

Investigating the Role of Leadership Styles on Organizational Culture and Innovation

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Abstracts

Innovation and organizational environment are greatly influenced by leadership styles. Innovation-friendly workplaces are fostered by leaders because of their emphasis on inspiration and vision. The leaders place more emphasis on structure and compensation, which might have a distinct effect on organizational environment (OE) and creativity. The variations in leadership styles and how they are applied in various organizational settings. The connection among organizational environment, innovative creativity and leadership styles might be influenced by industry-specific aspects. The study's aim is to comprehend how various leadership styles affect the organizational environment and corporate innovations (CI). This study included a total of 233 participants, including male (120) female (110) and non-binary/other (3) for leadership styles. Utilizing SPSS software, a statistical analysis of the data was carried out. The data was analyzed using a t-test, ANOVA, and regression analyses. These analysis demonstrated the leadership style fostering an innovative organization. The study emphasizes the organizational environment and corporate innovation strongly influenced by leadership styles. Creating an atmosphere that encourages creative thinking and a collaborative culture through leadership styles.

Keywords: Leadership styles, organizational environment (OE), corporate innovation (CI), Creativity.

Introduction

Leadership has a crucial role in influencing both innovation and organizational culture. The business culture, ethical attitude, work environment and the ability to create new ideas were affected by the choice of leadership behavior by leaders in an organization [1]. Both transactional and transform, as well as laissez-faire types of leadership, contribute to the development of the organizational culture and facilitate the inhibiting innovation. Various styles of leadership like transformative, conditional leadership and self-directed have different ways of addressing people, and their effects on creativity and organizational culture were different [2]. Organizational culture, innovation, and leadership styles were interrelated in a web-like, convoluted, and mutual manner. A single leader's ability to select the proper approach to leadership based on the company culture and innovative strategy of the organization might significantly influence the effectiveness of the business. How the leadership styles influence the aspects were beneficial for organizations to proactively cultivate the right culture that fosters creativity while enhancing employees' satisfaction and the organization's overall success[3].

I. Leadership Styles on Innovation

Leadership played a significant role in innovations in businesses how they build up ideas and designs and how those ideas were implemented and affected the leadership. Provide funding and support to help innovative solutions [4]. The leaders who prefer orientations such as structure, regulations and incentives might focus on the effectiveness and efficiency of the creative processes, depending on how these frameworks were employed, which could facilitate or hinder creativity. Enabling subordinates to venture into uncharted territory involves allowing them to try out new ideas termed a laissez-faire leadership style [5]. Businessmen who wish to remain relevant in competitive commercial settings understand leadership patterns and the impact of organizations' growth.

II. Leadership Styles on Organizational Culture

Leadership constitutes a major influence in the formation of a cultured organization. The leadership styles directly determine how organizational cultures were built, maintained, and transformed [6]. Organizational culture refers to the shared beliefs or assumptions that were standard for all the members of the organization and intertwined with the leadership style. Thus, an organization's performance is enhanced by a favorable organizational culture which leads to high work satisfaction and employee engagement. The leadership involved in the culture process, organizational setting the standard of acceptable and desirable behavior [7]. The responsibilities of managers are to cultivate an environment where the staff members feel valued and contribute to the success of the firm.

The study's aim is to comprehend how various leadership styles affect the cultural framework and innovative creativity. The study intends to understand how supportive and innovative organizational environments emerge.

The following sections make up the article as follows: Related Works provides a summary of the research; Methodology specifics the study plan; Experimental result summarizes the evaluation outcome; and Conclusion provides summary and consequence of the research.

Related works

The relationship among innovative capacity, knowledge leadership, and organizational culture constitutes an open creativity environment to offer practical guidance and recommendations for high-tech sector management procedures [8]. The corporate culture and knowledge management had a significant favorable relationship. The experimental findings demonstrated a substantial correlation between creative ability and knowledge management.

Virtual team workers constitute organizational culture and revolutionary leadership [9]. Every firm used communication technologies to link the virtual teams, leaders must adopt a highly proactive strategy to possess the speed at which company culture and environment modified. Teams play a vital role in organizations to succeed in their tasks. The experimental outcomes demonstrated a strong and positive correlation among dynamic management organizations.

The culture of organizations and interactions affected the collaboration, confidence and style of leadership for organizational commitment [10]. The institutional dedication towards institutions was positively impacted in a direct and substantial way. The relationship between work trust and commitment to the organization was strong and positively correlated. The experimental result demonstrated the organizational sustainability and leadership committed to an organization.

In a variety of sectors, transformational leadership is recognized as a significant influencing force in knowledge governance and systems of innovation [11]. The study intends to examine the connections among innovation, information sharing and transformative leadership. Furthermore, a mediator between transformative leadership and creativity constitutes information sharing. The experimental outcome demonstrated that transformative leadership has a direct and beneficial influence.

To determine how workers' organizational citizenship behavior (OCB) impacted by leadership styles that possess authoritarian and transformative [12]. The interpersonal skills of leaders influence the connection between OCB and styles of leadership. The interaction impact of leadership styles were incorporated and the autocratic leadership style constituted the OCB of small and medium-sized enterprises (SME) workers. The experimental findings indicate that the OCB of SME workers favorably predicted leadership styles.

The moderating function investigated the effects of transformative leadership on adaptive cultures that possess resilient organizations [13]. The valuable perspectives of leaders in practice to enhance their transformational attributes, since the attributes were anticipated to augment organizational adaptable cultures and resilience capabilities. The result showed that traits of idealistic leaders' communication and intellectual stimulation constitute forecasting organizations.

Hypothesis

H1: There is a sustainable connection among Inspirational Leadership (IL) and corporate innovation (CI).

H2: There is a sustainable connection among Administrative Leadership (AL) and CI.

H3: There is a sustainable connection among Flexible Leadership (FL) and CI.

H4: The connection among CI and IL mediated by Organizational Environment (OE).

H5: The connection among CI and AL mediated by OE.

H6: The connection among CI and FL mediated by OE. Fig 1 represents the conceptual framework.

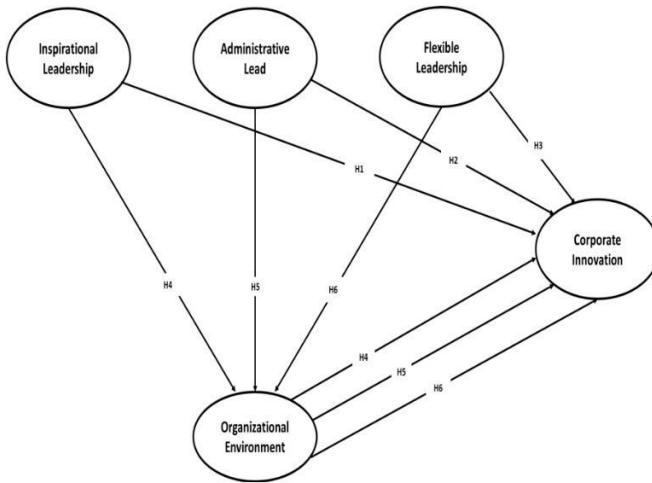


Fig 1 conceptual framework

The conceptual framework of an organization's leadership style influences the CI. There are three distinct independent variables such as IL, AL and FL were selected as the determinants framework and constituted the independent variable. The CI constituted the dependent variable, whereas OE constituted the mediating variable.

Methodology

Initially, 233 participants were collected. There are various aspects to participants. It consists of the gender, age range, position, Industry, and education level of participants. Gender divided into three categories male, female and non-binary. Age distinct into five groups, such as 18 to 24, 25 to 34, 35 to 44, 45 to 54 and above 55. Position divided into three categories executive, manager and staff. Industry divided into five categories technology, healthcare, finance, education and other. Education Level divided into five category high school, associate degree, bachelor's

degree, master’s degree and doctorate. Fig 2 illustrates (a) gender and (b) age. Table I represents the demographic data.

Table I Demographic data

Aspects	Category	Frequency	Percentage (%)
Age	18-24	50	21.4
	25-34	70	30.0
	35-44	60	25.7
	45-54	30	12.9
	55 above	23	10
Gender	Male	120	51.5
	Female	110	47.2
	Non-binary/Other	3	1.3
Position	Executive	50	21.4
	Manager	80	34.3
	Staff	103	44.3
Industry	Technology	70	30.0
	Healthcare	50	21.4
	Finance	40	17.2
	Education	30	12.9
Education Level	Other	43	18.5
	High School	20	8.6
	Associate Degree	40	17.2
	Bachelor’s Degree	100	42.9
	Master’s Degree	50	21.4
	Doctorate	23	9.9

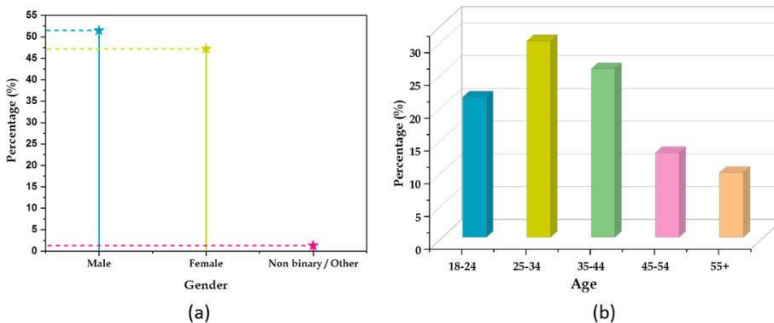


Fig 2(a) Gender of demographic data and (b) Age of demographic data

Statistical analysis

The data analysis software utilized SPSS (version 13). The median and standard deviation of several quantitative factors, for leadership style of OE and CI were displayed. The regression

analysis, T-test and ANOVA were employed to compare quantitative variables of leadership styles.

Experimental results

T-test

When comparing organizations with different leadership styles, a t-test was used to see whether there were any appreciable variations in OE and CI. The t-test assists in determining the differences in leadership styles how innovation was encouraged and how organizational culture constitutes comparing means across various groups. A statistical test known as the T-test was performed for two distinct groups whose median differed significantly from one another. It was useful to determine differences that arise probably as the result of chance or if they actually represent an effect. The extent of difference among the group median norms in relation to the variance in the groups was measured by the t-value, which was computed by the t-test. Table II represents the t-tests for leadership styles. The t-tests are used to compare the median of single-group values. Paired samples of the median for two distinct groups were compared using t-tests. Fig 3 represents the t-statistic results.

Table II Descriptive Statistics and T-tests for Leadership

Groups	Mean	Standard Deviation	t-measure	p-measure
IL and CI	88.0	10.3	7.45	0.0001
AL and CI	74.8	13.1	4.40	0.0002
FL and CI	81.2	11.2	3.85	0.0004
IL mediated by OE	89.1	9.9	5.58	0.0001
AL mediated by OE	77.0	12.3	3.80	0.0005
FL mediated by OE	82.9	10.6	2.95	0.004

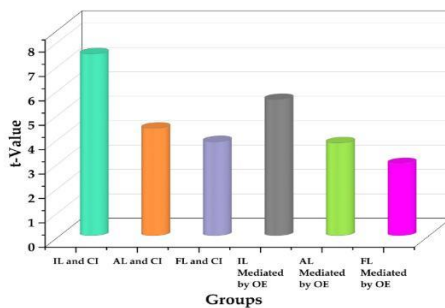


Fig 3 Result of t-statistic

The statistical analysis of several leadership styles and their effects on both direct and indirect OE was shown in the table. The IL has a mean of 88.0, an SD of 10.3 and significant t- t-measure of 7.45 and a p- measure of ($p = 0.0001$). AL has a mean of 74.8 and SD of 13.1, with a t-measure of 4.40 and p-measure of ($p = 0.0002$), suggesting a moderate influence. The FL has a mean of 81.2, SD of 11.2, t-statistic of 3.85 and p-value of ($p = 0.0004$). The various leadership styles were mediated by OE, IL retains its strong influence mean of 89.1, SD of 9.9, and significant t-measure of 5.58 and p-measure of ($p = 0.0001$). The various leadership styles were mediated by OE, AL has a mean of 77.0, SD of 12.3, t-measure of 3.80 and p-measure of ($p = 0.0005$). The various leadership styles were mediated by OE, FL mean of 82.9, SD of 10.6, t- t-measure of 2.95 and p- measure of ($p = 0.004$).

ANOVA test

To ascertain the mean impacts of several leadership styles on OE and CI differ statistically significantly, an Analysis of Variance (ANOVA) test was employed. ANOVA assists in determining the variety of OE and CI linked with distinct leadership styles and comparing the variance in groups. A statistical technique called the ANOVA test was used to ascertain whether the medians of three or more groups differ significantly from one another. To determine whether the variations in these groups' medians are more likely to be caused by a particular factor or by random chance, it was helpful to examine the variance of groups. Essentially, ANOVA contrasts the data variance in each group against the group-to-group variability. At least one separate group mean was shown if the variability across the groups was substantially greater than the variability of each group. Table III illustrates the ANOVA test results for leadership styles. The ANOVA test was frequently employed to evaluate the impact of different conditions or interventions on independent variables. The F-statistic and matching p-value are frequently used to describe the outcome of the ANOVA test. Fig 4 depicts the ANOVA results.

Table III ANOVA results for leadership styles

Groups	Mean	SD	F-measure	P-measure
IL and CI	73.0	11.0	5.67	0.02
AL and CI	72.1	10.6	6.45	0.01
FL and CI	74.0	10.8	4.89	0.03
IL Mediated by OE	72.5	10.4	4.21	0.04
AL Mediated by OE	70.5	10.0	4.76	0.03
FL Mediated by OE	72.8	10.2	4.58	0.03

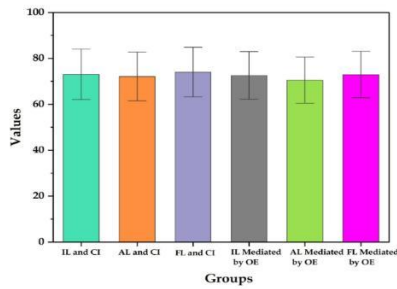


Fig 4 Result of ANOVA

The direct and indirect relationships mediated by the OE among various leadership styles and CI are shown in the table. The IL statistically constitutes the significant influence on CI with a mean of 73.0, SD of 11.0, F- measure of 5.67 and p- measure of 0.02. AL has a mean of 72.1, SD of 10.6, F- measure of 6.45 and p- measure of 0.01. FL has a mean of 74.0, SD of 10.8, F- measure of 4.89 and p- measure of 0.03. The IL has a mean of 72.5, SD of 10.4, F- measure of 4.21 and p- measure of 0.04 indicating a lower influence when the OE mediates with various leadership types. AL mediated by the OE has a mean of 70.5, SD of 10.0, F- measure of 4.76 and p- measure of 0.03. The OE mediates the effect of FL has a mean of 72.8, SD of 10.2, F- measure of 4.58 and p- measure of 0.03 influence for CI. The CI was greatly impacted by all leadership styles that constitute the existence of an OE.

Regression Analysis

Regression analysis used to explore how different leadership styles impact OE and cultural innovation. The leadership constitutes the effect of elements by modeling the connection among independent variables and dependent variables for OE and cultural innovation. Analyzing each style's impact and offering insights into how leadership might CI and OE. A statistical technique known as regression analysis used to constitute the connection among independent variables and dependent variables. To forecast or reduce causal linkages, it seeks to model and quantify the relationship. Table IV represents the statistical results of the regression analysis. The process calculates coefficients, which show the direction and intensity of variables. Regression coefficient metrics measure the direction and intensity of correlations and they are used to assess the effectiveness of models. Fig 5 illustrates the result of the regression analysis.

Table IV Statistical Results of Regression Analysis

Groups	Coefficient (β)	Standard Error (SE)	t-Value	P-Value
IL and CI	0.52	0.14	3.71	< 0.001
AL and CI	0.45	0.16	2.81	0.006
FL and CI	0.38	0.15	2.53	0.012
IL Mediated by OE	0.40	0.13	3.08	0.002

AL Mediated by OE	0.35	0.14	2.50	0.015
FL Mediated by OE	0.30	0.16	1.88	0.061

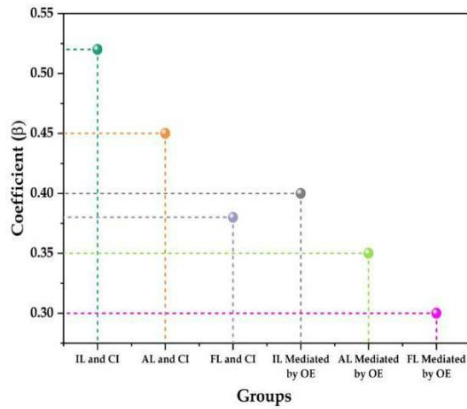


Fig 5 Result of regression analysis

The regression coefficients and their statistical significance for direct and indirect relationships mediated by the OE among different leadership styles and CI. A substantial and statistically significant positive influence on CI possesses the coefficient of 0.52 with 0.14 Standard Error (SE), resulting in a t- measure of 3.71 and p- p-measure of 0.001 of IL. The AL has a substantial positive impact coefficient of 0.45, 0.16 SE, t- measure of 2.81 and p- measure of 0.006. A substantial influence on CI by FL has a coefficient of 0.38, 0.15 SE, t-measure of 2.53 and p-measure of 0.012. The OE acting as a mediator, IL exhibits coefficient of 0.40, 0.13 SE, t-measure of 3.08 and p-measure of 0.002, has a significant impact. The influence of AL, mediated by the OE has the coefficient of 0.35, 0.14 SE, t- measure of 2.50 and p- measure of 0.015. The OE mediated for FL with coefficient of 0.30, 0.16 SE, t- measure of 1.88 and p- measure of 0.061.

Conclusion

Research findings show creativity and OE were significantly influenced by leadership styles. Innovation-friendly workplaces improved by leadership vision and inspiration. The leadership prioritizes the incentives and routine, has a distinct effect on the workplace environment and might stifle CI because of its concentration on structure and remuneration. The statistical techniques verified the CI and OE were significantly impacted by leadership styles. The leadership strategies excite and include staff members to develop a cooperative and innovative work environment. The various leadership styles constitute CI and organizational culture

influenced by industry-specific characteristics suggesting the leadership situation. The leadership fosters organizational innovation that promotes creative thinking. The study emphasizes that OE and CI strongly influenced by leadership styles. Creating an atmosphere that encourages creative thinking and a collaborative culture through leadership styles.

Limitations and future scope

The subjective nature of leadership styles might be varied based on the opinions held by both employees and leaders. Due to its complexity and variety, innovation might have one or two dimensions, such as business model or organizational innovation that were neglected from the perspective of the product. Future research should examine how leadership strategies, cultural framework and creative development are related to external factors, including market dynamics, economic situations and regulatory changes.

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