



Transformational and transactional leadership, organizational support and environmental competition intensity as antecedents of intrapreneurial behaviors

Galit Klein

The Department of Economics and Business Administration, Ariel University, Israel



ARTICLE INFO

Article History:

Received 12 April 2022

Revised 25 January 2023

Accepted 3 February 2023

Available online 25 May 2023

Keywords:

Transformational and transactional leadership
Intrapreneurial behaviors
Organizational support for entrepreneurship

JEL:

M12

031

032

ABSTRACT

In an era of constant changes, organizations need to promote innovative thinking that leads to intrapreneurial behaviors. The current study aims to explore how leadership style (transformational and transactional leadership), organizational support for entrepreneurship, and the intensity of competition relate to employee intrapreneurial behaviors. Two studies were conducted to answer the research questions. In the first study, a paper-based survey was distributed to 464 employees. Following the first study's result, 150 manager-employee dyads were examined. Employees were asked to evaluate their manager's leadership style and the amount of organizational support, while their managers evaluated the employee's intrapreneurial behaviors and the intensity of the competition in the organization's environment. The results show that both transformational leadership and transactional leadership are connected to intrapreneurial behaviors via the mediation of organizational support. However, in a highly intense competitive environment, transformational leadership exhibits a stronger relationship with organizational support, which mediates the connection of the former with intrapreneurial behaviors. The results of the current study extend previous findings suggesting that both transformational and transactional leadership have positive effects on employee intrapreneurial behaviors. However, to actualize intrapreneurial development, an organization must provide support and help allocate both tangible and intangible resources accordingly.

© 2023 The Author. Published by Elsevier España, S.L.U. on behalf of AEDEM. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>)

1. Introduction

In an era of instability, organizations must promote entrepreneurship to maintain their prosperity. In the face of constant turbulence, organizations search for ways to elaborate innovative thinking and develop competitive advantages among their employees. This is known as intrapreneurial behavior or corporate entrepreneurship (Antoncic & Hisrich, 2003; Ben-Hador & Klein, 2020). To understand its significance, previous studies have explored and categorized antecedents that foster intrapreneurial behaviors into three main categories: environmental factors, organizational attributes, and individual characteristics. Environmental factors include external forces that compel organizations to enter into intense competition, therefore imposing a need to reinvent and develop new products and services (Zahra, 1991, 1993; Zahra & Garvis, 2000). Other scholars have highlighted the contribution of internal corporate attributes such as organizational support (OS), managerial relationships, resource allocation, and entrepreneurial culture (e.g., Barua & Ward, 2015; Itzkovich & Klein, 2017). The last category emphasizes employee

characteristics and dispositional traits, such as proactivity, innovative thinking, risk-taking tendencies, work engagement, and emotional exhaustion (e.g., Barba-Sánchez et al., 2022; Ben-Hador & Klein, 2020; Çelik et al., 2021; Gawke et al., 2018).

While studies often center on a single category, the current paper examines employee behaviors through the prism of managerial leadership style, organizational support, and hostile competitive environments. Thus, it provides a broader understanding of the impact of managers on intrapreneurial activities.

Previous works have provided evidence demonstrating the importance of leadership style in encouraging employees to become intrapreneurs (Afsar et al., 2017). In the present study, I add an additional layer and look at leader influence on employee intrapreneurial behaviors in intensely competitive environments. Since leaders play a significant role in impacting employee behaviors in troublesome times and periods of crisis (De Hoogh et al., 2004; Shamir et al., 2018), it is important to provide a more rigorous understanding of the influence that leadership behaviors in intensely competitive situations exert on intrapreneurial behaviors. In addition, the current study shows that leadership style's contribution to employee intrapreneurial behaviors is related to, and even dependent on, the

E-mail address: galitk@ariel.ac.il

existence of organizational support. This is especially significant for transactional leadership. Contrary to former studies (Afsar et al., 2017; Moriano et al., 2014), the present research's results demonstrate that transformational leadership can encourage employees to conduct intrapreneurial activities if the organizational culture supports innovative behaviors.

Organizational support for entrepreneurship has been found to be a central facilitator of entrepreneurial activities inside the firm (e.g., Alpkhan et al., 2010; Ben-Hador & Klein, 2018; Kuratko et al., 2005). Based on Kuratko et al. (2005), organizational support (OS) is described here as factors that include managerial assistance alongside organizational resource allocation (e.g., time, rewards, and autonomy). Thus, organizations that embed OS into their culture are more attuned to encourage their employees to engage in intrapreneurial behaviors (Ben-Hador & Klein, 2018).

Since managerial support is a fundamental contributor to intrapreneurial behaviors, the current study will also explore how the leadership style of managers impacts their subordinates to become entrepreneurs. According to Bass (1985), leaders are those who "motivate us to do more than we originally expected to do" (p. 20). To inspire their subordinates, they can use either a transformational or a transactional leadership style. Transformational leaders lean on their charisma and intellectual stimulation to persuade employees to achieve more than their own interests and accomplish the team's or the organization's mission. Not surprisingly, studies concentrate on the positive contribution of this leadership style to innovative and intrapreneurial behaviors (Eliyana & Ma'arif, 2019; Moriano et al., 2014). Transactional leadership, on the other hand, has only received scarce attention in this respect (Afsar et al., 2017). Unlike transformational leadership, transactional leadership relies on extrinsic motivation, espousing an exchange of rewards according to employee performance. Since transactional leadership emphasizes clarification of work standards and regulations, scholars have suggested that it may harm creativity and thus intrapreneurial behaviors (Moriano et al., 2014). However, additional studies are needed to explore the actual contribution of both transformational and transactional leaders to intrapreneurship behaviors and whether the support of the organization's culture for entrepreneurship intervenes in this connection.

Finally, this study also explores whether the connection between leadership style and OS is moderated by the intensity of competition. While Zahra (1991, 1993) indicated that companies in an intense competition environment are more attuned to encouraging intrapreneurial behaviors, the exact influence of this environment on the factors that facilitate such behaviors is still under exploration. Following Bass (1985), who argued that transformational leadership is more likely to emerge during times of distress, I suggest that the main contribution of transformational leadership to intrapreneurial behaviors is to be found among companies that operate in an intense competition environment. This pattern, however, does not apply to transactional leadership.

Two studies were conducted to follow the research model. The first examined the evaluation of self-perceptions concerning the relationship between leadership style and intrapreneurial behaviors via the mediation of OS. The second study employed a sample of 150 employee-manager dyads to reassess the results from the previous study and to examine the possible effect of the intensity of competition on the relationship between leadership style, OS, and intrapreneurial behaviors. The present study's contribution to the literature is threefold. First, the role of leadership style, especially the role of transactional leadership, is still underdeveloped and requires further exploration. Second, previous studies on intrapreneurship examined the effects of the environment (Zahra, 1993) without referring to microlevel perspectives, including employee behavior and their relationship with their managers. By combining both internal and external antecedents, we should reach a better understanding of

organizational intrapreneurial behaviors in the face of intense competition. Last, one of the obstacles present when exploring intrapreneurial behaviors is the risk that employees will overestimate their intrapreneurial contribution. A few studies have used dyad samples, but often the dyads included employees and their coworkers, who may have a partial understanding regarding the former's true intrapreneurial behaviors (e.g., De Jong et al., 2011; Gawke et al., 2018). By employing employee-manager dyads, the study can strengthen previous findings and explore more thoughtfully the connection between leadership style and intrapreneurial behaviors.

2. Literature review

2.1. Employee intrapreneurial behaviors

Intrapreneurship, or corporate entrepreneurship (CE), is a term coined by Pinchot (1985) to describe innovative activities conducted by workers within an existing organization to establish new businesses or services. Subsequently, Antoncic and Hisrich (2003) expanded this definition and suggested that intrapreneurial activities also concern behaviors aimed at extending new administrative practices, strategies, and competitive abilities that benefit the organization or save costs. Concomitantly with Miller (1983, 2011), many scholars have discussed intrapreneurship as a construct that encompasses three dimensions: risk taking, proactivity, and innovative behaviors. As such, being an intrapreneur is defined as the ability to identify and exploit opportunities and the extent to which employees take business-related risks and proactively engage in understanding, recognizing, and realizing opportunities in the workplace (Afsar et al., 2017).

The significance of intrapreneurial activities flows from their influence on organizational performance (Gawke et al., 2018). Previous studies have shown that in competitive and hostile environments, a positive connection is found between organizational revenues and employee intrapreneurial activities, especially in small-to medium-sized organizations (e.g., Ben Hador & Klein, 2020; Blanka, 2019; Bouchard & Basso, 2011). Organizations that place a strong emphasis on intrapreneurial behaviors have been found to be more profitable, perform better, and show a higher growth in their return on sales (ROS) and return on assets (ROA) (Augusto Felicio et al., 2012; Michael & Ngugi, 2016; Zahra & Covin, 1995). From a microlevel perspective, intrapreneurship has been positively connected with employee performance, work engagement, and innovativeness and negatively correlated with work avoidance (Gawke et al., 2018; Itzkovich & Klein, 2017). Ben-Hador and Klein (2020) found that intrapreneurial behaviors not only encourage employee performance but also grant a stronger advantage to older employees compared to younger ones. Gawke et al. (2018) showed that intrapreneurial activities are related to in-role performance, innovativeness, and lower work avoidance through work engagement.

2.2. Intrapreneurship and managerial leadership style

Ample studies on intrapreneurship highlight the contribution of managerial support to the promotion of innovative behaviors (see Blanka, 2019 and Urbano et al., 2022 for a review). Kuratko et al. (2005) suggested that middle-level managers serve as a central link between top-level management's entrepreneurial mission and strategies and lower-level managers who serve as role models that initiate intrapreneurial behaviors. Managers encourage intrapreneurship in the way that they "endorse, refine and shepherd entrepreneurial opportunities and as a further step identify, acquire and deploy necessary resources to pursue entrepreneurial opportunities" (Blanka, 2019, p. 936). However, the ability to promote intrapreneurial behaviors depends not only on managers' hierarchical status but also on

their leadership style, in particular, transformational and transactional approaches (Blanka, 2019).

The Full Range of Leadership model (Bass, 1985; Bass & Avolio, 1994) recognizes three leadership styles: transformational, transactional, and passive-avoidant. According to Bass and Riggio (2006), transformational leaders stimulate and inspire their followers to achieve exceptional outcomes but also empower them to develop and fulfill their own leadership abilities. They do so by employing intrinsic motivation and by behaving as role models to their subordinates (*idealized influence – II*); providing meaning and challenging their followers' work (*inspiration motivation – IM*); encouraging their followers to be innovative and creative by challenging fundamental assumptions (*intellectual stimulation – IS*); and providing individual special attention to each follower's need for development and achievement (*individualized consideration – IC*).

Shamir et al. (1993) have suggested that transformational leaders inspire their followers by encouraging personal and social identification with the mission and goals of the leaders and their organization. By fostering identification with the organizational mission, they increase employee involvement, cohesiveness, commitment, potency, and organizational performance. In addition, transformational leadership is informed by inspirational motivation, a collective sense of mission, increased awareness of tasks, work satisfaction and an exciting vision and aspiration (Avolio et al., 1999; Eliyana & Ma'arif, 2019), all of which influence employee readiness to pursue creative thinking (Dvir et al., 2002). In a similar vein, Moriano et al. (2014) were among the first to highlight the positive connection between transformational leadership and intrapreneurial behaviors. They found that transformational leadership increases intrapreneurial behaviors both directly and indirectly via organizational identification. Likewise, Afsar et al. (2017) demonstrated that transformational leadership sets the most favorable managerial circumstances to promote intrapreneurial behavior. They explain that transformational leaders encourage employees to challenge the status quo and stimulate them intellectually by exceeding their own self-gains in favor of achieving higher collective gains. Based on these and other previous studies (e.g., Gerards et al., 2021; Huynh, 2021; Tung, 2016), the first hypothesis proposed here is as follows:

Hypothesis 1. Transformational leadership is positively related to intrapreneurial behaviors.

Transactional managers, on the other hand, motivate others to excel in their performance using contingent rewards (CR); that is, they offer actual rewards in exchange for satisfactory performance. However, transformational leadership can also obtain the necessary outcomes by providing clear expectations and closely monitoring mistakes, deviations, and errors (management by exception: active or MBEA). Thus, transactional leaders motivate their subordinates using extrinsic motivation and emphasizing the exchange of rewards or disciplinary actions as a function of the adequacy of the employee's performance.

Unlike transformational leadership, the relationship between transactional leadership and intrapreneurial behaviors is more complex, and only a scarce number of studies have explored this connection. Transactional leadership is often associated with close monitoring of employees, especially of the latter's mistakes, deviations, and failures. As such, it increases employee focus on the "ought self", i.e., their duties and current mission, and bypasses employee creativity and the desire to promote intrapreneurial behaviors (Kark et al., 2018). Indeed, studies have found a negative relationship between transactional leadership and intrapreneurial behaviors, either directly or indirectly through the intervention of other factors such as personality traits (Kark et al., 2018) or organizational attributions (Moriano et al., 2014). On the other hand, transactional leaders motivate their followers by clarifying expectations and task requirements, acknowledging employee achievements, and rewarding them for excellence, all of which positively contribute to boosting the latter's levels of effort and performance (Bass et al., 2003). Similarly, Ma

and Jiang (2018) found that transactional leadership was positively related to employee creative behaviors in Chinese entrepreneurial firms. They connected this positive relationship with the cultural context: in Confucian culture, which values hierarchy and order, Chinese employees need stricter rules and guidance in fuzzy situations such as intrapreneurial developments. Since these scholars are among the few who stress such a positive relationship, the second hypothesis proposed here is the following:

Hypothesis 2. Transactional leadership is negatively related to intrapreneurial behavior.

2.3. Intrapreneurship and organizational support

Although managerial leadership behaviors are crucial to leverage innovative and proactive ideas into developments, organizations must also provide a supportive entrepreneurial environment and the necessary resources (Kuratko et al., 2014) to make this happen. Thus, they must impart regulations, policies, practices, and characteristics that promote innovative developments and embed these practices into their products and their operational and managerial processes (Alpkhan et al., 2010). This entire arrangement is known as organizational support (OS) for entrepreneurship. Hornsby et al. (2002) have suggested that organizational support is not limited to a singular dimension but rather conceals five factors: *rewards/reinforcement system*, *management support*, *tolerance for risk taking*, *allocation of free time*, and *work discretion/autonomy*. These are reviewed below.

The first dimension is constituted by the *reward and reinforcement system*. To propose intrapreneurial ideas, employees must sense that their efforts contribute not only to the company but also to their own welfare. Thus, organizations must establish reward systems that acknowledge intrapreneurial activities and risk taking. Effective reward systems must include a clear mission, feedback, emphasis on personal responsibility, and outcome-based incentives in exchange for intrapreneurial behaviors. The second factor relates to the role of *management support*, which indicates the willingness of managers to encourage new ideas and promote intrapreneurial behaviors. Managerial support is expressed by providing the resources necessary to champion innovative ideas, including making new allocations of means and expertise, and by institutionalizing intrapreneurial activities into the organization's systems and processes. It also contains the willingness of lower- and mid-level managers to appeal to upper-level managers for approval and support of plans handed to them by their subordinates.

The third dimension is *tolerance for risk taking*, representing the ability to absorb actions with unknown consequences that might result in failure. Developing new ideas is based on trial and error. Therefore, risk-averse managers may prevent their subordinates from suggesting new ideas and developing products, resulting in unpredictable outcomes. The fourth dimension is the *allocation of free time* to engage in innovative ideas and implement new projects. Belousova and Gailly (2013) demonstrated that intrapreneurship processes are complex, taking several years for projects to mature through discovery, evaluation, and refinement phases. Thus, the organization should provide workers with time to think, observe, experiment, and develop during the intrapreneurship process. The last dimension represents *work discretion*, which refers to organizational climate and the degree of autonomy granted to employees to make decisions regarding their work and to implement them in it.

The influence of organizational support as an antecedent of intrapreneurship has been demonstrated in several studies (Alpkhan et al., 2010; Hornsby et al., 2002; Itzkovich & Klein, 2017). Alpkhan et al. (2010) showed that organizational support for entrepreneurship was positively related to intrapreneurial behaviors. More specifically, they found that out of the abovementioned five dimensions of OS, managerial support and tolerance for risk taking exerted the most

significant and positive impact on innovative performance. [Itzkovich and Klein \(2017\)](#) found that organizational support was positively correlated with intrapreneurship. They also concluded that organizational support mediated the relationships between managerial incivility and intrapreneurship. In congruence with these studies, the next proposition made here is as follows:

Hypothesis 3. OS is positively related to intrapreneurial behavior.

Furthermore, the ability to execute innovative ideas relies on both managerial inspiration and assistance and on the organization's willingness to support entrepreneurial propositions. Thus, OS may also serve as a mediator between leadership styles and intrapreneurial behaviors. Indeed, leadership style has been found to have both a direct and an indirect relationship with intrapreneurial behaviors through organizational identification, adaptive corporate culture, and organizational support for innovation ([Giang & Dung, 2021](#); [Jung et al., 2003](#); [Moriano et al., 2014](#)). Likewise, OS may also mediate between management leadership style and innovative employee performance. These relationships may be more prominent in the case of transformational leadership. By providing inspiration and a supportive ideology, transformational leadership has been found to increase employee identification with the organization and their readiness to suggest innovative ideas ([Jung et al., 2003](#)). In this respect, transformational leaders have higher chances to promote their employees and can use organizational support, in the manner of resources, time, and autonomy, to execute their employees' entrepreneurial ideas.

A more intriguing issue is the impact of OS on the relationship between transactional leadership and intrapreneurial behaviors. Previous studies have demonstrated that transactional leadership reduces employee willingness to participate in intrapreneurial behaviors ([Moriano et al., 2014](#)). However, organizational support of entrepreneurship includes not only intangible assets, such as time allocation and autonomy but also materialistic rewards and compensation. Since transactional leaders motivate their employees through an exchange mechanism involving rewards, the existence of an institutional reinforcement system in the organization may also facilitate intrapreneurial behaviors. Thus, the next hypotheses presented here are as follows:

Hypothesis 4a. Transformational leadership is positively related to intrapreneurial behaviors via the mediation of OS.

Hypothesis 4b. Transactional leadership is positively related to intrapreneurial behaviors via the mediation of OS.

Study 1

3. Method

3.1. Sample and procedures

Data were gathered via self-administration of an online questionnaire among employees working in various organizations. All potential respondents were part of a panel database and had agreed to participate in research for pay. Out of a total of 500 questionnaires, 464 employees adequately completed the survey (attrition rate = 7.2%). The final study sample demographics were as follows: $M_{age} = 35.90$ years ($SD = 9.10$), 61.4% were women, 45% worked in private organizations, $M_{organizational\ tenure} = 6.51$ years ($SD = 6.18$), and $M_{years_under_the_current_manager} = 3.44$ ($SD = 3.04$). Participants received a small honorarium for their participation.

3.2. Measures

The study scale items were translated into English and back-translated into Hebrew to check the reliability of the translation. A summary of the variables' characteristics appears in [Appendix A](#).

Transformational and *transactional leadership* were measured using the Multifactor Leadership Questionnaire (MLQ) Form 5X ([Bass & Avolio, 1994](#)). Transformational leadership was measured using five subdimensions, including idealized behaviors (sample item: "Our manager views the ethical impacts of his/her decisions"; Cronbach's alpha = 0.89), idealized attributes (sample item: "Our leader goes beyond self-interest for the good of the group"; Cronbach's alpha = 0.89), inspirational motivation (sample item: "Our manager provides appealing images about what we can do"; Cronbach's alpha = 0.86), intellectual stimulation (sample item: "Our manager has stimulated me to look at things in new ways"; Cronbach's alpha = 0.86), and individualized consideration (sample item: "Our manager considers me as having different needs, abilities, and aspirations from others"; Cronbach's alpha = 0.88). Transactional leadership was measured using two subdimensions, including contingent rewards (sample item: "Our manager makes clear what one can expect to receive when performance goals are achieved"; Cronbach's alpha = 0.86) and management by exception: active (sample item: "Our manager keeps track of all mistakes" Cronbach's alpha = 0.86). All items of the MLQ use a five-point Likert response scale ranging from 1 (not at all) to 5 (very often).

Organizational support (OS) was measured on the basis of the Corporate Entrepreneurship Assessment Instrument, or CEAI ([Kuratko et al., 2005](#); [Hornsby et al., 2002](#)), with several adjustments made by [Alpkhan et al. \(2010\)](#). OS was measured using five subdimensions: performance-based reward system (sample item: "Employees from every level will be rewarded if they innovate"; Cronbach's alpha = 0.89); management support for idea generation (sample item: "The development of new and innovative ideas is encouraged"; Cronbach's alpha = 0.87); tolerance for risk taking (sample item: "The term 'risk takers' is considered a positive attribute for people in our organization"; Cronbach's alpha = 0.88); allocation of free time (sample item: "Our employees have enough time to spend in developing new ideas"; Cronbach's alpha = 0.86), and work discretion (sample item: "This organization provides employees with the freedom to use their judgment and methods"; Cronbach's alpha = 0.87). The response scale ranged from 1 ("Strongly disagree") to 5 ("Strongly agree").

Intrapreneurship. This variable was measured using [De Jong et al. \(2011\)](#) questionnaire. The questionnaire included nine items. Although the original scale was applied to the intrapreneurial behavior of coworkers, in the current study, participants were asked to evaluate their own intrapreneurial behavior. The response scale ranged from 1 (not at all) to 5 (very often).

Demographic variables. Age, gender ("gender", 1 – male, 2 – female), years working in the organization ("tenure_employee"), years working under the current manager ("tenure_manager"), and organization type ("private_org" 1 – private, 0 – public) were controlled.

4. Results and discussion

First, an omnibus test was applied to the hypothesized four-factor model. The results revealed the following fit indices: ($\chi^2 = 499.42$, $df = 65$, $p < .01$; CFI = 0.96; TLI = 0.95; SRMR = 0.05; RMSEA = 0.07), where CFI refers to the comparative fit index, TLI is the Tucker–Lewis index, SRMR refers to the standardized root mean square residual, and RMSEA refers to the root mean square error of approximation. Subsequently, we examined two alternative models. The first model was a general model in which all items loaded on a single factor revealed a nonacceptable level of fit ($\chi^2 = 984.50$, $df = 65$, $p < .001$; CFI = 0.78; TLI = 0.74; SRMR = 0.17; RMSEA = 0.14). The second three-correlated higher-order factor model examined the items loaded on managerial leadership style. The items that were used to measure both transformational and transactional leadership were loaded on the same factor, and OS and the dependent variables were loaded on a different factor. The results of this model also showed an inferior level of fit compared to the study model ($\chi^2 = 507.86$, $df = 66$,

Table 1

Means, standard deviations, and correlations among the study variables.

	M (SD)	1	2	3	4	5	6	7	8	9	10
1. ^a IB	2.79 (0.80)	1									
2. ^b OS	3.05 (0.65)	.49**	1								
3. Transformational leadership	3.01 (0.87)	.090*	.455**	1							
4. Transactional leadership	2.81 (0.75)	.093*	.330**	.791**	1						
5. Age	35.90 (9.10)	−0.039	.064	.182**	.176**	1					
6. Gender (1=male, 2=female)		−0.169**	−0.095*	−0.023	−0.073	−0.169**	1				
7. Org_tenure	6.51 (6.18)	−0.058	.025	.021	.023	−0.058	.036	1			
8. Manager_Tenure	3.44 (3.04)	.007	.026	.110*	.160**	.007	−0.061	.102*	1		
9. Private_org. (1=private, 0=public)	.031	.082^	−0.149**	−0.243**	.031	−0.013	−0.060	−0.139**	1		
Cronbach's alpha	.88	.91	.95	.81							

 $N = 464$, $^a p < .10$, $^b p < .05$, $^{**}p < .01$

IB = intrapreneurial behaviors, OS = organizational support, Org_tenure = number of years in the current work, Manager_tenure = number of years under the current manager.

$p < .01$; CFI = 0.89; TLI = 0.86; SRMR = 0.21; RMSEA = 0.11). Table 1 presents the means, standard deviations, and correlations among demographic and research variables.

The result of the correlation indicated a positive relationship between intrapreneurial behaviors and organizational support ($r = 0.49$, $p < .01$), transformational leadership ($r = 0.09$, $p < .01$), and transactional leadership ($r = 0.09$, $p < .05$). In addition, the level of intrapreneurial behavior was found to be higher among males than females ($r = −0.169$, $p < .01$).

4.1. Hypotheses analysis

To test the model's hypotheses, an analysis was performed to test the mediation of OS in the relationship between leadership style and intrapreneurial behaviors. The analysis employed the PROCESS macro for SPSS (Hayes, 2013; Model 4) with bootstrap sampling distribution ($n = 5000$) and 95% bias-corrected confidence intervals (CIs) for the indirect effects. Age, gender, and employee tenure were controlled in the analyses. The bootstrap analysis results are displayed in Table 2.

As shown in Table 2, transformational leadership was positively associated with organizational support ($\beta = 0.47$, $p < .001$), so managers who show higher levels of such leadership positively contribute to obtaining higher levels of organizational support. Contrary to the first hypothesis, transformational leadership was negatively linked to intrapreneurial behaviors ($\beta = −0.16$, $p < .001$). Furthermore, organizational support was positively and significantly related to intrapreneurial behaviors ($\beta = 0.69$, $p < .001$), supporting Hypothesis 3. Combining these results, the indirect effect of leadership style on intrapreneurial behaviors via organizational support was examined. It was significant for the transformational leadership style (indirect effect = 0.27, $SE = 0.03$, 95% confidence interval CI [.20,.34]). Therefore, as predicted by Hypothesis 4a, transformational leadership was related to intrapreneurial behaviors via the mediation of organizational support.

Transactional leadership was also positively associated with organizational support ($\beta = 0.36$, $p < .001$), so managers who show higher levels of transactional leadership positively contribute to obtaining higher levels of OS. Transactional leadership was negatively linked to intrapreneurial behaviors ($\beta = −0.08$, $p < .001$), thus supporting the second hypothesis. Furthermore, organizational support was positively and significantly related to intrapreneurial behaviors, ($\beta = 0.64$, $p < .001$), supporting Hypothesis 3. Combining these results, the indirect effect of leadership style on intrapreneurial behaviors via organizational support was examined and found to be significant (indirect effect = 0.19, $SE = 0.03$, 95% confidence interval CI [.12,.25]). Therefore, as predicted by Hypothesis 4b, transactional leadership was related to intrapreneurial behaviors via the mediation of organizational support.

The results of the first study confirmed that organizational support positively mediated the relationship between leadership style

and intrapreneurial behaviors. Employees whose managers adopted either a transformational or a transactional leadership style carried out larger numbers of intrapreneurial behaviors if their organization supported entrepreneurial activities and rewarded them.

Study 2

The first study demonstrated how leadership style, either transformational or transactional, influences the willingness to perform intrapreneurial behaviors in an organizational culture that supports entrepreneurship. The purpose of Study 2 was to cross-validate the results of Study 1. In addition, based on contingency theory (Fiedler, 2015), the second study aimed to explore whether environmental factors, particularly competition intensity, intervene in this relationship (Pelham, 1999).

Environmental hostility refers to unfavorable external forces that may damage the firm's business (Zahra & Garvis, 2000). These hostile conditions can result from different factors, including intense competition, higher market turbulence, product-related uncertainties, and rapid technological changes (Dess & Beard, 1984; Jaworski & Kohli, 1993; Klein et al., 2021; Pelham, 1999). Perceived hostility also arises from other conditions, such as extreme industrial changes, intense regulation, fierce rivalry among competitors (Caussat, 2022), and the intensity of competition in an industry (Grant, 1991). As a result, organizations need to inspect their environmental hostility conditions and devote enough resources to advance through hostile environments by promoting corporate entrepreneurship behaviors (Zahra, 1993).

Studies have demonstrated that corporate entrepreneurship is affected by the level of environmental hostility (Zahra, 1993) and that the latter moderates the relationship between corporate entrepreneurship and company performance (Zahra & Garvis, 2000). In an environment of intense competition, organizations need to introduce new developments to the market more rapidly, as it is difficult to gain a competitive advantage, expand their market share, and at the same time protect their existing clientele from their competitors. Thus, while organizational support may positively mediate the relationship between leadership style and intrapreneurial behaviors, competitive intensity moderates the relationship between leadership style and OS, especially in the case of transformational leadership. The latter is composed of charismatic qualities that are found to act as constructive forces in times of crisis and in hostile situations (e.g., De Hoogh et al., 2004; Waldman et al., 2001). By applying inspirational motivation and communicating affirmative expectations, transformational leaders inspire their subordinates and boost their self-confidence to achieve higher results that benefit their organization in times of uncertainty (Shamir et al., 1993). Thus, the last hypothesis suggested here is the following:

H5. Competitive intensity moderates the relationship between transformational leadership and intrapreneurial behaviors via the mediation of OS.

Table 2
Regression results for mediation and conditional indirect effects.

Effect	Transformation		Transaction	
	OS <i>B</i> (<i>SE</i>)	IB <i>B</i> (<i>SE</i>)	OS <i>B</i> (<i>SE</i>)	IB <i>B</i> (<i>SE</i>)
Constant	1.99 (0.25)**	1.75 (0.24)**	2.05 (0.21)**	1.78 (0.25)
Age	.01 (0.00)	-0.01* (0.01)	.00 (0.00)	-0.02** (0.00)
Gender	-0.10* (0.08)	-0.20** (0.06)	-0.08 (0.07)	-0.21* (0.06)
Tenure	-0.01 (0.00)	-0.01* (0.01)	-0.01 (0.00)	.01* (0.06)
Private_org.	.21 (0.05)**	-0.09 (0.07)	.22 (0.06)**	-0.08 (0.07)
Leadership style	.35 (0.03)**	-0.14** (0.04)	.31** (0.04)	-0.09* (0.04)
OS		.69 (0.05)**		.64** (0.05)
R ² (<i>MSE</i>)	.24 (0.33)	.30 (0.46)	.14 (0.37)	.28 (0.47)
F	F _(5,443) = 27.37**	F _(6,442) = 30.49**	F _(5,443) = 14.54**	F _(6,442) = 28.65**
LLCI	.2046			.1262
ULCI	.3415			.2553

Note. N = 449, *p < .05, **p < .01. OS = organizational support; IB = intrapreneurial behavior.

5. Method

5.1. Sample and procedures

Data were collected from a sample of 150 employee–manager dyads. The managers were asked to rate their subordinates' intrapreneurial behavior, while the employees were asked to rate the organization's support for entrepreneurship and their managers' leadership style. The employee sample demographics were as follows: $M_{age} = 32$ years ($SD = 11.60$), 66% were male, 46% were employed in private organizations, $M_{organizational\ tenure} = 3.80$ years ($SD = 3.97$), and $M_{years\ under\ current\ manager} = 2.75$ ($SD = 1.60$). The manager demographics were as follows: $M_{age} = 41$ years ($SD = 5.79$) and $M_{organizational\ tenure} = 6.97$ years ($SD = 5.23$).

5.2. Measures

In addition to leadership style, OS, and intrapreneurial behaviors (for an explanation on these subjects, see Study 1), competitive intensity was measured using Pelham's (1999) questionnaire. The questionnaire is composed of three items regarding competitive intensity (sample item: "The intensity of competition"; Cronbach's alpha = 0.921). A 7-point scoring format (1 – not at all intense; 7 – highly intense) was employed for all items. A summary of the different variable characteristics appears in Appendix A.

6. Results

Table 3 presents descriptive statistics and correlations among the study variables.

To verify the study research model for *transformational leadership*, the analysis was framed around the mediated moderation model

suggested by Hypotheses 4a and 5. The PROCESS macro for SPSS (Hayes, 2013; Models 4 and 7) was employed to estimate a conditional analysis using a method described by Preacher et al. (2007). The resulting information was used by the bootstrap sampling distribution ($n = 5000$) to estimate unstandardized coefficients with 95% bias-corrected confidence intervals (CIs) for the indirect effects.

The analysis first tested the mediation model posited by Hypothesis 4a. As shown in Table 4, transformational leadership was positively associated with organizational support ($\beta = 0.25$, $p < .01$, see Step 1), so employees who were led by transformational managers reported higher levels of organizational support for entrepreneurship. Transformational leadership was also positively associated with intrapreneurial behaviors ($\beta = .51$, $p < 0.01$, see Step 2), supporting the first hypothesis. Furthermore, organizational support was positively and significantly linked to intrapreneurial behaviors ($\beta = .31$, $p < 0.05$, see Model 2). Combining these results, the indirect effect of leadership style on intrapreneurial behavior via OS was tested and found to be significant (indirect effect = 0.07, $SE = 0.03$, 95% confidence interval CI [.01,.15]). These findings support Hypothesis 4a.

Next, the moderation effect proposed by Hypothesis 5 was tested. Table 4 presents in Step 3 the results of the conditional analysis. They demonstrate a significant interactive effect between leadership style and competition intensity on OS (see Table 4), which supports Hypothesis 5. The interaction is plotted in Fig. 2. To examine the nature of the interaction, a simple slope analysis (Aiken et al., 1991) was carried out. This result indicated that the positive effect of transformational leadership on OS was apparent to participants working in conditions of intense competition ($t = 3.85$, $p < .001$) but not to participants working in organizations facing mild or no competition ($t = -0.81$, ns).

Combining the results of the mediation and conditional analyses, the mediated moderation total model was tested (Hayes, 2013;

Table 3
Means, standard deviations, and correlations among the study variables.

	M (<i>Sd</i>)	1	2	3	4	5	6	7	8	9	10
1. ^a IB	2.93 (1.18)	1									
2. ^b OS	2.73 (0.68)	.26**	1								
3. Transformational leadership	2.72 (0.70)	.35**	.26**	1							
4. Transactional leadership	2.98 (0.71)	.31**	.14*	.72**	1						
5. Competitive intensity	4.33 (1.80)	-0.12	-0.21**	-0.25**	-0.20*	1					
6. Age	27 (3.52)	-0.00	-0.12	.02	.02	-0.23*	1				
7. Gender (1=male, 2=female)		-0.15	-0.10	-0.15*	-0.14	.27**	-0.14	1			
8. Tenure_employee	3.80 (3.97)	.27**	.19*	.29**	.21**	-0.77**	.56**	-0.25**	1		
9. Tenure_manager	6.97 (2.94)	.56**	.30**	.33**	.29**	-0.13	-0.14	-0.16	.24**	1	
10. Private_org. (1=private, 0=public)		.50**	.33**	.30**	.19*	.37**	-0.20	-0.01	-0.13	.64**	1

Note. N = 150, *p < .05. **p < .01.

^a IB = intrapreneurial behavior.

^b OS = organizational support.

Table 4

Regression results for mediation and conditional indirect effects for transformational leadership style.

Effect	Model 4		Model 7
	Step 1		Step 3
	OS <i>B</i> (SE)	IB <i>B</i> (SE)	OS <i>B</i> (SE)
Constant	2.05** (0.21)	.67 (0.45)	4.47** (0.80)
Leadership style	.25** (0.07)	.51** (0.13)	−0.47^ (0.26)
OS		.31** (0.13)*	
Competitive intensity			−0.48** (0.15)
Leadership style X Competitive intensity			.14** (0.05)
R ² (MSE)	.06 (0.44)	.15 (1.19)	.13 (0.41)
F	10.57**	13.74**	7.61**
OS			
Low competition-			
LLCI			−0.12
ULCI		.01	
Intense competition-			
LLCI		.02	
ULCI		.22	

Note. N = 150, ^p < .10, *p < .05, **p < .01. OS = organizational support; IB = intrapreneurial behavior.

Model 7). A bootstrap procedure revealed significant results for participants working in organizations under intense competition (indirect effect = 0.12, SE = 0.12, 95% CI [0.02, 0.22]) but not for those facing low competition intensity (indirect effect = −0.03, SE = 0.03, 95% CI [−0.12, −0.01]).

A similar analysis was performed on the *transactional leadership* style, using the PROCESS macro for SPSS (Hayes, 2013; Models 4 and 7) to estimate the conditional analysis via a method described by Preacher et al. (2007). The results showed that the interactive effect of leadership style and competition intensity on OS was not significant ($\beta = 0.02$, sig = 0.63), and the mediated moderation model, as measured by a bootstrap procedure, failed to show significant results (indirect effect = 0.01, SE = 0.01, 95% confidence interval CI [−0.02, 0.03]). This indicates that the relationship between transformational leadership and intrapreneurial behavior was mediated only by organizational support for entrepreneurship, regardless of the intensity of competition. Table 5 summarizes all study hypotheses.

7. Discussion

The results of the current study highlight the important role of managers in promoting intrapreneurial behaviors, either directly or indirectly, through the mediation of organizational support. The results concerning transformational leadership obtained in Study 2 were congruent with those of previous studies (e.g., Farrukh et al., 2021; Moriano et al., 2014). Intrapreneurial activities include proactive and risk-taking behaviors (Antoncic & Hirsch, 2001); therefore, either through inspirational motivation, individual consideration, or idealized influence, transformational leadership has the ability to promote proactivity and harness it for the benefit of the organization (Kark & Van Dijk, 2007). The role of transactional leadership is more intriguing. Although only a scarce number of studies have explored the role of this type of leadership, they have demonstrated mostly a negative impact on intrapreneurial behaviors (Afsar et al., 2017; Moriano et al., 2014) because transactional leaders emphasize compliance with regulations and encourage their subordinates to maintain tight logistical control, which inhibits new and bold ideas (Kark & Van Dijk, 2007; Quinn, 1988). Similarly, in the present study, transactional leadership was shown to have a negative impact on intrapreneurial behaviors. However, recent studies have found that even transactional leadership can make a positive contribution to entrepreneurship. Ma and Jiang (2018) suggested that in a highly hierarchical culture, the use of contingent reward exchanges serves as a

Table 5

Summary of the study's hypotheses.

Hypothesis	Result
H1: Transformational leadership is positively related to intrapreneurial behaviors	Failed to be confirmed
H2: Transactional leadership is negatively related to intrapreneurial behavior.	Confirmed
H3: OS is positively related to intrapreneurial behavior.	Confirmed
H4a: Transformational leadership is positively related to intrapreneurial behaviors via the mediation of OS.	Confirmed
H4b: Transactional leadership is positively related to intrapreneurial behaviors via the mediation of OS.	Confirmed
H5: Competitive intensity moderates the relationship between transformational leadership and intrapreneurial behaviors via the mediation of OS.	Confirmed

motivation mechanism. The current study expanded on their idea and suggested an explanation that does not depend on culture but on the reciprocal process between employee contributions and rewards. Managers who rewarded employees for their contribution to the organization's prosperity and revenues generated an increased feeling of justice and, as a result, boosted employee willingness to contribute further to their organization.

This suggestion can explain the impact of organizational support as a mediator of the relationship between both transactional and transformational leadership and intrapreneurial behaviors. Organizational support for entrepreneurship is a fundamental antecedent of organizational intrapreneurship (Hornsby et al., 2002; Itzkovich & Klein, 2017; Kuratko et al., 2014). Providing employees with a system that supports their ideas, either by allocating time, autonomy, or material resources, is crucial. However, Itzkovich and Klein (2017) have shown that a destructive relationship with managers can inhibit intrapreneurial activities, even under a positive OS. The present study sheds new light on the complex relationship between managerial and intrapreneurial behaviors. Previous studies have explored the contingent role of psychological empowerment (Afsar et al., 2017) or psychological traits (Kark et al., 2018) but have ignored the role of organizational support as an intervening factor in the relationship between managerial leadership style and intrapreneurial behaviors. This study demonstrates that in an organizational culture that supports entrepreneurship, both transformational and transactional leaders can leverage their employees' ideas into innovative developments.

One of the main contributions of the present study is the evidence it provides for the assertion that transformational leadership has a stronger effect when applied in an environment of intense competition. Drawing on the contingency perspective (Fiedler, 2015), the study results indicate that in a hostile environment, companies face increasing demands to place greater emphasis on entrepreneurship as a means of exploiting the few existing opportunities and creating a competitive advantage (Urbano et al., 2022; Zahra, 1993). The results of the present study emphasize the unique role of transformational leadership in overcoming hostile environments. Indeed, transformational leadership has the ability to motivate subordinates' self-concepts in the interest of the mission articulated by the leader, especially during a crisis (Shamir et al., 2018), and to employ organizational support to encourage intrapreneurial behaviors, even in the presence of extreme and hostile external conditions. The interaction between transformational leadership and the environment may explain why Study 1 found a negative relationship between leadership style and intrapreneurial behavior. This relationship is perhaps influenced by other factors, an assumption that needs to be addressed in future studies. Given that few studies have explored the impact of the environmental context on the relationship between leadership style and intrapreneurial behaviors, the present study provides a solid theoretical contribution but also opens the door for future research on the subject.

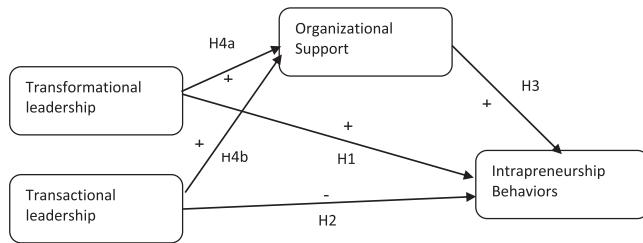


Fig. 1. Theoretical model and hypotheses.

7.1. Managerial implications

The post-COVID-19 era requires companies to adjust themselves to fierce competition, both in their close environment and from external online competitors. To maintain their position in the market, organizations must adopt survival strategies and strategic practices to confront their multiple and diverse competitors. Supporting employee intrapreneurial behaviors is a significant process that can benefit the company but also contribute to workers of all ages (Ben-Hador & Klein, 2020). The present study emphasizes the role of both managers and organizations in supporting intrapreneurial behaviors.

Employees with entrepreneurial tendencies often detect and bring to fruition opportunities for new ventures, either by quitting to set up their own business or by promoting their ideas for the benefit of the firm (Parker, 2011). The choice between these two options depends, among other factors, on the organizational support they receive from their managers. The present study demonstrates that organizations that nurture an entrepreneurship culture and agree to allocate resources to their employees are also those with higher levels of employee intrapreneurial behaviors. Thus, organizations must embed in their culture a support system for innovative behaviors that provides tangible resources (e.g., employees, rooms, equipment, and funds) and time, autonomy, and above all, managerial support. Supplying its employees with adequate resources to develop their suggestions indicates that the organization is truly committed to intrapreneurship. Therefore, one of the key motivators is to install a fair remuneration system that rewards employees for developing new and innovative proposals. By rewarding employees for intrapreneurial behaviors, the firm signals that it encourages risk-taking and proactive behaviors but also that it encourages employees to share their ideas within the organization rather than quit to establish their own ventures.

If organizational support is on one side of the equation, managerial leadership style is on the other. As Belousova and Gailly (2013) demonstrated, intrapreneurship begins with the dreams of a single intrapreneur. However, to fulfill their dreams, employees must first obtain managerial support and then create an institutional group to promote and leverage organizational support into outcomes. The results of the present study support findings about the positive role of transformational leadership in this respect (Bass, 1985). The transformational style of leadership increases employee self-interest by channeling their morale, interests, and values, motivating them to excel better than

initially expected, think creatively, and carry out more intrapreneurial behaviors (Moriano et al., 2014; Pieterse et al., 2010). In addition, the study results indicate that transformational leadership is more prominent in a hostile and competitive environment. Given that many firms are struggling to survive in the current crisis, organizations should acknowledge the key role that transformational leadership plays in promoting entrepreneurship. Human Resources departments must do their best to recruit, promote, and retain transformational leaders to guarantee a better future for their companies.

Last, the present results demonstrate that transactional leadership can also encourage intrapreneurial behaviors via the mediation of organizational support. While scholars often regard transactional leadership as inhibiting creative ideas and intrapreneurial behaviors (e.g., Moriano et al., 2014), some studies have found that in certain situations, having a clear expectation of the things to be done and leaning on employer-employee exchange relationships have a positive impact on the readiness to engage in proactive and risk-taking behaviors (Ma & Jiang, 2018). However, this positive influence cannot last without the organization's willingness to provide the necessary compensation. Thus, top managers must furnish their senior and junior managers with access to resources that can be transferred to entrepreneurial employees. Without delegating resources and creating opportunities to reward for excellence, transactional managers will face difficulties in motivating their employees.

7.2. Limitations and future research

Our study had several limitations that suggest promising avenues for future research. First, the dyad sample was relatively small. Thus, the current findings must be replicated with a larger and more diverse sample. Second, in the present study, OS was measured as mediating the relationship between leadership style and intrapreneurial behaviors. However, other factors may also impact the behaviors of employees and their managers. Several studies have mentioned the contribution of psychological empowerment (Jung et al., 2003), social capital (Ben-Hador & Klein, 2020), organizational identification (Moriano et al., 2014), financial reward organizational systems (Ma & Jiang, 2018), psychological traits (Kark et al., 2018), cultural values (Pagda et al., 2021) and more. Thus, future studies should present complex models that review employee, organizational, and environmental attributes to obtain a more accurate picture. In addition, the study of intrapreneurship should include more diverse points of reference, especially departments or teamwork groups. Given that intrapreneurship relies on teamwork (Belousova & Gailly, 2013), team managers may have a higher impact than department managers on the employee tendency toward intrapreneurial behaviors.

Finally, the fact that the present study is based in Israel introduces a further limitation. Israel is often categorized as a "startup nation" (Tawil, 2015); as such, it promotes initiative behaviors, proactivity, and risk taking among employees and in organizations. However, this makes it difficult to generalize the current results to other countries in which different plans to encourage entrepreneurship are implemented. Future studies must apply a cross-cultural research design to detect the ongoing effects of different entrepreneurial tendencies on employee behavioral outcomes.

To conclude, the current study sheds new and important light on the role of both transformational and transactional leadership in promoting employee entrepreneurship inside the organization. As organizations struggle to survive the COVID-19 crisis, more studies are needed to add to our understanding of how leaders can empower or inhibit behaviors that contribute to organizational success. Understanding the role of managers and organizations in encouraging employee entrepreneurship is strongly required to help organizations navigate the troubled waters of the present toward safer future ports (Fig. 1, Hypothesis 1, Hypothesis 2).

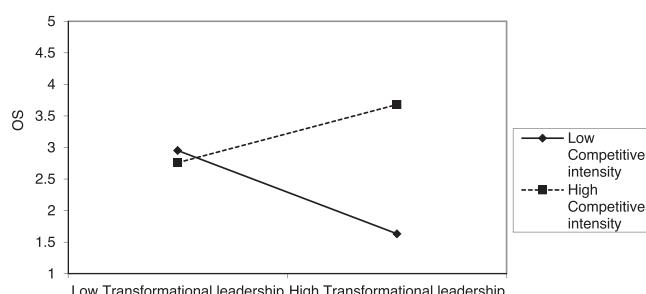


Fig. 2. Impact of transformational leadership style on OS for two levels of competition intensity.

Declaration of Competing Interest

None.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Appendix A. Study Variable Summary

	Meaning	Questionnaire source	M (SD)	Min.	Max.	Type	Cronbach's alpha (α)
Study 1							
IB	Intrapreneurial Behaviors –the performance of innovative behaviors by employees within an existing organization	De Jong et al., 2011	2.79 (0.80)	1	5	Discrete	.88
OS	Organizational Support –the extent of the organization's support for and encouragement of an entrepreneurial environment	CEAI – Hornsby et al., 2002; Kuratko et al., 2005	3.05 (0.65)	1	5	Discrete	.91
Transformational leadership	Leaders that inspire their employees to achieve higher outcomes by supporting their abilities and self-confidence.	MLQ – Bass & Avolio, 1994	3.02 (0.87)	0	4	Discrete	.95
Transactional leadership	Leaders that rely on an exchange of rewards to encourage their employees to excel.	MLQ – Bass & Avolio, 1994	2.82 (0.74)	0	4	Discrete	.81
Org_tenure	Employee organizational tenure		3.99 (0.72)	1	10 years	Discrete	
Manager_Tenure	Employee organizational tenure under the current manager		6.51 (6.18)	4 months	35 years	Discrete	
Age	The employee's age		35 (9.10)	20	66	Discrete	
Gender	1 – Male; 2 – Female			1 (male; 38.6%)	2 (female; 61.4%)	Categorical	
Private_org	Type of organization: 0 – private; 1 – public			0 (public; 55%)	1 (private; 45%)	Categorical	
Study 2							
IB	Intrapreneurial Behaviors –the performance of innovative behaviors by employees within an existing organization	De Jong et al., 2011	2.93 (1.18)	1	5	Discrete	.89
OS	Organizational Support – the extent of the organization's support for and encouragement of an entrepreneurial environment	CEAI – Hornsby et al., 2002; Kuratko et al., 2005	2.73 (0.68)	1	5	Discrete	.81
Transformational leadership	Leaders that inspire their employees to achieve higher outcomes by supporting their abilities and self-confidence.	MLQ – Bass & Avolio, 1994	2.72 (0.70)	0	4	Discrete	.93
Transactional leadership	Leaders that rely on an exchange of rewards to encourage their employees to excel.	MLQ – Bass & Avolio, 1994	2.98 (0.71)	0	4	Discrete	.80
Competitive intensity	The intensity of the competition that the firm is exposed to	Pelham, 1999	4.33 (1.80)	1	7	Discrete	.97
Org_tenure (employees)	Employee organizational tenure		3.80 (3.97)	5 months	22 years	Discrete	
MOrg_tenure (managers)	Manager organizational tenure		6.97 (5.23)	4 years	14 years	Discrete	
Manager_Tenure	Employee organizational tenure under the current manager		2.75 (1.60)	5 months	8 years	Discrete	
Age (employees)	The employee's age		32 (11.60)	22	40	Discrete	
Mage (managers)	The manager's age		41 (5.79)	28	57	Discrete	
Gender	1 – Male; 2 – Female			1 (male; 66%)	2 (female; 46%)	Categorical	
Private_org	Type of organization: 0 – private; 1 – public			0 (public; 55%)	1 (private; 45%)	Categorical	

References

- Afsar, B., Badir, Y. F., Saeed, B. B., & Hafeez, S. (2017). Transformational and transactional leadership and employee's entrepreneurial behavior in knowledge-intensive industries. *The International Journal of Human Resource Management*, 28(2), 307–332. doi:10.1080/09585192.2016.1244893.
- Aiken, L. S., West, S. G., & Reno, R. R. (1991). *Multiple regression: Testing and interpreting interactions*. Sage.
- Augusto Felício, J., Rodrigues, R., & Caldeirinha, V. R. (2012). The effect of intrapreneurship on corporate performance. *Management Decision*, 50(10), 1717–1738. doi:10.1108/00251741211279567.
- Alpkon, L., Bulut, C., Gunday, G., Ulusoy, G., & Kılıç, K. (2010). Organizational support for intrapreneurship and its interaction with human capital to enhance innovative performance. *Management Decision*, 48(5), 732–755. doi:10.1108/00251741011043902.
- Antonicic, B., & Hisrich, R. D. (2001). Intrapreneurship: Construct refinement and cross-cultural validation. *Journal of Business Venturing*, 16(5), 495–527. doi:10.1016/S0883-9026(99)00054-3.
- Antonicic, B., & Hisrich, R. D. (2003). Clarifying the intrapreneurship concept. *Journal of Small Business and Enterprise Development*, 10(1), 7–24. doi:10.1108/14626000310461187.
- Avolio, B. J., Bass, B. M., & Jung, D. I. (1999). Re-examining the components of transformational and transactional leadership using the Multifactor Leadership. *Journal of Occupational and Organizational Psychology*, 72(4), 441–462. doi:10.1348/096317999166789.
- Barba-Sánchez, V., Mitre-Aranda, M., & del Brío-González, J. (2022). The entrepreneurial intention of university students: An environmental perspective. *European Research on Management and Business Economics*, 28(2), 1–10.
- Baruah, B., & Ward, A. (2015). Metamorphosis of intrapreneurship as an effective organizational strategy. *International Entrepreneurship and Management Journal*, 11(4), 811–822. doi:10.1007/s11365-014-0318-3.
- Bass, B. M. (1985). Leadership: Good, better, best. *Organizational Dynamics*, 13(3), 26–40.
- Bass, B. M., & Avolio, B. J. (1994). *Improving Organizational Effectiveness Through Transformational Leadership*. Thousand Oaks, CA: Sage Publications.
- Bass, B. M., Avolio, B. J., Jung, D. I., & Berson, Y. (2003). Predicting unit performance by assessing transformational and transactional leadership. *Journal of Applied Psychology*, 88(2), 207–218. doi:10.1016/0090-2616(85)90028-2.
- Bass, B. M., & Riggio, R. E. (2006). *Transformational leadership*. Psychology Press.
- Belousova, O., & Gailly, B. (2013). Corporate entrepreneurship in a dispersed setting: Actors, behaviors, and process. *International Entrepreneurship and Management Journal*, 9(3), 361–377. doi:10.1007/s11365-013-0259-2.
- Ben-Hador, B., & Klein, G. (2018). Three layers of support: personal social capital, intra-organizational social capital and organizational support as antecedents for intrapreneurial activity and employee performance. *Academy of Management Global Proceedings*.
- Ben-Hador, B., & Klein, G. (2020). Act your age? Age, intrapreneurial behavior, social capital and performance. *Employee Relations*, 42(2), 349–365. doi:10.1108/ER-01-2019-0059.
- Blanka, C. (2019). An individual-level perspective on intrapreneurship: A review and ways forward. *Review of Managerial Science*, 13(5), 919–961. doi:10.1007/s11846-018-0277-0.
- Bouchard, V., & Basso, O. (2011). Exploring the links between entrepreneurial orientation and intrapreneurship in SMEs. *Journal of Small Business and Enterprise Development*, 18(2), 219–231. doi:10.1108/14626001111127043.
- Caussat, P. (2022). Competitive Advantages in a Hostile, Regulated Environment: Four Multinational Banks in India. *Management International Review*, 61(6), 831–879. doi:10.1007/s11575-021-00459-6.
- Celik, A. K., Yıldız, T., Aykanat, Z., & Kazemzadeh, S. (2021). The impact of narrow personality traits on entrepreneurial intention in developing countries: A comparison of Turkish and Iranian undergraduate students using ordered discrete choice models. *European Research on Management and Business Economics*, 27(1), 1–31. doi:10.1016/j.iieden.2020.100138.
- De Hoogh, A., den Hartog, D., Koopman, P., Thierry, H., van den Berg, P., van der Weide, J., & Wilderom, C. (2004). Charismatic leadership, environmental dynamism, and performance. *European Journal of Work and Organizational Psychology*, 13(4), 447–471. doi:10.1080/1359432044000164.
- De Jong, J. P. J., Parker, S. K., Wennekers, S., & Wu, C. (2011). Corporate entrepreneurship at the individual level: Measurement and determinants. *EIM Research Reports*. Zoetermeer: EIM, 11(13), 3–27.
- Dess, G. G., & Beard, D. W. (1984). Dimensions of organizational task environments. *Administrative Science Quarterly*, 29, 52–73. doi:10.2307/2393080.
- Dvir, T., Eden, D., Avolio, B. J., & Shamir, B. (2002). Impact of transformational leadership on follower development and performance: A field experiment. *Academy of Management Journal*, 45(4), 735–744. doi:10.5465/3069307.
- Ellyiana, A., & Ma'arif, S. (2019). Job satisfaction and organizational commitment effect in the transformational leadership toward employee performance. *European Research on Management and Business Economics*, 25(3), 144–150. doi:10.1016/j.iieden.2019.05.001.
- Farrukh, M., Shahzad, I. A., Meng, F., Wu, Y., & Raza, A. (2021). Three decades of research in the technology analysis & strategic management: A bibliometrics analysis. *Technology Analysis & Strategic Management*, 33(9), 989–1005. doi:10.1080/09537325.2020.1862413.
- Fiedler, F. R. E. D. (2015). Contingency theory of leadership. *Organizational Behavior 1: Essential Theories of Motivation and Leadership*, 232, 2001–2015.
- Gawke, J. C., Gorgievski, M. J., & Bakker, A. B. (2018). Personal costs and benefits of employee intrapreneurship: Disentangling the employee intrapreneurship, well-being, and job performance relationship. *Journal of -Occupational Health Psychology*, 23(4), 508–519. doi:10.1037/ocp0000105.
- Gerards, R., van Wetten, S., & van Sambeek, C. (2021). New ways of working and intrapreneurial behavior: The mediating role of transformational leadership and social interaction. *Review of Managerial Science*, 15(7), 2075–2110. doi:10.1007/s11846-020-00412-1.
- Giang, H. T. T., & Dung, L. T. (2021). Transformational leadership and nonfamily employee intrapreneurial behavior in family-owned firms: The mediating role of adaptive culture and psychological empowerment. *Leadership & Organization Development Journal*, 42(8), 1185–1205. doi:10.1108/LODJ-03-2021-0116.
- Grant, R. M. (1991). The resource-based theory of competitive advantage: Implications for strategy formulation. *California Management Review*, 33(3), 114–135. doi:10.2307/41166664.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach* (1st ed.). New York: The Guilford Press.
- Hornsby, J. S., Kuratko, D. F., & Zahra, S. A. (2002). Middle managers' perception of the internal environment for corporate entrepreneurship: Assessing a measurement scale. *Journal of Business Venturing*, 17(3), 253–273. doi:10.1016/S0883-9026(00)00059-8.
- Huynh, T. (2021). The influence of transformational leadership dimensions on intrapreneurial behavior through mediators. *Management Science Letters*, 11(7), 2099–2114.
- Itzkovich, Y., & Klein, G. (2017). Can Incivility Inhibit Intrapreneurship? *The Journal of Entrepreneurship*, 26(1), 27–50. doi:10.1177/0971355716677386.
- Jaworski, B. J., & Kohli, A. K. (1993). Market orientation: Antecedents and consequences. *Journal of Marketing*, 57(3), 53–70. doi:10.1177/02224299305700304.
- Jung, D. I., Chow, C., & Wu, A. (2003). The role of transformational leadership in enhancing organizational innovation: Hypotheses and some preliminary findings. *The Leadership Quarterly*, 14(4–5), 525–544. doi:10.1016/S1048-9843(03)00050-X.
- Kark, R., & Van Dijk, D. (2007). Motivation to lead, motivation to follow: The role of the self-regulatory focus in leadership processes. *Academy of Management Review*, 32 (2), 500–528. doi:10.5465/amr.2007.24351846.
- Kark, R., Van Dijk, D., & Vashdi, D. R. (2018). Motivated or demotivated to be creative: The role of self-regulatory focus in transformational and transactional leadership processes. *Applied Psychology*, 67(1), 186–224. doi:10.1111/apps.12122.
- Klein, G., Shtudiner, Z., & Zwilling, M. (2021). Why do peer-to-peer (P2P) lending platforms fail? The gap between P2P lenders' preferences and the platforms' intentions. *Electronic Commerce Research*, 21, 1–30.
- Kuratko, D. F., Hornsby, J. S., & Bishop, J. W. (2005). Managers' corporate entrepreneurial actions and job satisfaction. *The International Entrepreneurship and Management Journal*, 1(3), 275–291. doi:10.1007/s11365-005-2589-1.
- Kuratko, D. F., Hornsby, J. S., & Covin, J. G. (2014). Diagnosing a firm's internal environment for corporate entrepreneurship. *Business Horizons*, 57(1), 37–47. doi:10.1016/j.bushor.2013.08.009.
- Ma, X., & Jiang, W. (2018). Transformational leadership, transactional leadership, and employee creativity in entrepreneurial firms. *The Journal of Applied Behavioral Science*, 54(3), 302–324. doi:10.1177/0021886318764346.
- Michael, A. M., & Ngugi, P. K. (2016). Influence of intrapreneurial strategies on performance of State Corporations in Kenya. *International Journal of Innovative Research and Development*, 5(1), 399–410.
- Miller, D. (1983). The correlates of entrepreneurship in three types of firms. *Management Science*, 29(7), 770–791. doi:10.1287/mnsc.29.7.770.
- Miller, D. (2011). Miller (1983) revisited: A reflection on EO research and some suggestions for the future. *Entrepreneurship Theory and Practice*, 35(5), 873–894. doi:10.1111/j.1540-6520.2011.00457.x.
- Morianio, J. A., Molero, F., Topa, G., & Lévy Mangin, J. P. (2014). The influence of transformational leadership and organizational identification on intrapreneurship. *International Entrepreneurship and Management Journal*, 10(1), 103–119. doi:10.1007/s11365-011-0196-x.
- Pagda, Z., Bayraktar, S., & Jimenez, A. (2021). Exploring culture and leadership after 23 years: A replication of GLOBE project in Turkey. *Journal of International Management*, 27(1), 1–17. doi:10.1016/j.intman.2021.100822.
- Parker, S. C. (2011). Intrapreneurship or entrepreneurship? *Journal of Business Venturing*, 26(1), 19–34. doi:10.1016/j.jbusvent.2009.07.003.
- Pelham, A. M. (1999). Influence of environment, strategy, and market orientation on performance in small manufacturing firms. *Journal of Business Research*, 45(1), 33–46. doi:10.1016/S0148-2963(98)00026-5.
- Pieterse, A. N., Van Knippenberg, D., Schippers, M., & Stam, D. (2010). Transformational and transactional leadership and innovative behavior: The moderating role of psychological empowerment. *Journal of Organizational Behavior*, 31(4), 609–623. doi:10.1002/job.650.
- Pinchot, G., III (1985). *Intrapreneurship: Why you do not have to leave the corporation to become an entrepreneur*. Cambridge: Harper & Row, Publications.
- Preacher, K. J., Rucker, D. D., & Hayes, A. F. (2007). Addressing moderated mediation hypotheses: Theory, methods, and prescriptions. *Multivariate Behavioral Research*, 42(1), 185–227. doi:10.1080/00273170701341316.
- Quinn, R. E. (1988). *Beyond rational management: Mastering the paradoxes and competing demands of high performance*. Jossey-Bass.
- Shamir, B., House, R. J., & Arthur, M. B. (1993). The motivational effects of charismatic leadership: A self-concept based theory. *Organization Science*, 4(4), 577–594. doi:10.1287/orsc.4.4.577.
- Shamir, B., House, R. J., & Arthur, M. B. (2018). The Motivational Effects of Charismatic Leadership: A Self-Concept Based Theory. *Leadership now: Reflections on the legacy of boas shamir*. Emerald Publishing Limited.

- Tawil, Y. (2015). A "Start-Up Nation". On performance and creativity in Israel. *Ethnologie Francaise*, 45(2), 223–233.
- Tung, F. C. (2016). Does transformational, ambidextrous, transactional leadership promote employee creativity? Mediating effects of empowerment and promotion focus. *International Journal of Manpower*, 37(8), 1250–1263. doi:[10.1108/IJM-09-2014-0177](https://doi.org/10.1108/IJM-09-2014-0177).
- Urbano, D., Turro, A., Wright, M., & Zahra, S. (2022). Corporate entrepreneurship: A systematic literature review and future research agenda. *Small Business Economic*, 59, 1541–1565. doi:[10.1007/s11187-021-00590-6](https://doi.org/10.1007/s11187-021-00590-6).
- Waldman, D. A., Ramirez, G. G., House, R. J., & Puranam, P. (2001). Does leadership matter? CEO leadership attributes and profitability under conditions of perceived environmental uncertainty. *Academy of Management Journal*, 44(1), 134–143. doi:[10.5465/3069341](https://doi.org/10.5465/3069341).
- Zahra, S. A. (1991). Predictors and financial outcomes of corporate entrepreneurship: An exploratory study. *Journal of Business Venturing*, 6(4), 259–285. doi:[10.1016/0883-9026\(91\)90019-A](https://doi.org/10.1016/0883-9026(91)90019-A).
- Zahra, S. A. (1993). Environment, corporate entrepreneurship, and financial performance: A taxonomic approach. *Journal of Business Venturing*, 8(4), 319–340. doi:[10.1016/0883-9026\(93\)90003-N](https://doi.org/10.1016/0883-9026(93)90003-N).
- Zahra, S. A., & Covin, J. G. (1995). Contextual influences on the corporate entrepreneurship-performance relationship: A longitudinal analysis. *Journal of Business Venturing*, 10(1), 43–58. doi:[10.1016/0883-9026\(94\)00004-E](https://doi.org/10.1016/0883-9026(94)00004-E).
- Zahra, S. A., & Garvis, D. M. (2000). International corporate entrepreneurship and firm performance: The moderating effect of international environmental hostility. *Journal of Business Venturing*, 15(5–6), 469–492. doi:[10.1016/S0883-9026\(99\)00036-1](https://doi.org/10.1016/S0883-9026(99)00036-1).