INNOVATION AND LEADERSHIP: A STUDY OF ORGANIZATIONS BASED IN THE UNITED ARAB EMIRATES

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Abstract: The successful practice of innovation in any organization demands the integration and interaction of individual, collective, and organizational climate levels of management. Leadership styles have an impact on all these three levels of management. However, little work has been done to assess this impact, especially in the context of United Arab Emirates (UAE)-based organizations. This study was conducted with the purpose of assessing whether leadership processes, tools, and techniques differ in innovative organizations and, thereafter, propose general leadership requirements for innovative projects in the UAE. This study adopts statistical data-processing methods, such as descriptive statistics, the reliability of the instrument, correlation, and regression analysis. Data obtained through a survey of UAE-based organizations were used for analyzing whether innovativeness (as perceived by employees) is statistically correlated with leadership dimensions. The research results show that the transformational leadership style scores better over transactional leadership when it comes to predicting innovations.

***Keywords*:** leadership, leadership style, innovation processes, innovation culture.

JEL Classification: M10, O31, O30.

1 Introduction

The Middle East and North Africa (MENA) regions have enjoyed large surpluses and economic growth mainly because of favorable oil prices in the past couple of decades. However, the oil prices have plunged in recent years, and this has raised concerns about unemployment and financial risks. Added to this, the coronavirus disease COVID-19 disruptions have further aggravated these problems. Oil prices are expected to reach an average of reaching $57 per barrel at the end of 2021 before they moderate to $53 per barrel in 2022 as supply picks up. Still this will be below the $64 per barrel average for 2019, as the UAE economy contracts by 5.9%, as per the International Monetary Fund (IMF) Regional Economic Outlook 2021. As per the IMF, for the MENA region, fiscal deficits widened to 10.1 percent of GDP in 2020 from 3.8 percent of GDP in 2019. It is very unlikely that future oil prices will return to pre-corona virus level. Most of the countries have revised down their medium-term growth forecasts considering the projected low oil prices. The fiscal tightening in the wake of such projections is expected to weigh on economic activity. In addition to this, short or prolonged disruptions can lead to direct and indirect losses in business. Prolonged disruptions can lead to catastrophic losses and eventual closure of organizations. Coronavirus disease COVID-19 is one such disruption being faced by the region along with the rest of the world. The region needs to adjust to the new oil reality. Hence, in the context of a highly unstable business environment, it has become imperative for organizations to study the factors that have an impact on innovation effectiveness.

Since the future of human investment lies in innovation, the UAE leadership has emphasized the importance of innovation through the UAE Vision 2021: “Innovation, research, science, and technology will form the pillars of a knowledge-based, highly productive and competitive economy, driven by entrepreneurs in a business-friendly environment where public and private sectors form effective partnerships". The National Innovation Strategy (NIS) (2015) aims to bring the world’s leading innovative companies to the UAE, hereby promoting the reputation and role of the UAE as a central hub for global

innovations. A study of the factors affecting innovation in organizations will play an important role in determining the success of the NIS, as well as assessing the preparedness of the organizations in dealing with COVID-19 like disruptions.

Leadership and the successful practice of innovation have an interrelationship, and therefore, there is a need to study the interaction and integration of these. At the personal or individual level, the focus is to study the leadership styles that have an impact on innovation. At the organizational climate level, innovation is hindered or promoted by several factors that include involvement and challenge, openness and trust, space, and support for ideas, where again the leadership plays an important role.

2 Review of Literature

2.1 Key innovation characteristics

An extensive review of the literature was carried out to ascertain the key factors affecting innovation in any firm. Innovation can be explained in terms of two process, not necessarily distinct but overlapping with each other. They are as follows: first, generating new ideas; and second, implementing the newly generated ideas (Adair, 2007). Individual factors are seen to have a major influence on idea generation, whereas group- and organizational-level factors have a large impact on idea implementation (Birdi, Leach, and Magadley, 2014).

2.1.1 Idea generation

Since the idea generation process is affected by individual factors, innovation has a direct relation with creativity. Cultural elements influence creativity. To foster a creative environment, strength, openness, and a supportive relationship between the employees and supervisors are essential (Amabile, 1979; Kimberly and Evanisko, 1981). Amabile (1988) conducted a study to identify and comprehend the factors that have an impact on creativity in organizations. He found that encouragement of creativity in the firm, as depicted by elements such as open information flow and a supportive culture for new idea generation across all levels, was one of them. Other factors that affected creativity included the following: autonomy or freedom, which was indicated by a sense of individual ownership; resources and capabilities of the organization in terms of materials obtained and information possessed; pressures comprising constructive challenge and negative workload; and blockages to creativity as depicted by negative conservatism. Bailyn (1985) stressed the clarity of goals as a significant factor, in addition to the freedom of independent decision-making. Several studies on innovative culture have put forward these attributes. Rao and Weintraub (2013) pointed out that resources of the firm, processes and procedures followed, organizational culture and climate in terms of values and behavior exhibited, and success of the firm largely affect the development of an innovative organization.

2.1.2 Idea implementation

Several studies have brought forward the significance and impact of the idea implementation process on the development of innovation in an organization. The implementation process of innovation requires reworking on the existing environment and prevailing procedures, which results in resistance and conflict within the organization. Thus, a sustained and continued effort is essential to carry out the implementation process. Zerfass (2005) brought six significant factors into the picture, namely, continuous commitment to the established vision, participative decision style, conflict handling, encouraging innovation, safety standards, and trust and flexibility. These six factors allow a team to ensure the conversion of task and diversity of knowledge to effective idea generation and implementation, often referred to as innovation readiness. Since innovation entails the integration of different perspectives, emphasis is given to team and teamwork values. Tidd, et al. (2005) emphasize that effective leadership in an organization, distinct and clear objectives, a balance between individual and team roles, the behavioral styles exhibited, systems for effective conflict handling, and continuing collaboration outside the organization were the key elements for fostering a teamwork culture. Christiansen (2000) and Davila (2007) emphasized the importance of incentives and rewards as significant and powerful management tools. An adequate reward system in the firm requires the presence of four elements supporting innovation, namely, recognition, vision, economic incentives, and passion. Structure-related aspects,

namely, the presence of decentralized decision-making in the firm; a clear resource status depicted in terms of time, money, and tools; and communication systems; project setups, along with mentoring, consulting, coaching, direct management, and control mechanisms, are of prime importance (Christiansen, 2000).

2.2 Key leadership dimensions

Research in leadership has been carried out considering different perspectives, such as the traits of their leaders, behaviors exhibited and influence, and the presence of situational characteristics (Hartog and Jong, 1998). Moreover, numerous studies on leadership have supported the development of several theories that are diverse in nature (Dinh, et al., 2014). In this paper, the authors focus on both innovations and leadership styles in organizations. Davila, et al. (2006) have indicated a lesson learnt from the most innovative companies. The lesson was the significance of the leadership, particularly, the chief executive officer (CEO) leadership, in creating and sustaining a successful innovative culture. Davila, et al. (2006) have examined the roles of a leader. Based on the current innovation practice and strategy, they offer a long-term view and strategy for managing innovation and assessing its compliance. Leaders make crucial judgments, provide expert opinions, and balance all the business elements. This view is supported by other authors, who offer their agreement on the fact that innovation management in an organization is largely dependent on the top leadership of that organization. Numerous studies have been conducted to understand the dimensions associated with the two leadership styles, i.e., transactional and transformational, along with the aspect of innovation.

2.2.1 Transactional leadership

According to Deinert, et al. (2015), transactional leadership is also termed as managerial leadership. Transactional leadership focuses on group performance and supervision. Burns (1979) has shaped the concepts of transactional and transformational leadership. There is an exchange between the leader and the follower in a transactional leadership, whereby the leader makes available to the followers the required resources, which is reciprocated with effective task execution and increase in productivity (Burns, 1979; Bass, 1985, 1990, 2000, 2008). With transactional leadership, the followers are able to focus on organizational objectives, such as reduced costs, customer service, increased quality, and increased production (Sadeghi and Pihie, 2012). Whittington, et al. (2009) highlight the fact that there is an exchange of values between the follower and the leader. In a transactional leadership style, leaders show an indifferent attitude toward the task of the employees and they use discipline and punishment as a tool to rectify employees' behavior (Bass, 1985; Bass and Avolio, 1990). Transactional leadership results in employees showing lower performance and commitment to the organization (Zohar, 1994; Lockwood and Jones, 1989). The contribution of transactional leadership to new skills and innovativeness is also questionable (Boerner, et al., 2007; Banker, Khosla, and Sinha, 1998). Transactional leaders predominantly focus on enhancing the efficiency of existing practices (Jansen, et al., 2009). As a result, employees are not motivated enough to contribute beyond what is specified (Bryant, 2003).

2.2.2 Transformational leadership

Kang, Solomon, and Choi (2015) concluded that when it comes to predicting innovative behavior, the transformational leadership scores better over transactional leadership. According to Kang, et al. (2015), transformational leadership has more bearing on the factors that promote an innovative climate in an organization. Transformational leaders can cope well with uncertainty and complexity, they trust people, they are always guided by values, and they play a critical role in bringing out changes in an organization (Judge and Piccolo, 2004; Peterson, et al, 2009). There are some key characteristics that set aside transformational leadership from any other leadership concepts.

These characteristics are as follows: charismatic leadership, giving an individual due consideration, and being motivating, inspiring, and intellectually stimulating (Bass and Riggio, 2006; Bass and Avolio, 1990). There is a two-way impact associated with transformational leadership. Individuals are directly inspired by the leaders, and the behavior and motivation of the employees are also affected by the influence of these leaders on an organization's culture.

Transformational leaders have a bearing on the followers, whereby they become more innovative, are creative, and are able to work harder (Boerner, Eisenbeiss, and Griesser, 2007; Xenikou and Simosi, 2006). Studies conducted by Clark, Hartline, and Jones (2009) concluded that there a positive correlation exists between mutual values shared by all employees and transformational leadership. This, therefore, has an impact on the levels of job satisfaction and employees' commitment toward achieving quality service. The transformational leadership style advances an innovation-oriented strategy that supports the creation of structures and systems at all levels of the organization. This provides autonomy and inspiration and increases the organization's openness (Bryant, 2003). Transformational leaders actively promote the participation of employees in collective decision-making activities (Bass, 1990). In this form of leadership style, the members are therefore motivated to get involved and work toward achieving organizational objectives (Bryant, 2003; Bass, 1990).

2.3 Relationship between transformational and transactional leaderships and innovation

Numerous studies have analyzed the relationship between transactional and transformational leaderships on the one hand and innovation on the other. Transformational leadership introduces the system of employees' values, which encourages innovations (Gardner and Avolio, 1998; Bass, 1985); this – in turn – increases the motivation of the employees (Shamir, House, and Arthur, 1993), thereby encouraging creativity (Sosik, Avolio, and Kahai, 1997; Wang, Tsai, and Tsai, 2014; Jaiswal and Dhar, 2015).

Transformational leadership supports creativity among employees and hence is one of the important factors related to organizational innovations (Bundy, 2002; Henry, 2001). There is a positive impact of transactional and transformational leadership styles on innovations, and this has been proved through various studies (Politis, 2004; Choi, et al., 2016; Gumusluoglu and Ilsev, 2009a; Gumusluoglu and Ilsev, 2009b). On the contrary, a couple of studies have shown that there is no relation between innovation and transformational leadership (Krause, 2004).

Transactional leadership has a more negative effect on employees' creativity (Bono and Judge, 2004), and no relationship has been shown between transactional leadership and innovation (Itcan, Ersary, and Naktiyok, 2014).

From the literature review conducted, the key leadership and innovation dimensions that were identified have been tabulated (see Table 1).

The table brings out the innovation and leadership dimensions at the individual, collective, and organizational climate levels. The interrelationship between these dimensions in the context of UAE-based organizations needs to be further explored.

3 Methodology

A study was conducted among UAE-based organizations with a questionnaire that investigated the leadership and innovation dimensions identified in Table 1.

The questionnaire was divided into two main sections.

In the first section, the sociodemographic variables of respondents, such as age, gender, hierarchical level of work, and the size of the organization, were measured.

The second section measured the employees' attitude toward innovations (idea generation and idea implementation) and transformational and transactional leadership styles.

The study included employees working in 38 UAE-based organizations. A convenience sampling method was applied. A five-point Likert scale measured the agreement levels of the respondents on the given statements. The innovations were measured using 18 items, divided into dimensions of idea generation (10 items) reflecting innovativeness at the individual and group levels. The remaining (eight items) reflected the dimensions of idea implementation reflecting innovativeness at the collective and organizational climate levels.

Transactional and transformational leadership styles were measured using 20 items, divided into 8 dimensions for transactional leadership and 12 dimensions for transformational leadership. Statistical software IBM SPSS 24.0 was used to analyze the data thus collected. Descriptive statistics, correlation, regression analysis, and the reliability of the instrument are some of the statistical data-processing methods that are used in this paper.

Table 1. Key leadership and innovation dimensions (*Source:* Authors' own research)

Leadership dimensions	Innovation dimensions
Transactional leadership • Leaders show indifference toward the tasks that employees are handling • Leaders use punishment and discipline to change the behavior of employees • Leaders use power to ensure that the tasks given to the employees are completed • Employees are allowed to make their own decisions until they make a mistake • The absence of support and a positive working environment is prominently visible • Leaders focus on short-term, immediate solutions or objectives • Leaders focus on increasing efficiency in current practices • Leaders do not take employees' needs and personal growth into consideration	Idea generation • There is openness, strength, and supportiveness in the relationship between employees and supervisors • Information flow is open • New ideas are supported at all levels of the organization • Presence of freedom and autonomy • Resources (materials and information) are available • There are pressures of positive challenge and negative workload pressure • Organizational impediments to creativity (negative conservatism and internal strife) • There is clarity of goals • There is the freedom to make work-related decisions independently • There is a sense of control over one's job
Transformational leadership • Leaders have inspirational motivation/charisma • Leaders are recognized as change agents • Leaders are guided by values • Leaders are oriented toward lifelong learning • Leaders are visionaries who trust people • Leaders motivate followers to improve their performance • Leaders can remove any obstacles and resistance toward changes • Leaders promote organizational members' participation in collective decisions and activities • Leaders promote openness, which enhances the creation of structures and systems at all levels of the organization • Leaders can cope with complexity, ambiguity, and uncertainty • Leaders instill a new approach to the culture • Leaders create a climate of job satisfaction and commitment to quality service	Idea implementation • Support for innovation is there • Collaboration outside the organization is encouraged • Decentralized decision-making is found • There is a clear status on resources (time, money, and tools) • The communication systems are clear • Consulting, mentoring, and coaching are embedded in organizational processes • Direct management and control are present • Recognition and economic incentives are a part of organizational processes

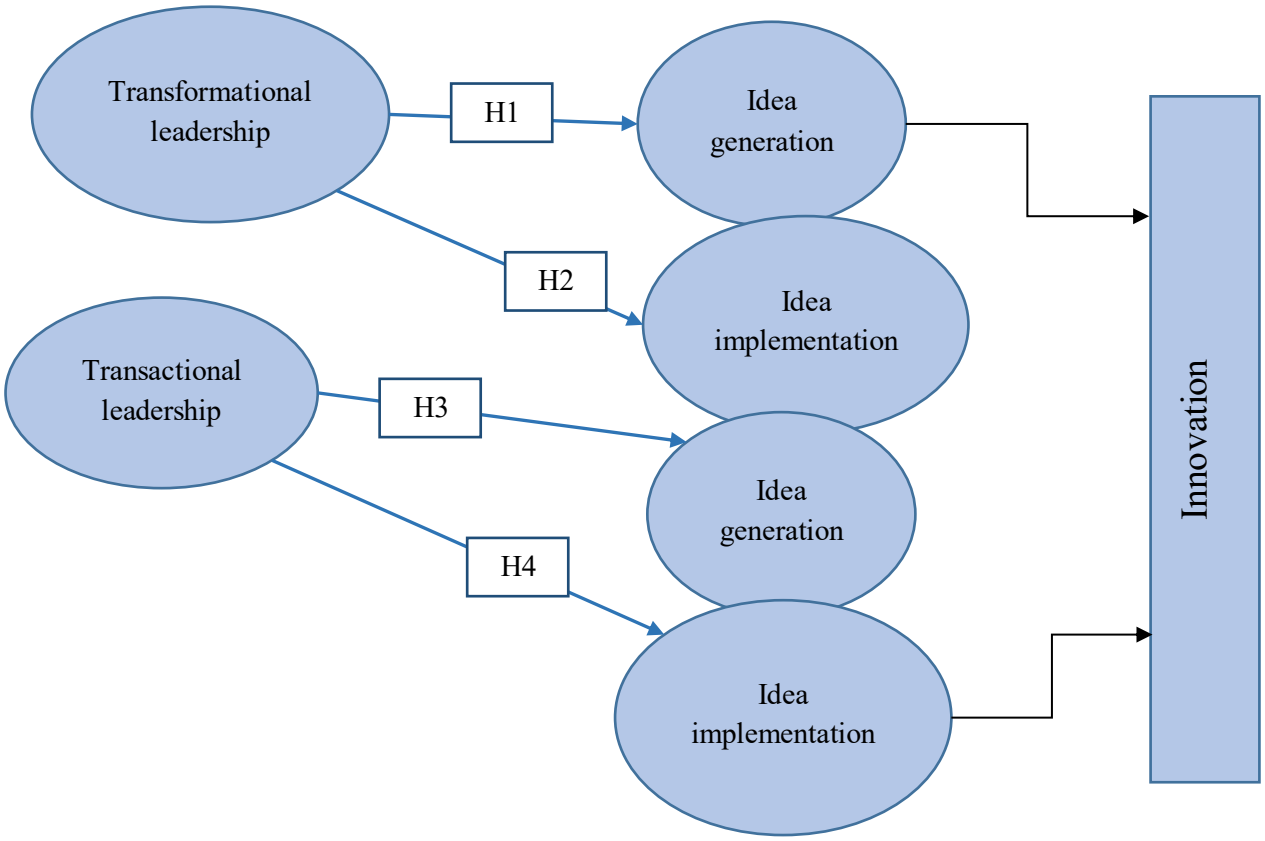


Figure 1. Framework of hypothesis (*Source:* Authors' own research)

The data, thus obtained, were used for the analyses with the following two goals:

1) To identify whether transactional or transformational leadership styles are statistically correlated with innovativeness (as perceived by employees);
2) To identify whether transactional or transformational leadership style has a greater effect on the innovation success of different firm cultures.

As shown in Fig. 1, the following hypotheses will be tested:

H1: Transformational leadership has a positive impact on idea generation,

H2: Transformational leadership has a positive impact on idea implementation,

H3: Transactional leadership negatively affects idea generation,

H4: Transactional leadership negatively affects idea implementation.

4 Analysis

Table 2 shows the sociodemographic variables of the respondents. Table 3 shows the descriptive statistics, reliability, and correlation matrix.

The indicator (r), which reflects Pearson's correlation coefficient, has been used. There are high ($r > 0.50$), statistically significant ($p < 0.01$), and positive correlations among all variables. In comparison with transactional leadership, transformational leadership shows a much higher correlation coefficient with innovations.

Tables 4 and 5 use standard multiple regressions to analyze to what extent transactional and transformational leadership styles contribute to innovations (idea generation and idea implementation).

Innovations were the dependent variables, whereas transactional and transformational leadership styles were the independent variables in the model.

Table 2. Sociodemographic variables (*Source:* Authors' own research)

Variable	Category	Number of respondents	Percentage of respondents
Gender	Male	18	47.4
	Female	20	52.6
Firm size	<50 employees	8	21.1
	>50 but <150 employees	8	21.1
	>150 employees	24	63.2
Hierarchical level	Lower management	7	18.4
	Middle management	29	76.3
	Upper management	3	7.9

Table 3. Descriptive statistics, reliability, and correlation matrix (*Source:* Authors' own research)

Variables	N	M	SD	α	r			
					1	2	3	4
1 Transactional leadership	38	3.41	1.109	0.914		–0.001	0.138	–0.015
2 Transformational leadership	38	4.26	0.708	0.957	–0.001			0.785
3 Innovation – idea generation	38	4.17	0.697	0.899	0.138	0.902		0.779
4 Innovation – idea implementation	38	4.21	0.725	0.915	–0.015	0.785	0.779	
α – Cronbach's alpha; M – mean; SD – standard deviation; r – Pearson's correlation coefficient.								

Table 4. Results of the regression analysis* (*Source:* Authors' own research)

Predictors	Unstandardized β coefficient	Standardized β coefficient	t	Significance (p-value)
Intercept	0.0826		0.251	0.803
Transactional leadership	0.0875	0.139	2.015	0.052
Transformational leadership	0.888	0.902	13.063	0
R-square	0.833			
F	87.3			
*Dependent variable – idea generation.				

Table 5. Results of the regression analysis* (*Source:* Authors' own research)

Predictors	Unstandardized β coefficient	Standardized β coefficient	t	Significance (p-value)
Intercept	0.810		1.559	0.127
Transactional leadership	–0.009	–0.014	–0.134	0.893
Transformational leadership	0.804	0.785	7.493	0.000
R square	0.616			
F	28.087			
*Dependent variable – idea implementation.				

5 Results and discussion

The two constructs that measure transformational leadership and transactional leadership are highly reliable. This is reflected in the values of Cronbach's alpha (α) in Table 3, which showed a very high value of 0.957 on a scale that measures transformational leadership and a somewhat lower value of 0.914 on a scale concerning transactional leadership. Similarly, for the innovation dimensions, Cronbach's alpha coefficient values are 0.899 for idea generation and 0.915 for idea implementation, again indicating that the two constructs are highly reliable.

On comparison of the mean values (M), it is found that transformational leadership (M = 4.26) scores higher than transactional leadership (M = 3.41), as indicated in Table 3. The results indicate that employees think that leaders are visionaries who trust people, but the employees are also aware that the extra effort is sometimes not noticed by the supervisors and the focus is on increasing efficiency in current practices.

The total innovative activity is estimated by the mean value (M) of 4.17 for idea generation and 4.21 for idea implementation (Table 3). The overall innovative activity seems to be high. The correlation matrix is also shown in Table 3. The indicator (r) reflects the Pearson's correlation coefficient. There are statistically significant ($p < 0.01$), high ($r > 0.50$), positive correlations among the variables. Transformational leadership shows a high positive correlation with idea generation ($r = 0.902$) and idea implementation ($r = 0.785$) dimensions of innovations. This very well proves the hypotheses H1 and H2.

In comparison, transactional leadership shows very low positive values of correlation coefficient values of $r = 0.138$ for idea generation and $r = 0.015$ for idea implementation. This shows that a weak but positive correlation exists between transactional leadership and the innovation dimensions of idea generation and idea implementation in the context of UAE-based organizations. Hence, hypotheses H3 and H4 are rejected.

The extent to which transactional and transformational leadership styles contribute to innovations was analyzed using standard multiple regression. Innovations are the dependent variable, whereas transactional and transformational leaderships are the independent variables in the model.

Values of the determination coefficient R^2 reflect how much of the variance of the dependent variable is explained by the model. The model explains 83.3% (Table 4) and 61.6% (Table 5) of the variance, which is a sizable portion of the variability of the dependent variable. The F-values from Table 4 show that the independent variables statistically significantly predict the dependent variable: $F(2,35) = 87.316$; $p\ (0.000) < 0.05$ (the regression model provides a good fit for the data). Also from Table 5, the F-values at $F(2,35) = 28.087$, and $p\ (0.000) < 0.05$, which again prove that the regression model provides a good fit for the data.

From Table 4, we can see that transformational leadership is significant for idea generation since $p\ (0.000) < 0.05$, but transactional leadership is not significant for idea generation since $p\ (0.052) > 0.05$. This means that the explanatory variable transactional leadership

no more adds substantial contribution to the idea generation dimension of innovations.

From Table 5, we can see that transformational leadership is significant for idea implementation since p (0.000) < 0.05, but transactional leadership is not significant for idea generation since p (0.893) > 0.05. This means that the explanatory variable transactional leadership no more adds substantial contribution to the idea implementation dimension of innovations also.

The standardized β-coefficient figures in Tables 4 and 5 indicate that transformational leadership (β = 0.902, 0.795) is a better predictor of innovations than transactional leadership (β = 0.139, –0.014).

6 Conclusion

The research results show that the innovation dimensions of idea generation and idea implementation can both be predicted by transactional and transformational leadership styles in the UAE. However, the results also show that the transformational leadership style scores better as a predictor of innovations (both idea implementation and idea generation) than transactional leadership. Adoption of the transformational leadership style has a lot more relevance and value in the current context of the UAE because it supports the creativity and development of ideas.

Transactional leadership no more adds substantial contribution to the idea implementation and idea generation dimensions of innovation in the context of UAE-based organizations.

Transformational leadership within the organization paves the path for further development of the organization through enhancement of the professional development of an individual.

The results of this study indicate the necessity of a shift to a transformational leadership style to significantly improve the innovation activity in UAE-based organizations.

7 Limitations and future research

The research presented through this paper has some limitations, which can for the basis for future research. The paper focuses on the fit between the implementation and the ideation stages of innovation on the one hand and different leadership styles on the other. However, it ignores the fit between transactional and transformational leadership styles and the different dimensions of innovation, namely, product, process, position, or paradigm. This can be an area of future research.

This research is limited to organizations within the UAE and can be further extended to other geographical locations. The impact that any leadership style has on innovation in the context of the size of the organization needs to be explored further though this research does try to capture a part of this. Perhaps there can be some differences in the impact of leadership style based on whether the innovations in question are incremental or radical. This area can also be researched further.

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