

A Study of Leadership Styles and Their Impact on Organisational Performance in the Service Sector

Weam Tunsi (Corresponding Author)

Department of HRM, College of Business Administration, University of Business and Technology, Jeddah, Saudi Arabia. Email: weam@ubt.edu.sa

Nawab Ali Khan

Faculty of Commerce, Aligarh Muslim University, Aligarh, India.

Email: nawabalikhan@ymail.com

Abstract

The leadership style (LS) is crucial for the success of an organisation and is positively correlated with organisational performance (OP). The objective of this study is to examine the current levels of LS and their influence on OP, while also considering the moderating effect of age on the relationship between LS and OP. A purposive random sampling technique was used to select a sample size of 532 employees working in the Telecom sector. The study employed exploratory research methods, descriptive statistics, and statistical tools for data analysis. Exploratory factor analysis, confirmatory factor analysis, and Wilcoxon signed rank test were conducted using AMOS 22.0 and SPSS 23.0. The study found that the transformational leadership style is the most used in-service industries. Additionally, it was observed that this leadership style has a positive effect on organisational performance. The performance of an organisation is positively correlated with LS, particularly for transformational and transactional leaders. The results indicate that age does not moderate the relationship between LS and OP. The additional novel findings were also discussed in the research.

Keywords: Leadership Style, Transformational Leadership, Organizational Performance, Transactional Leadership, Age.

Introduction

The primary responsibility of a leader is to ensure alignment of stakeholders' interests and direct activities towards advancement or growth (Ahmad & Ahmed, 2023). This promotes a sense of common purpose, which is crucial for maximising organisational profitability and success. Organisations strive to improve growth and

operational efficiency by adopting and implementing best practices, often under the guidance of a dynamic leader (De Backer et al., 2022). Therefore, a competent and proactive leader plays a crucial role in ensuring a firm's success in the highly competitive contemporary business landscape. Miguel A. López-Gajardo, González-Ponce, García-Calvo, Enrich-Alturo, and Leo (2022) assert that when a leader exemplifies leadership, followers and employees perceive them as role models, sources of inspiration, and symbols. To effectively lead a team, a leader must ensure that all efforts are focused, and that teamwork integrates individual components into a unified whole. The team leader assumes accountability for errors and attributes achievements to all team members (Kemethofer, Helm, & Warwas, 2022).

The presence of resources (human, physical, financial, and informational), leadership style (LS), and the formulated and executed strategies have a substantial impact on an organization's capacity to accomplish its goals and objectives (M. Khan, Mahmood, & Shoaib, 2022). A leader sets the direction and clarifies the mission with the workforce. They create a plan to achieve goals and objectives and guide the organisation in overcoming challenges using a competitive advantage tool. Effective leadership plays a vital role in motivating, guiding, and managing personnel in their pursuit of objectives (Miguel A López-Gajardo, Pulido, Tapia-Serrano, Ramírez-Bravo, & Leo, 2021). A transactional LS is advantageous in the initial stages of an organisation, especially when staff members lack experience and training. This style helps in achieving goals and objectives in a timely and efficient manner (Lasrado & Kassem, 2021). Dynamic and transformational leadership facilitates organisational effectiveness, cost reduction, profit maximisation, and the rapid achievement of goals and vision through the implementation of best practices (Mahdikhani & Yazdani, 2020).

Organisational performance (OP) refers to the effective utilisation of available resources to maximise profit and achieve long-term growth (Qiu, Alizadeh, Dooley, & Zhang, 2019). To achieve optimal performance, employees must possess the necessary skills, motivation, and commitment. A dynamic and charismatic leader is capable of providing a clear vision, a comprehensive mission developed with input from all stakeholders, and a well-structured plan to achieve the mission and vision (Asif et al., 2019). A leader plays a crucial role in enhancing OP by creating a

supportive environment that fosters enthusiasm and enjoyment, providing effective coaching and training for skill development, promoting team building, and offering motivation through both tangible and intangible incentives (Ali, Lodhi, Raza, & Ali, 2018; Pio & Tampi, 2018).

Numerous studies have been conducted in various sectors concerning leadership, LS, and OP. However, no study has specifically examined the telecom sector in Riyadh Province, Saudi Arabia. Additionally, no research has explored the moderating role of age on the relationship between LS and OP. Furthermore, no investigation has sought to understand the perceptions of employees working in the telecom sector regarding the qualities or traits they believe are most pertinent for an individual to become a successful and efficient leader. Hence, this study focuses on achieving the following objectives.

RO1: *To determine the perception of qualities required by leaders in the telecom sector in Riyadh, Saudi Arabia.*

RO2: *To assess the leadership style mostly adopted in the telecom sector in Riyadh, Saudi Arabia.*

RO3: *To study and analyze the impact of leadership style on organizational performance in the telecom sector in Riyadh, Saudi Arabia.*

RO4: *To investigate the moderating role of age on the relationship between leadership style and organizational performance in the telecom sector in Riyadh, Saudi Arabia.*

Literature Review

Alyahya, Aliedan, Agag, and Abdelmoety (2023) argue that leadership is crucial for the success of groups or teams. The importance of leadership effectiveness in relation to OP is considered significant and requires clarification and prediction. Suliman et al. (2023) found that leadership has a substantial impact on OP. Abolnasser, Abdou, Hassan, and Salem (2023) argue that effective leadership is crucial for organisational success, a view supported by Oh and Yoo (2023), who emphasise the significance of leadership and its positive impact on OP. Research and observations suggest that leadership actions and behaviour affect the efficiency and effectiveness of OP (Corti, Raimundi, Celsi, Alvarez, & Castillo, 2023). Alyahya et al. (2023) emphasise the significance of leadership. Purwanto, Fahmi, and Sulaiman (2023)

emphasises the importance of leadership and acknowledge the difficulty in establishing a clear link between OP and leadership. Empirical research provides partial support for this perspective.

The literature suggests that the connection between leadership effectiveness and organisational success is unclear. [Freze et al. \(2023\)](#) found that the frequency of leadership changes generally does not have a significant impact on OP. [Awan, Dunnan, Jamil, and Gul \(2023\)](#), who found that leadership has minimal to no impact on OP or outcomes, support this conclusion. Other scholars, such as [Martins, Nascimento, and Moreira \(2023\)](#), have noted the lack of a direct link between leadership and organisational success. [Chatzipanagiotou and Katsarou \(2023\)](#) argue that the relationships between leadership and organisational success are characterised by inconsistency and contradiction. [Ahmad and Ahmed \(2023\)](#) suggest that the impact of leadership on organisations is still uncertain. [Abolnasser et al. \(2023\)](#) identified four behavioural components of transformational leadership: charisma, inspiring motivation, intellectual stimulation, and individual consideration. [Sarfraz, Ye, Ozturk, and Ivascu \(2023\)](#) and other scholars have recognised the impact of transformational leadership on improving OP. The consensus among experts is that transformational leadership, characterised by the leader's ability to inspire and provide a clear organisational vision, enhances follower motivation and performance ([Hensellek, Kleine-Stegemann, & Kollmann, 2023](#); [Sianturi, Lee, & Cumming, 2023](#)).

[Deng, Cherian, Ahmad, Scholz, and Samad \(2022\)](#) argue that transactional leadership involves a reciprocal relationship where leaders provide rewards to subordinates in response to their performance and goal attainment. Transactional leadership is characterised by a series of exchanges between leaders and followers. [Purwanto \(2022\)](#) suggests that conditional reinforcement, whether positive or negative, depends on transactional leadership. It can be inferred that followers respond when their needs are met or when they achieve their goals. Transactional leadership includes active or passive management by exception approaches ([Williams et al., 2022](#)). The managerial skills of an individual are a significant factor in determining an organization's performance ([Westcott & Rosser, 2022](#)). The term "active management by exception" encompasses the implementation method and the

leader's establishment of compliance standards, which may include reprimanding followers who do not meet specific criteria. The skills of middle-level managers surpass expectations in comparison to those at lower and higher management levels (M. M. S. Khan & Ghayas, 2022).

The Laissez-Faire approach is a suboptimal form of leadership characterised by the leader's abstention from participating in crucial decision-making processes. During critical situations requiring prompt action, leaders demonstrate a lack of concern or accountability. As a result, employees are often left to handle crises or issues on their own and may need to seek external assistance. In these situations, employees often choose to take on leadership responsibilities (Mashele & Alagidede, 2022) and make autonomous decisions when handling crises (Tiamboonprasert & Charoensukmongkol, 2022). Organisations prioritise the development of their leaders, equipping them with necessary knowledge and skills to effectively handle challenges and adjust to changing circumstances and external environments (Awan et al., 2023; Ullah et al., 2022). Existing studies and recommendations indicate a clear connection between organisational success and leadership. Researchers are critically examining this presumption.

Theoretical Framework

The leader of an organisation establishes a future-oriented vision for the organisation. Goals and objectives are derived from the vision and mission. Subsequently, the leader assembles and nurtures a team, motivating and directing them towards achieving the desired organisational growth and development. The OP metric evaluates the achievement of these aims and objectives. Therefore, the results and their consequences are regarded as OP. The performance of an organisation is influenced by the success of its strategy, the effectiveness of its goals and objectives, and the efficient use of available resources. The leadership type of an organisation has a significant impact on OP, as leaders play a crucial role in these processes. The three types of leadership are laissez-faire, transactional, and transformational. Each style possesses distinct characteristics. The study's framework is depicted in Figure 1.

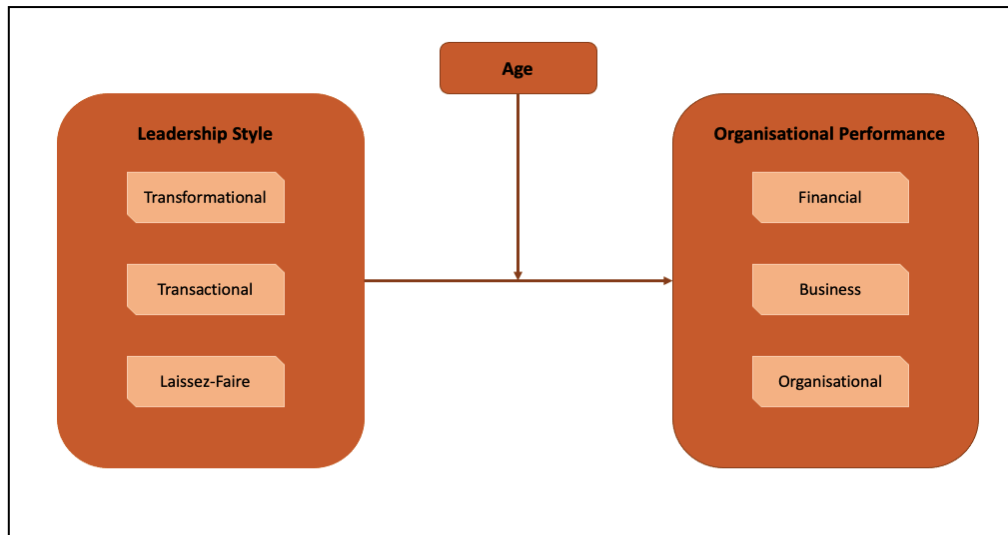


Figure 1: Framework for the Study.

Research Methodology

The study employed scale items derived from prior research to assess the relationship between variables in this study. The study used Witt's (2012) scale to assess leadership qualities, which included 9 variables of interest. In addition, Imam, Tyasari, and Pahi (2017) employed a scale to assess LS, which was also utilised in this study. The study used Karamat (2013) scale to assess the influence of leadership on OP. The scales used in this study are Likert-type and have demonstrated satisfactory reliability and validity.

The study uses descriptive primary data. A purposive random sampling technique was employed. The researcher employed a survey methodology to gather data, reaching out to participants through face-to-face interviews, email communication, and Google Survey Forms. A total of 600 respondents from the telecom sector were approached, and 532 fully completed questionnaires were included in the research. The researcher guaranteed the confidentiality of the responses and emphasised that they would only be used for research purposes, with no disclosure of the organization's identity. Data collected was analysed using SPSS 23.0 and AMOS 22.0. The data was analysed using various statistical methods, including the Means, Percentiles of Variables, Exploratory Factor Analysis, Confirmatory Factor Analysis, Friedman's test, and Wilcoxon Signed Ranks Test. The findings are displayed in tables.

Study of Demographic Variables

The mean and standard deviation of the demographic variables for the 532 respondents included in this study are shown in Figure 2. The mean and standard deviation for age is 2.66 and 0.49, respectively. For gender, the mean and standard deviation are 1.93 and 0.261.

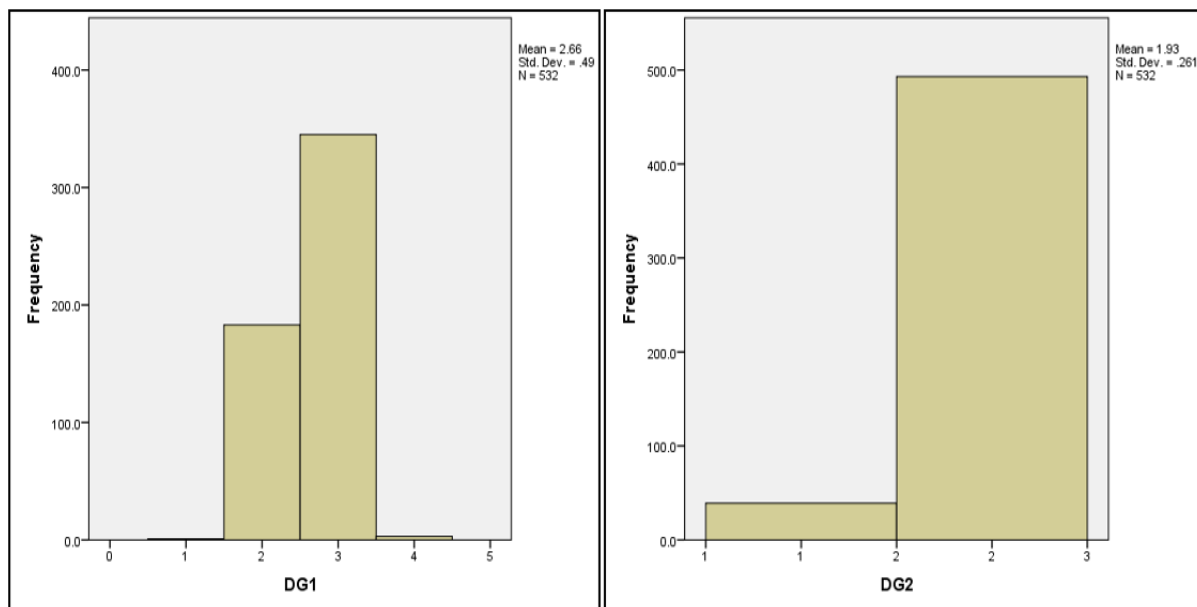


Figure 2: Descriptive Statistics of Demographic Variables – Age (DG1) and Gender (DG2)

Results and Discussions

The study analysed the perception of qualities required by leaders in the telecom sector in Riyadh, Saudi Arabia, to achieve its objective 1. To achieve this objective, a three-stage analysis process has been implemented. Friedman's test was conducted to compare perceptions of leadership qualities in the telecom sector. If the observed difference is found to be statistically significant, a post hoc analysis using Wilcoxon signed-rank tests will be conducted to identify the specific pair of leadership qualities that differ, considering the perceived importance of these qualities in telecom sector firms. The descriptive statistics of the ranked data are presented in Table 1. The highest median rank (IQR) is obtained for leadership quality 1, with a value of 7.5, while the lowest rank is obtained for leadership quality 2, with a value of 3. The ranking scale ranges from 1 (lowest) to 9 (highest). In addition to leadership quality 1, leadership qualities 4 and 6 have also achieved high median ranks, both being 5.

Table 1: Descriptive Statistics of Perception of Leadership Qualities.

	Percentiles		
	25	50 (Median)	75
LQ1	4	7.5	9
LQ2	2	3	6
LQ3	3	4	7
LQ4	3	5	8
LQ5	3	4	6
LQ6	3	5	7
LQ7	2	4	7
LQ8	3	4	7
LQ9	2	4	6

Table 2 displays the mean rank. Examining the median rank would yield greater insight; nonetheless, this table offers an initial indication of perceptual disparities. The mean ranks suggest that leadership quality 1 has the highest rank, followed by leadership qualities 4, 6, and 3. The leadership quality 2 achieves the lowest mean rank.

Table 2: Mean Ranks of Perception of Leadership Qualities.

	Mean Rank
LQ1	7.03
LQ2	3.74
LQ3	5.22
LQ4	5.81
LQ5	4.26
LQ6	5.29
LQ7	4.68
LQ8	4.85
LQ9	4.11

The test results from the application of Friedman's test are presented in Table 3. The data demonstrates a statistically significant difference in the mean ranks of the associated groups. The tabulated results indicate a statistically significant difference in the perception of leadership qualities based on the employee's consideration of the necessary quality, $\chi^2 (8) = 687.836$, $p = 0.000$.

Table 3: Friedman Test Statistics.

N	532
Chi-Square	687.836
df	8
Asymp. Sig.	.000

a. Friedman Test

The Friedman test indicates a significant difference in the perception of leadership qualities. Consequently, a post hoc analysis is conducted using the Wilcoxon signed-rank

test to compare various combinations of related leadership qualities, viz.

- LQ1 to LQ2; LQ2 to LQ3; LQ3 to LQ4; and so on until LQ9
- LQ2 to LQ3; LQ3 to LQ4; LQ4 to LQ5; and so on until LQ9
- LQ3 to LQ4; LQ4 to LQ5; and so on until LQ9
- Similarly, for LQ4, LQ5, LQ6, LQ7, and LQ8 with others till LQ9

The application of a Bonferroni adjustment is necessary for the results obtained from the Wilcoxon tests. The reason for this is that multiple comparisons are being made, which raises the probability of making a Type I error. A statistically significant result is not achieved when the p-value exceeds 0.001. Table 4 presents a comparison of employees' rankings and perceptions of leadership qualities in the pharmaceutical sector.

Table 4: Ranks Table.

Item Pairs for Comparison		N	Mean Rank	Sum of Ranks
LQ2-LQ1	Negative Ranks	391 ^a	235.00	91884.00
	Positive Ranks	68 ^b	201.26	13686.00
	Ties	73 ^c		
	Total	532		
LQ3-LQ1	Negative Ranks	307 ^d	201.79	61949.00
	Positive Ranks	87 ^e	182.37	15866.00
	Ties	138 ^f		
	Total	532		
LQ4-LQ1	Negative Ranks	273 ^g	192.66	52597.00
	Positive Ranks	99 ^h	169.51	16781.00
	Ties	160 ⁱ		
	Total	532		
LQ5-LQ1	Negative Ranks	389 ^j	221.39	86120.00
	Positive Ranks	59 ^k	245.02	14456.00
	Ties	84 ^l		
	Total	532		
LQ6-LQ1	Negative Ranks	315 ^m	178.58	56252.00
	Positive Ranks	53 ⁿ	219.70	11644.00
	Ties	164 ^o		
	Total	532		
LQ7-LQ1	Negative Ranks	321 ^p	190.26	61072.00
	Positive Ranks	58 ^q	188.59	10938.00
	Ties	153 ^r		
	Total	532		
LQ8-LQ1	Negative Ranks	332 ^s	197.45	65552.00
	Positive Ranks	67 ^t	212.66	14248.00
	Ties	133 ^u		
	Total	532		
LQ9-LQ1	Negative Ranks	378 ^v	215.94	81625.50
	Positive Ranks	59 ^w	238.60	14077.50
	Ties	95 ^x		
	Total	532		
LQ3-LQ2	Negative Ranks	112 ^y	212.80	23834.00
	Positive Ranks	301 ^z	204.84	61657.00

	Ties	119 ^{aa}		
	Total	532		
LQ4-LQ2	Negative Ranks	98 ^{ab}	204.59	20049.50
	Positive Ranks	322 ^{ac}	212.30	68360.50
	Ties	112 ^{ad}		
	Total	532		
LQ5-LQ2	Negative Ranks	160 ^{ae}	194.31	31089.00
	Positive Ranks	226 ^{af}	192.93	43602.00
	Ties	146 ^{ag}		
	Total	532		
LQ6-LQ2	Negative Ranks	83 ^{ah}	211.09	17520.50
	Positive Ranks	302 ^{ai}	188.03	56784.50
	Ties	147 ^{aj}		
	Total	532		
LQ7-LQ2	Negative Ranks	159 ^{ak}	220.01	34981.50
	Positive Ranks	257 ^{al}	201.38	51754.50
	Ties	116 ^{am}		
	Total	532		
LQ8-LQ2	Negative Ranks	96 ^{an}	193.96	18620.50
	Positive Ranks	258 ^{ao}	171.37	44214.50
	Ties	178 ^{ap}		
	Total	532		
LQ9-LQ2	Negative Ranks	146 ^{aq}	199.95	29193.00
	Positive Ranks	203 ^{ar}	157.05	31882.00
	Ties	183 ^{as}		
	Total	532		
LQ4-LQ3	Negative Ranks	112 ^{at}	140.89	15780.00
	Positive Ranks	198 ^{au}	163.76	32425.00
	Ties	222 ^{av}		
	Total	532		
LQ5-LQ3	Negative Ranks	243 ^{aw}	180.40	43837.50
	Positive Ranks	117 ^{ax}	180.71	21142.50
	Ties	172 ^{ay}		
	Total	532		
LQ6-LQ3	Negative Ranks	181 ^{az}	184.37	33370.50
	Positive Ranks	189 ^{ba}	186.58	35264.50
	Ties	162 ^{bb}		
	Total	532		
LQ7-LQ3	Negative Ranks	219 ^{bc}	194.88	42678.00
	Positive Ranks	146 ^{bd}	165.18	24117.00
	Ties	167 ^{be}		
	Total	532		
LQ8-LQ3	Negative Ranks	210 ^{bf}	193.40	40615.00
	Positive Ranks	168 ^{bg}	184.62	31016.00
	Ties	154 ^{bh}		
	Total	532		
LQ9-LQ3	Negative Ranks	260 ^{bi}	210.18	54648.00
	Positive Ranks	140 ^{bj}	182.51	25552.00
	Ties	132 ^{bk}		
	Total	532		
LQ5-LQ4	Negative Ranks	297 ^{bl}	205.22	60950.00
	Positive Ranks	100 ^{bm}	180.53	18053.00
	Ties	135 ^{bn}		
	Total	532		
LQ6-LQ4	Negative Ranks	223 ^{bo}	170.00	37910.50
	Positive Ranks	131 ^{bp}	190.26	24924.50

	Ties	178 ^{bq}		
	Total	532		
LQ7-LQ4	Negative Ranks	254 ^{br}	205.41	52174.50
	Positive Ranks	125 ^{bs}	158.68	19835.50
	Ties	153 ^{bt}		
	Total	532		
LQ8-LQ4	Negative Ranks	248 ^{bu}	195.41	48462.50
	Positive Ranks	135 ^{bv}	185.73	25073.50
	Ties	149 ^{bw}		
	Total	532		
LQ9-LQ4	Negative Ranks	292 ^{bx}	195.12	56975.50
	Positive Ranks	94 ^{by}	188.46	17715.50
	Ties	146 ^{bz}		
	Total	532		
LQ6-LQ5	Negative Ranks	120 ^{ca}	188.45	22614.00
	Positive Ranks	267 ^{cb}	196.49	52464.00
	Ties	145 ^{cc}		
	Total	532		
LQ7-LQ5	Negative Ranks	157 ^{cd}	195.58	30706.50
	Positive Ranks	209 ^{ce}	174.42	36454.50
	Ties	166 ^{cf}		
	Total	532		
LQ8-LQ5	Negative Ranks	149 ^{cg}	167.14	24904.00
	Positive Ranks	205 ^{ch}	185.03	37931.00
	Ties	178 ^{ci}		
	Total	532		
LQ9-LQ5	Negative Ranks	204 ^{cj}	183.02	37336.00
	Positive Ranks	154 ^{ck}	174.84	26925.00
	Ties	174 ^{cl}		
	Total	532		
LQ7-LQ6	Negative Ranks	208 ^{cm}	201.24	41858.00
	Positive Ranks	155 ^{cn}	156.18	24208.00
	Ties	169 ^{co}		
	Total	532		
LQ8-LQ6	Negative Ranks	215 ^{cp}	170.35	36626.00
	Positive Ranks	135 ^{cq}	183.70	24799.00
	Ties	182 ^{cr}		
	Total	532		
LQ9-LQ6	Negative Ranks	268 ^{cs}	198.01	53067.00
	Positive Ranks	112 ^{ct}	172.53	19323.00
	Ties	152 ^{cu}		
	Total	532		
LQ8-LQ7	Negative Ranks	164 ^{cv}	174.20	28568.50
	Positive Ranks	198 ^{cw}	187.55	37134.50
	Ties	170 ^{ex}		
	Total	532		
LQ9-LQ7	Negative Ranks	214 ^{cy}	180.35	38594.00
	Positive Ranks	150 ^{cz}	185.57	27836.00
	Ties	168 ^{da}		
	Total	532		
LQ9-LQ8	Negative Ranks	218 ^{db}	181.94	39663.00
	Positive Ranks	125 ^{dc}	154.66	19333.00
	Ties	189 ^{dd}		
	Total	532		

Leadership quality 1, as measured by item LQ1, consistently outperformed the other eight leadership qualities in terms of perceived competencies. Employees perceive it as the most important leadership quality. Similarly, pairwise comparisons of leadership quality 2 (LQ2) showed a higher occurrence of positive ranks, suggesting that employees perceive it as less important compared to other leadership qualities. Leadership quality 3 is considered more important than qualities 5, 7, 8, and 9, and it yields neutral results when compared to quality 6.

Table 5: Test Statistics.

	Z	Asymp. Sig. (2-tailed)
LQ2-LQ1	-13.842 ^b	0.000
LQ3-LQ1	-10.302 ^b	0.000
LQ4-LQ1	-8.816 ^b	0.000
LQ5-LQ1	-13.171 ^b	0.000
LQ6-LQ1	-11.071 ^b	0.000
LQ7-LQ1	-11.818 ^b	0.000
LQ8-LQ1	-11.199 ^b	0.000
LQ9-LQ1	-12.854 ^b	0.000
LQ3-LQ2	-7.913 ^c	0.000
LQ4-LQ2	-9.821 ^c	0.000
LQ5-LQ2	-2.899 ^c	0.004
LQ6-LQ2	-9.106 ^c	0.000
LQ7-LQ2	-3.493 ^c	0.000
LQ8-LQ2	-6.832 ^c	0.000
LQ9-LQ2	-0.727 ^c	0.467
LQ4-LQ3	-5.545 ^c	0.000
LQ5-LQ3	-5.810 ^b	0.000
LQ6-LQ3	-0.474 ^c	0.636
LQ7-LQ3	-4.650 ^b	0.000
LQ8-LQ3	-2.289 ^b	0.022
LQ9-LQ3	-6.389 ^b	0.000
LQ5-LQ4	-9.529 ^b	0.000
LQ6-LQ4	-3.424 ^b	0.001
LQ7-LQ4	-7.712 ^b	0.000
LQ8-LQ4	-5.447 ^b	0.000
LQ9-LQ4	-9.033 ^b	0.000
LQ6-LQ5	-6.962 ^c	0.000
LQ7-LQ5	-1.452 ^c	0.147
LQ8-LQ5	-3.441 ^c	0.001
LQ9-LQ5	-2.707 ^b	0.007
LQ7-LQ6	-4.501 ^b	0.000
LQ8-LQ6	-3.192 ^b	0.001
LQ9-LQ6	-8.007 ^b	0.000
LQ8-LQ7	-2.188 ^c	0.029
LQ9-LQ7	-2.723 ^b	0.006
LQ9-LQ8	-5.692 ^b	0.000

a. Wilcoxon Signed Ranks Test

b. Based on positive ranks

c. Based on negative ranks

Leadership quality 4 is perceived as more important by employees compared to leadership qualities 5, 6, 7, 8, and 9. Leadership quality 5 is deemed less significant than qualities 6, 7, and 8, but more significant than quality 9. Leadership quality 6 holds greater importance compared to the other leadership qualities, namely 7, 8, and 9. Leadership quality 7 is considered more significant than leadership quality 9, but less crucial than leadership quality 8. Conversely, leadership qualities 8 and 9 are seen as more important than leadership quality 7. Table 5 presents the final statistics table, which indicates the statistical significance of these comparisons.

Table 6: Descriptive Statistics of Leadership Styles.

	N	Minimum	Maximum	Mean	Std. Deviation
LS1	532	1	5	3.22	1.263
LS2	532	1	5	3.20	1.292
LS3	532	1	5	3.24	1.283
LS4	532	1	5	3.20	1.289
LS5	532	1	5	3.20	1.283
LS6	532	1	5	3.25	1.255
LS7	532	1	5	3.23	1.236
LS8	532	1	5	3.16	1.298
LS9	532	1	5	3.17	1.334
LS10	532	1	5	3.22	1.281
LS11	532	1	5	3.23	1.273
LS12	532	1	5	3.20	1.282
LS13	532	1	5	3.18	1.296
LS14	532	1	5	3.23	1.258
LS15	532	1	5	3.31	1.246
LS16	532	1	5	3.21	1.280
LS17	532	1	5	3.20	1.289
LS18	532	1	5	3.23	1.251
LS19	532	1	5	3.22	1.266
LS20	532	1	5	3.18	1.249
LS21	532	1	5	3.21	1.282
LS22	532	1	5	3.23	1.303
LS23	532	1	5	3.25	1.272
LS24	532	1	5	3.23	1.242
LS25	532	1	5	3.24	1.266
LS26	532	1	5	3.23	1.273
LS27	532	1	5	3.21	1.229
LS28	532	1	5	3.15	1.288
LS29	532	1	5	3.23	1.277
LS30	532	1	5	2.92	1.335
LS31	532	1	5	3.01	1.309
LS32	532	1	5	3.00	1.309
LS33	532	1	5	3.05	1.273
LS34	532	1	5	3.05	1.263
LS35	532	1	5	3.02	1.304
LS36	532	1	5	3.08	1.283
Valid N (listwise)	532				

Only statistically significant results from [Table 5](#) will be discussed. Of the 36 comparisons, only 17 pairwise comparisons are statistically significant when comparing the computed p-values with the significance level, determined by applying a Bonferroni adjustment. The post-hoc analysis reveals that ambition is the most important leadership quality, as it is characterised by leaders consistently setting high goals.

The statistical tests were conducted to achieve research objective 2, which assessed the most used LS in the telecom sector in Riyadh, Saudi Arabia. [Table 6](#) displays the descriptive statistics for LS in the pharmaceutical sector, including the mean and standard deviation (Std. Deviation). The mean of several items is generally around or above 3, with a standard deviation close to 1. Most respondents agree that leaders in the pharmaceutical sector consistently possess and demonstrate specific traits.

Factor analysis has been utilised to condense the items and validate the factor structure of these constructs. The factor analysis results for these constructs are summarised in [Tables 7, 8, and 9](#). The KMO and Bartlett's test values for the constructs used to achieve the first objective have been calculated and found to surpass the established standard ([Table 7](#)). These findings suggest that the data is appropriate for factor analysis.

Table 7: KMO and Bartlett's Test Results.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.984
Bartlett's Test of Sphericity	Approx. Chi-Square	15606.334
	Df	630
	Sig.	0.000

The extracted communalities for all items, as shown in the tables, exceed 0.5, indicating that the extracted factor adequately accounts for the variability in each item. The results are presented in [Table 8](#).

[Table 9](#) shows that two factors were extracted through factor analysis. The combination of these two factors accounts for 63.396% of the variance in the data, which is considered a favourable value for achieving optimal factor analysis outcomes. Factor 1 explains 56.056% of the variance in the data, while factor 2 accounts for 7.338%.

Table 8: Communalities for Leadership Style.

	Initial	Extraction
LS1	1.000	0.647
LS2	1.000	0.638
LS3	1.000	0.617
LS4	1.000	0.575
LS5	1.000	0.600
LS6	1.000	0.617
LS7	1.000	0.624
LS8	1.000	0.638
LS9	1.000	0.668
LS10	1.000	0.609
LS11	1.000	0.638
LS12	1.000	0.623
LS13	1.000	0.626
LS14	1.000	0.668
LS15	1.000	0.615
LS16	1.000	0.635
LS17	1.000	0.624
LS18	1.000	0.593
LS19	1.000	0.602
LS20	1.000	0.635
LS21	1.000	0.606
LS22	1.000	0.613
LS23	1.000	0.609
LS24	1.000	0.638
LS25	1.000	0.621
LS26	1.000	0.634
LS27	1.000	0.605
LS28	1.000	0.633
LS29	1.000	0.605
LS30	1.000	0.699
LS31	1.000	0.672
LS32	1.000	0.673
LS33	1.000	0.707
LS34	1.000	0.669
LS35	1.000	0.661
LS36	1.000	0.686

Extraction Method: Principal Component Analysis.

The third stage of the analysis includes the application of confirmatory factor analysis (CFA). The subsequent section presents the results of the Confirmatory Factor Analysis (CFA) performed on the three components and their corresponding underlying variables. The AMOS software generated and tested multiple models to determine the best model fit. The final model, consisting of only 36 variables, demonstrates the statistical significance of each variable. The predominant LS utilised by businesses in the pharmaceutical sector is transformational. CFA, a statistical method, is widely used in business and the social sciences. This method is valuable

for testing hypotheses regarding the relationship between observable variables and latent constructs within a specific context. The usefulness of CFA in academic settings lies in its ability to assess the degree to which evidence aligns with the anticipated factor structure, thereby aiding in the validation or enhancement of theoretical models. This methodological strategy is based on academic rigour and precision, ensuring high-quality study results.

Table 9: Factor Analysis of Leadership Style.

	Component	
	1	2
LS1	0.779	
LS14	0.778	
LS9	0.773	
LS11	0.762	
LS3	0.760	
LS26	0.755	
LS7	0.752	
LS25	0.752	
LS21	0.751	
LS22	0.749	
LS24	0.749	
LS27	0.746	
LS6	0.746	
LS13	0.745	
LS12	0.743	
LS17	0.742	
LS15	0.741	
LS8	0.741	
LS19	0.741	
LS2	0.741	
LS20	0.740	
LS28	0.738	
LS10	0.730	
LS16	0.727	
LS29	0.726	
LS23	0.718	
LS18	0.710	
LS5	0.707	
LS4	0.700	
LS33		0.815
LS36		0.794
LS30		0.789
LS31		0.773
LS35		0.762
LS34		0.762
LS32		0.760
Variance Explained (%)	56.056	7.338
Cumulative Variance Explained (%)	56.056	63.394

Researchers in the field of CFA use statistical tests, known as model fit indices, to evaluate the fit between the model and the data and assess the model's plausibility. The values corresponding to the various model fit indices obtained from the analysis are presented in Table 10. Table 10 presents the model fit indices values generated by this analysis.

Table 10: Model Fit Results for Leadership Style.

Title	Value
CMIN	1015.101
DF	593
CMIN/DF	1.712
GFI	0.909
NFI	0.937
IFI	0.973
TLI	0.971
CFI	0.973
RMSEA	0.037

The absolute and relative index values all reach their thresholds, indicating a satisfactory model fit. Table 11 presents the reported reliability and validity of the extracted factors and their underlying variables, which enhances the analysis.

Table 11: Reliability and Validity Analysis for Leadership Style.

	CR	AVE	MaxR(H)	Transformational	Transactional
Transformational	0.978	0.608	0.978		0.792
Transactional	0.922	0.628	0.922	0.655	

The first column represents composite reliability (CR), a measure of internal consistency reliability. The acceptable value of CR is 0.7 and above, confirmed for all three constructs in Table 11. In addition, for the data to possess convergent validity, CR should be greater than 0.7 and AVE greater than 0.5. These criteria have also been met for all the factors, as reported in Table 11. Consequently, the parameters that were retrieved are trustworthy and reliable.

The study additionally performed additional statistical analysis to accomplish its third objective, which is to examine and analyse the influence of LS on OP in the telecommunications industry in Riyadh, Saudi Arabia. Table 12 displays the descriptive statistics for the impact of LS on OP in the pharmaceutical sector, specifically the mean and standard deviation (Standard. Deviation). Most items have

a mean value of approximately 3 or higher, with a standard deviation close to 1. Most respondents indicate agreement regarding the impact of LS on OP in the pharmaceutical sector.

Table 12: Descriptive Statistics of the Impact of Leadership Style on Organizational Performance.

	N	Minimum	Maximum	Mean	Std. Deviation
LSOP1	532	1	5	3.05	1.336
LSOP2	532	1	5	3.06	1.301
LSOP3	532	1	5	3.04	1.336
LSOP4	532	1	5	2.98	1.306
LSOP5	532	1	5	3.02	1.292
LSOP6	532	1	5	2.98	1.328
LSOP7	532	1	5	3.03	1.353
LSOP8	532	1	5	3.05	1.348
LSOP9	532	1	5	2.96	1.306
LSOP10	532	1	5	2.95	1.334
LSOP11	532	1	5	3.00	1.316
LSOP12	532	1	5	2.91	1.323
LSOP13	532	1	5	2.90	1.348
LSOP14	532	1	5	2.98	1.346
LSOP15	532	1	5	2.98	1.319
Valid N (listwise)	532				

Factor analysis has been used to condense the items and validate the factor structure of these constructs. Tables 13, 14, and 15 present the factor analysis results for these constructs. The KMO and Bartlett's test values for the constructs used to achieve the first objective have been calculated and found to surpass the established standard (Table 13). These findings suggest that the data is appropriate for factor analysis.

Table 13: KMO and Bartlett's Test Results.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.960
Bartlett's Test of Sphericity	Approx. Chi-Square	5355.647
	df	105
	Sig.	0.000

The extracted communalities of all items in the subsequent tables are greater than 0.5. The extracted factor adequately accounts for the variability in each item. The commonly agreed upon range for communalities is 0.567 to 0.903, with optimal values being around or above 0.6. The results are presented in Table 14.

Table 14: Communalities for the Impact of Leadership Style on Organizational Performance.

	Initial	Extraction
LSOP1	1.000	0.695
LSOP2	1.000	0.674
LSOP3	1.000	0.710
LSOP4	1.000	0.684
LSOP5	1.000	0.678
LSOP6	1.000	0.679
LSOP7	1.000	0.656
LSOP8	1.000	0.659
LSOP9	1.000	0.672
LSOP10	1.000	0.666
LSOP11	1.000	0.672
LSOP12	1.000	0.634
LSOP13	1.000	0.683
LSOP14	1.000	0.646
LSOP15	1.000	0.682

Extraction Method: Principal Component Analysis.

The data reduction method was used to address construct validity, with each data item being heavily weighted on its respective aspect. PCA was used to perform exploratory factor analysis, with the Varimax rotation approach. Table 15 displays the results of factor analysis, revealing the extraction of two factors. The combination of these two factors accounts for 67.270% of the variance in the data, which is considered favourable for achieving optimal results in factor analysis. Factor 1 explains 54.701% of the variance in the data, while Factor 2 accounts for 12.569% of the variance.

Table 15: Factor Analysis of the Impact of Leadership Style on Organizational Performance.

	Component	
	1	2
LSOP1	0.799	
LSOP3	0.794	
LSOP4	0.791	
LSOP2	0.784	
LSOP5	0.783	
LSOP6	0.766	
LSOP7	0.764	
LSOP8	0.724	
LSOP10		0.781
LSOP13		0.776
LSOP15		0.767
LSOP11		0.766
LSOP9		0.766
LSOP12		0.766
LSOP14		0.762
Variance Explained (%)	54.701	12.569
Cumulative Variance Explained (%)	54.701	67.270

The next step entails the application of confirmatory factor analysis (CFA). This study presents the outcomes of applying CFA to three factors and their associated variables. CFA is a commonly employed statistical technique in academic research to assess the impact of LS on OP. The process involves formulating hypotheses, collecting data, specifying a model, and conducting a comprehensive analysis using structural equation modelling techniques. The use of CFA allows researchers to empirically investigate and establish relationships between latent constructs and observable variables, thereby making a substantial contribution to the academic understanding of this important area of study. Multiple models were computed and tested using AMOS to identify the optimal model fit. The final model includes 15 significant variables. [Table 16](#) presents the model fit index values generated by this analysis.

Table 16: Model Fit Results for the Impact of Leadership Style on Organizational Performance.

Title	Value
CMIN	152.485
DF	593
CMIN/DF	1.713
GFI	0.963
NFI	0.972
IFI	0.988
TLI	0.986
CFI	0.988
RMSEA	0.037

The absolute and relative index values indicate that the model fit is generally good, as they are reaching their thresholds. The analysis was further enhanced by reporting the reliability and validity of the extracted factors and their underlying variables in [Table 17](#).

Table 17: Reliability and Validity Analysis of the Impact of Leadership Style on Organizational Performance.

	CR	AVE	MaxR(H)	Transformational	Transactional
Transformational	0.932	0.632	0.932		0.780
Transactional	0.916	0.609	0.917	0.678	

The first column represents CR, which is a measure of internal consistency reliability. The CR value of 0.7 or higher is considered acceptable, as indicated for all three constructs in [Table 17](#). Convergent validity requires a CR value above 0.7 and

an AVE value above 0.5. All the factors have satisfied these criteria, as shown in [Table 18](#). The retrieved parameters are therefore considered trustworthy and reliable.

The statistical tests were conducted to examine the moderating effect of age on the relationship between LS and OP in the telecom sector in Riyadh, Saudi Arabia. The objective of this study is to calculate the mean centre of the quantitative variables employed in our research. The standardised values obtained from our study are stored as variables named ZLSOP, ZLS, and ZDG1. Subsequently, we need to compute values for the interaction variable by calculating the product between the independent variable (LS) and the moderator variable (age), denoted by the interaction term. [Figure 3](#) illustrates the direct effect of the independent variable, i.e., ZLS, and the moderator variable, i.e., ZDG1, on the dependent variable, i.e., ZLSOP.

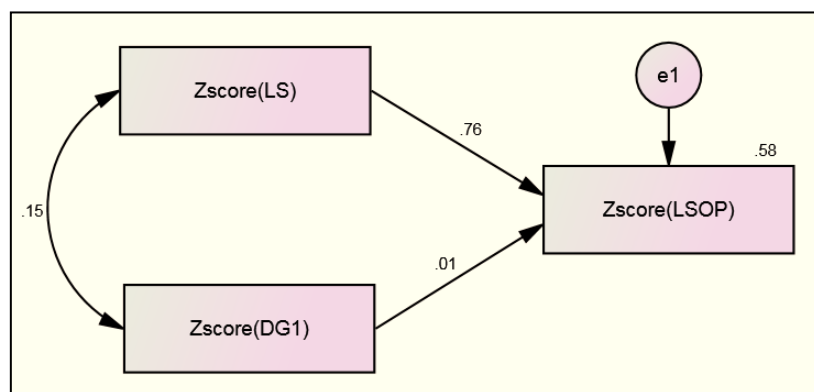


Figure 3: Direct Effects of the AMOS Model.

The model depicted in [Figure 4](#) was used to assess the significance of the path coefficients between the variables and their corresponding factors.

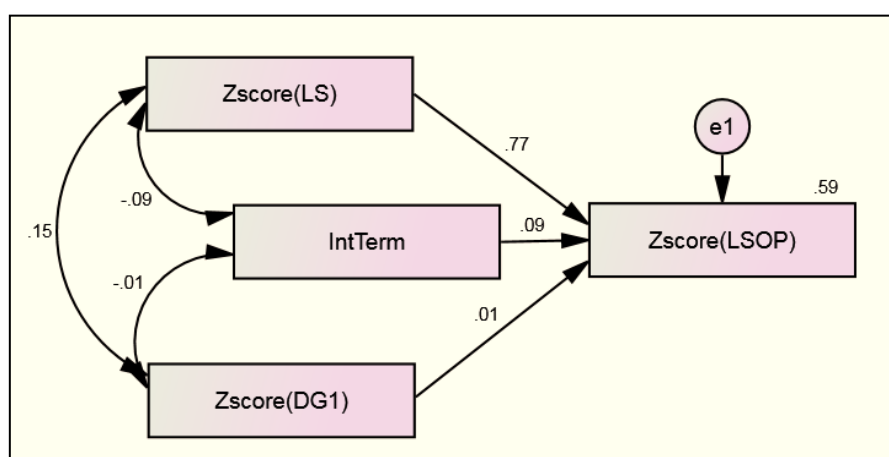


Figure 4: Indirect Effects of the AMOS Model.

Upon analysing the P column, it is evident that the interaction effect of the ZDG1 variable on ZLSOP is 0.857 ($P > 0.05$), indicating that it lacks statistical

significance. The probability of obtaining a critical ratio of 0.181 or larger is 0.857. The regression weight for ZDG1 in predicting ZLSOP is not statistically significant at the 0.05 level (two-tailed). The statistical analysis reveals a significant relationship ($P < 0.05$) between ZLS and ZLSOP, as well as between ZLS and IntTerm. The regression weight for ZLS and Z1 in predicting ZLSOP is significantly different from zero at the 0.001 level (two-tailed). The findings are presented in [Table 19](#).

The significance of the interaction term suggests that the moderating variable, DG1, has a significant effect on the relationship between the independent variable, LS, and the dependent variable, LSOP. Age functions as a moderating variable in the association between LS and its impact on OP.

Table 18: Regression Weights: (Group Number 1 – Default Model).

			Estimate	S.E.	C.R.	P	Label
ZLSOP	<---	ZLS	0.772	0.028	27.487	***	
ZLSOP	<---	IntTerm	0.114	0.034	3.365	***	
ZLSOP	<---	ZDG1	0.005	0.028	0.181	0.857	

Conclusion and Recommendation

The study findings indicate a positive correlation between LS and OP. Our research suggests that the telecom sector commonly employs two types of leadership styles: transformational and transactional. Among these, transformational leadership appears to be more widespread. Transformational leaders are visionary individuals who develop strategic plans for organisational growth and communicate goals and objectives to stakeholders. They demonstrate commitment and dedication in their efforts to achieve these goals. Transformational leaders employ values and principles to inspire subordinates to attain desired performance levels. Trust and confidence are enhanced through values and principles, leading to increased ownership and a willingness to make sacrifices. Transformational leaders facilitate employee development and enhance organisational performance. Transformational leadership is a process where individuals interact in a manner that elevates the motivation and morality of both leaders and followers. This is consistent with the literature reviewed, which supports the idea that transformational leadership has a positive impact on organisational performance. Transactional leaders prioritise employee tasks over

organisational concerns. The study provided conclusive evidence of the significant impact of LS on OP. It found that LS, which is both transformational and transactional, has a direct and proportional relationship with performance.

Implications

The influence of LS on OP is complex and has a significant impact on different aspects of organisational functioning and success. LS has an impact on various aspects of employee performance, including motivation, job satisfaction, teamwork, communication, and productivity. Leadership styles that prioritise employee empowerment, recognition, and personal growth, such as transformational leadership, have been found to promote increased employee motivation and engagement. Employees who are inspired and valued are more likely to exhibit commitment to their work and the organization's goals, resulting in enhanced productivity and performance. The implementation of a formalised leadership style can influence the communication dynamics within an organisation, where open and transparent communication is crucial for promoting efficient collaboration and resolving issues. Transformational leaders foster a collaborative and inclusive culture, promoting open dialogue and idea-sharing, resulting in increased innovation and overall performance.

In addition, prioritising employee well-being and development, such as through servant leadership, is associated with increased job satisfaction and decreased turnover rates. LS can impact decision-making processes and performance evaluation criteria in an organisation. Transactional leaders prioritise short-term outcomes and employ a system of rewards and punishments to motivate employees. Transformational leaders prioritise long-term vision and promote ongoing improvement and learning. Leadership has a significant impact on team dynamics and cohesion. Leaders who encourage teamwork and empower team members to take ownership of their roles promote high-performing and collaborative teams, enhancing productivity and performance. Overall, the influence of LS on OP is complex. Leaders who understand the implications of their leadership style can strategically influence the organisational environment, leading to increased employee satisfaction, improved teamwork, and enhanced overall performance and success.

Future Directions

The researchers employed a broad strategy to overcome limitations in time and resources. They collected data from personnel in various accessible telecom businesses. Further research should concentrate on examining the impact of LS on organisational success within specific Saudi Arabian firms. Future research should focus on investigating the mediating and moderating effects of various factors on the relationship between LS and OP. Furthermore, further research could investigate the impact of LS on other important outcomes, such as job satisfaction and turnover intention. Future research may use qualitative techniques to address the limitations associated with using a quantitative methodology, as observed in the current study.

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