

Effect of Leadership Empowerment on Personnel Creativity in Projects: Moderating Role of Project Culture and Mediating Role of Creative Self-efficacy

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ABSTRACT

Empowering leadership substantively encourages employee creativity and enhances intellectual capital. This study focuses on exploring the impact of leadership empowerment on personnel creativity through moderating the role of project culture and mediating the effect of creative self-efficacy across project-based IT organizations. The questionnaires were distributed to collect data from 264 leaders and subordinates serving in different project-based firms. Convenience sampling was incorporated for data collection from the software houses within capital of Pakistan (Islamabad). The empirical findings from the descriptive statistical analysis demonstrated that empowering leadership has positively influenced personnel creativity in the projects. Further, the results revealed a significant role of creative self-efficacy as a mediator in boosting human capital within the project-based IT organizations. However, the moderating role of the project culture substantiated to be insignificant in influencing the relationship between empowering leadership and employee creativity.

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INTRODUCTION

Various studies have revealed the significance of empowering leadership for employee performance (Mehmood et al., 2020). Leaders play a substantial part in sustaining and nurturing human capital's higher cognitive process power. Authentic leaders act as a catalyst to promote a culture of creativity and novelty within their organizations (Imam et al., 2020). Although several studies validate that empowering leadership may effectively empower employee creativity in projects (S. Zhang et al., 2018); however, there are limited studies conducted in the field of Information Technology (Kwan et al., 2018). Besides, empowering leadership and its impact on employee creativity and creative self-efficacy as mediating effects of project culture have been studied in other sectors (Adil & Hamid, 2019).

Empowering leadership reinforces the personnel's creativity and motivation which can demonstrate elevated creative outcomes (Naqshbandi et al., 2019). To the best of the authors' knowledge, this study is pioneer research to examine the mediating role of creative self-efficacy and moderating role of project culture within information technology firms. Creative self-efficacy reflects an individual's firm belief in his capacity to control one's emotional intelligence, motivation, and social environment (Y. Yang et al., 2021). A person's value is bringing novelty and wholesome effort that boosts confidence to provide inventive outcomes. Project culture is considered to be the set of shared norms, customs, beliefs, and ideas by the team working on the project. Zhitlukhina et al. (2018), defined culture as a prototype of basic assumptions formed by a group on how to identify and deal with the issues associated with internal adaptation and external integration. Building up the culture requires two elements i.e. the priorities and alignment of official and operational rules. Hence, the initial step of any project is to specify the rules and align official and operating rules to which all the project members will be exposed (Zhitlukhina et al., 2018). The cooperative and compromising behaviour of the leader may bring positive and productive results. In contrast, the leader's lack of tolerance and non-cooperative behaviour may negatively affect the project's performance (Naqshbandi et al., 2019). The results of a study conducted by Zainab et al. (2022) suggested that the presence of change-related self-efficacy significantly moderates relation between the transformational leadership and employee openness to change

The present study addresses several theoretical and contextual gaps in the literature on empowering leadership, creative self-efficacy and employee creativity in projects. Hence, this research intends to explore the impact of leadership empowerment on employee creativity in project-based IT organizations in developing countries such as Pakistan. Literature suggests that employees have a low confidence level in their capabilities and expertise, because information technol-

ogy organizations are least likely to promote employees' creative strategies and mechanisms (Imam et al., 2020).

This study entails the implication of empowerment and creativity theories in project-based IT organizations. Also, the research accounts for the communication perspective, as access to resources has a moderating effect on organization-based self-esteem and creativity (Kong et al., 2019). It brings a novel perspective on contemplating how and when empowering leadership may benefit employee creativity. Leadership empowerment stimulates employees' creative thinking, their work capabilities, the essence of cooperation, and the potency of the organization (Han & Bai, 2020). This study provides concrete evidence in the real scenario of Pakistan to highlight the significance of the qualities of an effective leader. Moreover, the study fulfills the existing theoretical gap in previous literature because the research on empowering leadership's effect on employee creativity in the project through creative self-efficacy has not been studied in project management.

This study emphasizes employee creativity and empowering leadership and their relation with each other; hence, the componential theory of creativity is employed as the supporting theory that includes both variables. Amabile (1983) introduced the componential theory of creativity in 1983 as the componential model of creativity (Kwan et al., 2018). This empirical research is supported by the componential theory of creativity, which postulates four fundamental leadership blocks to encourage employee creativity (Adil & Hamid, 2019). These four components include goal setting, team development, culture, and social environment. The theory advocates that the authentic behaviour of leaders towards the team and the project culture is crucial (Gong & Georgiev, 2020).

A leader's responsibility is to provide a culture or environment, where employees can be encouraged and allowed to work creatively, excel in the project, and achieve team goals efficiently. The previous studies have revealed their interpretation of organizational behaviours using this theory but encompass either creativity or leadership empowerment in one or more ways (Kwan et al., 2018). Hence, this current research entails creativity and empowering leadership and their relation with each other by employing the componential theory of creativity. This research tests this theory on various grounds, one of which is the component of the social (organizational) environment. Empowering leadership, being the center of attention in the study, plays a crucial role in any project or organization. The social environment component of the theory places the bundles of responsibilities on the leader's shoulders.

CONCEPTUAL FRAMEWORK

The following research model was tested to examine the impact of leadership empowerment on personnel creativity, primarily in Pakistani project-based IT organizations.

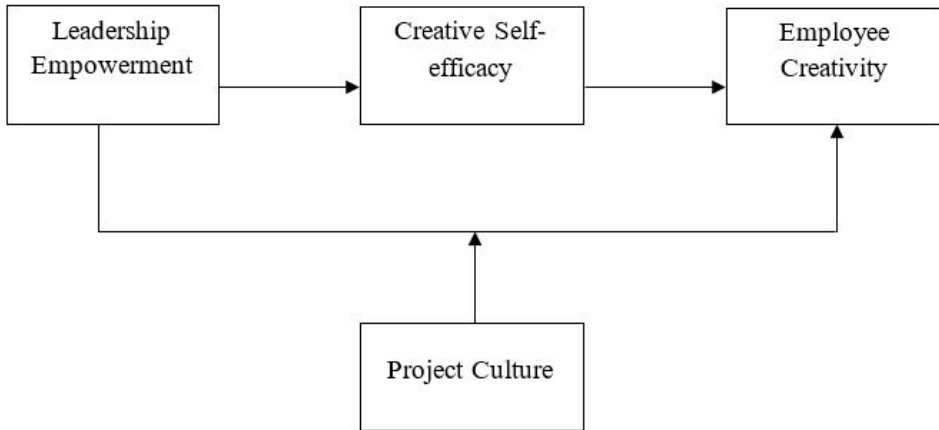


Figure 1: *Conceptual framework*

LITERATURE REVIEW

Leadership empowerment and employee creativity

Literature on creativity postulates that supportive leaders may effectively achieve target goals by empowering employee creativity and providing autonomy (Gao & Jiang, 2019). Empowering leadership reasonably impacts on employee creativity. Empowering leadership is a set of behaviours of leaders that enable subordinates to bring novel ideas and solutions to particular problems that an organizational project is exposed to. Hence, more empowering the leader, more creative the employees will be (Sehgal et al., 2021). On the other hand, leaders with less empowering ability fail to produce self-reliant employees. Thus, less employee creativity will result in minimal innovation, which may cause the organization to be trapped in significant losses (Han & Bai, 2020). According to Adil et al. (2018), motivation is a crucial factor as empowerment embarked on by the leaders can encourage connections with self-sufficiency, including intellectual skills and self-leadership. It gears up the project's performance by enhancing the learning opportunities for personnel to encounter optimistic approaches in the workplace. Based on the Pygmalion effects, individual behaviour is generally shaped by the leader's responses and conduct (W. Zhang

et al., 2020). The Pygmalion effect assumes that employee performance towards the project is significantly driven by how the leader stimulates their creativity. So, expectations of a leader, for ingenuity, motivate employees' creativity (Han & Bai, 2020). It is the leader whose authentic leadership and high expectations encourage employees to behave likely towards achieving the project's goals and objectives.

H1: Leadership empowerment has a significant positive impact on employee creativity.

Leadership empowerment and creative self-efficacy

Empowering leadership could be a vogue distinguished by sharing strength to give staff a certain degree of autonomy. It focuses on sustaining the competence for self-governing leadership opportunities with independence and determination (Mohelska & Sokolova, 2018). Empowering leadership increases the significance of human capital and creates differences in the workforce by improving a way of impact (Alameri et al., 2019). Sharing strength and ideas and giving employees self-dominance and self-determination over work enhances their intrinsic motivation in the work culture. Ultimately, employees square measure a lot of volunteerism to incorporate additional efforts and assist themselves to avail opportunities that develop their work capabilities (Alameri et al., 2019). Leadership empowerment encourages the personnel's ability, originality, and working attitudes. The 21st century project organizations dictate worker authorization and empowering of leaders and employees. Previous studies indicate that authorization included common behaviors of the employees regarding organizational culture, learning and data, and knowing about the principles of the appreciation system (Hao et al., 2018).

Additionally, researchers have concluded five important elements that encourage productive work authorization: the awareness of competency; self-organization; trustworthiness; impactfulness; and influentiality (Khorakian & Sharifirad, 2019). In this study, Bandura (1982) theory of self-efficacy is used as the supporting theory, as it proposes that employee efficiency upturns because of self-efficacy (Khorakian & Sharifirad, 2019). In the project, personnel having a high self-efficacy sense tend to perform better with their maximum capacities than those with a low self-efficacy sense. Hence, they take the suggestions positively for the work and thus, lead towards the project's success. Empowering leadership has been seen as a method prejudiced by the certain elements such as, support motivation, support development, and power-sharing (Javed et al., 2021). This process encourages the experience of self-confidence, inspiration, and the capacity of work autonomy within the bounds of the organization.

H2: Empowering leadership advances creative self-efficacy among employees.

The mediating role of creative self-efficacy

Previous research examined that creative self-efficacy plays a magnificent role in the organizational project, particularly in bridging the relationship between the leader and the employee (Wang et al., 2018). The literature demonstrates that belief in oneself is pivotal for employees to flourish in the workplace (Adil et al., 2018). Leaders who encourage self-efficacy among employees are more likely to achieve the desired outcomes than those who ignore it. Although an individual's ability brings outstanding results to an organizational project (Chow, 2018), it has also been observed that the employee's motivation towards performance results from empowering leadership. Hence, empowering leaders triggers creative self-efficacy among employees, fostering trust in the leader. Empowering leadership encourages innovation and provides a creative environment for employees to gain knowledge and perform creatively (Chua & Ayoko, 2021). Both flexibility and creativity drive towards constructive solutions in problem-solving situations that increase creative self-efficacy. Leaders help employees' progress by showing sympathy, deliberation, gratitude, and support for them so that employees are being able to bring creative outcomes. Due to such behavioural aspects, employees have less unresponsive functional stimulation, which helps to attain their creative self-efficacy (Potnuru et al., 2018).

H3: Creative self-efficacy mediates the association between leadership empowerment and employee creativity in the project.

Moderating role of project culture

Organizational culture endorses the employees' creative self-efficacy, promote motivation and creativity in the project. Empowering leadership stimulates such a culture that provides a creative environment. The literature reveals that the culture of any organization or project plays a central part in employee innovation and creativity (Iqbal et al., 2020). According to the cognitive evaluation theory (Chen et al., 2021), a rigid and controlling culture does not stimulate rational behaviour. A project learning culture is the primary source of making projects cost-effective by leading employees to gain knowledge and develop creative concepts.

Furthermore, proposed that a positive project culture fosters new ideas and stimulates employee creativity (Raziq et al., 2018). The project culture counts as pivotal in enhancing creativity among employees. Contrarily, the project culture that discourages new ideas may stifle innovation and creativity (Sirisomboonsuk

et al., 2018). Leaders are responsible for flourishing the project culture by focusing on domain-relevant skills within a certain project. Domain-relevant skills are the composition of technical expertise, intelligence, and relevant knowledge in the specific field, wherein, the employee works or offers services (S. Zhang et al., 2018). These skills are the set of combined elements that are useful for an individual to process the creative task or problem-solving possible responses. These skills also include the expertise required for the process to be performed and to assess the feasibility of the possibilities against the results of the process. The literature describes that cognitive styles and personality characteristics are beneficial to autonomy and risk-taking (S. Zhang et al., 2018). Employees can explore constructive skills and working styles to create new designs, procedures, and solutions. Empowering leadership prompts the sharing of ideas and success and encourages staff to develop the potential for a better workforce (Z. Yang et al., 2018). However, a moderate culture may provide better results regarding project success and employee creativity.

H4: Project cultures moderates the association between empowering leadership and employee creativity.

METHODOLOGY

For this study, a sample size of 264 employees serving in project-based IT companies was selected using the convenience sampling method. This method seems simplistic and inexpensive compared to other sampling methods. Convenience sampling enables the researchers to access and acquire the sample in a brief period (Wu & Thompson, 2020). Since, this research aims to explore the relationship among the variables, convenience sampling can depict accurate correlations. Further, no specific inputs are required to incorporate within the sample. Of them, 176 were male respondents, and 88 were females from the various software houses within Islamabad, (capital city). The research design included an inter-relational study that gathered quantitative data using a self-administrated questionnaire based on four themes of a 5-point Likert scale.

The first theme is based on the twelve items to inquire about empowering leadership. The second theme comprises thirteen items to examine the employees' creative self-efficacy. The later theme included seven items to explore employee creativity in the projects. The last theme has three items to assess the project culture. Table 1 shows the study sample collected from the different software houses of Islamabad. Several statistical analysis tools were incorporated to carry out descriptive, correlation and regression analyses of each theme and overall data proceed. The data results are presented in the

form of the pie charts and frequency distributions, and the obtained findings were reinforced in the existing literature.

Table 1.
Sample Selection

Software Houses	Study Sample
Jolta Technologies	118
Android Tech	32
IHM	15
Mobipixels	20
Nettech	08
Pakistan Software Export Board	50
Infotex	06
Khastech	15
Total	264

RESULTS

Descriptive Statistics

Descriptive statistics summarizes the actual data as it highlights the significant level of the statistics points (Mishra et al., 2019). Table 2 demonstrates the standard deviations, means, maximum value, and minimum value of all the variables, including the independent variable (leadership empowerment); dependent variable (employee creativity); moderating variable (project culture); and mediating variable (creative self-efficacy). The mean values explain the average of the variables, while standard deviation states how much data is deviated towards the mean. A 5-point Likert scale is used in all the variables.

Table 2.
Descriptive Statistics.

Variables	Mean	Standard deviation
Leadership empowerment	3.67	0.76
Creative self-efficacy	3.72	0.67
Employee creativity in projects	3.64	0.74
Project culture	3.84	0.86

N=264

Correlation Analysis

The purpose of the Pearson correlation is to determine the association among overall variables (Schober et al., 2018). The range of correlation coefficient varies between -1 to 1. Table 3 shows that empowering leadership positively correlates with employee creativity, where $r = .757^{**}$ at $p < 0.01$. Further, a positive correlation exists between leadership empowerment and creative self-efficacy where $r = .768^{**}$ at $p < 0.01$. Also, leadership empowerment positively influences project culture where $r = .732^{**}$ at $p < 0.01$. Creative self-efficacy also positively affects employee creativity with $r = .775^{**}$ at $p < 0.01$. Also, there is positive relation of creative self-efficacy with project culture with $r = .660^{**}$ at $p < 0.01$.

Table 3.
Correlation

S. No	Variables	1	2	3	4
1	Leadership empowerment	1			
2	Creative self-efficacy	.768**	1		
3	Employee Creativity	.757**	.775**	1	
4	Project Culture	.732**	.660**	.686**	1

** . Correlation is significant at the 0.01 level (2-tailed)

Regression Analysis

Table 4 demonstrates that empowering leadership is positively correlated to employee creativity. For this given, regression coefficient results are the strong justification. Regression analysis is a useful statistical tool to understand the link between independent and dependent variables (Wu & Thompson, 2020). The beta values in regression are the estimated coefficients of the explanatory variables indicating a change in response variable caused by a unit change of the respective explanatory variable keeping all the other explanatory variables constant/unchanged. Hence, the first hypothesis i.e leadership empowerment has direct positive effect on employee creativity, with $\beta = .737$, $t > 1.96$, $p < 0.00$. Further the direct effect of leadership empowerment and creative self-efficacy was tested and the beta value 0.677, t value > 1.96 , $p < 0.00$ shows a positive relationship thus the second hypothesis was accepted.

Table 4.
Regression Analysis

	β	SE	t-value	p-value
Empowering Leadership—Employee Creativity	0.737	0.5	6.33	0.00
Empowering leadership—Creative-self-efficacy	0.677	0.5	9.444	0.00

N=264, * p <.05; ** p <.01

Mediating effect of creative self-efficacy

Figure 2 shows the role of Creative self-efficacy as a mediator between leadership empowerment as an independent variable and employee creativity as the dependent variable in projects. The purpose is to examine whether there is any bridge between the variables. In this study model, 4 of Hayes was used through SPSS v23 to test the mediation of the hypothesis.

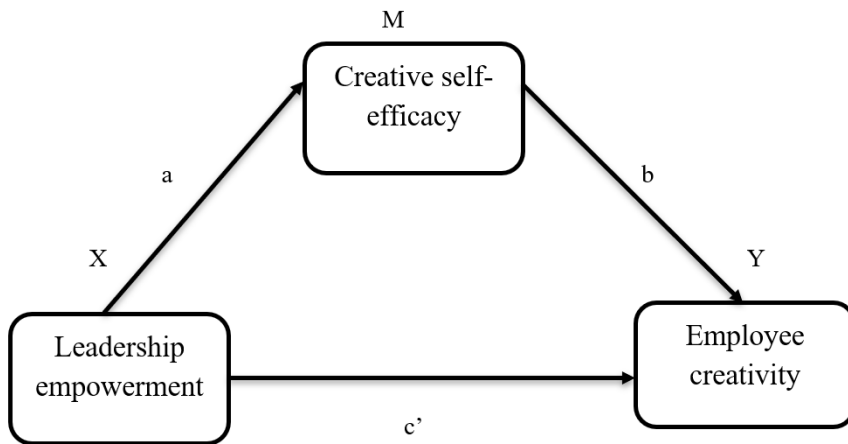


Figure 2: Mediating role of Creative self-efficacy between leadership empowerment employee creativity.

The Table 5 reveals the mediation analysis of creative self-efficacy on leadership empowerment and employee creativity. It was assumed that the creativity allowed by the leader is mediated by self-efficacy, and the values show that ($\beta=0.7369$, $p<0.05$). The positive Beta value explains the significant mediating relationship of creative self-efficacy between empowering leadership and employee creativity. Hence, the results in Table 5 prove that empowering leadership and employee creativity are mediated by the effect of creative self-efficacy.

Total effect of the independent and dependent variable

Total effect is defined as the interrelation of independent and dependent variables, the leadership empowerment effect on employee creativity. The total effect of leadership empowerment on employee creativity is .7369 with a significance < .05. It depicts that 73% of variation occurs in employee creativity in projects due to empowering leadership. The lower limit of bootstrap is .25, and .47 is the upper limit. Hence, hypothesis one is highly acceptable that leadership empowerment is positively associated with personnel creativity in a project.

The direct effect of the independent and dependent variable

The direct effect is defined as the interrelation of independent and dependent variables in the presence of a mediator, self-efficacy between empowering leadership effects employee creativity. Hence, the results highlight the direct effect of .3839 with a significant p-value < 0.05. It identifies that empowering leadership has a 38% variation in employee creativity in projects with the mediation of creative self-efficacy. There is no zero between the limits which indicates that the results are significant.

Table 5.

Mediation Analysis of Creative self-efficacy on IV (LE) and DV (EC).

IV	Effect of IV on M (a path)	Effect of M on DV (b path)	Direct effect of IV on DV (c path)	Total effect of IV on DV (c path)	Bootstrapping results for indirect effect, CI 95%	
Leadership Empowerment	B	B	B	B	LL	UL
	0.3624**	0.4735**	0.3839**	0.7369**	0.25	0.47

Note. Unstandardized regression coefficient indicated. Bootstrap sample size 5000. LL =lower limit; CI = confidence interval; UL = upper limit. N=264, *P <.05; **P <.01

Moderating Effect of Project Culture

Table 6 highlights that the project culture does not act as a moderating factor between empowering leadership and employee creativity with the unstandardized regression values: $\beta=-.019$, $t=-.558$, $p=0.57$. This identifies that the t value indicates the insignificant relationship, i.e., $t=-.558$, which is less than 2.

Table 6.
Moderating effect of project culture

	β	SE	T-value	P-value
Int-term → Employee Creativity	.019	0.04	-0.56	0.57

CI = confidence interval, N=264, * P <.05; ** P <.01

DISCUSSION

The research postulates that creative self-efficacy builds the connection between empowering leadership and employees, eliciting creativity. Hypothesis 1 proposes the constructive association between leadership empowerment and personnel creativity. [Naqshbandi et al. \(2019\)](#) postulated that empowering leadership significantly influences employees' creativity in an organizational project. The second hypothesis postulates the constructive relationship between empowering leadership and employees' creative self-efficacy that has been proven right as the collected data results confirmatory it. Empowering leadership has been assumed to substantially influence enhancing and advancing creative self-efficacy ([Liang et al., 2021](#)). Hence, leadership empowerment within the projects ultimately advances the employees' creative self-efficacy in the workplace ([Naqshbandi et al., 2019](#)).

The third hypothesis that the researcher proposed claims that self-efficacy mediates the relationship between leadership empowerment and personnel creativity, which has been proven meticulous as the collected data has resulted in the favour. It was assumed that the creativity allowed by the leader is mediated by self-efficacy, and the (values) show that ($\beta=-0.7369$, $p=0.00$). This indicates that the positive beta value reveals the significant mediating relationship of creative self-efficacy between empowering leadership and employee creativity with a p-value of 0.00, which is less than 0.05. The fourth hypothesis depicts the moderating role of project culture on leadership empowerment and employee creativity. The statistical results do not give the acceptance of the fourth hypothesis ($\beta=-0.19$, $t= -.558$, $p=0.57$). This identifies that the t value indicates the insignificant relationship, i.e., $t=-.558$, which is less than 2.

Moreover, a lack of effective communication and collaboration among the employees in the workplace results in the disintegration of favourable project culture. And this reduces the motivation and confidence of the employees towards work, which ultimately impacts the creative self-efficacy of an individual employee ([Han & Bai, 2020](#)). Several studies identify that project culture can be maintained better if a good relationship exists between the organizational leader

and the stakeholders (Wang et al., 2021). Additionally, the employees' creative self-efficacy can be enhanced if they learn to accept the challenges within the work environment and overcome such issues.

CONCLUSION

This research explores the crucial effect of empowering leadership on personnel creativity and investigates the mediation of creative self-efficacy with the moderation of project culture in the context of project-based IT organizations in Pakistan. The data collection process was carried out by using a survey in various project-based software companies of Islamabad, Pakistan. Responses gave the objective validity and reliability of the tool as all the reliability values were above 0.70. Four hypotheses were designed and tested to empirically investigate the impact of leadership empowerment primarily on employee creativity in projects which is also influenced by project culture and creative self-efficacy. The hypotheses have been discussed thoroughly throughout the study with all the supporting literature and a supporting theory, i.e., the componential theory of creativity. The results revealed that escalation in empowering leadership brings forth the employees and increases their creative self-efficacy in the projects.

Furthermore, empowering leadership entails boosting the authentic relationship between the employee's work nature and organizational culture. Results of the mediation analysis thoroughly support H1 and depict that leadership empowerment is positively associated with personnel creativity in a project. Results of moderator analysis also support H3 as project culture positively impacts leadership empowerment and employee creativity. Both correlation and regression analysis also support the hypothetical results of this research. Therefore, all four hypotheses are accepted in this study using statistical data analysis. This research provides insightful theoretical and practical implications which intend to be productive in various ways in project-based organizations in Pakistan. This study incorporated insightful knowledge in the area of project management along with academic research. Hence, it can be inferred that empowering leadership needs to be enhanced to enhance sustainable employee creativity to significantly improve project cultures.

LIMITATIONS AND FUTURE DIRECTIONS

This study has certain limitations. Firstly, the data collection of this research is merely based on the various software houses in Pakistan. Future studies can restate the same model in developing states other than Pakistan to endorse such results. Secondly, lack of time caused to have only four hypotheses and only one moderator and mediator. This research model is critically analyzed

to determine the impact of empowering leadership on employee creativity. Future studies can be modified to study how employee creativity impacts project leaders' work capabilities and skills (Ali & Anwar, 2021). Thus, other variables can be incorporated, like proactive employees and personality traits that affect employee motivation and the role of leaders. The current research partially demonstrates the role of project culture as a moderator and creative self-efficacy as a mediator between leadership empowerment and employee creativity in projects. So, these variables should be interchanged in the future to scrutinize their impact.

CONFLICT OF INTEREST STATEMENT

The authors declare no conflict of interests.

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