

The Effect of Transformational Leadership on Innovative Behavior of Lecturers in Online Learning Mediated by Psychological Climate

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Abstract

The COVID-19 pandemic has challenged the world of education, especially vocational education. This quantitative study aims to examine the effect of transformational leadership on the innovative behavior of lecturers in online learning during the COVID-19 pandemic mediated by the psychological climate. Collecting data used a questionnaire distributed through google form. Respondents involved in the study were 132 lecturers in the health sector. The data was processed using the structural equation modeling partial least square (SEM PLS). The results show that transformational leadership has a positive effect on the psychological climate, psychological climate has a positive effect on innovative behavior and mediates the effect of transformational leadership on lecturers' innovative behavior. The psychological climate created in universities or colleges, in terms of leader support, role clarity, contribution, recognition, self-expression and challenges experienced by lecturers greatly affect the functioning of transformational leadership in promoting innovative behavior of lecturers.

Keywords

transformational leadership;
innovative behavior;
psychological climate



I. Introduction

The COVID-19 pandemic that has lasted for more than 2 (two) years has changed human behavior and work patterns in organizations. This change forces every individual and organization to be able to adapt to it so that they can survive in the midst of competition and challenges. According to Mahdikhani & Yazdani (2020), as members of the global community, organizations will fail if they do not adapt to these changes. Thus, businesses need to familiarize themselves with new knowledge, skills, and leadership style adjustments in implementing and using technology to achieve goals. Adaptation always presupposes creativity and innovation from employees to find new ways of working. Innovation and creativity are the ability of human resources in generating new ideas and implementing them in the organization. The new ideas generated relate to processes, mechanisms to produce products or services of the organization. The outbreak of this virus has an impact of a nation and Globally (Ningrum et al, 2020). The presence of Covid-19 as a pandemic certainly has an economic, social and psychological impact on society (Saleh and Mujahiddin, 2020). Covid 19 pandemic caused all efforts not to be as maximal as expected (Sihombing and Nasib, 2020).

The leader as the captain of the organization plays an important role in controlling the organization and directing human resources which are valuable assets in the organization to adapt to the changing patterns and increasingly high challenges today. A leadership role that provides space for subordinates to develop creativity and innovate for the achievement of organizational goals is needed. Kamran & Ganjinia (2017) emphasize that innovation support must start from the highest level of the organization, namely the leader. When subordinates find that the organizational climate supports innovation, innovation behavior will increase. According to Akay & Demirel (2017), the more exemplary leaders in innovation i.e. demonstrate trust, provide stimulation, intellectual support and appreciate subordinates' innovation efforts, the more Asian employees experience support for innovation and then equip themselves to innovate at work rather than worrying about being punished for the creativity. Similarly, Gashema (2021) suggests that it is very important for leaders as policy makers to inspire workers to participate in creative activities, developing a solid organizational learning atmosphere to activate innovative work behaviors in organizational structures.

Motivation, inspiration, and visionary behavior of organizational leaders, play a large role in designing the right organizational context in which innovation behavior is reinforced. Zhang's (2020) research results imply that companies must provide comfortable conditions for employees to carry out activities related to the innovation process such as providing information and building systems when employees want to have more professional knowledge or when searching or coding relevant information from identified problems. Leaders provide direction, guidance, and feedback to help employees carry out activities more clearly and effectively and make employees more confident and motivated to carry out activities related to the innovation process.

For the world of education, the COVID-19 pandemic situation brings its own challenges, especially in vocational education in the health sector which is the object of this research. The characteristics of vocational education integrate the functions of education and training, with an emphasis on the learning curriculum on mastery of 30% theory and 70% practice. This is easy to implement when learning is running normally in offline classes and the use of laboratories for practicum is optimized. When the face-to-face ban is enforced, all learning activities are carried out virtually/online. Lecturers and students conduct distance learning from home by utilizing online media such as zoom, google meet, vlep (virtual learning) and so on. This requires lecturers to be creative and innovative in packaging models and learning methods so that students can master theories and concepts as well as be able to put them into practice. In addition, learning remains interesting and not boring for students. Innovation in learning is urgently needed to fulfill the curriculum and equip students with skills and competencies in the world of work. According to (Lin & Shin, 2021), for today's universities, various changes and innovations are an important requirement to meet the needs of the times, shift from knowledge acquisition to knowledge-generating paradigms, and to ensure the continued development of higher education and competitive advantage.

Kawiana et al. (2021) found that leadership has a positive and significant influence on psychological climate. This means that effective leadership will create a conducive psychological climate within employees. Thus, it is suggested that the organization establish a leadership style that allows the organization's goals to be achieved and the quality of life of employees to increase. According to Sukma Dewi & Kistyanto (2019), to improve the psychological climate, leaders need to improve the quality and quantity of support provided to employees or subordinates, namely by guiding employees in doing good work. Based on the opinion above, the hypothesis of this research is formulated:

H1 Transformational leadership Positive Effect on Climate Psychological

According to Mokhber et al. (2018), leaders can guide organizations to be more innovative through action. Leaders initiate and implement changes that help organizations pursue innovation more effectively. Transformational leaders empower employees and create a climate that supports innovation (Sağnak et al., 2015). Sattayaraksa & Boon-Itt (2018) found that managers' transformational leadership is positively related to innovation strategy, organizational learning, and innovation culture.

Huihui Li et al. (2021) found that psychological contracts significantly influence the innovative behavior of employees. That means, when physically motivated or personal needs are met, employees have an attachment, identity, and responsibility to the organization, which can increase motivation to contribute to the organization.

Psychological processes underlie the perceived impact of innovation support group factors on individual innovation (Odoardi et al., 2015). Positive emotions, such as job happiness, can develop positive attitudes and behaviors in the workplace, leading to performance gains. That is, positive emotions can lead to positive outcomes at work because they allow individuals to explore different possibilities and encourage them to think differently, creatively, and innovatively to achieve performance (Al-Hawari et al., 2019).

According to Mahdikhani & Yazdani (2020), the current business tendency is to provide online products and services that interact more with customers to optimally satisfy customers. In addition, selecting individuals with a team spirit and with proper leadership guidance is a necessity of all types of businesses today to meet their goals and gain a competitive advantage. The leader figure in the organization has an important influence on the formulation of organizational strategy, products and employee psychology (Zhou et al., 2018).

The winners in today's stressful society are businesses that move with the right planning and vision and choice of leaders and managers who use material and human assets as well as company resources in effective and efficient methods. In a constantly changing environment, no matter how talented employees are, they still need capable and resourceful managers and leadership (Mahdikhani & Yazdani, 2020). Transformational leadership can make employees innovate, but employees also need to feel capable of being innovative in order to move and behave innovatively. Employees who feel a high level of psychological empowerment are more likely to engage in proactive behavior because of their independence in decision making (Bin Saeed et al., 2019). Psychological empowerment mediates the relationship between transformational leadership and innovative work behavior (Khan et al., 2021). Therefore, this research hypothesis is formulated:

H4 Psychological climate mediates influence transformational leadership to innovative behavior

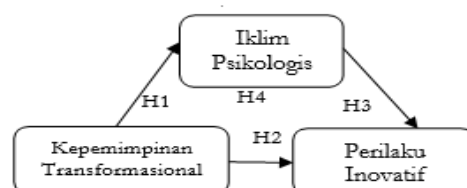


Figure 1. Research Model

II. Research Method

This study is a hypothesis testing, which aims to analyze the role of the psychological climate that mediates the influence of transformational leadership on the innovative behavior of lecturers in online learning during the covid-19 pandemic. The measurement of transformational leadership uses an instrument developed by Bass and Avolio (1995), consisting of 12 statements. The instrument for measuring innovative behavior was adopted from research conducted by De Jong & Den Hartog (2010), using 9 items of statements. To measure the psychological climate used a questionnaire developed by Brown & Leigh (1996), consisting of 21 statement items with 6 (six) dimensions, namely management support (supportive management), role clarity (role clarity), contribution (contribution), recognition (recognition).), self-expression and challenge. To make it easier for respondents to answer each statement item in the questionnaire, a five-point Likert scale was used, namely a scale of 1 indicating strongly disagree and 5 strongly agree.

The research sample was lecturers in the health sector who were active in learning during the COVID-19 pandemic. The number of respondents who participated in the study were 132 people from 7 (seven) health universities in Indonesia. Dissemination of the questionnaire using google form. Test the validity and reliability of the research questionnaire was conducted by taking into account the leading factor and Cronbach's coefficient alpha (α). Testing the suitability of the research goodness of fit model was carried out before testing the hypothesis. The research data were then analyzed using the Partial Least Square (PLS) method with SmartPLS 3.0.

III. Result and Discussion

Based on statistical data, the mean value of the transformational leadership variable is 3.1295. This means that the transformational leadership style is quite prominent but not too strong in universities. Lecturers are quite comfortable around the leader, confident in the abilities of the leader and proud to be associated with the leader. In addition, the presence of a leader through clear instructions and personal attention will be sufficient to help lecturers develop self-ability, find meaning in learning, and creatively find new ways to carry out learning and other additional tasks.

Table 1. Mean Value and Standard Deviation

Variable	Mean	Standar Deviasi
Transformational leadership	3.1295	.56657
Psychological Climate	3.2382	.51615
Innovative Behavior	3.3813	.58396

Source: Processed data, 2022

Table 2. AVE Test Results

Variable	AVE
Transformational leadership	0.544
Psychological Climate	0.501
Innovative Behavior	0.660

Source: Processed data, 2022

The mean value for the psychological climate variable is 3.2382. This means that the psychological climate is quite felt by lecturers at universities. The adequacy of the psychological climate can be seen from the support and acknowledgment given by the leadership, roles are clearly divided, lecturers can express themselves and contribute to the institution, and lecturers feel that there are challenges in their work.

For the innovative behavior variable, the average value is 3.3813, which means that during the covid-19 pandemic, lecturers simply show innovative behavior, namely critically asking questions, seeking and implementing creative ideas, methods, approaches, and new ways to keep learning going. well.

3.1 Validity and Reliability Test

The calculation results to obtain the AVE value are shown in table 2, where all research variables have an AVE value of more than 0.5. Therefore, all questionnaire statement items can be said to be valid.

The results of the instrument reliability test can be seen in table 3. The composite reliability value of all variables is more than 0.70 and Croncbach's alpha value is also more than 0.60. Thus, the research instrument is categorized as reliable.

The results of the measurement of the coefficient of determination (R-square) for the psychological climate are moderate (0.532) and innovative behavior is weak (0.318). The structural model for measuring the dependent variable of innovative behavior is 0.198 (moderate) and psychological climate is 0.251 (medium). The SRMR (Standardized Root Mean Residual) value is 0.084. Thus, the model can be said to be fit.

3.2 Hypothesis Testing

Of the 4 (four) hypotheses proposed, three hypotheses are accepted and one hypothesis is rejected. Testing the influence of transformational leadership on the psychological climate obtained t-values of 13.710 > 1.96 and p-values of 0.000 < 0.05 with a coefficient of 0.729 meaning that there is a positive influence of transformational leadership on the psychological climate. H1 is accepted. The results of testing the influence of transformational leadership on innovative behavior show that the t-values are 0.060 < 1.96, and the p-value is 0.476 > 0.05 with a coefficient of -0.009. It means that transformational leadership has a negative effect on innovative behavior, so hypothesis H2 is rejected.

Table 3. Composite Reliability and Cronbach's Alpha

Variable	Cronbach Alpha	Composite Reliability
Transformational leadership	0.915	0.929
Psychological Climate	0.922	0.933
Innovative Behavior	0.934	0.945

Source: Processed data, 2022

The statistical results of testing the influence of psychological climate on innovative behavior show that the t-values are 3.997 > 1.96, and the p-value is 0.000 < 0.05 with a coefficient of 0.570. This means that there is a positive influence of the psychological climate on the innovative behavior of lecturers. H3 is accepted. The higher the psychological climate applied in universities such as management support, role clarity, contribution, recognition, self-expression, and the challenges faced when conducting online learning, the higher the innovative behavior of lecturers.

The results of testing the effect of transformative leadership on innovative behavior mediated by psychological climate show that the t-values are $3.523 > 1.96$, and the p-value is $0.000 < 0.05$ with a coefficient of 0.416; it means that there is a positive influence of transformational leadership on the innovative behavior of lecturers which is mediated by the psychological climate. H4 is accepted. This has the implication that when a psychological climate is created in universities, namely supportive management, clearly divided roles, contributions, recognition, opportunities for self-expression and significant challenges faced by lecturers greatly affect the functioning of transformational leadership which results in high behavior. innovative lecturers, especially in an online learning environment.

3.3 Discussion

The results showed that transformational leadership had a positive effect on the psychological climate. These results are in line with previous research conducted by Kawiana et al. (2021), who found that leadership has a positive influence on the psychological climate. The results of the study also strengthen the idea put forward by Muzafary et al. (2021) that transformational leadership gives subordinates confidence, increases intrinsic motivation, inspires, and supports innovation, personal development, and social relationships among employees.

Hypothesis testing shows that there is a negative effect of transformational leadership on innovative behavior. This result is in contradiction with most previous studies which found that transformational leadership has a positive influence on innovation behavior, for example Sagnak et al. (2015), Afsar & Umrani (2020), Novitasari et al. (2021), Afsar et al. (2019), Li et al. (2019), and Muzafary et al. (2021). The results of this study support Sattayaraksa & Boon-itt (2018) that transformational leadership is not related to performance innovation. These results prove that leaders in health universities who show positive attitudes such as inspiring, motivating, caring and establishing good relationships with lecturers do not have implications for the growth and development of innovative behavior of lecturers. In other words, it can be said that the leadership factor does not promote the innovative behavior of lecturers. According to Al-Omari et al. (2019), leadership is one of the 3 (three) factors that can promote innovative work behavior. The other 2 (two) factors relate to the organization and individual employees. Factors related to the organization are organizational climate and human resource practices. Individual factors related to innovative work behavior are attitudes (such as work involvement and organizational commitment), personality (such as being proactive), and employee competencies (such as emotional intelligence).

There is a positive influence of psychological climate on innovative behavior. This shows that the better the psychological climate in universities, the better the innovative behavior of lecturers will be. Psychological climate is considered as a manifestation of organizational culture which can be conceptualized as an organizational psychological variable at the individual level (Durcikova and Fadel 2016). According to Carless (2004), psychological climate is an employee's individual perception and evaluation of the work environment, not the actual environment, and is directly related to individual behavioral responses. In other words, when respondents feel that there is a conducive climate for organizational innovation, it will encourage innovative behavior of employees. This study is in line with Guo et al. (2018) which shows the influence of psychological climate on employee innovative behavior.

The results of the mediation test also show that the psychological climate can mediate the effect of transformational leadership on innovative behavior of lecturers where

this shows that transformational leadership can form a psychological climate related to innovation where leaders will encourage innovation through their power and will eventually be able to shape innovative behavior of lecturers. The implication of the results of Zhang's study (2020) is that companies must provide comfortable conditions for employees to carry out activities related to the innovation process such as providing information and building systems when employees want to have more professional knowledge or when seeking or coding relevant information from problems that arise. identified. Leaders provide direction, guidance and feedback to help employees carry out activities more clearly and effectively and make employees more confident and motivated to carry out activities related to the innovation process. This result reinforces what has been obtained by Khan et al. (2021), transformational leadership is positively related to innovative work behavior mediated by psychological empowerment. Employees who feel a high level of psychological empowerment from their leaders are more involved in proactive behavior because of their independence in decision making (Bin Saeed et al., 2019).

IV. Conclusion

Based on the results above, it can be concluded that there is a positive influence of transformational leadership on the psychological climate. There is a positive influence of the psychological climate on the innovative behavior of employees. Psychological climate was found to have a significant influence on the innovative behavior of lecturers. Therefore, it is necessary to increase this variable by giving more appreciation to the contribution of subordinates and also giving authority according to the expertise and abilities of the lecturer.

Psychological climate mediates the influence of transformational leadership on lecturers' innovative behavior. Thus, this leadership style needs to be highlighted in an academic environment. In addition, leaders in higher education should create a conducive psychological atmosphere for the formation of innovative behavior, especially in terms of providing support, clarity of roles, contributions, recognition, opportunities for self-expression and giving challenging assignments for lecturers.

This research was only conducted in an academic environment, namely on lecturers in the health sector, with a very small sample size, only 132 people, future research could involve more respondents. This research can also be done in other organizations. The variables in this study only consisted of transformational leadership, innovative behavior of lecturers and psychological climate. Future research may consider adding other variables such as goal orientation (Guo et al, 2018)

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