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Article

Systematic Study of Leadership and Innovation Mediators

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Abstract: Leaders are essential in encouraging and facilitating creative thinking among members of a group or organization. A leader must also monitor the group's initiatives to encourage innovation and fresh thinking. In this article, we take a look at the circumstances under which there is a link between leadership and original problem-solving. Thirty separate studies served as the basis for this sample. Many of these analyses see leadership independently from the concept of innovation. Both moderating and mediating factors were discussed, and two additional factors were identified for which no firm conclusions could be drawn. This investigation reveals three new potential mediators or moderators of the connection between leadership and inventiveness.

Keywords: Leadership; transformational leadership; moderator; mediator; innovation

Introduction

McLean (1960) released a fundamental article on management and innovation that has inspired generations of business executives. Since then, a substantial amount of study has been undertaken on the function of leadership in inventive activities, and it has been determined that leaders play a significant role in fostering innovation inside businesses (Hoch, 2013). In recent years, scholars have focused on determining whether leadership is effective, i.e., under what conditions at the person, team, and organizational levels, and how leaders affect innovative results, i.e., the many influence processes and mechanisms. These factors moderate and mediate the relationship between leadership and innovation. In this paper, we assess the present state of research on these moderator and mediator elements. Innovation, in our view, is the product of concentrated efforts at the individual, team, and organizational levels to create something novel with commercial potential. Consequently, innovation is the culmination of numerous internal and external activities. In academic writing, originality and innovation are frequently used interchangeably (Rosing, Frese, & Bausch, 2011). While creativity is commonly connected with ideation, innovation refers to the execution of such ideas (Pieterse et al., 2010). Although innovation studies are the primary focus of this work, we also examine studies that examine innovation from a creative perspective where it is clear that this is the desired objective.

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The twofold procedure of innovation management

We believe that effective leadership is essential to an organization's capacity for innovation for at least two reasons. The first thing leaders do is create settings that foster creativity (Hughes et al., 2018). Much of the literature on leadership explores the most important measures that leaders can take to build an environment and set of circumstances that encourage a bottom-up approach to innovation. Leaders who inspire employees to be self-motivated (Moolenaar, Daly, & Sleegers, 2010), make it easier for them to solve problems (Donate & de Pablo, 2015), create an enjoyable workplace for everyone to work in (Wang & Rode, 2010), and motivate others to do their best work establish and maintain high-quality work relationships (Yidong & Xinxin, 2013). Secondly, in a top-down process, leaders monitor the strategic innovation objectives and projects of the firm. Leaders can set goals and direct activities by managing resources such as time, money, and information (Schoemaker, Heaton, & Teece, 2018), setting and managing individual and team goals, defining expectations for creative performance (Vaccaro et al., 2012), regulating rewards (Mumford and Gustafson, 1988), and providing space for individuals and teams to make decisions on their own (Singh et al., 2020). This implies that the leader is accountable for (a) assisting the work of teams and people to enable them fulfill their creative potential and (b) overseeing the organization's efforts to foster innovation (see Jaiswal & Dhar, 2015).

Goals of the Research

Leaders have a disproportionate impact on innovation, but they're not alone. First, research shows that context, which includes contingency aspects, can effect leaders' efforts to encourage and govern innovation (Davis & Eisenhardt, 2011). Contingency considerations moderate leadership and innovation outcomes. Second, we must learn how senior leaders influence creativity. This subgroup of mediators may show how leaders influence innovation (at the personal, group, and organizational levels). This study analyzes the impact of leadership on individual, group, and societal creativity. Nanjundeswaraswamy and Swamy (2014) have studied these components. Despite the importance of understanding leadership and innovation mediators and moderators, there are few comprehensive empirical study assessments. Unlike Noruzy et al. (2013), we use a more complete approach. We also focus on research that investigates moderating and mediating variables, unlike earlier reviews. Until recently, researchers assumed moderation and mediation from previous studies without testing. If study A shows a link with construct B and study B shows a link with construct C, some may incorrectly conclude that construct B mediates the relationship between A and C. Unverified mediator variable leads to speculative conclusion (Eltweri, Faccia, and KHASSAWNEH, 2021). Examine the A-B-C hypothesis research.

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Many studies have examined moderating or mediating variables in the leadership-innovation relationship. We included these characteristics in our investigation because of this. Given that scholars have called for a greater understanding of the relationship between leadership and innovation, we address three mediating and moderating elements (e.g., Donate & Guadamillas, 2011). In addition to these moderating and mediating aspects, we recognize the importance of several levels of analysis, where organizational processes may be layered (Uhl-Bien & Arena, 2018). The team atmosphere and organization's culture may dictate leaders' impact on employees.

Literature review

When we conducted the literature review, we used a method that consisted of several stages. During this phase of our investigation, we zeroed in on concepts connected to pioneering and leadership. Since the term innovation is frequently used interchangeably with creativity in the research that has been done, we opted to use it as well. We studied the abstracts of all of the relevant papers in order to evaluate which ones were founded on empirical research and viewed leadership independently of the ideas of innovation and creativity (Khassawneh, 2018). We did not consider any theses or dissertations that had not yet been made public because we were adamant about selecting only journal publications that had been subjected to a review by a peer group. In the course of our search, we had located 75 articles at this point.

Requirements for inclusion in the sample

To start, we excluded any articles published prior to 1990 in favor of those that used cutting-edge methodologies (suitable for mediator moderator variable analyses) that were not widely used prior to 2000 and reflected leaders' influence on employees with modern work attitudes and values. We eliminated any papers that were not indexed in the with impact factor for the journal in which they were published that was greater than 0.7 in the second step of our process (Khassawneh and Abaker, 2022). We reasoned that by raising the bar for the quality of peer reviews, we could narrow our search to only the journals that published the highest-quality articles. Despite some criticism, the impact factor is widely accepted as a reliable estimate of a journal's quality. Academics are more likely to publish their work in a journal that has a high Impact Factor (Renko et al., 2015). If there is a larger pool of

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submissions from which to draw high-quality studies, the research that is ultimately chosen will be of higher quality. Empirical research has shown that a journal's impact factor Impact Factor is empirically related to rejection rates and external judgments of journal quality (Gawer & Cusumano, 2014). We wanted to include high-impact publications published in high-impact journals, but we also wanted to include high-impact studies published in journals with a lower impact. It has been demonstrated that high impact factor journals, which tend to be more specialized, are unsuitable for publishing multidisciplinary research such as innovation studies. To accomplish this, we selected a representative sample of citations and used the Google Scholar citation database to calculate the median of those citations. Then, using the same search criteria, we went through Google Scholar and added any publications that had been cited more than 84 times. As a result of the procedure, there are now four articles in total (Khassawneh and Elrehail, 2022).

Specification of reliant variables through coding

Depending on the criteria that were used to evaluate creative output, the dependent variables of the articles were classified as either innovation-measures or creativity-only measures. Our understanding of the characteristics that define an innovative process served as the basis for the encoding of this information. Quantification was included in some form or another in each of the articles that were considered for this study (i.e., the application of ideas such as new products or processes). According to this criterion, we may include articles in which the research was carried out with the purpose of measuring creativity, but we would have to remove articles in which the measurement of creativity was the primary emphasis of the study. The bibliometric information regarding the publications that were looked at is presented in Table 1. Citations to scholarly journals ranged widely throughout the 40 studies that were analyzed, with the lowest number being six and the highest number being 1,871. The articles were cited a total of 73 times on average, with 174 times being the median number (Khassawneh and Mohammad, 2022a).

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Table 1. Journals reviewed in this article.

Journal	IF (2009)[1]	Articles in sample	Citations[2]		
			Range	Mean	Median
Academy of Management Journal	6.5	6	20–1291	491	224
European Journal of Innovation Management	n/a	1	106	—	—
Industrial Marketing Management	1.3	1	94	—	—
Journal of Applied Psychology	3.8	1	48	—	—
Journal of Applied Social Psychology	0.77	1	126	—	—
Journal of Business Research	1.29	1	77	—	—
Journal of Management	4.4	2	97–110	104	104
Journal of Management Studies	2.8	1	21	—	—
Journal of Occupational and Organizational Psychology	1.2	1	10	—	—
Journal of Organizational Behavior	2.0	1	17	—	—
Journal of Product Innovation Management	1.5	1	33	—	—
Journal of World Business	2.6	1	97	—	—
Nonprofit Management and Leadership	n/a	1	85	—	—
Organizational Behavior and Human Decision Processes	2.5	1	243	—	—
Small Business Economics	1.4	1	41	—	—
Small Group Research	0.68	1	77		—
Strategic Management Journal	4.5	1	117	—	—
The Leadership Quarterly	2.2	7	6–296	92	48

Results

In our review of 40 studies, 23 examined the characteristics of transformational and transactional leaders, 3 examined the dynamics between leaders and followers, and the remaining 15 assessed other facets of leadership. Thirty studies measuring innovation were included; twelve focused on individuals, four examined groups, and fourteen studied companies as a whole. The 19 studies that looked at the link between leadership and innovation are then analyzed with an eye on the moderating and mediating variables that were employed in those studies.

Moderating and mediating variables at the individual level

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Having faith in one's own imaginative capabilities is one of the moderating elements that plays the most significant role. There is a correlation between high levels of self-efficacy and enhanced motivation, a stronger enthusiasm to follow one's own ideas, and a more efficient use of one's own cognitive resources by the individual. Self-efficacy is measured by the degree to which an individual believes they are capable of accomplishing a goal or task. Mirriahi et al. (2015) recently conducted research to examine the relationship between transformational leadership and employees' willingness to experiment with novel activities. One of the findings of this study was that the effect was mitigated by a mediator known as creative self-efficacy. The results of this research were recently presented in an article that was published in the journal Organizational Behavior and Human Decision Processes. Covin and Slevin (2017) carried out an experiment in which they aimed to modify the participants' levels of self-efficacy. One of the ways in which they did this was by having the leaders tell the participants whether or not their pre-test scores were above or below the average. Participants who were told that they had scored higher than average exhibited a higher level of self-assurance in their capacity to find creative solutions to the challenges they were given, as well as a higher level of confidence in their ability to tackle the difficulties they were given. This was the case whether or not they were informed that they had scored higher than average. The moderating influence that a company's feeling of self-worth has on its culture. An employee's OBSE is a gauge of how the employee considers their own personal contribution to the company. There is evidence to show that workers whose overall job satisfaction is poor benefit from transformational leadership. This is because these workers frequently doubt the value of their contributions to the organization (Khassawneh and Mohammad, 2022b). Consequently, transformational leadership can help these workers feel more confident in the value of their contributions. Rank et al. found that employees who have a low OBSE place a higher focus on the relationship between leadership and individual inventiveness than do employees who have a high OBSE. This is in contrast to employees who have a high OBSE who place a lower weight on this connection. Self-introductions followed by a brief introduction by the moderator. The concept of "self-presentation," which encompasses the ways in which people manage their public image and adapt their behavior to meet the standards of their social group, is one of the most important aspects of the self-monitoring construct. Self-presentation refers to the ways in which individuals manage their public image and adapt their behavior to meet the standards of their social group. One of the most significant aspects of the self-monitoring construct is the way in which an individual presents himself. People who are skilled at the practice of self-monitoring are able to change their behaviors in a way that makes them adhere to the expectations that are set by people who are in their immediate area. These attempts have less weight than they should because there are not enough self-monitors. .'s self-presentation was discovered to be a moderating element in the link between transformational leadership and individual creativity, as indicated by the outcomes of the study that was carried out by Choudhary, Akhtar, and Zaheer (2013). The workers who carried themselves in an unprofessional manner had a stronger correlation with the

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risk factor. According to the findings of Rank and colleagues, individuals with low levels of self-monitoring are able to attain the highest levels of success when they are a part of a group that acknowledges and values their initiative. As a direct result of this, individuals perform extraordinarily well when they are led by transformational leaders that take into account the specific skill sets and motivators that inspire and encourage them (Khassawneh, Mohammad, and Ben-Abdallah, 2022).

Members of a team can share information about their goals, strategies, and outcomes through team reflection. Direct leadership works best for homogeneous teams, whereas functionally heterogeneous teams require a participatory style to allow for team reflection. These findings imply that team reflection connects leadership and workplace creativity. Conversation, diversity. Divergent thinking occurs more frequently in groups with diverse perspectives, experiences, and techniques. Chen et al. (2011) investigated functional heterogeneity, the outcomes of innovation, and participative and directive leadership. Participatory leadership empowers team members to make decisions and contribute ideas. There are guidelines for decision-making and action-taking in directive leadership. Chen et al. discovered that directive leadership has an impact on innovation even when functional heterogeneity is low, but participatory leadership has an impact only when team heterogeneity is high. Moderation responsibilities. Employees are more likely to innovate when given difficult tasks. Workers can focus on problem-solving when working on less complex tasks. Salleh and Grunewald (2013) discovered no link between job complexity and patent generation, despite the fact that high job complexity and non-controlling and supportive supervision resulted in the most patents. As a result, task difficulty may reduce the impact of leadership on creativity (Khassawneh, Mohammad, and Momany, 2023).

Factors that moderate within organizations

The internal workings of an organization contain structure. It is widely believed that an organization's level of innovation performance is influenced by structural factors. The effects of transformational leadership on organizational innovation are highest in settings with low levels of centralization and formalization, according to study conducted by De Massis et al. (2015) on fifty Taiwanese enterprises. The companies were the subject of the study. Decision-making power is frequently concentrated in the hands of a limited number of upper-level managers in organizations with a high degree of centralization. It is often believed that structured organizations, or those with a lot of established guidelines and rules for how things should be done, are less likely to encourage innovation than less organized companies. For instance, high levels of centralization and formalization have been associated with reduced employee and team creativity, barriers to cross-functional and interdepartmental cooperation, and the stifling of employees

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who deviate from established practices. Additionally, it has been demonstrated that high levels of formalization and centralization are associated with a decline in team and staff productivity. Internal culture of a business or organization (Khassawneh et al., 2022). The normative expectations for behavior that are in place inside an organization enable individuals and groups to function effectively there. An organization's attempts to foster innovation must include a culture that encourages experimentation, risk-taking, openness, trust, and autonomy. In order to better understand the link between leadership and creativity, academics have recently focused on the importance of organizational support. When the relationship between the two variables was examined, it was discovered that this was the case. The inclination of an individual to engage in creative activities may depend on how much their employer supports their participation in such activities.

Problematic if/then statements

We present two factors under this heading for which the research is conflicting, suggesting that it is not clear whether they are mechanisms in the relationship between leadership and innovation or whether they are contingency factors and influence leaders' discretion to lead innovative endeavors. Enhancement of one's own mental state. This relationship between leadership and innovation is mediated by followers' sense of agency. Those with a high level of psychological agency showed a favorable correlation between innovative conduct and transformational leadership, and a negative correlation with transactional leadership. Leaders are essential to fostering innovation inside groups. Leadership's effect on innovation in self-managed teams was somewhat mediated by the team's environment (Mohammad and Khassawneh, 2022). The connection between transformational leadership and innovation is tempered by the nature of the team dynamic. Leaders can have less of an effect on team innovation when members do not share the same values and improvement goals. These contrasting findings point to an issue in our current conception of innovation. It's unclear if a leader initiates or responds to a positive team dynamic (Mohammad, 2019).

We propose three novel moderators or mediators of leadership and creativity at both the individual and group levels. Several of them are backed up by substantial evidence as future innovations. To date, no studies have established whether or not these variables operate as mediators or moderators of leadership and inventiveness. Non-work interactions are handled by a mediator. Researchers and authors have focused on how corporate networks can either stifle or stimulate innovation. The number and frequency of such connections were linked to work innovation in this study. Effective leaders maximize team potential by pooling individual assets. The leader has the ability to influence when and if members of the group reach out to outsiders. New collaborations may spark new ideas. Self-initiative; negotiation. Personal initiative occurs when an employee goes above and beyond the scope of their job to

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achieve long-term objectives. There is a connection between initiative and creativity. Leaders can influence the actions of their followers. Transformational leaders inspire people to go above and beyond. A strong LMX connection can assist a team member in gaining responsibility and authority. Cohesion, commitment, norm compliance, and goal-related behavior all have the potential to change. These phases are accelerated by leaders. The reactions of group members to a leader's influence differ according to stage. Stage two disagreements occur over issues such as group roles, structure, and goals. Leaders can most effectively influence group performance in the third and fourth stages. According to this group development theory, leaders may have little control over creative processes such as ideation and implementation due to group dynamics.

Conclusion

This article analyzes 40Web of Science top-ranked papers from 1990 to 2022. Our goal was to study moderating and mediating leadership and innovation characteristics. Identifiers. Leadership and innovation seem strongest in firms with a supportive culture for innovation and de-formalized, de-centralized organizational structures. In such circumstances, leaders and workers can experiment more. Diverse teams that tackle hard issues are also more innovative. Such groups need democratic, facilitative leadership that values contributions. Leaders can inspire creativity among workers with low self-esteem and bad public speaking. Mediators exist. We conclude that leaders can drive innovation at the individual level through boosting creative self-efficacy. Leaders may promote creative problem-solving by encouraging open debate, honest communication, and varied perspectives. Organizations that seek to stimulate product and process innovation should cultivate a CKE. Leaders set the stage for a CKE. Leaders must identify what fosters innovation and creativity. CKE is a hierarchy of supportive conditions that fosters individual and collective creativity. In such environments, job design and social and organizational factors at the team and organizational levels influence innovation processes. Welcoming atmosphere, looser organizational structures, and a relaxed mindset help. According to the literature, leaders can use several tactics when developing a CKE. First, organizational leaders and teams should foster innovation. Leaders must tell employees that creative problem solving will be rewarded. When building teams, consider their inventive potential. Team heterogeneity may stimulate creative thinking. If team members are too different, disputes may arise. When diversity is low, leaders must inspire introspection within their employees. Third, leaders should establish an environment of emotional safety, respect, and joy by giving emotional support and encouraging shared decision-making. Individuals and groups need freedom for invention and problem-solving. Fifth, brainstorming and problem-solving deadlines should be set during execution. Leaders with the required understanding should appraise their teams' innovative efforts.

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Competing interests: The authors declare no competing interests.

A statement of ethics approval- All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

A statement on participant consent – No human/participants were involved in the study.

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