Teacher Resilience and Learning Innovation Measurement: Exploring the Moderating Effects of Knowledge Sharing and Openness to Experience

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Abstract:

This study aims to determine the level of openness to experience and knowledge sharing on learning innovation and teacher resilience affected by the eruption of Mount Semeru in Lumajang Regency, East Java Province. This research is a non-experimental quantitative research with a survey design. A total of 180 teachers selected by purposive sampling participated in this survey research. The data that has been collected was then analyzed using the WARP PLS 7.3 application and the IBM Statistical Package for Social Science (SPSS) version 23 application. The results of the analysis using WARP PLS 7.3 found values indicating that: 1) teacher resilience has an effect on knowledge sharing of 74.4 %., 2) teacher resilience has an effect on openness to experience of 71.6%. 3) teacher resilience has no effect on innovation learning. 4) knowledge sharing has an effect on innovation learning by 28.6%. 5) openness to experience affects innovation learning by 66.4%. 6) teacher resilience has an effect on innovation learning through knowledge sharing of 44.0%. This means that knowledge sharing can become a mediator variable in influencing the innovation learning model of the teacher resilience variable. 7) teacher resilience has an effect on innovation learning through knowledge sharing of 66.8%. This means that openness to experience is able to become a mediator variable in influencing innovation learning from teacher resilience variables.

Keywords: *Openness to Experience; Sharing Knowledge; Learning Innovation, Teacher Resilience*

Abstrak:

Penelitian ini bertujuan untuk mengetahui tingkat *openness to experience* dan *sharing knowledge* terhadap inovasi pembelajaran dan resiliensi guru terdampak erupsi gunung semeru di Kabupaten Lumajang, Provinsi Jawa Timur. Penelitian ini merupakan penelitian kuantitatif non-eksperimen dengan rancangan survei. Sebanyak 180 guru dipilih secara purposive sampling ikut serta dalam penelitian survei ini. Data yang telah dikumpulkan kemudian dianalisis menggunakan aplikasi WARP PLS 7.3 dan aplikasi IBM Statistical Package for Social Science (SPSS) versi 23. Hasil dari analisis menggunakan WARP PLS 7.3 ditemukan nilai yang menunjukkan bahwa : 1) *teacher resilience* berpengaruh terhadap *sharing knowledge* sebesar 74,4%., 2) teacher resilience berpengaruh terhadap openness to experience sebesar 71,6%. 3) teacher resilience tidak berpengaruh terhadap *innovation learning*. 4) *sharing knowledge* berpengaruh terhadap innovation learning sebesar 28,6%. 5) openness to experience berpengaruh terhadap innovation learning sebesar 66,4%. 6) *teacher resilience* berpengaruh terhadap *innovation learning* melalui *sharing knowledge* sebesar 44,0%., artinya *sharing knowledge* mampu menjadi variabel mediator dalam mempengaruhi *innovation learning* model dari variabel *teacher resilience.* 7) *teacher resilience* berpengaruh terhadap *innovation learning* melalui

sharing knowledge sebesar 66,8%, artinya openness to experience mampu menjadi variabel mediator dalam mempengaruhi *innovation learning* dari variabel *teacher resilience.*

Kata Kunci: *Keterbukaan terhadap Pengalaman; Berbagi ilmu; Inovasi Pembelajaran, Ketahanan Guru*

INTRODUCTION

The eruption of Mount Semeru in early December 2021 impacted fatalities, physical damage, and displacement. Based on data from BNPB, as of December 21, 2021, 51 people died. Meanwhile, displaced residents totaled 10,395 people across 410 evacuation points in Lumajang Regency, East Java (human-initiative.org, 2021). The eruption also resulted in damage to 28 schools from Kindergarten (TK) to Vocational High School (SMK) levels which resulted in 3,000 teachers and students carrying out the learning process in emergency tents provided by the local education office (Muhari, 2021).

Besides causing casualties and physical damage, Mount Semeru's eruption also impacted the victims' mental condition (Kurnio et al., 2021). So to deal with such a situation, an adaptation mechanism is needed within each victim to manage these bad conditions so that they do not affect their lives and livelihoods in the future, especially for eruption victims who have a profession as a teacher (Walsh et al., 2020). Teachers with better abilities in coping and adapting to difficult situations tend to avoid complex problems in the future (Pitzer & Skinner, 2017).

The teacher's ability to survive and adapt well in the face of unpleasant conditions is called resilience and influences the desire for various knowledge. Teacher resilience is needed in learning innovation to foster an attitude of optimism toward their students to improve the situation after the eruption of Mount Semeru. In this study, what is meant by unpleasant conditions are severe conditions that are generally not experienced before, and these conditions require the ability to adapt positively (Do et al., 2022; Liu & Chu, 2022).

Resilience is critical in helping individuals to overcome all the difficulties that arise every day; if resilience increases, individuals will be able to control themselves and be able to manage stress well by changing their thinking patterns when dealing with problems so that they do what is considered most appropriate to solve them the problem & Because of this, it is important to see a picture of resilience in teachers because teachers have a role in growing the psychological conditions of their students in a better and more optimistic direction (Chesak et al., 2019a). Even though the Semeru eruption has impacted the lack of learning facilities and media, several research results show that teachers affected by the eruption with high resilience are capable of innovating in learning well. The use of learning innovation is crucial in order to facilitate effective and efficient educational experiences for children who have been impacted by the Semeru eruption. (Clarà, 2017a).

In learning innovation, there is a learning approach that is a way of looking at something, a learning strategy that is a combination of the sequence of activities and how to organize subject matter, students, equipment, materials, and time used in the learning process to achieve predetermined goals, and learning methods

namely the method used for the delivery of learning. Apart from being influenced by teacher resilience, learning innovation significantly influences learning innovation in tertiary institutions (Javed et al., 2020; K. Lee, 2021). Based on several subsequent studies, it is also stated that knowledges shariing has a significants influences on learning innovations in higher educations. It concludes The literature suggests that the process of information sharing has the potential to facilitate teacher learning innovation (Aulawi, 2018a; Kamaşak & Bulutlar, 2010). Based on the preceding research description, it is evident that there is a dearth of studies examining the capacity of teachers to engage in innovation, particularly among those impacted by the eruption of Mount Semeru in Lumajang Regency, East Java Province. This study aims to contribute to the existing literature by introducing a novel model that encompasses the assessment of learning innovation variables and teacher resilience, with the mediating role of knowledge sharing variables. Furthermore, it is important to consider an individual's level of receptivity to experience.

RESEARCH METHODS

This study is of the causal explanatory kind, which tests the validity of the hypothesis by looking at causality (Maxwell, 2004). The factors examined in this study include teacher resilience impacted by the Semeru eruption in Lumajang Regency and openness to experiences and information sharings on learning innovations.

Teachers who were impacted by the Mount Semeru eruption in the Lumajang area of East Java Province and who were presumed to have academic responsibility for teaching, particularly in the learning process from elementary to high school, were the characteristics of study participants. People who match the aforementioned criteria are required to spend about 15 minutes filling out a questionnaire that has 5 components (personal datas, openness to experience questionnaire, knowledge sharings, learning innovations, and instructor resilience).

Based on Hair's perspective about the PLS WARP approach, the determination of sample size proves to be beneficial while employing a range of 50-200 respondents or by considering the product indicators and 5-10 samples (Sarstedt, 2019). The data gathering method spanned a duration of two weeks and employed the incidental sampling technique, which was determined by the timing at which the sample population was reached (Patel, 2019). A total of four questionnaires were employed in the present investigation (Chee & Queen, 2016).

The calculations in this study were conducted using the SPSS application version 21.0. The criterion for assessing validity involves comparing the significance values with a predetermined probability value of 0.05. If the correlation coefficient (r) is more than or equal to 0.50, it indicates that the instrument can be considered genuine. Conversely, if the correlation coefficient is less than or equal to 0.50, it suggests that the instrument is deemed invalid. The data in the study were subjected to descriptive analysis and analyzed using the SPSS for Statistics software. The mean value of each item was described using criteria that were determined based on class intervals derived from the

computation results (Maxwell, 2004).

$$\frac{\text{(The maximum value of response scores - the minimum value of answer scores.)}}{\text{Number of classes/ categories}}$$

By examining the class intervals of each variable, it is evident that the boundaries of each category can be utilized to evaluate the upper and lower values of each participant. The value of the respondents' answer score in this study pertains to the utilization of a 5-point Likert scale, where the greatest score attainable by the respondents is 5. The minimum score assigned to the respondent'sanswer is1. Simultaneously, the adjustment of the number of class categories employed in the formulation of these criteria is aligned with the scale utilized, namely consisting of five classes. This ensures that theinterval acquired for each class is calculated as (5-1): 5, resulting in a value of 0.8. Therefore, the criteriafor delineating themeanvalue acquired for each instruments canbe organized in the subsequent manner:

Table 1. Descriptive analysis scores and categories

Mark	Positive Statement Category Value
4,2 – 5,0	Strongly Agree
3,4 – 4,1	Agree
2,6 – 3,3	Undecided
1,8 – 2,5	Disagree
1,0 – 1,7	Strongly Disagree

The data was analyzed using theStructuralEquation Modeling Partial Least Squares Path (SEM WARP PLS) approach, implemented through the WARPPLS 3.0. According to Hair's perspective, the modeling and analysis of the Partial Least Squares (PLS) Weighted Average of Relative Parameters (WARP) equation can be divided into two distinct stages. The parameter estimation process inside the PLS framework encompasses three sequential processes. 1) Generating a latent variable scoresbased on the weight estimation. 2) The process involves calculating the path coefficient, which represents the relationship between latent variables, and measuring the loading factor, which represents the relationship between latent variables and their indicators. 3) Estimation of location parameters (Kock, 2014). At this point, the analysis takes the form of a Partial Least Squares (PLS) algorithm, which incorporates an iterative procedure that generates scores for latent variables (Kock, 2010).

Following the determination of the latent variable scores, the further phase of analysis was conducted. The process of assessing the performance and effectiveness of a predictive model is referred to as model evaluation. The process of evaluating a Partial Least Squares (PLS) model involves two distinct stages: the assessment of the outer model, also known as the measurement model, and the evaluation of the inner model, which is referred to as the structural measurement. The assessment of the measuring model is categorized into the evaluation of the outside and inner models (Noor, 2017).

RESULTS AND DISCUSSION
Variable Descriptive Analysis
1. Description of the Variable Teacher Resilience (TR)

The variable of teacher resilience comprises seven variables, specifically: (1) Emotional regulation, (2) Impulse control, (3) Positive outlook, (4) Problem analysis skills, (5) Empathy skills, (6) Self-confidence, and (7) Goal attainment abilities.

According to the data collected, the mean value of the teacher resilience variable is 4.43. The findings indicate that the participants exhibit a high level of agreement about the influence of emotional regulation, impulse control, causal analysis, optimism, empathy, self-efficacy, and achievement on the resilience of single mothers. The findings pertaining to the variable description of teacher resilience reveal that the optimism indicator emerges as the primary measure for assessing the resilience of single-parent mothers, exhibiting the greatest mean value of 4.55. The data indicates that participants concur that the primary aspect of optimism is in possessing self-assurance in one's aptitude to navigate various circumstances, as evidenced by a mean score of 4.66.

2. The Description of KnowledgeSharing (SK) Variables

The variable pertaining to knowledge sharing has six indicators, specifically (1) Knowledge Donating and (2) Knowledge Collection. The findings pertaining to the analysis of knowledge sharing across each indicator are reported in the subsequent sections.

Based on the data collected, the mean value of the knowledge-sharing variable is 4.61. The findings indicate that participants exhibit a high level of agreement about the influence of both KnowledgeDonating andKnowledge Collection on the development of openness to experience. The findings from the analysis of the knowledge-sharing variable indicate that the teacher's active engagement in writing books, articles, or research to disseminate knowledge among their colleagues is reflected by the knowledge collection indicator. This indicator has the highest mean value of 4.93. Additionally, the results reveal that teachers also demonstrate knowledge sharing through their actions, such as sharing new skills or information with their colleagues, which has a mean value of 4.75.

3. The Description of theOpennes to Experience (OE)Variable

The variable of openness to experience has six indications, specifically (1) fantasy, (2) aesthetiics, (3)feelings, (4) actions, (5) ideas, and (6) values. The presentation of the results for each indicator's description of openness to experience is as follows. The mean score for the openness to experience variable is 4.56, as determined from the collected data. The findings indicate that participants exhibit a high level of agreement with the factors contributing to the development of openness to experience, namely, (1) fantasy, (2) aesthetic, (3) feelings, (4) actions, (5) ideas, and (6) values. The findings from the analysis of the openness to experience variable indicate that the leading indicator for measuring openness to experience is the ideas indicator, which is demonstrated by the teacher's desire to be creative with ideas and the ideas possessed by the teacher in various madrasah

activities. This indicator has the highest mean value of 4.95. The second highest indicator is the teacher's actions to participate in various training programs aimed at enhancing the development of madrasas, with a mean value of 4.79.

4. VariableDescription of InnovationLearning (IL)

The construct of innovation in learning encompasses six indications, specifically (1) the innovation in the development of a strategy for reflective thinking, (2) the innovation in the development of a strategy for reinforcement, and (3) the innovation in the development of a strategy for habituation. The outcomes pertaining to the assessment of innovation learning for each indicator are given in the subsequent manner. Based on the data acquired, the mean value of the knowledge-sharing variable is 4.70. The findings indicate that the participants exhibit a high level of agreement regarding the factors contributing to the development of openness to experience, namely: (1) reflective thinkings, (2) reinforcements, and (3)habituations. The findings from the analysis of the innovation learning variable indicate that the habituation indicator, as demonstrated by learning patterns, iseffectively andefficiently developed. The highest mean value of 4.84 is observed in this indicator, followed by the practice of rewarding students who successfully complete assignments on time, with a mean value of 4.76.

Analisis Data WARP-PLS

1. Testing The Measurement Model (outer model)

The testing of a concept and research model within a relational and causal relationship prediction model necessitates the prior completion of the purification stage and a measurement model. The measurement model, also referred to as the outer model, serves the purpose of assessing the construct validity and instrument reliability.

The validity test of the PLS WARP program is used to describe the results of data processing.

Table 2. Value of Loading Factor

Variable	Items	Loading Factors value	Description
Teacher Resilience (TR)	TR.1	0.792	Valid
	TR.2	0.682	Valid
	TR.3	0.639	Valid
	TR.4	0.853	Valid
	TR.5	0.752	Valid
	TR.6	0.731	Valid
	TR.7	0.643	Valid
	TR.8	0.792	Valid
	TR.9	0.731	Valid
	TR.10	0.677	Valid
	TR.11	0.819	Valid
	TR.12	0.733	Valid
	TR.13	0.785	Valid

	TR.14	0.700	Valid
Sharing knowledge (SK)	SK.1	0.985	Valid
	SK.2	0.619	Valid
	SK.3	0.833	Valid
	SK.4	0.755	Valid
	SK.5	0.677	Valid
	SK.6	0.865	Valid
	SK.7	0.645	Valid
	SK.8	0.691	Valid
Openness to experience (OE)	OE.1	0.725	Valid
	OE.2	0.942	Valid
	OE.3	0.861	Valid
	OE.4	0.797	Valid
	OE.5	0.703	Valid
	OE.6	0.795	Valid
	OE.7	0.662	Valid
	OE.8	0.635	Valid
	OE.9	0.785	Valid
	OE.10	0.700	Valid
	OE.11	0.861	Valid
Innovation Learning Model (IL)	IL.1	0.792	Valid
	IL.2	0.683	Valid
	IL.3	0.629	Valid
	IL.4	0.852	Valid
	IL.5	0.752	Valid
	IL.6	0.730	Valid
	IL.7	0.642	Valid
	IL.8	0.792	Valid
	IL.9	0.730	Valid
	IL.10	0.676	Valid
	IL.11	0.819	Valid
	IL.12	0.732	Valid

Source: data processed with Warp PLS 7.3

According to the findings presented in Table 2, all of the statement items have a validity coefficient greater than 0.50, indicating their validity. The findings pertaining to the processing of data using the WARP PLS application are explicated as follows: The reliability test assesses the degree of consistency and stability exhibited by measuring devices employed in research. According to Abdillah and Hartono (year), a build is considered dependable when the composite reliability value exceeds 0.60.

Table 3. Cronbach's Alpha Dan Composite Reliability

No	Variabel	Composite reliability	Status
1	Openness to experience	0,664	Reliabel
2	Sharing knowledge	0,639	Reliabel
3	Innovation learing	0,744	Reliabel
4	Teacher resilience	0,653	Reliabel

Source: data processed with Warp PLS 7.3

According to the findings presented in Table 3, it can be concluded that all variables demonstrate a satisfactory level of dependability, as indicated by the composite reliability value exceeding 0.60. The knowledge-sharing variable has the lowest composite reliability value of 0.639, while the Innovation learning model variable demonstrates the highest composite reliability value of 0.744.

2. *The purpose of this section is to discuss the concept of R² and the process of testing the structural model, also referred to as the inner model.*
a. Evaluation of Structural Models using the R² Coefficient

The coefficient of determination, denoted as R^2, is a statistical metric employed to quantify the extent of variability in the dependent variable that can be explained by changes in the independent variable. The subsequent value of R^2 is employed to evaluate the impact of the independents factors on the dependents variable.

Tabel 4. R² Value

No	Variabel	R²
1	Sharing Knowledge (SK)	0,553
2	Openness to experience (OE)	0,512
3	Innovation learning (IL)	0,735

Source: data processed with WarpPLS 7.3

According to the Table 4, the R^2 value for the work motivation variable is 0.553, this implies that the variable of work motivation can be accounted for by the variable of work allowance, with a coefficient of determination of 55.3%. The remaining 44.7% of the variance can be attributed to additional variables that were not included in this study.

The coefficient of determination (R^2) for the openness to experience variable is 0.512, indicating that the teacher resilience variable accounts for 51.2% of the variability observed in the openness to experience variable. The remaining 48.8% of the variance can be attributed to additional variables not considered in this study.

The R^2 score for the innovation learning is 0.735, indicating that 73.5% of the variance in the innovation learning variable can be accounted for by the teacher resilience, knowledge sharing, and openness to experience factors. The remaining 26.5% of the variance can be attributed to additional variables that were not considered in the scope of this study.

b. Hypothesis test

Hypothesis testing is utilized to see the level of significance (p-value) and the link between variables in this research model and may be seen from the estimated path coefficient results. The following is a picture of the test results using WarpPLS 7.3
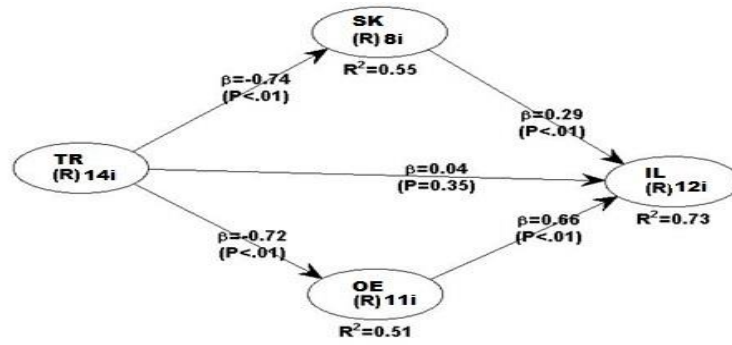
Figure 1. Indirect Effect Research Model Testing with WarpPLS 7.3
Source: data processed with WarpPLS 7.3

Caption:
1) TR : Teacher resilience
2) SK : Sharing knowledge
3) OE : Openness to experience
4) IL : Innovation learning

All hypotheses in this study can be recognized to be significant or not significant based on the p-value. If the p-value is smaller than 5% (≤0.05), then H_0 is rejected, or there is a significant effect, whereas if the p-value is larger than 5% (>0.05), then H_0 is accepted, or there is an influence that is not significant. At the same time, the results of the route coefficient estimation are to test the strength of influence between variables and run the toughness of the relationship between variables.

The following gives the findings of testing the hypothesis based on the PLS WARP model that has been created between teacher resilience (TR), knowledge sharing (SK), openness to experience (OE), and innovation learning (IL):

Table 5. Estimation of Path Coefficients

No	Hypothesis	*Path Coefficients*	*P Value*	Information	Hypothesis Decision
1	TR → SK	0,744	<0,001	Significant	Ha accepted
2	TR → OE	0,716	<0,001	Significant	Ha accepted
3	TR → IL	0,040	<0,352	not significant	Ha rejected
4	SK → IL	0,286	<0,002	Significant	Ha accepted
5	OE → IL	0,664	<0,001	Significant	Ha accepted

Source: data processed with WarpPLS 7.3

As for testing the hypothesis of the role of knowledge sharing (SK) and openness to experience (OE) variables as mediating variables from the influence of teacher resilience (TR) on innovation learning (IL), the output of the analysis is as follows:

Table 6. Indirect Effects for Paths test results

No	Hypothesis	Indirect Effects For Paths	P Value	Information	Hypothesis Decision
1	TR → SK→ IL	0,440	<0,001	Significant	Ha accepted
2	TR → OE→ IL	0,688	<0,001	Significant	Ha accepted

Source: data processed with WarpPLS 7.3

Based on Table 6 of the Indirect Effects For Paths, test results can be explained and conclusions drawn regarding the seven hypotheses in this study, as explained below:

Hypothesis 6 examines the effect of teacher resilience (TR) on innovation learning (IL) through knowledgesharing (SK). The test results obtained p values of 0.001 <0.005 so that decisions can be made:

Ha accepted: Teacher resilience (TR) influences innovation learning (IL) through knowledge sharing (SK). As for theinterpretation of indirect effects for paths with avalue of 0.440, theinfluence of teacher resilience on innovative learning through knowledge sharing is 44.0%. This means that knowledge sharing can become a mediator variable in influencing the innovation learning model of the teacher resilience variable. Hypothesis 7 examines the effect of teacher resilience (TR) on the innovation learning model (IL) through openness to experience (OE). The testresults obtained p values of 0.001 <0.005 so that decisions canbe made:

Ha accepted: Teacher resilience (TR) influences innovation learning (IL) through openness to experience (OE). As for the interpretation of indirect effects for paths with a value of 0.668, the effect of teacher resilience on innovative learning through knowledge sharing is 66.8%. This means that openness to experience can be a mediator variable influencing innovation learning from teacher resilience variables.

The findings of Vulpe and Dafinoiu (2012) provide further support for Reich's theory that teacher resilience is comprised of seven distinct abilities. These abilities include emotional control, impulse control, optimism, problem analysis, empathy, self-efficacy, and goal attainment. According to Vulpe and Dafinoiu (2012), The findings of the study provide support for Pervin's (2001) conceptualization that openness to experience is influenced by various factors, including fantasy, aesthetics, sentiments, actions, ideas, and values. Similarly, the research results validate the proposition put forth by Hooff and Rider (2004) that knowledge sharing is influenced by the acts of knowledge donating and knowledge collection. The findings of this study provide support for the idea proposed by Graham Gibbs (2013) on the generation of learning innovation. According to Gibbs, this process is facilitated by three key factors: (1) reflective thinking, (2) reinforcement, and (3) habituation.

Hypothesis 1 shows that teacher resilience affects knowledge sharing by 74.4%. That is, the higher the teacher's resilience, which is indicated by optimism or confidence in one's abilities in dealing with all situations, the higher the sharing of knowledge, which is indicated by the teacher's active attitude in writing books, articles, or research to share knowledge with colleagues. Other teachers were affected by the eruption. The research findings reinforce Karine's research Goglio-

Primard et al. (2020), Liu & Chu (2022), and Do et al. (2022), which shows that teachers who have coping skills and adapt to challenging situations tend to avoid complex problems in the future because of their attitude of sharing knowledge with other eruption victims.

Hypothesis 2 shows that teacher resilience affects openness to experience by 71.6%. That is, the higher the teacher's resilience, which is indicated by optimism or self-confidence in dealing with all situations, the higher the openness to experience, which is indicated by the desire to be creative with the ideas and ideas that the teacher has in various teaching activities at school. The research findings reinforce Chesak's research (2019) and Clara's (2017) that efficiency is critical in helping individuals to overcome all difficulties that arise every day; if resilience increases, then individuals will be able to control themselves and be able to manage stress well by changing patterns of thinking when dealing with problems so that they do what is considered most suitable for them.

Hypothesis 3 shows that teacher resilience does not affect innovative learning. The lower the teacher's resilience, the more optimistic or confident a teacher will be in dealing with all situations, and the more ineffective and efficient the habituation shown from the learning pattern is developed. The findings of this study broke Wijayanto's research (Adi, 2022) and Jestin's (2022), which states that teachers affected by the eruption with high resilience are considered capable of innovating in carrying out learning well. Learning innovation is needed to produce effective and efficient learning for students affected by the Semeru eruption.

Hypothesis 4 shows that knowledge sharing affects innovation learning by 28.6%. That is, the higher a teacher's knowledge sharing is shown by the teacher's active attitude in writing books, articles, or research to share the knowledge with other teacher colleagues affected by the eruption, the higher innovation learning is also shown by effective and efficient learning patterns. The findings of this study broke Sarmawa's (2021) research and Sabrina (2020).

According to Hypothesis 5, there is a significant relationship between openness to experience and innovation learning, with openness to experience accounting for 66.4% of the variance in innovation learning. In other words, there exists a positivecorrelation between a teacher's levelof openness to experience, as demonstrated by their optimism and self-confidence in handling various situations, and the extent of innovative learning observed, as indicated by the effective and efficient development of learning patterns. The present study's results bolster the existing body of research conducted by Rifat Kamasak (2020), Satpathy et al. (2020), Asbari et al. (2019), Aulawi (2018), and Lee (2018), which collectively demonstrate the substantial impact of exchange of information on the promotion of learning innovation within the realm of higher education.

According to Hypothesis 6, there is a significant relationship between teacher resilience and innovative learning through knowledge sharing, with an effect size of 44.0%. This implies that the variable of information sharing has the potential to act as a mediator in the influence of the teacher resilience variable on the innovation learning model. This implies that the greater the level of resilience exhibited by the teacher in question. Optimism or self-confidence in dealing with

all situations has an impact on the teacher's active attitude in writing books, articles, or research to share the knowledge they have with other teacher co-workers so that the teacher has habituation, as shown by learning patterns, developed more effectively and efficiently. In the end, this will have an impact on learning innovation in the classroom due to the implication of teacher professional competence in learning activities, which of course, will have a positive impact on the quality and learning outcomes (Yohamintin et al., 2020; Wilcox & Lawson, 2018)

Hypothesis 7 shows that the effect of teacher resilience on innovative learning through knowledge sharing is 66.8%. This means that openness to experience can be a mediator variable influencing innovation learning from teacher resilience variables. The teacher's ability to develop his competence will affect both directly and indirectly the professionalism of his work, which can be seen from the adaptability or resilience of the teacher (Ainsworth & Oldfield, 2019). This implies that the level of a teacher's resilience in terms of optimism and self-confidence significantly influences their inclination to generate innovative ideas and possess ownership over various teaching activities within educational settings. Consequently, teachers develop a habitual tendency to employ more effective and efficient learning patterns (Ebersöhn, 2014; Yohamintin et al., 2021)

CONCLUSION

Based on the findings and discourse outcomes, it can be deduced that teacher resilience has a significant impact of 74.4% on knowledge sharing. If individuals possess a positive outlook or confidence in their capacity to handle various circumstances, it is likely that they will engage in greater information sharing. This is shown through the proactive approach of instructors who write books, articles, or conduct research to disseminate their expertise among fellow educators who have been impacted by the eruption. 2) teacher resilience affects openness to experience of 71.6%. That is, the higher the teacher's resilience, which is indicated by optimism or self-confidence in dealing with all situations, the higher the openness to experience, which is indicated by the desire to be creative with the ideas and ideas that the teacher has in various teaching activities at school. 3) teacher resilience does not affect innovative learning. The lower the teacher's resilience, the more optimistic or confident a teacher will be in dealing with all situations, and the more ineffective and efficient the habituation shown from the learning pattern is developed. 4) knowledge sharing affects innovation learning by 28.6%. That is, the higher a teacher's knowledge sharing is indicated by the teacher's active attitude in writing books, articles, or research to share the knowledge with other teacher colleagues affected by the eruption, effective and efficient learning patterns also show the higher innovation learning. 5) openness to experience affects innovation learning by 66.4%. In other words, there exists a positive correlation between a teacher's level of openness to experience, as demonstrated by their optimism and self-confidence in handling various situations, and the extent of innovative learning observed, as indicated by the effective and efficient development of learning patterns. The impact of teacher resilience on innovative learning is determined to be 44.0% through the

mechanism of knowledge sharing. This implies that the variable of information sharing has the potential to act as a mediator in affecting the innovative learning model of the variable of teacher resilience. The impact of teacher resilience on innovative learning is determined to be 66.8% through the mechanism of knowledge sharing. This implies that the degree of openness to experience has the potential to act as a mediator variable in the process of influencing the acquisition of innovative knowledge, drawing on the teacher resilience variables.

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