledge sharing is not a sole activity of any single person, it calls for collaborative activity for which organizational culture factors are seen as key indicators of the preparedness of individuals to share tacit knowledge (Bryman, 2007; Crawford, 1995; Hossein and Ahmadi, 2013; Sayyadi, 2019). Moreover, a supportive and innovative culture encourages knowledge sharing as individuals can freely relate and explore new things creating both shared understandings of problems and building trust-based relationships (DuBrin, 2016; Grant, 1996; Kim and Lee, 2006; Lin and Hsiao, 2014; Rowley, 1990; Rutten et al., 2016; Sayyadi, 2019).

Among various types of organizational culture, adhocracy culture is a culture that allows creativity, adaptation, innovation, and flexibility with external responses in a dynamic and entrepreneurial workplace, in which employees are empowered and risks taking is encouraged (Khurosani, 2013; Suppiah and Sandhu, 2011; Seng, 2010). Organizations dominant in this culture type are generally organic and not mechanistic and can adapt well to change, have flat reporting structure, multidimensional communication, decentralized decision-making and have external focus (Biltoom, 1999; Burns and Stalker, 1959; DuBrin, 2016; Eva and Maria, 2011). It is posited by scholars that adhocracy culture enhances corporate performance through knowledge conversion more than other culture types, and it has a positive effect on tacit knowledge sharing (Cameron and Quinn, 2006; Hossein and Ahmadi, 2013; Lin and Hsiao, 2014; Sawan and Nurhattati, 2020; Suppiah and Sandhu, 2011). Creating a collaborative organization that facilitates open discussion and sharing norms is an important behavior of transformational leaders that would contribute to the dominance of adhocracy culture in the organization (Anand, et al., 2011; Burke, 2006; Eva and Maria, 2011; Herman and Mitchel, 2010; Khurosani, 2013).

As revealed in the literature, collaborative, adaptive, creative, and flexible organizational culture would positively enhance followers' intention to tacit knowledge sharing. This would suggest that

HEI leaders have to create a collaborative and collegial work atmosphere that would be effective in raising employees' intention to share their tacit knowledge. Nonetheless, the gap is still problematic from the standpoint of understanding transformational leaders' effect on organizational tacit knowledge sharing. Despite the growing body of research on various factors influencing tacit knowledge-sharing across different contexts, there remains a notable gap in the literature regarding the impact of adhocracy culture on the tacit knowledge-sharing intentions of followers within Higher Education Institutions (HEIs). Moreover, the relationships between transformational leadership and tacit knowledge sharing through organizational collaborative and entrepreneurial culture in an integrated model in HEI settings in the country are not adequately addressed. Thus, investigating the effect of adhocracy culture as an essential factor for the success of transformational leadership effect on tacit knowledge sharing would contribute to the list of literature and provide relevant findings for HEIs. Based on these rationales of the study discussed above, this study has addressed researchable literature gaps that are explained in the next section.

## 1.2. Research Problem

Scholars argued that leadership can be contingent on organizational conditions; and the important role of managers is to maintain an appropriate environment for employees to share their experiences and knowledge (Hossein and Ahmadi, 2013; Rutten, et al, 2016). Transformational leadership model has tended to dominate the understanding of leadership within the HE sectors through matching the demands of faculty and campus-based leadership roles, balancing teaching and research commitments, and inspiring followers to a sense of purpose (Amey, 2006; Astin and Astin, 2000; Black, 2015). These conditions would demand a much more adaptive and openness of leadership rather than the hierarchical command-and-control mindset (Black, 2015). However, in HEIs of Ethiopia, there is a lack of leadership participation in knowledge management activities and low awareness of the benefits of tacit knowledge sharing (Kabilwa, 2018; Rezaei, et al., 2021).

Transformational leadership contributes to the dominance of adhocracy culture in organizations (Anand et al., 2011; Burke, 2006; Eva and Maria, 2011). Leaders with transformational behavior in HE would encourage development efforts through several strategies such as developing cooperation between institutions, forming work culture, building transparent and collaborative organizational culture in general, and organization competitiveness in particular (Altbach and Davis, 1999; Stewart, 2006; Sunaengsih, et al., 2021; Zhang, et al., 2017). In this regard, Befekadu

(2014), in his study, revealed the positive and significant effects of transformational leadership in maintaining a collaborative culture in which staff talk, observe, critique, and plan together; staff set goals together and solve problems together, foster development, enhance individual's motivation, and avoid narrow perspective by being open-minded.

Besides, individual knowledge-sharing behaviors could be influenced by the behaviors of leaders, with whom they value their relationships with the leader as a sense of belonging and confidence (Onwubiko, 2022). Also, social interaction and positive relationships at local and institutional levels are supportive for capturing and sharing of tacit knowledge of individuals in HEIs (Suppiah and Sandhu, 2011; Tippins, 2003). However, the existing culture of HEIs does not provide sufficient support for effective knowledge-sharing practices (Dhamdhere, 2015). Moreover, very few literatures have gone to the extent of diagnosing the effect of transformational leadership on tacit knowledge-sharing behavior through collaborative, creative, flexible, and adaptive organizational culture. Additionally, regardless of whether there is a policy in place to encourage collaboration, speed up the sharing process, and reward individuals for sharing their knowledge; employee turnover may result in loss of valuable organizational assets and resources, taking their knowledge and experience with them (Philemon, 2008). Scholars argued that HEIs have to encourage tacit knowledge sharing within their staff to take advantage of the existing professional capabilities or skills, talent, and experience. Nonetheless, there is a dearth of literature on the influence of adhocracy organizational culture on tacit knowledge-sharing behavior in HEI settings in Ethiopia.

These factors being motivating for us to come up with this title, the research questions addressed in this study are 'What is the effect of transformational leadership style on tacit knowledge sharing behavior of employees in HEIs of Addis Ababa?' and 'Does adhocracy culture affect the relationship between transformational leadership style and tacit knowledge sharing?'. Thus, the major objective of this study was to examine the total, direct, and indirect effect of transformational leadership style on the tacit knowledge-sharing behavior of employees, and test the significant effect of adhocracy culture in the relationship between transformational leadership and tacit knowledge-sharing behavior.

## 1.3 Conceptual Framework and Hypotheses Development

The conceptual framework of the study derived from the reviewed theoretical and empirical literature is shown below:

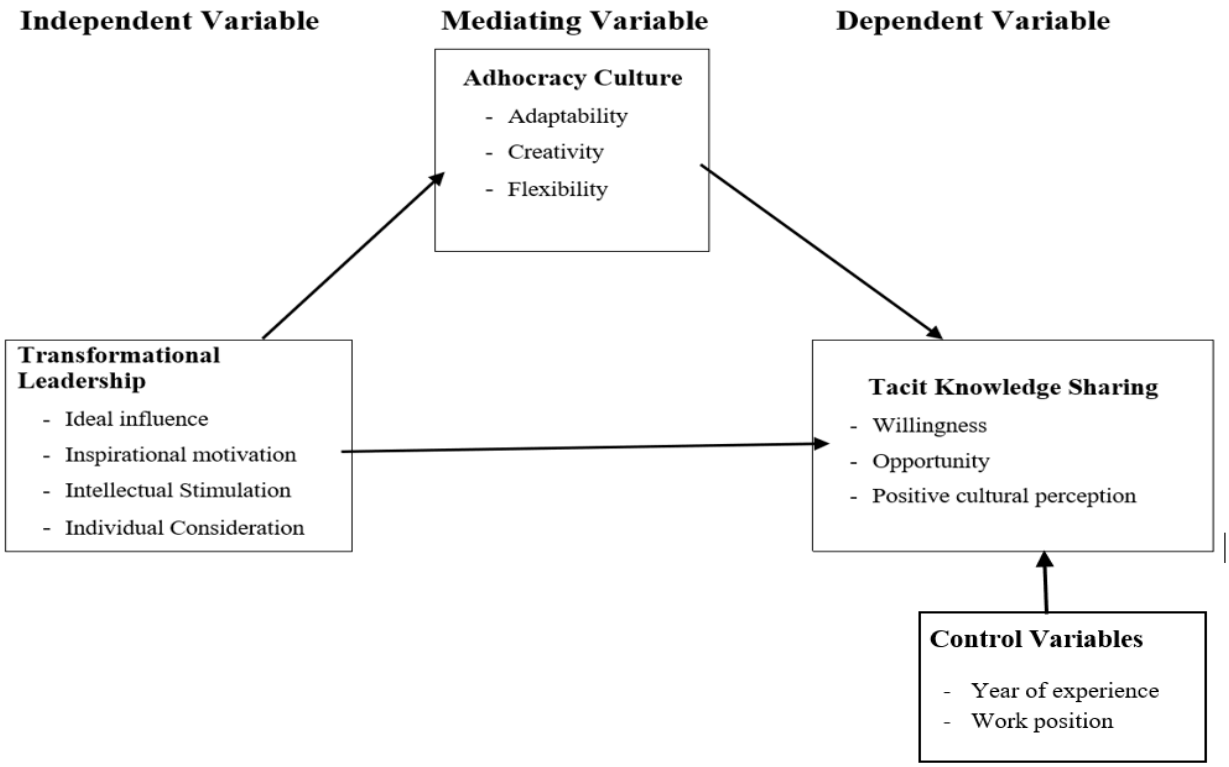


**Figure 1:** Conceptual Framework of the Study

Based on the argumentative discussions in the theoretical and empirical literature, the research hypotheses formulated from the model are:

*H1:* There is a relationship between transformational leadership and tacit knowledge sharing.

*H2:* There is a relationship between transformational leadership and adhocracy culture.

*H3:* There is a relationship between adhocracy culture and tacit knowledge sharing.

*H4:* There is an indirect relationship between transformational leadership and tacit knowledge sharing through adhocracy culture.

# 2. RESEARCH METHODOLOGY

## 2.1. Research Design

Research design shows how research activities are organized and what strategy will be followed, what and from whom data will be collected, and how data will be investigated (Saunders, et al., 2019). The three types of research designs as identified by scholars are exploratory, descriptive, and explanatory (e.g., Babbie, 2016; Saunders, et al., 2019). Exploratory research design is used to gain much thought of the research gaps and broader insights about the subject of interest (Saunders, et al., 2019). Descriptive research design answers the question of the research and is usually the best method for collecting information that will exhibit the descriptions of the world as it exists (Antwi, et al., 2015). An explanatory research design is used to identify the nature and extent of cause-and-effect relationships between variables (Saunders, et al, 2019). In this study, a procedural approach involved utilizing a descriptive research design to offer a detailed summary of responses, allowing for statistical data presentations and calculations. Subsequently, an explanatory research design was employed to validate the data analysis and confirm the theories through structured and interconnected assumptions and hypotheses. Therefore, the research design typology encompasses both descriptive and explanatory designs.

## 2.2. Participants in the Study and Data Gathering Procedures

The aim of this study was not to construct a theory, but rather to assess and verify a proposed theory regarding the effect of transformational leadership on tacit knowledge sharing. Since the major concern was to look into whether the representativeness of the sample selected from the target population would sufficiently explain the relationships of the study variables in the model (Eisenhardt and Graebner. 2007), the study setting selected was the education sector. Thus, the theoretical population of the study consisted of both government and private HEIs in Addis Ababa and the unit of analysis was individual academic and administrative staff working in the institutions.

After getting the complete list of HEIs in Addis Ababa, the target population, from which the sampling frame was drawn, the inclusion criteria were year of establishment and number of programs being offered in the universities. Hence, universities with more than 10 years of establishment and more than six programs currently offering: Addis Ababa University, Civil Service University, Unity University, and Saint Merry University were selected for primary data

gathering purposes. The data was gathered from senior staff with no managerial position and academic leaders at different managerial levels by using a simple random sampling technique. The survey is cross-sectional since the data was gathered from respondents at one time.

## 2.3 Research Instrument

Self-administered written Questionnaire was used to collect information from respondents. After operationalizing the theory-guided constructs into measurable variables, the more detailed items that are included in data-gathering instruments were identified as measurement questions. The measurement questions were designed on a Likert scale ranging from 1 to 5, where the higher ranking of the responses implies higher preferences of respondents. The odd level of scale of measurement for the items would allow respondents to evaluate the middle level to the two opposite levels and between the extremes (Kothari, 2019). This also may help to overcome the possible flaws of the reliability of the instruments because of the change of time and the environment they had been developed. Multiple indicators or variables are used for each construct in the model, with at one item under each variable.

Applying the Delphi technique (Mark, 2019), initial questions were prepared and responses were analyzed thematically to get the second-round questions. Then, the more likely focused and structured questions were found to help in designing the research instrument for the study. In doing so, a series of recommendations and suggestions were also followed from different scholars in formulating unambiguous and appropriate questions. The operationalization of the variables is summarized in the table below:

**Table 1:** Operationalization of Variables

| Construct | Measuring variables (Indicators) | # of items | Cronback's Alpha | Source |
|---|---|---|---|---|
| Transformational Leadership | - idealized influence<br>- inspirational motivation<br>- intellectual stimulation<br>- individual consideration | 13 | 0.929 | Sunaengsih, et al., 2021; Waheeda and Shaheeda, 2018. |
| Tacit Knowledge Sharing | - Opportunity, recognitions<br>- tools and technology<br>- willingness<br>- sharing lessons learnt | 6 | 0.827 | Chennamaneni, 2006. |
| Adhocracy Culture | - supportive<br>- collaboration<br>- relation orientation<br>- incentives | 5 | 0.732 | Khurosani, 2013. |
| **Control variables** | - **year of experience**<br>- **managerial position** | **2** | | **Wang, et al, 2006; Westreich and Greenland, 2013** |

**Source:** Survey results

# 4. DATA PRESENTATIONS AND ANALYSIS

## a. Descriptive Analysis

Out of the total questionnaires distributed, which included 72 distributed in person and 30 distributed online through Google Forms, the response rate was determined to be 80.4%. Consequently, 82 responses were collected for analysis. To provide a concise overview of the gathered data, descriptive statistical summaries are presented below:

**Table 2:** Work Experience

| Work experience | | | |
|---|---|---|---|
| | | Frequency | Valid Percent |
| Valid | <= 2 years | 17 | 20.7 |
| | 3 - 5 years | 23 | 28.0 |
| | 6 - 8 years | 19 | 23.2 |
| | >= 9 years | 23 | 28.0 |
| | Total | 82 | 100.0 |

**Table 3:** Work Position Statistics

| Work Position | | | |
|---|---|---|---|
| | | Frequency | Valid Percent |
| Valid | Teaching / Administrative Staff | 48 | 58.5 |
| | Department head | 19 | 23.2 |
| | Dean / Director | 10 | 12.2 |
| | AVP | 5 | 6.1 |
| | Total | 82 | 100.0 |

**Table 4:** Descriptive Statistics

| | Mean | Std. Deviation | N |
|---|---|---|---|
| MeanKnowSharing | 3.2500 | .80390 | 82 |
| Mean Transformational leadership | 3.5910 | .79196 | 82 |
| Mean Adhocracy culture | 3.3756 | .70300 | 82 |

**Source:** Survey Output

## 4.2. Analytical Approach

The data processing stage was done in three phases: Data editing, data coding, and data entry. First, the collected raw data was scrutinized to trace response errors, omissions, duplicates of responses, and one type of score value for all items in the questionnaire. After numbering the collected questionnaire, the data coding was undertaken by assigning numerical values to responses to make the data ready for the data entry stage. Then, the data in process was recorded by using SPSS (Statistical Package for Social Science) version 26.0 PROCESS Macro with AMOS extension software program.

In accordance with the principle that theory application should align with the level of measurement and analysis of a construct (Yammarino, et al., 2005), this study utilized individual-level analysis to examine the relationships among study variables at the individual level. Therefore, all variables within each construct in the model were analyzed at the individual level, taking into account the composite mean of individual employees' responses. The regression model equation is expressed as follows:

$Y = \beta_0 + \beta_1 X_1 + e_i$ taking the dependent variable 'Tacit Knowledge Sharing (Y)' and the independent variable 'Transformational Leadership' and '$e_i$ an error term', which would mean that by keeping other factors constant, $\beta_1$ unit change in transformational behavior of leaders would cause a one-unit change or effect on tacit knowledge sharing behavior of followers.

**Table 5:** Model Summary[b]

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .794[a] | .630 | .621 | .49513 | 1.516 |

a. Predictors: (Constant), Mean Adhocracy culture, Mean Transformational leadership

b. Dependent Variable: MeanKnowSharing

**Source:** SPSS output

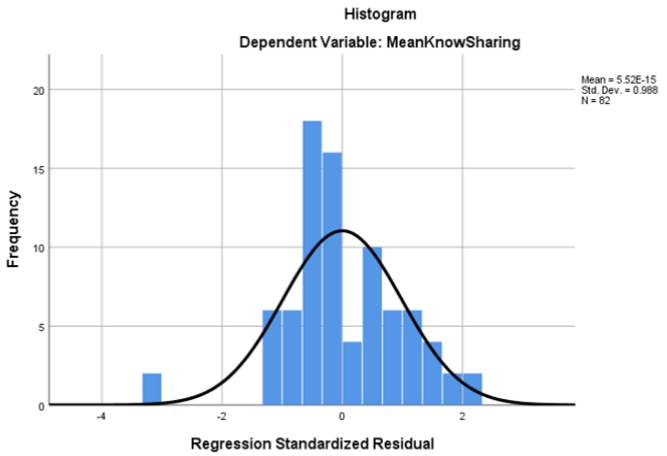


Figure 2: Histogram – Normality test

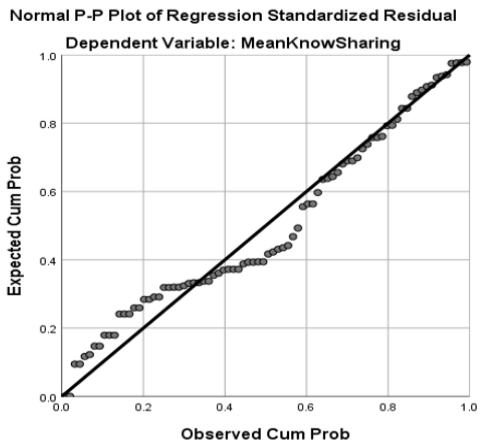


Figure 3: Normal P-P plot – Linearity test

Source: Survey output

In tests for the normality of residuals, as seen in Figure 2, the histogram has a bell-shaped structure implying that the residual variables are normally distributed so that valid conclusions can be made from the regression model. In checking the existence of deviation from linearity, as seen in Figure 3, all values bunch close to the trend line. Thus, it can be assumed that there are no severe deviations observed and the presupposition of simple linear regression is met in this case showing that the model is accurate in determining significant indicators of the dependent variable.

As can be observed in Figure 4, the test of homoscedasticity shows whether the residuals are equally distributed or spread far apart. Since the values tend to bunch together except few values, the residual variables have no significant variation that could affect the prediction of the model.

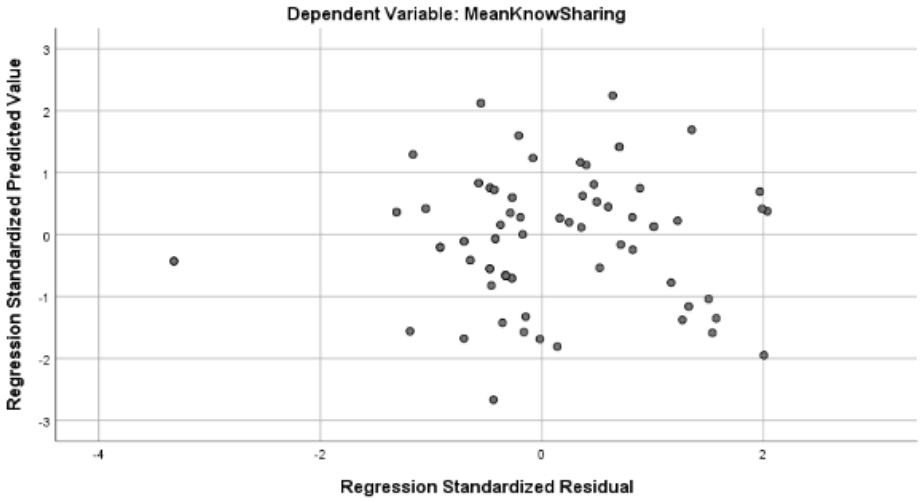


**Figure 4:** Scatter plot – homoscedasticity

As can be seen in Table 6, no problem of multicollinearity would weaken the statistical power of the regression model since the values of Variance Inflation Factors (VIF) for all variables are below 5.0 and values of tolerance are greater than 0.1, indicating that the residual variables are well separated and collinearity effect is not detected that possibly would have an unfavorable effect in the prediction of the model.

**Table 6:** Coefficients [a]

| Model | | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. | Correlations | | | Collinearity Statistics | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | | Zero-order | Partial | Part | Tolerance | VIF |
| 1 | (Constant) | .386 | .298 | | 1.296 | .199 | | | | | |
| | Mean Transformational leadership | -.117 | .083 | -.115 | -1.408 | .163 | .349 | -.156 | -.096 | .702 | 1.424 |
| | Mean Adhocracy culture | .973 | .093 | .851 | 10.415 | .000 | .788 | .761 | .713 | .702 | 1.424 |

a. Dependent Variable: MeanKnowSharing

**Source:** Survey Output

## 4.3. Correlation Analysis

As shown in Table 7, Pearson correlation is used to determine the relationship between the independent variables and the dependent variable. The Pearson correlation coefficient (r) between transformational leadership and adhocracy culture is found to be 0. 546 with p p-value of 0.000 < 0.05, showing that there is a significant positive relationship between transformational leadership and adhocracy culture. This would imply that leaders with transformational leadership behavior would have the ability and influence to maintain an adhocracy culture in the organization, which is similar to the findings of (Burke, 2006; Eva and Maria, 2011; Herman and Mitchel, 2010; Khurosani, 2013). The r between transformational leadership behavior and tacit knowledge sharing is found to be 0. 349 with p-value = 0.001 < 0.05 to mean that there is weakly positive relationship and the r between adhocracy culture and tacit knowledge sharing is found to be 0.788 with p-value = 0.000 < 0.05 implying that there is a strongly positive relationship between adhocracy culture and tacit knowledge sharing, as argued in Hossein and Ahmadi (2013; Lin and Hsiao, 2014; Sawan and Nurhattati, 2020; Suppiah and Sandhu, 2011).

**Table 7:** Correlations

| | | Work experience | Position | Mean Transformational leadership | Mean Adhocracy culture | Mean Knowledge Sharing |
|---|---|---|---|---|---|---|
| Work experience | Pearson Correlation | | | | | |
| | Sig. (2-tailed) | | | | | |
| | N | | | | | |
| Position | Pearson Correlation | .198 | | | | |
| | Sig. (2-tailed) | .074 | | | | |
| | N | 82 | | | | |
| Mean Transformational leadership | Pearson Correlation | -.100 | .167 | | | |
| | Sig. (2-tailed) | .371 | .133 | | | |
| | N | 82 | 82 | | | |
| Mean Adhocracy culture | Pearson Correlation | .123 | .021 | .546** | | |
| | Sig. (2-tailed) | .271 | .849 | .000 | | |
| | N | 82 | 82 | 82 | | |
| Mean Tacit Knowledge Sharing | Pearson Correlation | .226* | .022 | .349** | .788** | |
| | Sig. (2-tailed) | .041 | .843 | .001 | .000 | |
| | N | 82 | 82 | 82 | 82 | 82 |

*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

**Source:** Survey Output

## 4.4 Hierarchical Multiple Linear Regression Analysis

The selected analysis method for testing the hypotheses was bootstrapping, utilizing the SPSS PROCESS Macro developed by Hayes (2012). This tool allowed us to test the direct, indirect, and

total effects of any hypothesized relationships in the model. In testing the mediating effect of adhocracy culture on the hypothesized relationships of transformational leadership and tacit knowledge sharing, hierarchical regression analysis was applied to assess the coefficient value and the effect size to see how big the regression coefficient of the specific relationship is on the model.

*The total effect of transformational leadership on tacit knowledge sharing:*

```
Run MATRIX procedure:
***************** PROCESS Procedure for SPSS Version 4.2 *****************

          Written by Andrew F. Hayes, Ph.D.       www.afhayes.com
    Documentation available in Hayes (2022). www.guilford.com/p/hayes3
**************************************************************************
Model: 4
    Y: MeanKnow
    X: MeanTFL
    M: MeanAdho

Sample Size:  82
************************** TOTAL EFFECT MODEL ****************************
OUTCOME VARIABLE:  MeanKnow

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .3493      .1220      .5745    11.1167     1.0000    80.0000      .0013

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.9768      .3909     5.0565      .0000     1.1988     2.7548
MeanTFL       .3546      .1063     3.3342      .0013      .1429      .5662

Standardized coefficients
             coeff
MeanTFL      .3493

**************************************************************************
```

**Source:** SPSS PROCESS macro-output

As can be seen in the extracted matrix above, the effect of transformational leadership on tacit knowledge sharing is found to be 0.3546 and 12.20% of the variation in tacit knowledge sharing would be explained by variation in transformational leadership, in 0.0013 < 0.05 level of significance where the standard error of this estimate is 0.1063. This indicates that the total effect of transformational leadership on tacit knowledge sharing is slightly moderate and positive. The predicting model can be written as Y = 1.98 + 0.3546X + 0.1063.

*The effect of transformational leadership on adhocracy culture:*

```
**************************************************************************
OUTCOME VARIABLE:  MeanAdhoc
Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .5458      .2979      .3513    33.9394     1.0000    80.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant     1.6359      .3057     5.3509      .0000     1.0275     2.2443
MeanTFL       .4845      .0832     5.8257      .0000      .3190      .6500

Standardized coefficients
             coeff
MeanTFL      .5458

**************************************************************************
```

**Source:** SPSS PROCESS macro-output

The impact of transformational leadership on adhocracy culture is measured at 0.4845, indicating that approximately 29.79% of the variance in adhocracy culture can be attributed to variance in transformational leadership. This relationship is statistically significant at the 0.05 level ($p < 0.05$), with a standard error estimate of 0.0832. Thus, the overall effect of transformational leadership on tacit knowledge sharing is moderately positive, suggesting that the predictive model can.be written as $Y = 1.64 + 0.4845X + 0.0832$.

*The effect of adhocracy culture on tacit knowledge sharing:*

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**************************************************************************
OUTCOME VARIABLE:  MeanKnow

Model Summary
          R       R-sq        MSE          F        df1        df2          p
      .7937      .6300      .2451    67.2662     2.0000    79.0000      .0000

Model
              coeff         se          t          p       LLCI       ULCI
constant      .3855      .2976     1.2956      .1989     -.2068      .9779
MeanTFL      -.1167      .0829    -1.4076      .1632     -.2817      .0483
MeanAdho      .9727      .0934    10.4154      .0000      .7868     1.1586

Standardized coefficients
             coeff
MeanTFL      -.1150
MeanAdho      .8506

**************************************************************************
```

**Source:** SPSS PROCESS macro-output

The effect of adhocracy culture on tacit knowledge sharing is 0.9727 and 63% of the variation in tacit knowledge sharing would be explained by variation in adhocracy culture, in 0.0000 < 0.05 level of significance, where the standard error of this estimate is 0.0934. This indicated that the total effect of adhocracy culture on tacit knowledge sharing is strongly positive and the predicting model can be written as Y = 0.9727 X+ 0.0934.

*The indirect effect of transformational leadership on tacit knowledge sharing:*

```
************** TOTAL, DIRECT, AND INDIRECT EFFECTS OF X ON Y **************
Total effect of X on Y
     Effect         se          t          p       LLCI       ULCI       c_cs
      .3546      .1063     3.3342      .0013      .1429      .5662      .3493
Direct effect of X on Y
     Effect         se          t          p       LLCI       ULCI      c'_cs
     -.1167      .0829    -1.4076      .1632     -.2817      .0483     -.1150
Indirect effect(s) of X on Y:
            Effect     BootSE   BootLLCI   BootULCI
MeanAdho     .4712      .0931      .2866      .6511
Completely standardized indirect effect(s) of X on Y:
            Effect     BootSE   BootLLCI   BootULCI
MeanAdho     .4642      .0894      .2726      .6256

*********************** ANALYSIS NOTES AND ERRORS ************************
Level of confidence for all confidence intervals in output:
  95.0000
------ END MATRIX -----
```

**Source:** SPSS PROCESS macro-output

As shown in the matrix above, the indirect effect of transformational leadership on tacit knowledge sharing is found 0.4712 with a standard error of estimate 0.1063, while the direct effect of transformational leadership on tacit knowledge sharing is found to be negative (-0.1167) with a standard error of estimate equal to 0.0829. The level of significance, hence, is 0.1632 > 0.05, and it indicates that the estimate is not significant in explaining the effect of transformational leadership on tacit knowledge sharing. From these results, it can be inferred that the indirect effect of transformational leadership on tacit knowledge sharing is moderately positive, while the direct effect is not predictable. The figure below shows the summarized result of the hierarchical regression analysis:

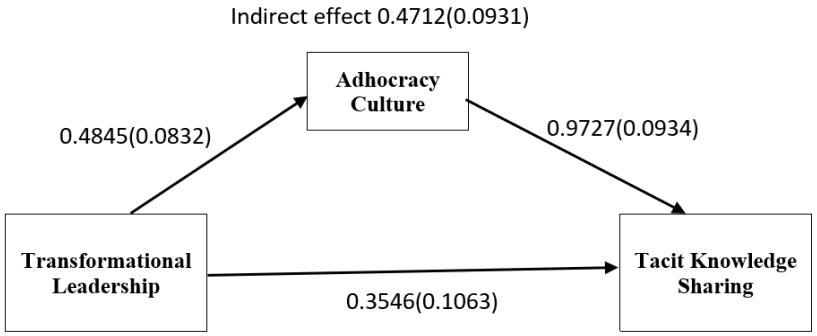


**Figure 5:** Result of hierarchical regression analysis showing the total, direct and indirect relationships.

## 5. DISCUSSION

The study grounds the main idea evolving from the extant theories that transformational leadership would affect followers' tacit knowledge-sharing behavior through collaborative, adaptive, and entrepreneurial culture. Empirical and theoretical literature suggested that transformational leadership would affect tacit knowledge (Chugh, 2015; Onwubiko, 2022; Srivastava, et al., 2006; Sunaengsih, et al., 2021; Waheeda and Shaheeda, 2018). In contrast to these scholars' position and the first hypothesis of this study, the results of the analysis demonstrated that the direct effect of transformational leadership on tacit knowledge sharing is not significant. This would indicate that leaders with transformational behavior may not be effective in raising the tacit knowledge-sharing willingness of followers unless they are able to maintain collaborative, adaptive, creative and flexible culture. Similar to previous scholars' position (such as Amey, 2006; Black, 2015), this study findings showed that transformational leaders would have positive effect on adhocracy culture and these leaders with their inspirational motivation and intellectual stimulation behaviors would be able to promote the culture in their organization without difficulty. Also, results of the analysis revealed that adhocracy culture would be highly conducive to tacit knowledge sharing of employees.

Further, when mediating variables are included in the analysis, the direct relationship between the independent variable and the dependent variable would become less significant (partial mediation) or else not significant or full mediation (Baron and Kenny, 1986). Likewise, as seen in the results of the analysis, the direct relationship between transformational leadership and tacit knowledge sharing or the direct effect of transformational leaders in facilitating tacit knowledge sharing among employees is found less significant than in the relationship through adhocracy culture or

the leaders' effect when the culture is more of collaborative, creative and flexible. Accordingly, similar to the findings of Cameron and Quinn (2006), Hossein and Ahmadi (2013), Lin and Hsiao (2014), Sawan and Nurhattati (2020), and Suppiah and Sandhu (2011), the study findings showed that organizations with dominant adhocracy culture development initiatives have the most privileged position in developing tacit knowledge sharing behavior of followers.

## 6. Future Implications and Limitations of the Study

The study findings will contribute to recognizing the effect of transformational leadership in sharing tacit knowledge through maintaining an adhocracy culture in a HEI setting. In so doing, the study will have both theoretical and empirical contributions. Theoretically, the results of the study would contribute to the literature providing a basis for further empirical tests, replication, and advancement in theory validation by other researchers in the area of tacit knowledge sharing, with more emphasis on explicating the role of transformational leaders in creating adhocracy culture for successful tacit knowledge sharing. Thus, we believe that the research model would add insights into the mediating effect of adhocracy culture on the relationship between transformational leadership and tacit knowledge sharing in organizations. In practical terms, this study offers valuable insights to leaders in HEIs with regard to the significance of cultural and social factors. Specifically, the study emphasizes the necessity of fostering collaborative practices and creating a motivational environment. Such measures can effectively encourage employees to share their knowledge, talents, and expertise, thereby enhancing staff achievements and promoting institutional innovation.

This study has two limitations to be mentioned for future research considerations in the area of study. First, even though rigorous data collection and instrument validation procedures were followed, measurement errors cannot be completely ruled out due to sampling errors or low sample size, which may reduce the generalizability of the research findings. In this study, although restricting the sampling frame to educational institutions in Addis Ababa was beneficial for enhancing the internal validity and practicality of the research work, the findings of the current study may not apply to other types of organizations. Thus, further research is needed covering broader geographical areas and larger sample sizes so that the generalizability (external reliability) of the current research findings would be enhanced. Second, future studies may benefit from testing the hypotheses in the current study through a longitudinal survey. Investigating the effects

and sustainability of transformational leadership style on tacit knowledge sharing over a period of time interval may help to determine the causal relationships of the factors more explicitly than seen in this study.

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