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Article

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Ambidextrous Leadership, Creative Self-Efficacy, Self-Resilience, Trust in Supervisor and Employee Innovative Performance in the telecom industry of Pakistan

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Abstract

This study analyses how ICT leaders/ managers / supervisors' ambidextrous leadership associates with the innovative performance of employees through trust in the supervisor, self-resilience, and creative self-efficacy. Data was collected in total from 450 employees ranging from the first line workers i.e., 350, while 100 managers / supervisors within the time span of 2 weeks. The SPSS and AMOS v23 software were used for the data analysis of survey results. This study used ambidexterity theory for leadership and for employees' perspective used to broaden and build theory. This study hypothesized that there is a relationship between ambidextrous leadership, self-resilience, and trust in supervisor that affects the innovative performance of employees, such that ambidextrous leadership has the strongest positive relationship with innovative performance when employees have high levels of self-resilience and trust in supervisor. Moreover, creative self-efficacy mediates the relationship between the ambidextrous leadership and employee innovative performance. Results indicate that there is a positive effect of ambidextrous leadership on

employee innovative performance when the self-resilient of employees are high and they trust their managers or supervisors at work place.

Keywords: ambidextrous leadership, creative self-efficacy, innovative performance, self-resilience, trust in supervisor, telecom industry.

1. Introduction

Leaders in information and communication technology (ICT) play a creative role to make their employees more creative to gain a competitive edge and generate new ideas by providing such a creative environment in the workplace. The employees are more dependable on their supervisors (managers or leaders) and leaders are more focused to maintain such processes to enhance the innovative performance of their employees (Gupta & Singh, 2015). In recent literature on Psychological capital (Psycap), the notion exists that leadership effects transfer followers' positive outcomes like self-efficacy, hope, optimism, and self-resilience (Luthans & Youssef, 2007). These positive outcomes have not only high task performance but also performed innovation and creativity in the workplace (Huang & Luthans, 2015).

Effective leadership is performed as a catalyst to develop new ideas and implement these new ideas to increase the innovative performance of employees in ICT (Gifford, Davies, Tourangeau, & Lefebvre, 2011). Ambidextrous leadership (AL) behaviors know how to adopt exploitation or exploration among their colleagues according to the situation (Gerlach et al., 2020). These behaviors increase or decrease the behavior variances and easily switch between several behaviors. There are three elements in AL, first one is the opening leader behaviors (exploration), defined as encouraging the employees to do things differently and make new ideas by giving them the liberty to think creatively and such behavior support their employees when they are facing challenges (Zhao et al., 2022). The second element is closing leader behaviors (exploitation) in which the leader reduces the variance in employee's behavior to take corrective actions, defined and sets the goals to be achieved, and monitors by setting guidelines the third is temporal flexibility in which the leader easily switch between both opening and closing behavior according to the circumstances needs (Gerlach et al., 2020). Ambidextrous leadership according to previous studies displays an important role in the innovation process in employees and found a positive relationship with innovation (Zacher & Rosing, 2015). Ambidextrous leadership is a combination of opening and closing behavior was defined by Rosing et al., (2011) as "the ability to foster both explorative and exploitative behaviors in followers by increasing or reducing variance in their behavior and flexibly switching between those behaviors" (p. 957). To effectively accept breakthrough performance in an organizational environment, supervisors must be informed by investigating how individual differences affect employees' responses to AL (Yang et al., 2021). Therefore, the ambidexterity leadership theory for innovation asserts that opening up leadership behavior leads to subordinate exploration activities. Hence, the theory under discussion asserts that the closure of

leadership behavior results in exploitative activities of subordinates (Zhao et al., 2022; Zacher & Rosing, 2015; Rosing et al., 2011). In a careful study of the extent of AL impact on IP, a persuasive argument is that if employees who are not sensitive to ideas trust their bosses, they can carry out innovative operations under AL. (Sturm et al., 2017).

Innovation activities need to be matched by an equally complex leadership approach, so the ambidexterity theory of leadership in individual or team innovation, for innovation proposes two elements of AL which are opening and closing behaviors and innovation shows high results in employees when leaders' behaviors of AL elements are high (Rosing et al., 2011). In simple words, leaders who want to encourage their employee's more innovative successes should have the ability to engage in both opening and closing behaviors. The scant research that explores the relationship between AL and IP, for survival in the competitive market to attain innovative performance. The tension of managers to gain a competitive market, they need to provide a pleasant workplace to their employees, for such, it will come up with new ideas to generate to perform innovatively to gain a market competitive edge (Khan et al., 2019 & Zhao et al., 2022). This research explores the mechanisms among Ambidextrous Leadership (AL), CSE, trust with supervisor, self-resilience (SR), and innovation performance (IP). The results of AL are not as positive as all employees expected (Gerlach et al., 2020). The differences that may stand out in this regard are the employee's resilience and trust level because these are essentially related to IP and AL. Our research results reveal an interesting phenomenon AL can be particularly effective in improving the IP of employees who have a high degree of SR and trust with managers (supervisors). People are increasingly aware of how AL can bring higher IP from employees through SR, Trust, and CSE.

Self-Resilience simplifies "positive adaptation in the context of significant risk or adversity" (Ong, Bergeman, & Boker, 2009, p. 1777). It defines self-resilient individuals who adopt protective factors in a stressful environment to "bounce back" and find a positive result in such stressful situations (Tugade & Fredrickson, 2004). To study the SR by following the broaden and build theory, which SR predicts positive states of the emotion of employees highly resilient individuals, increase the thought, consideration, cognition, focusing and "upward spiral" which leads toward emotional well-being (Fredrickson, 2004). In this theory, employees find positive meaning in stressful situations and protective resilient factors like "bouncing back" which is a positive effect in different circumstances (Tugade & Fredrickson, 2004). Simply employees' emotional strengths allow avoiding stress during work (Zhao et al., 2022). Self-resilience literature is commonly identified in medical fields for nurses where the environment of the hospitals is very stressful: rising above adversity, ordinary magic, adapting, a dynamic process, and mental health (Aburn, Gott & Hoare, 2016).

To avoid uncertain or ambiguous situations like stressful environments or feelings of uneasiness in employees of the organization, self-resilient is to tackle it down. Employees who face such circumstances, employees should try to follow the rules, regulations, and

policies that the organization sets. At the same time, they continuously seek help, taking guidance from their managers (supervisors) to avoid such uncertain situations. To avoid such uncertain (stressful or risky) situations, employees have trust in their managers which can make employees easily manage the uncertain environment. Trust in the supervisor is the influencing factor that facilitates IP in the workplace (Grigorenko, 2019). Employees who have trust bonding with their supervisors show more innovative performance. Which expressed that employees are working very freely at the workplace due to their easiness with their supervisors. Employees as an individual don't concern about the behavior change of their managers when trust bonding with supervisors is very high.

Employees are also very confident to work innovatively by exploring new ideas to increase their performance (Gerlach et al., 2020). However, this study focuses on the motivations of the supervisor and the bond between employees. Affect-based trust is based on supervisor care, support, help with difficulties, concern issues, and psychological safety (Yang et al., 2021). Thus, employees who have a low level of trust in their supervisor but a high level of self-resilience form a mistrust loop with the supervisor. Which responds to AL with a profound commitment to increase innovative improvement activities. Thus, the main goal of our study is to verify the relationship between AL, CSE, trust in supervisors and SR explains the intellectual property of employees. The interactional approach of IP (Rank, Pace & Frese, 2004), proposes that AL has a positive association with the innovative performance (IP) of employees when they have a strong bond of trust with their superiors (managers) and are self-resilient. The psychological mechanism reveals the effects of underlying hypothetical relationships and proposes that CSE mediates more in this relationship, which refers to the use of creative activities at the level that the employee considers capable of working freely to produce innovative results in the workplace (Park et al., 2021).

2. Literature Review and Theoretical Background

Innovative performance is defined to recognize the problems, initiation and planned to introduce novel ideas about products, services, working methods, needs to change in behavior, launching new ideas, and using new ideas with the purpose to increase the business level at a workplace place (individual, group, or organization) (Zhao et al., 2022). In this study, AL includes three elements (opening, closing, and flexibility over time), and the main focus is on how to increase IP with the relationship of AL, where the ambidexterity theory of leadership is considered for IP (Yang et al., 2021). A combination of leadership behaviors i: e opening and closing, ambidextrous leadership (AL) is defined as "the ability to promote both exploratory and exploitative behaviors in followers by increasing or reducing the variance of their behavior and flexibly switching between these behaviors. In other words, an ambidextrous leader is able to support his followers in the attempt to be ambidextrous." (Rosing et al., 2011, p. 957). So, the employees generate ideas

and methods to implement in the organization to gain high performance through the influence of AL at the workplace. Accordingly, the hypothesis is formulated as below.

- H₁: Ambidextrous leadership has a positive relationship with innovative performance.

Researchers need to determine the mediation mechanism of compensation centers to develop IP (Perry et al., 2017). Previous literature has confirmed the mediating role of motivational cognitive situations on the relationship between leadership style and creativity, such as flexible role setting, supervisory backing, role breadth, and how to organize an innovative and creative team with CSE to gain innovative performance (Park et al., 2021). This study proposes that the CSE is a psychological degree that can convey the impact of our model, and it can make assumptions about the IP. Employees with high CSE can increase creative performance if they collaborate with each other like a team. Most employees don't share their ideas because of getting negative feedback while discussions. When they don't have discussions then they don't contribute their knowledge, and they lose confidence at work. The innovative performance effect by this negative relationship. So, the innovative performance of employee increase when CSE is high and low CSE concerns negative evaluation with no innovative performance. We predict as follows.

- H₂: Ambidextrous leadership has a positive relationship with creative self-efficacy.
- H₃: Creative self-efficacy has a positive relationship with innovative performance.

The IP in the workplace is unpredictable because the expected results are new and the results cannot be guaranteed (Zhou & Hoever, 2014). Therefore, due to the positive results achieved by returning under high pressure, employees have high SR capabilities (Rank et al., 2004). However, a trusted leader is a powerful force that inspires followers to develop a sense of SE, especially for those who like clarity and seek supervision and guidance. When trustworthy supervisors demonstrate AL, the uncertainty, tension, anxiety, frustration, and ambiguity associated with innovation performance are reduced. Consequently, the employees may feel they have professional knowledge, skills, abilities, self-esteem and confidence, and self-assurance and may more significantly affect their work environment by adding value and goals (Gerlach et al., 2020). When an employee's trust and dependence on a supervisor increases his confidence in trying new things, the employee will understand the problem more strictly and look for new solutions.

This study adapted broaden & build theory to study the self-resilient (Fredrickson, 2004). According to this theory, positive states of emotion, attention, high well-being, and cognition, are when individuals are highly self-resilient under ambiguity. The study emphasizes that IP in employees working in the ICT is a concern of individual-level outcomes, to study the SR effect at the individual level of IP with an ambidextrous leadership style. Self-resilient at the individual level indicates to knows the supervisor's

initiatives and in a stressful environment, bouncing back from stressful situations to gain positive results. Therefore, individuals with high self-resilient in a stressful environment have a high level of psychological resources that continuously consider new ideas to think and increase the boundaries of innovative performance in the workplace (Tugade & Fredrickson, 2004).

When employees have high self-resilience and don't rely on their supervisors can limit the creative impact of AL on these employees' CSE. Leaders have AL qualities, but if they face obstacles, difficulties, and problems with their ideas, they still don't know where to find support (Park et al., 2021). This sense of insecurity hinders their ability to successfully perform innovative performances. Therefore, they may experience a lower sense of CSE. By providing interesting insights to employees of the organization, AL help to build the self-confidence of employees, give them a sense of CSE, and their capability to carry out creative work to increase IP (Afsar et al., 2018). Therefore, smart leaders encourage and inspire employees to solve existing difficulties, challenge the status quo, suggest immediate solutions to existing complications, face issues, dangerous and undefined circumstances, and achieve difficult, unclear, and unorganized goals, and his ability to increase their competence level. Creative self-efficacy can help employees involve in creative doing and involved in the creative process till they realize new, possible, practical, and valuable ideas (Vally et al., 2019). According to the employees, self-resilient is shown effects leadership behavior and also their performance at the workplace. Our study hypothesis is below.

- H4: Self-resilience moderates the relationship between ambidextrous leadership and innovative performance.

In this study, the affect-based trust definition uses an individual's willingness to accept the vulnerability due to the supervisor's (manager or leader) behavior and intentions, because this study proposed that the self-resilient of the individual at a high level under ambidextrous leadership, then the innovative performance display as an outcome of strong emotional bonding between supervisor's and their employees. Ambidextrous leadership gives an appropriate ambiance to their employees to get engaged in IP. Performing innovatively and generating new ideas are very complex and risky because employees are afraid due to the lack of trust in their supervisors (Rudolph et al., 2018). Employees do not play creatively in the workplace to generate ideas because they are afraid about the ideas they create and will not meet the firm objective than they will be responsible and face the management. The employees have a different category of fear, which defines that employees struggle in such type of situations, they think that if they create ideas to increase their firm performance but they feel they will face the management if they fail to give wrong ideas. Vice versa, if their ideas are successful in that case, they fear that someone steals them to take appreciation (Vally et al., 2019).

Emotion-based trust is built into norms of social and reciprocity communication, such trust makes organizational employees innovative but a low level of trust weakens the

employee's social relationship (Afsar et al., 2018), forming a cycle of mistrust and makes it difficult to collect information on existing information to participate in the concept of creativity enhancement programs (Rudolph et al., 2018). Emotionally strong trust enables the employees to recognize the unclear vulnerability and dangerous circumstances, they believed that they can wholeheartedly share their ideas, faced difficulties, and work concerns related to their job, and management trust support in the shape of helping them, thinking about their issues and considerate in such way to sort out clearly. When employees believe leaders are honest, expert, and interested to believe their employees, employees find it relatively easy to innovate because they do not worry about the potential behavior of their leader (Zhou & Hoever, 2014).

Trust can help employees be more willing to trust their boss, open their opinions and thoughts, and share information and mistakes encountered by their boss at work. Conversely, when trust is broken, employees become distrustful and suspicious (Vally et al., 2019) and worry about how to use information (good practices and error sharing) and whether to use information. People will recognize and get knowledge with a positive attitude and will use this data to produce and implement new creative ideas. On the contrary, low bonding of trust with seniors can lead to behavioral anxiety about their leaders. As a means of self-survival, individuals begin to avoid using resources for innovative performance (Anderson et al., 2014). We suggest that when employees have a high degree of trust and self-resilience, AL can play a role in improving employee innovation performance. Basically, we suggest that employee innovation performance at work is the result of AL, trust in the leader, and SR. Based on the above arguments, we put forward the hypothesis:

- H₅: Trust in managers or supervisors moderates the relationship between ambidextrous leadership and employee innovative performance.

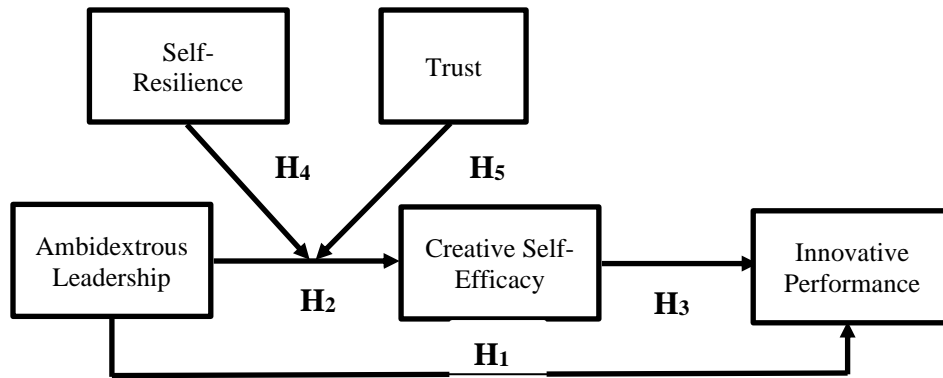


Figure-1 Research Model

3. Research Methodology

The research was conducted in ICT of Pakistan. Our sample includes employees and their respective leaders (supervisors or managers). The research study was performed by using positivist research philosophy with a quantitative survey technique. Further, the type of investigation is a causal and cross-sectional study (Guo et., 2018). The unit of analysis is ICT working in Pakistan, and the sample size is 450 ICT because the total items are 45 and according to Tanaka's (1987) item response theory, 10 responses are enough for one item (10:1). Therefore, the sample size is 450 ($45 \times 10 = 450$). The statistical tools SPSS and AMOS v23 were used for the data to generate the results.

We first survey questionnaires to 600 employees of ICT Pakistan, to hear their views on ambidextrous leadership, creative self-efficacy, Self-Resilience, and Trust with their supervisors or managers. A total of 450 employees of telecom industry surveys were received, where 350 employees' data about their leaders rated was collected from the staff. After 2 weeks, 100 questionnaires were taken from the supervisors or managers, which rated their employee's innovative performance. On average, each supervisor evaluated the innovative work performance of almost 3 employees. The average age of the employees is 35.6 years, with a standard deviation of 3.82, and the average age of the supervisors is 39.4 years. The average duration of employees in the company is 7.8 years and the standard deviation is 5.1 years. Approximately 78% of the sample are women and 22% are men.

3.1 Measures

All questionnaires are measured using a 5-point Likert scale, ranging from 1 strongly agree to 5 strongly disagree. A 14 items scale measuring Ambidextrous Leadership (e.g., "Giving room for the ideas of others.") used the studies by Zacher and Rosing, 2015. The 13-item scale measuring innovative performance (e.g., "Suggests new ways to achieve goals or objectives.") used the studies by Scott (1994). A 10-item scale was adopted from the study of Campbell-Sills and Stein (2007). One of the items includes "I am able to adapt to change". The study of Trust with management is taken from McAllister's (1995), in which 5 items scale to measure trust. An example of a sample item is "My supervisor and I have a sharing relationship. We can both freely share our ideas, feelings, and hopes." A 3 items of creative self-efficacy scale by Tierney and Farmer (2002) was used in this study. One sample item is "I have confidence in my ability to solve problems creatively."

The analyses of this study investigate the proposed model whether suitable or a good fit for ICT working in Pakistan. To what extent the model can be relevant and applied to ICT in Pakistan? Furthermore, reliability, validity, normality, and correlation analysis also check through IBM SPSS version 23.

4. Data Analysis and Results

4.1 Correlation analysis

Correlation analysis is done to investigate the relationships between variables and the nature of these associations in binary. AL, CSE, Trust, and SR have a positive relationship with the dependent variable which is IP and the values of the correlation coefficient are $r = .617^{**}$, $.806^{**}$, $.755^{**}$, $.325^{**}$ $p < 0.01$ and $p < 0.05$.

Table 1: Magnitude and Direction of Correlation among Study Variables (N=450)

Sr.		1	2	3	4
1	Ambidextrous Leadership (AL)				
2	Creative Self-Efficacy (CSE)	.523**			
3	Innovative Performance (IP)	.617**	.806**		
4	Trust	.355**	.728**	.755**	
5	Self-Resilience (SR)	.996**	.495**	.590**	.325**

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

4.2 Measurement Model

The measurement model of this study is developed to check the discriminant validity and to confirm the factor structures. To check the associations among the latent constructs, further which are measured the observed variables. To check the model, recommended values are $X^2/d.f. < 3$, AGFI (adjusted goodness of fit index) > 0.80 , GFI (goodness of fit index) > 0.9 ; > 0.8 , RMSEA (root mean square error of approximation) < 0.08 , RMR (root mean square residual) < 0.09 , PCLOSE > 0.05 and CFI (comparative fit index) > 0.95 ; > 0.09 ; > 0.08 . The values of the current study measurement model are $X^2/d.f.$ 1.835, AGFI .839, GFI .855, RMSEA .043, RMR .093, PCLOSE 1.0 and CFI .859 (Gronemus et al., 2010).

4.3 Structural Model - Hypothesis Testing

The results show in Table 2, that there is a direct positive significant relationship between AL and IP; AL and CSE; CSE and IP.

Table 2. Regression Weights: (Group number 1-Default model)

			Estimate	S.E	C.R.	P	Hypotheses	
AL	←	IP	.302	.034	8.893	0.001	H1	Accepted
AL	←	CSE	.607	.047	13.014	0.001	H2	Accepted
CSE	←	IP	.643	.029	21.987	0.001	H3	Accepted

Innovative performance is the dependent variable that responds (estimate value 0.302) to Ambidextrous leadership (independent variable) predicting positive and significance as shown in the table. The direct positive relationship of IP and AL hypothesis 1 is accepted. The direct relationship of CSE with AL (Estimate value 0.607) predicts a positive response and shows significance. The positive relationship between CSE and AL hypothesis 2 is accepted. The positive relationship between IP and CSE is also shown significant with an estimated value of 0.643, the direct relationship between IP and CSE hypothesis 3 is accepted.

4.4 Mediating Role of Creative Self-Efficacy between Ambidextrous Leadership and Innovative Performance

CSE as a mediator, the CSE performs mediation between AL independent variable and IP dependent variable. According to table 3, the value of direct beta without a mediator is checked between the independent and dependent variable, which is $\beta = 0.617$ and its level of significance is $p = 0.008$. After that, the next step is to calculate the direct effect of the independent variable on the dependent variable in the presence of a mediator the beta value is calculated which is $\beta = 0.269$, and the level of significance is $p = 0.009$. A further step is to calculate the indirect effect of the independent variable on the dependent variable through a mediator, which is called an indirect effect. The value of the indirect effect is $\beta = 0.348$ & $p = 0.012$.

Table 3. Inference for Mediation

Hypothesis	Direct Beta without Mediator	Direct Beta with Mediator	Indirect Beta	Mediation type observed
AL-CSE-IP	Beta=.617 P=.008	Beta=.269 P=.009	Beta=.348 P=.012	Partial Mediation

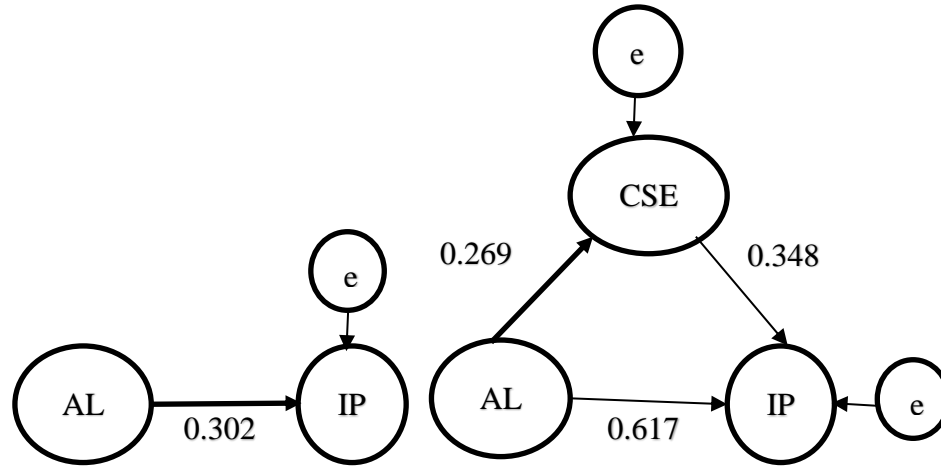


Figure 2. Path AL-CSE-IP

In mediation path analysis through SPSS AMOS software. In mediation process, first, check the results of direct effect without mediator, direct effect through the mediator and indirect effect. The results are shown in the table 3 and represented in figure 2.

4.5 Moderating Role of Self-Resilience between Ambidextrous Leadership and Innovative Performance

The graph explains the moderating effect of SR between AL and IP. The unstandardized regression coefficients (i.e., B) of all variables get through linear regression in SPSS. The first variable is the independent variable (AL) whose unstandardized regression coefficient is $B1 = 0.693$ ($p < .001$). The second variable is the moderator (SR) whose unstandardized regression coefficients value is $B2 = 0.652$ ($p < .001$). The third variable is the interaction of AL and SR whose unstandardized regression coefficients value is $B3 = 0.153$ ($p < .001$). The results show that SR strengthens the positive relationship between AL and IP. Hence, the relationship between AL and IP is positive and significant at high and low SR, as depicted by positive slopes.

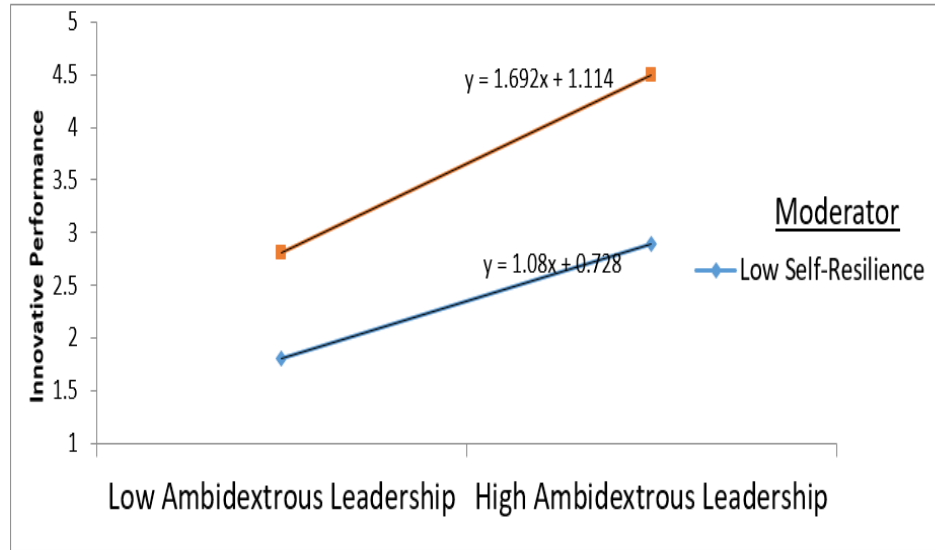


Figure 3 Self-Resilience strengthen the positive relationship between Ambidextrous Leadership and Innovative Performance.

4.6 Moderating Role of Trust between Ambidextrous Leadership and Innovative Performance

The graph explains the moderating effect of Trust between AL and IP. The unstandardized regression coefficients (i.e., B) of all variables get through linear regression in SPSS. The first variable is the independent variable (AL) whose unstandardized regression coefficient is $B1 = 0.693$ ($p < .001$). The second variable is the moderator (Trust) whose unstandardized regression coefficients value is $B2 = 1.615$ ($p < .001$). The third variable is the interaction of AL and SR whose unstandardized regression coefficients value is $B3 = 0.390$ ($p < .001$). The results show that Trust strengthens the positive relationship between AL and IP. Hence, the relationship between AL and IP is positive and significant at high and low Trust, as is depicted by positive slopes.

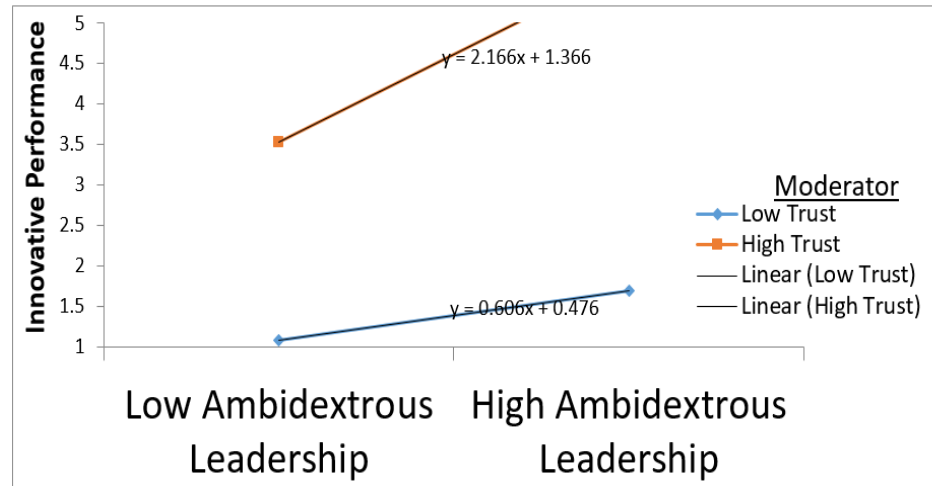


Figure 4 Trust in Supervisor strengthen the positive relationship between Ambidextrous Leadership and Innovative Performance.

5. Discussion and Conclusion

This study investigated the whole complex model that interaction between Ambidextrous Leadership in the context of ambidexterity theory, Trust with managers or supervisors, self-resilient, creative self-efficacy, and innovative performance of ICT employees. In association with the broaden and build theory, when trust with supervisors or managers and self-resilient were higher than the Ambidextrous leadership had a strong association with the innovative performance of employees. Also, this study found the importance of creative self-efficacy mediated with employees' work performance. So this research makes several contributions. Firstly, we built a conceptual model and tested it to find out the importance of ambidextrous leadership theory with the importance of innovation process theories. Second, when employees of ICT have high trust in their managers or supervisor innovation performance at the workplace increases under the ambidextrous leadership style. So ambidextrous leadership at the ICT level was the first study to investigate these circumstances. But ambidextrous leadership showed less effectiveness with these combinations when trust is high and self-resilient is low or when employees had low trust and high levels of self-resilient.

In another case, this study also found an interesting result that the low self-resilient and low trust levels with mentors showed similar results. In the ICT sector, job security risk occurs due to contractual jobs, and employees make innovative results by trying out new solutions to save their jobs permanent jobs, they freely speak and try out new ideas to give innovative ideas without fearing losing their jobs. we address the research question: under

different circumstances where a high level of self-resilient, how does ambidextrous leadership promote their employees in ICT? While in many circumstances, ambidextrous leadership does affect the innovative performance of employees with a low level of self-resilient, this research study advances by proposing the literature that there is a positive effect of ambidextrous leadership on employee innovative performance when self-resilient of employees high when they trust their managers or supervisors at work place.

Zhang and Zhou (2014) found that trust helps to strengthen the positive effect of leadership by cultivating the creativity of employees with high SR and recommended that AL can also play the same role. This study examines the role of CSE as mediating mechanism for employee IP, which can contribute to the development views of IP. Our theoretical model gives great importance to ICT managers (Park et al., 2021). In an age of fierce competition, managers must provide resources to their employees because skillful and creative employees are considered organizational assets. Research shows that under favorable conditions, organizations with greater innovation capabilities for employees can improve organizational performance (Liu et al., 2017). Our results show that to lay the foundation for improving employee innovative job performance, managers must first determine whether they can demonstrate AL behavior. Managers who have yet to demonstrate their agile AL skills can participate in training programs to develop their leadership style. They should create a helpful, safe atmosphere and inspire openness and risk-taking to encourage the generation and application of ideas. They should also provide opportunities for employees to develop trust bonding with their seniors.

Managers can play a key role by providing an environment that promotes and enhances CSE, for example, by applying AL principles. Various management actions may create conditions conducive to CSE. First, managers can personally demonstrate and educate employees about creativity skills. This activity should be accompanied by practical opportunities to apply these skills. These strategies should improve employees' observation ability and performance, thereby increasing their CSE. Second, managers need to act as role models for creating innovation and verbally convince employees that they can also innovate. Third, by providing supportive encouragement and inspiration, managers can lighten the anxiety and fear of employees due to the uncertainty of creative work. This support must also enhance the CSE of employees.

5.1 Limitations and Directions for Future Research

Current research is not without limits. First, the structure of this study is measured by subjective scores. By using both leader and follower assessments, biases from the usual source are avoided. However, copying the results of the more objective survey will increase our confidence in the survey results. Because these structures (AL, Trust, and SR) address the individual's internal state, it makes sense to collect data from participants. Second, to summarize research results, future scholars should gather data from other businesses. Finally, this study was conducted in Pakistan and it is not clear whether our outcomes can

be generalized to other countries. Additional tests are needed in other countries/regions to test the model and it can be particularly interesting to compare countries/regions with very different self-resilience scores. It may be suggested that it is difficult to generate innovative ideas in a country where resilience is strong, as the entire population may be overwhelmed by uncertainty and ambiguity. Our research is based on only two moderation variables (self-resilience and trust as a supervisor).

Future research should focus on other complex mechanisms, such as performance measurement and reward systems (for example, whether the performance is an individual or a team, using long-term short-term performance measurement, a combination of financial and non-financial measurement, and degree-based rewards). The willingness of employees to try and take risks also depends on the limited resources and time constraints they face in the workplace. In turn, these aspects of the work environment may be affected by the extent to which superiors allow subordinates to participate in the development of budgets and performance standards and to evaluate their performance. Future research should thoroughly study the mechanism by which transformational leadership influences innovative work behavior. Secondly, future research can also improve the explanatory power of the proposed model by adding other variables, which can more fully explain the connection between AL and IP.

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REFERENCES

- Aburn, G., Gott, M., & Hoare, K. (2016). What is resilience? An integrative review of the empirical literature. *Journal of advanced nursing*, 72(5), 980-1000.
- Afsar, B., & Masood, M. (2018). Transformational leadership, creative self-efficacy, trust in supervisor, uncertainty avoidance, and innovative work behavior of nurses. *The Journal of Applied Behavioral Science*, 54(1), 36-61.
- Anderson, N., Potočník, K., & Zhou, J. (2014). Innovation and creativity in organizations: A state-of-the-science review, prospective commentary, and guiding framework. *Journal of management*, 40(5), 1297-1333.
- Campbell-Sills, L., & Stein, M. B. (2007). Psychometric analysis and refinement of the connor–davidson resilience scale (CD-RISC): Validation of a 10-item measure of resilience. *Journal of Traumatic Stress: Official Publication of The International Society for Traumatic Stress Studies*, 20(6), 1019-1028.
- Fredrickson, B. L. (2004). The broaden–and–build theory of positive emotions. *Philosophical Transactions of the Royal Society of London. Series B: Biological Sciences*, 359(1449), 1367-1377.

- Gerlach, F., Hundeling, M., & Rosing, K. (2020). Ambidextrous leadership and innovation performance: a longitudinal study. *Leadership & Organization Development Journal*, 41(3), 383-398.
- Gifford, W., Davies, B., Tourangeau, A., & Lefebvre, N. (2011). Developing team leadership to facilitate guideline utilization: Planning and evaluating a 3-month intervention strategy. *Journal of Nursing Management*, 19, 121-132.
- Grigorenko, E. L. (2019). Creativity: a challenge for contemporary education. *Comparative Education*, 55(1), 116-132.
- Gronemus, J. Q., Hair, P. S., Crawford, K. B., Nyalwidhe, J. O., Cunnion, K. M., & Krishna, N. K. (2010). Potent inhibition of the classical pathway of complement by a novel C1q-binding peptide derived from the human astrovirus coat protein. *Molecular immunology*, 48(1-3), 305-313.
- Guo, Y. F., Luo, Y. H., Lam, L., Cross, W., Plummer, V., & Zhang, J. P. (2018). Burnout and its association with resilience in nurses: A cross-sectional study. *Journal of clinical nursing*, 27(1-2), 441-449.
- Gupta, V., & Singh, S. (2015). Leadership and creative performance behaviors in R&D laboratories: Examining the mediating role of justice perceptions. *Journal of Leadership & Organizational Studies*, 22, 21-36.
- Huang, L., & Luthans, F. (2015). Toward better understanding of the learning goal orientation–creativity relationship: The role of positive psychological capital. *Applied Psychology: An International Review*, 64, 444-472.
- Khan, I. U., Safdar, U. K., & Durrani, M. Z. (2021). The Light Triad Traits, Psychological Empowerment, Creative Self-Efficacy, Self-Resilience and Innovative Performance in ICT of Pakistan. *Gomal University Journal of Research*, 37(3), 297-310.
- Liu, D., Gong, Y., Zhou, J., & Huang, J. C. (2017). Human resource systems, employee creativity, and firm innovation: The moderating role of firm ownership. *Academy of Management Journal*, 60(3), 1164-1188.
- Luthans, F., Avolio, B. J., Avey, J. B., & Norman, S. M. (2007). Positive psychological capital: Measurement and relationship with performance and satisfaction. *Personnel Psychology*, 60, 541-572.
- McAllister, D. J. (1995). Affect- and cognition-based trust as foundations for interpersonal cooperation in organizations. *Academy of Management Journal*, 38(1), 24 –59
- Ong, A. D., Bergeman, C. S., & Boker, S. M. (2009). Resilience Comes of Age: Defining Features in Later Adulthood. *Journal of Personality*, 77(6), 1777–1804.
- Park, N. K., Jang, W., Thomas, E. L., & Smith, J. (2021). How to organize creative and innovative teams: creative self-efficacy and innovative team performance. *Creativity Research Journal*, 33(2), 168-179.

- Perry-Smith, J. E., & Mannucci, P. V. (2017). From creativity to innovation: The social network drivers of the four phases of the idea journey. *Academy of Management Review*, 42(1), 53-79.
- Rank, J., Pace, V. L., & Frese, M. (2004). Three avenues for future research on creativity, innovation, and initiative. *Applied psychology*, 53(4), 518-528.
- Rosing, K., Frese, M., & Bausch, A. (2011). Explaining the heterogeneity of the leadership innovation relationship: Ambidextrous leadership. *The Leadership Quarterly*, 22, 956-974.
- Rudolph, C. W., Rauvola, R. S., & Zacher, H. (2018). Leadership and generations at work: A critical review. *The Leadership Quarterly*, 29(1), 44-57.
- Scott, S. G., & Bruce, R. A. (1994). Determinants of innovative behavior: A path model of individual innovation in the workplace. *Academy of management journal*, 37(3), 580-607.
- Sturm, R. E., Vera, D., & Crossan, M. (2017). The entanglement of leader character and leader competence and its impact on performance. *The Leadership Quarterly*, 28(3), 349-366.
- Tanaka, J. S. (1987). How Big Is Big Enough? Sample Size and Goodness of Fit in Structural Equation Models with Latent Variables. *Child Development*, 58(1), 134-146.
- Tierney, P., & Farmer, S. M. (2002). Creative self-efficacy: Its potential antecedents and relationship to creative performance. *Academy of Management Journal*, 45(6), 1137-1148.
- Tugade, M. M., & Fredrickson, B. L. (2004). Resilient individuals use positive emotions to bounce back from negative emotional experiences. *Journal of personality and social psychology*, 86(2), 320-333.
- Vally, Z., Salloum, L., AlQedra, D., El Shazly, S., Albloshi, M., Alsheraifi, S., & Alkaabi, A. (2019). Examining the effects of creativity training on creative production, creative self-efficacy, and neuro-executive functioning. *Thinking Skills and Creativity*, 31, 70-78.
- Yang, H., Peng, C., Du, G., Xie, B., & Cheng, J. S. (2021). How does ambidextrous leadership influence technological innovation performance? An empirical study based on high-tech enterprises. *Technology Analysis & Strategic Management*, 1-15.
- Zacher, H., & Rosing, K. (2015). Ambidextrous leadership and team innovation. *Leadership & Organization Development Journal*. 36(1), 54-68.
- Zhang, X., & Zhou, J. (2014). Empowering leadership, uncertainty avoidance, trust, and employee creativity: Interaction effects and a mediating mechanism. *Organizational Behavior and Human Decision Processes*, 124(2), 150-164.
- Zhao, F., Hu, W., Ahmed, F., & Huang, H. (2022). Impact of ambidextrous human resource practices on employee innovation performance: the roles of inclusive leadership and psychological safety. *European Journal of Innovation Management*, (ahead-of-print).
- Zhou, J., & Hoever, I. J. (2014). Research on workplace creativity: A review and redirection. *Annual Review of Organizational Psychology and Organizational Behavior*, 1(1), 333-359.