

Managing Virtual Team: Impact e-leadership, Team Personality, Training, Organizational Culture, Compensation on Work Engagement and Work Performance

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ABSTRACT: *Technological developments and the Covid-19 pandemic have made organizations rapidly transform towards digital-based work activities from face-to-face to virtual work. It becomes HRM to create systems that drive high-performance virtual teams. This study aims to examine the factors that affect team performance including team personality, training, work culture, e-leadership and compensation in a virtual work environment that are studied simultaneously. The study was conducted on 350 respondents from a virtual team of property companies throughout Indonesia who during the pandemic transformed from offline work to online. The method used is to conduct an online survey and analyzed using Structural Equation Modeling (SEM). The results showed that the variables of team personality, organizational culture, training, and compensation has a positive and significant influence on work engagement and virtual team performance. In addition, the e-leadership variable also plays a role in moderating other independent variables on work engagement. Team personality and organizational culture have a more significant influence with the presence of e-leadership, while for training and compensation the effect is reduce on work Engagement. From this research, it is hoped that it will provide benefits and become a reference in managing virtual teams and creating the expected engagement and performance.*

KEYWORDS-*e-leadership, Personality, Training, Culture Organization, Compensation, work engagement, work performance, virtual team*

I. INTRODUCTION

Technological developments have changed the direction and business strategy in dealing with changing situations caused by competition, technological advances, and unpredictable things such as the COVID19 pandemic. The company takes various ways to survive in conditions that are completely uncertain by transforming towards digital-based work activities to most of the work to reach a wider market across time and space boundaries. The spread of digital technology is changing the global flow of goods, services, money, and people[1][2]. The Global labour market turned into an online market with digital service providers that allow individuals to participate in globalization directly as consumers, workers, students, and entrepreneurs[3][4]. The Company must change the strategy from having loyal employees to having high-performing teams and work partners without being tied to the company, but still having high engagement by building virtual workgroups and developing Omni-channel synergies rather than Omni-channel integration[5]. Remote collaboration with all employees and partners, if not prepared and managed properly, will lead to big risks such as fraud, projects not being implemented, low-commitment virtual team performance, lack of openness, and prone to conflict due to limited communication media and background, different cultural and regional backgrounds[6]. There are several businesses that has challenge adaptive to technological transformation[7]. This condition is a challenge for HRM to prepare supporting components for the creation of virtual team performance that supports company goals.

Some of the factors that affect performance include mastery of talent and improvement of team talent, organizational culture, success indicators, prioritization, communication, innovation, incentives, recognition, customer service[8]. Team personality composition has been associated with several conditions related to interpersonal interactions creating a harmonious relationship within the group[9]. Optimal team personality composition as one of the important factors influencing team performance [10]. There is a relationship between team personality with work engagement and performance[11]. In addition, Organizations develop training as a powerful tool to shape team attitudes and motivation towards work that increases work engagement in the process of achieving company goals[12]. Organizations that invest in effective training for human resources to learning and development that enhances individuals, groups and, organizations [13]. An organization that has a good organizational culture and influences all teams and co-workers to create virtual team performance [14][15] Compensation or remuneration is an indispensable component for employees to engage and motivate

them to focus on work and self-development. [16]. Attractive compensation plays an important role in improving employee performance [17].

The Integration of virtual teams in organizations, the way organizations operate and people collaborate is influenced by virtual leadership [18] [19][20]. Virtual Leadership that uses digital media in carrying out its role or what is often called e-leadership is expected to give a positive impact on the achievement of business strategies and create team performance by building the trust of someone who may never see the leader, ethical issues, cultural issues, trust [21]. Leaders who work in virtual work environments tend to have skills and personality traits that can help build and maintain strong relationships with co-workers with different personalities [22][23].

In the previous studies mentioned above, many have examined the variables that affect the performance of teams working in an organization in one workplace, and not many have investigated how much these variables impact the performance of the virtual team. Not enough have researched how the influence of team personality, training, work culture, compensation, and e-leadership on virtual team performance mediated by work engagement has an effect on virtual teams during the Covid19 pandemic. In previous studies, few studies were examined at the same time, in one study, the variables impact work performance which is mediated by the work engagement, and how the influence of e-leadership moderates other variables. The purpose of this research is to find and analyse the impact of personality, training, organizational culture, compensation variables on virtual team performance mediated by work engagement and moderated by e-leadership. It is hoped that this research will provide a comprehensive reference in managing virtual teams in achieving organizational goals.

II LITERATURE REVIEW

2.1 Team Personality

Team personality is a variable that refers to the underlying psychological characteristics of team members, believed to impact the processes and personality characteristics of surviving team members and influence how effectively individual members work together and complete goals [6][24][25][26]. Five personalities that influence team performance are (1) Openness being sociable, assertive, and talkative. (2) Extraversion are usually energetic, optimistic, and cheerful, (3) Conscientiousness are high awareness will lead to cooperation and willingness of team members to engage. Higher level of team awareness by contributing to virtual team performance. (4) Agreeableness is a cooperative, and tolerant character, and tends to be more trustworthy than less agreeable individuals. (5) Neuroticism where a person is in a state of having a negative reaction to something that happens [27]. The top five personalities that a person has do not change and only change slightly during a person's life, because these personality traits are mostly emerging adults [28].

2.2 Training

Training is defined as a process of teaching and developing employee skill to do their jobs not only the responsibility of the organization but also the responsibility of the employee personally [29]. E-Training is virtual training carried out using internet media where training programs help shape individual behaviour and knowledge to improve the match between personal abilities and success in an organization in the form of job and skill development, adoption of smart technology, smart manufacturing, and digitalization [30][31]. Effective training is a developed way in which the organization provides development to enhance new and existing qualities of employees [32]. The use of technology brings significant benefits to companies by reducing the cost of face-to-face training, as well as by ensuring the availability of educational materials from anywhere in the world [33][34]. Training is a series of activities carried out by organizations that lead to the acquisition of knowledge or skills to develop and contribute to the work performance of human resources, organizations, and the wider community [35][36].

2.3 Organization Culture

Culture is defined as beliefs, values, attitudes, behaviours, and practices that characterize a group of people using the group concept to describe an organization or group of people such as a country or family, groups of people who tend to form a particular culture [15]. Organizational culture is a guide to individual behaviour which is a combination of Participatory Management, Ethics, Job Satisfaction, Learning the Organization, Job Enrichment, Respect and Acceptance, Public perception, and Pride [37]. Organizational culture has also been identified as an important driver behind employee retention [38]. Organizational culture is a complex issue in the workplace which is directly connected to the performance and effectiveness of the company, if the organizational culture is strong, the company is more effective [14]. Organizational culture in a digital environment or referred to as e-Culture Organization is defined as a digital culture that contains norms, behaviour, values and human relationships, expectations with one another, language, symbol systems in online groups in e-processes that become process artefacts [39]. Organizational culture can help managers or investors make strategic decisions regarding resource commitments, as well as provide information about which stakeholders and partners are most likely to support their values [40][41].

2.4 Compensation

Compensation or remuneration is an attribute that is needed by employees to be able to engage and motivate employees to achieve more and focus on work and self-development. This involves both financial (incentives, salaries, wages, commissions, and bonuses and non-financial (insurance, company-paid tours) rewards[42]. Compensation consists of a combination of pay-outs, bonuses, other financial gifts as well as non-financial prizes such as additional vacations and voucher schemes[16][43]. Compensation system is policy, procedures, structures, and systems that determine the extent to which employees are engaged in an organization. It has been proven before that friendly organizational policies and procedures are essential to employee engagement and the eventual achievement of business goals[44].

2.5 E-leadership

Leadership is understood as a leader in the sense of the highest leadership as well as part of the organization which is the main part of determining the policies and operations of the ideal organization having "charisma," and showing high standards of moral and ethical behaviour and acting as a strong role model for followers and mediating role of organizational identification and job involvement is positively related to leadership and employee performance [45]. Traditional leadership that provides value for organizational success and is competitive in a global perspective[46]. The new leadership paradigm that requires leaders to achieve this leadership goal in computer mediation, with virtual teams spread across time and space, the main medium of communication between leaders and followers is computer-supported electronic channels[47]. In development, digital technology has changed the nature of teamwork into virtual teams in online communities, crowds, peer production groups, flash teams, human-robot teams, and human artificial intelligence teams so that they have an influence on leadership [48].

E-Leadership is leadership that has the ability to see the potential of Information Technology in capacity building to be used properly as a tool for change and as a tool to provide better services to all team members. This includes strategy execution, technology transformation, competitive alignment, service level alignment with the fundamental goals of leadership still the same, and continue to discuss issues of vision, direction, motivation, inspiration, trust[49][49][50]. Some of the exciting new e-leader opportunities are (a) the ability to directly communicate one-on-one with thousands of employees with different personalities (b) the ability to use the talent that doesn't have to be limited by distance and time; (c) the opportunity to improve organizational performance by forming a richer multi-functional team because now one can choose the desired talent from wherever he is; (d) the ability to target better customer satisfaction by providing 24x7 services [21]. E-Leadership must be able to identify, attract, and develop potential leaders to support and empower the team in building a conducive working environment for all stakeholders of the knowledge and technology-based economy[52][53].

2.6 Work Engagement

Work engagement consists of three important components, namely vigour, dedication and absorption. Management that encourages involvement usually shows concern for the needs and feelings of employees (vigour), provides feedback and encourages them to voice their concerns (dedication), develop new skills and to solve work-related problems (absorption), a meaningful workplace environment that helps employees to focus on work and interpersonal harmony is considered a key determinant of employee engagement)[54][55]. Work engagement is a term defined as involvement, satisfaction, enthusiasm and individuality with the work done by all teams, firms with an engaged workforce have the advantage of gaining growth at a faster rate than firms with an average level of engagement, not seeing any increasing advantage over their competitors in economic recovery[56]. Work Engagement affects the expression that a person wants in relation to his professional attitude, connecting work with personal life both psychologically, cognitively, emotionally, and his personal feelings as a whole, so that work involvement in a company will encourage employee performance[57].

2.7 Work Performance

Employees who have high performance have five criteria: Team complete work on time, team members solve problems quickly, quality of works continuously, Achieve mission organization, Critical quality mistakes[58]. High-performance work systems consider employees to be the main source of competitive advantage that is difficult for others to imitate and that workers are capable of continuous improvement and will perform at a higher level if they are motivated to do[59]. Performance can be improved by treating employees with respect as capable, intelligent individuals, this will create employee commitment and trust in management so that the team is involved.[60].

III. HYPOTHESES AND RESEARCH MODEL

3.1 Impact Team Personality on work engagement

Top five personality of openness, extraversion, agreeableness, and conscientiousness have an influence on team work performance. Lower levels of neuroticism, higher levels of extraversion, and openness to experience

can also affect performance and engagement[61][27] [11]. The results of the study of extraversion, consciousness, and openness to experience have a significant positive effect on work engagement[6][62][60][63]. Based on researches above, the proposed hypothesis is:

H1: *Team Personality has an effects on work engagement virtual team*

3.2 Impact Training on work engagement

Incorporating training into a structured mentoring program can shape an individual's ability to maximize increase engagement, satisfaction, and value [59][60][61]. There is a strong relationship between training and engagement because through this training employees feel valued when nominated for training and understand their significance and importance in the organization to achieve goals [67]. Training can increase employee commitment and involvement in providing company services such as job and skills development, by adopting smart technology, smart manufacturing, and digitalization play an important role as a supporting element towards achieving organizational goals in providing improved service delivery to customers[30]. Training and development, organizational communication, rewards, and recognition support employee engagement [68]. Based on the researches above, the proposed hypothesis is:

H2: *Virtual training effects on work engagement virtual team*

3.3 Impact Culture Organization On Employee engagement

Organizational culture is related to the sustainability of the company emphasizing on financial, social, welfare, and a work environment that creates engagement[40]. Organizational culture and overall excellent leader performance by focusing on testing the joint mediating effect that can be generated in creating job engagement and employee trust[69]. Organizational culture has the effect of employee engagement and maintaining employee loyalty to the company[68]. By focusing on increasing understanding of the right organizational culture, it can increase employee engagement and employee retention[53][62]. Based on the researches above, the proposed hypothesis is:

H3: *Organizational Culture has effects work engagement of virtual team*

3.4 Impact Compensation on work engagement

Compensation is an organization's policies, procedures, structures, and systems that determine the extent to which employees are engaged in an organization. It has been proven before that friendly organizational policies and procedures are essential to employee engagement and the eventual achievement of business goals[17]. Rewards and recognition have an impact on employee engagement[17]. Fairness Compensation has a positive influence on employee engagement, job involvement, and organizational commitment. [71]. Compensation has a significant and positive effect on employee engagement[72]. Based on the researches above, the proposed hypothesis is:

H4: *Compensation has an effects on work engagement of virtual team*

3.5 Impact e-leadership on work engagement

Developments in leadership research have influenced the effectiveness of virtual teams (e.g., virtual collaboration, shared mental models, trust, virtual conflict, and shared leadership, emphasizing how leader behaviour relates to these processes and emerging circumstances[18][73]. Effective leadership is a higher order, multi-dimensional construct consisting of self-awareness, balanced information processing, transparency, and internalized moral standards that positively influence the role of virtual teams on company performance and employee engagement [74]. Based on the research above, the proposed hypothesis is:

H5: *E - Leadership has an effect on work engagement virtual team*

Leadership has an importance effect in the operating organization then examine how the leader is responsible for the team to communicate that employees are trying to play a major role in the overall success of the business[75]. This component of team leadership is incorporated into the framework as inputs, mediators, outcomes, emerging inputs proposed to understand the cycle and engagement in organizations[72]. Leadership is an important function of management that helps maximize efficiency and achieve organizational goal[76]. Excellent leader performance will increase work engagement and employee trust in the organization will have a joint mediating effect between excellent leader performance and overall employee job satisfaction[77]. The interaction of leadership and proactive personality affects work engagement, the relationship between personality and engagement becomes stronger[45][30]. Based on the research above, the proposed hypothesis is:

H5a: *E - Leadership moderating team personality effects on work engagement virtual team*

Leadership positively moderates employees in developing an attractive vision for employees, focuses on achieving goals, has problem-solving techniques, has goals, and spends time on training and team development in an effort to increase employee retention[78]. Psychological capital, leadership, work environment, and motivation simultaneously in training activities have a positive and significant effect on employee engagement[79]. Based on researches above, the proposed hypothesis is:

H5b: *E - Leadership moderating training effects on work engagement virtual team*

Organizational culture and excellent leader performance on overall professional job satisfaction by focusing on examining the joint mediating effects that work engagement and trust can produce[69]. Leadership

moderates the indirect relationship between team mistakes and employee work engagement through psychological safety, so that the negative relationship between team mistakes and employee work engagement will be weaker under higher inclusive leadership[80]. To achieve the best results, cultural development requires leaders who see it as one of their main tasks and who understand the importance of aligning organizational strategy and decision-making with cultural ideals[15]. Based on researches above, the proposed hypothesis is:

H5c: *E - Leadership moderating organizational culture effects on work engagement virtual team*

E-Leadership as a moderating variable of the effect of compensation on performance [39]. The function of compensation or remuneration continues to be of strategic importance to leaders because it is used to attract, motivate and retain valuable employees and it will serve the organization well to consider both the internal and external environment[81]. Based on researches above, the proposed hypothesis is:

H5d: *E - Leadership moderation compensation has an effect on work involvement of virtual team*

3.6 The Impact of Work Engagement on Work Performance

The work engagement of virtual work teams has a positive effect on team performance, when an employee feels bound to the company, the employee will feel satisfied and be able to commit to the company and give extra effort for the progress of the company or even recommend a place of work[82][60]. Employee engagement drives companies' growth to outperform their competitors, a study shows employees can help companies cope and thrive in times of economic hardship[74]. Based on the research above, the proposed hypothesis is:

H6: *Work involvement affects the Virtual Team's performance*

From the proposed hypothesis above, the research framework research model is:

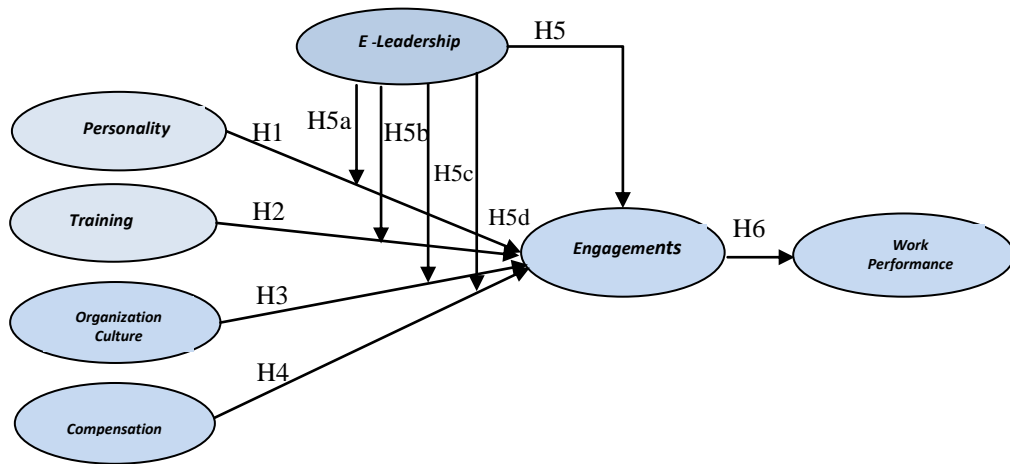


Figure 1. Construct of Research Model

IV. METHODS

This research uses a quantitative approach, used to examine the population or sample that has been determined, questioner using research instruments, data analyse is quantitative, with the aim of referring to established hypotension.

4.1 Sample and Population

The sampling method uses a purposive sampling method determination of a representative sample according to[83]is based on indicators 5 to 10, number of samples in this study is 5 independent variables (e-leadership, team personality, training, work culture, and compensation) and dependent variables work involvement and performance, then the number of samples is $7 \times 5 = 350$ samples. Respondents consisting of employees of property companies such as agents and marketing properties throughout Indonesia with the following criteria: (1) Male and female employees with a minimum of 1 year of service and has passed the training period, (2) Marketing, operational, and managerial employees who do 80% of the work in coordinating, handling customers, and conducting virtual transactions, (3) employees are not differentiated in position level.

4.2 Measurement

Measurements were carried out using a team personality questionnaire measuring instrument using[27] there were 5 indicators, training using 6 indicators[32], organizational culture[84] there are 7 indicators and e-leadership using the domain and capabilities framework with 6 indicators[49]. For the independent variable, work involvement is measured using indicators. Furthermore, these dependent variables

work engagement[55] use 6 indicator, work performance [58] will be measured with 5 indicator and 10 indicators to determine their effect on employee performance.

Measurement scale with the liker scale method 1 to 5. With the highest score 5 strongly agree, 4 agree, 3 neutral, 2 disagree, 1 strongly disagree. For some negative questionnaire questions, the value will be converted. The data collected was then analysed using *Partial Least Square - Structural Equation Modelling* (PLS -SEM) series SMART PLS 3.30. Structural Equation Modelling (SEM) testing samples and indicators. SEM is a multivariate statistical technique that combines all aspects of multiple regression and factor analysis (which displays unmeasured concepts factors with multiple variables) that can be used to estimate a series of dependent relationships that mutually influence each other[85].

4.3 Analyse Data

The data analyse use of PLS-SEM in this study will be divided into two, evaluation the Outer model and Inner model tests. Outer model test consists of discriminant validity test, convergent validity by looking at the loading factor, Average Extract (AVE) value, reliability test with Cornbrash's alpha value must be more than 0.6 and composite reliability value more than 0.7. As for the Inner model test by looking at and analysing the value of R - Square (R^2), Q-Square (Q^2), and path coefficient (coefficient of path). The parameters of the feasibility of the prediction model with the R test with a range of 0 to 1, the higher the value of R (f^2), the stronger the effect. While the Q-Square (Q^2) test in PLS is used to predict the relevance of the constructive model. On the assessment of Goodness of Fit can be known by looking at the value of Q^2 . The higher the R-Square value, the more fit the model[85].

Hypothesis testing is done by looking at the results of the t-test with a 95% confidence level, the T-value must be greater than the T-table value of 1.96 (T-value >1.976). Hypothesis testing uses the estimated coefficients and P-value, if the estimated coefficient is positive > 0 then the effect is positive, while the P-value below 0.05 (P-value < 0.05) indicates a significant effect[83]. If the T-value of the independent variable and the latent variable T-value > 1.96 then the hypothesis is accepted and the data support the research. Meanwhile, the moderation test was carried out with the confidence interval test (Bias corrected), Partial least Square Multi group Analysis, Parametric Test, and Welch-Stterhwait test running with PLS.[85]

V.RESULT AND DISCUSSION

5.1 Descriptive Statistic

The composition of research results 29.71% women, 70.29% men, 7.43% aged less than 30 years, 42.57% aged 30-40 years, and 50.57% > 40 years. 9, 43% < 3 years of service, 38.00% above 3 - 5 years and 52.57% above 5 years. For education level 17.72% SMA, 15, 14% D3, 62, 86% are Strata 2, 2.9% S2, and 2.0% S3. Total respondents with 12% income less than 3 million, 18% income between 3 - 5 million Rupiah, 18.860% income 5 - 10 million Rupiah and 39.71% income above 10 million Rupiah.

5.2 Evaluation Outer Model

The outer model test consists of discriminant validity test, convergent validity by looking at the loading factor, Average Extract (AVE) value, reliability test with Cornbrash's alpha value must be more than 0.6 and composite reliability value more than 0.7.

Convergent Validity Test

Outer loading values obtained on the Team Personality variable with 5 indicators all indicator variance value more than 0.7, Training variable with 6 indicator, Organization Culture 7 indicator, Compensation 5 indicator, and e-leadership 8 indicator and all value more than 0.7 the indicators in the study are declared valid:

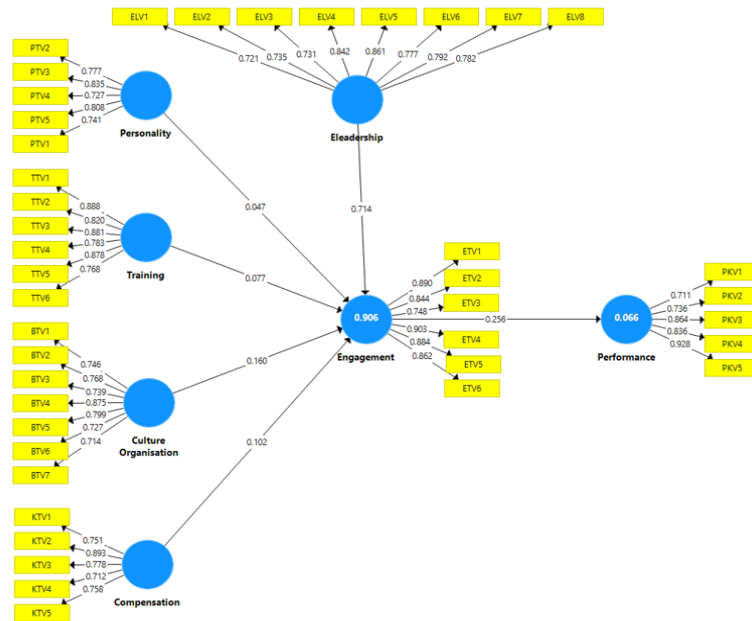


Figure 2: Outer Model

Reliability Test

After the validity test is carried out, a reliability test is carried out by looking at the internal Consistency Reliability value which measures the latent construct indicator:

Table 1. Reliability Test

Variable	Cronbach's Alpha	Rho A	Composite Reliability	Average Variance Extracted (AVE)
Personality	0,791	0,948	0,830	0,698
Training	0,914	0,915	0,934	0,702
Organization	0,865	0,883	0,896	0,656
Culture				
Compensation	0,825	0,865	0,875	0,684
e- Leadership	0,908	0,910	0,926	0,611
Engagement	0,927	0,930	0,943	0,734
Work Performance	0,859	0,895	0,901	0,649

The result all parameter Conbach'h alpha, Rho A, CompositeReliable and AVE all variable valid and reliable

5.3 Evaluation Inner model

Evaluation of the inner model is carried out to determine whether the model is Good of Fit (GoF) and is feasible for hypothesis testing. Inner model is a test by evaluating between latent constructs that has been hypothesized in the study. Bootstrapping is a statistical procedure or technique resampling. Resampling means that respondents are drawn randomly with replacement, from the original sample many times to obtain observations[85]. Based on the results above, it can also be seen that all paths have significant at 95% T - Value > 1.96. The relationship between latent variables this research is :

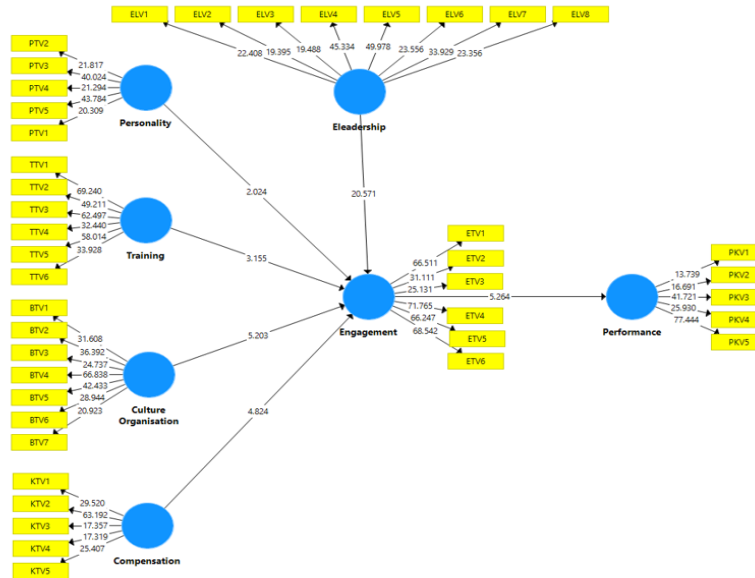


Figure 3: Inner Model

The results obtained from the Path Coefficients obtained a T- test value more than 1.96 with a probability value (P - value) of 0.05 or 5%:

Table 2 .R² · T -Values and P- Values

Variable	Original Sample (R ²)	Sample Mean (M)	Standard Deviation	T Statistics	P Values
Personality -> Engagement	0,047	0,048	0,022	2,131	0,034
Training -> Engagement	0,077	0,075	0,024	3,231	0,001
Organization Culture -> Engagement	0,160	0,162	0,031	5,194	0,000
Compensation -> Engagement	0,102	0,103	0,021	4,818	0,000
e-Leadership -> Engagement	0,714	0,713	0,033	21,458	0,000
Engagement-> Performance	0,256	0,258	0,050	5,111	0,000

The Coefficient of Determinants (R²) shows that for Personality the value of R² = 0.047 is weak, Training R² = 0.077 weak, Organization culture R² = 0.16 moderate, Compensation R² = 0.102 weak, E leadership R² = 0.714 strong, involvement R² = 0.256 moderate. With a T - statistic value > 1.96, all variables have an influence and are feasible to test the hypothesis. Q² = 1 - (1 - R1²)(1 - R2²)(1 - R3³)(1 - R4²)(1-R5²)= 0.935

Because the value of Q² > 0.9, it can be said that the Inner model is feasible to use and the relationship between the independent variable and the dependent variable is quite strong.

To find out the suitability of the model by looking for Goodness of Fit (GoF), to validate the structural model as a whole. GoF index as a single measure to validate between the measurement model and the structural model with the following calculations: GoF= $\sqrt{AVE \times R^2}$ = 0.424

According GoF small = 0.1, GoF medium = 0.025, GoF Big = 0.38 the value of GoF = 0.424 is strong or robust, from testing R², Q², and GoF From the Smart PLS value of SMRS 0.093 < 1.0 and rms_theta 0.058 < 1.2 that mean the model is Fit the model formed is strong, so hypothesis testing can be done.

5.4 Hypothesis testing and analysing

Hypothesis testing is based on looking at the T-value with a significance level of 0.05. If the T-value > 1.96 and P-value < 0.05 with a significant level of 0.05, then H₀ is rejected and Hypostasis Hi accepted, thus the research hypothesis is accepted. The result of T - value and P-value is below:

Table 3. Hypothesis Testing

Hypothesis	T Statistics	P Values	Conclusion
Personality -> Engagement	2,131	0,034	H1 accepted

Training -> Engagement	3,231	0,001	H2 accepted
Culture -> Engagement	5,194	0,000	H3 accepted
Compensation -> Engagement	4,818	0,000	H4 accepted
E-leader -> Engagement	21,458	0,000	H5 accepted
Engagement -> Performance	5,111	0,000	H6 accepted

Based on the table, the results of hypothesis testing are as follows: the test results on the t-value between team personality and team involvement obtained a T-value of 2.131 (T-value > 1.96) so it can be concluded that there is a positive and significant influence between team personality on work engagement. The results of the test on the T-value between training on job involvement obtained a t-value of 3.231 (T-value > 1.96) so it can be concluded that there is a positive and significant effect between training on job involvement. The results of the t-value test between work culture and employee involvement obtained a T-value of 5.194 (T-value > 1.96) so it can be concluded that there is a positive and significant influence between work culture on engagement. The test results on the t-value between compensation and involvement obtained a t-value of 4.818 (T-value > 1.96) so it can be concluded that there is a positive and significant effect between compensation on employee engagement. The results of the test on the t-value between e-leadership and work involvement obtained a t-value of 21.458 (T-value > 1.96), so it can be concluded that e-leadership has no effect on virtual team work engagement. For e-leadership, it means that hypothesis H5 is accepted. Hypothesis analyse is:

Impact Team Personality on work engagement

The results of the **H1** hypothesis testing team personality positive and significant impact on work engagement effect on work engagement. This is in line to previous research that works together in the virtual work place that research on team personality has a positive effect of work engagement, and performance. The results of this study for openness, conscientiousness, extraversion are in line with previous research on other respondents and for agreeableness and neuroticism are in line with research conducted by [60][34][27][11][6]. Overall team personality has a positive effect on engagement so this is as stated in the study.[78]. Five personalities impact work engagement and work performance when they work at virtual work.

Impact Training on work Engagement

In the results of research and hypothesis testing **H2** Training impact positive and significance on engagement has a positive and significant effect. So this research strengthens previous research by[86][64],[67] that training held virtually by relying on social networking tools contributes to making communication more synchronous and supports the team and organizational development. Training has a considerable influence on the empowerment of employee engagement to achieve organizational goals. [30][68] training also has a very positive impact on work engagement in virtual work so that it has a positive impact on virtual team performance. Training and developing virtual training impact on work engagement

Impact of Organizational Culture on work engagement

In the research and the results of hypothesis **H3**this study show organizational culture has a positive and significant impact on work engagement, and has a positive effect on work performance. This result is in line to the research of[40][69] examines, four elements of work culture, power culture, ethical culture, learning achievement culture, and supporting culture have a positive influence on the creation of engagement[87][70] If communication and interaction at virtual workplace, and all members engage with Organizational culture that impact on work performance.

Impact of Compensation on work engagement

In the research and analysis of hypothesis **H4** the effect of compensation on team involvement has a positive and significant effect on work engagement on achieving organizational goals [17][88][71][89][42]where the team that works virtually in pandemic conditions is very focused on keeping their financial condition safe and also guaranteeing their lives, especially during the pandemic. The results of this study are also in line with previous research which states that compensation that refers to financial forms has a greater impact on virtual team performance than non-financial compensation such as career paths, vacation facilities, etc. This is influenced by situations and conditions that make the team focus more on surviving in economic situations and conditions during the pandemic with incomplete performance and incomplete compensation.

Impact of E - Leadership on work engagement

In the research and analysis of hypothesis **H5**, this study shows that e-leadership has positive significance effect on work engagement of virtual team and has a positive and significant direct effect on work performance. This can also happen for virtual workgroups whose leaders are effective enough in communicating and using technology tools. Effective leadership in utilizing technology tools creates overall communication and interaction with team members as in the research of[73][53], and for leaders who do not do this, they will have difficulty creating team engagement. E- Leadership has an effect on increasing engagement as revealed in the research of[18][74][45]

Impact of work Engagement on Work Performance virtual team

Based on the hypothesis testing **H6** the effect of work engagement as a mediating variable on the creation of work performance has a positive and significant influence, this strengthens the previous research of [82][74][90][57] This study supports all the initial hypotheses in previous studies where the engagement of virtual teams has a positive impact on work performance, when an employee feels bound to the company, or the employee will feel satisfied and be able to commit to the company and give extra effort for the progress of the company or even recommend a place of work. Employee engagement drives companies' growth to outperform their competitors, a study shows employees can help companies cope and thrive in times of economic hardship. Companies can gain a competitive advantage that will keep them going by concentrating on employee engagement can help companies survive in the bad situation.

5.5 Moderation Test (Impact e - leadership moderating independent variable on work engagement)

A moderation test was conducted to find out how the influence of e-leadership on the four independent variables had an effect on team involvement, whether it strengthened the influence or weakened the influence[85]. In estimating the moderating effect of a very complex can running with SEM - PLS:

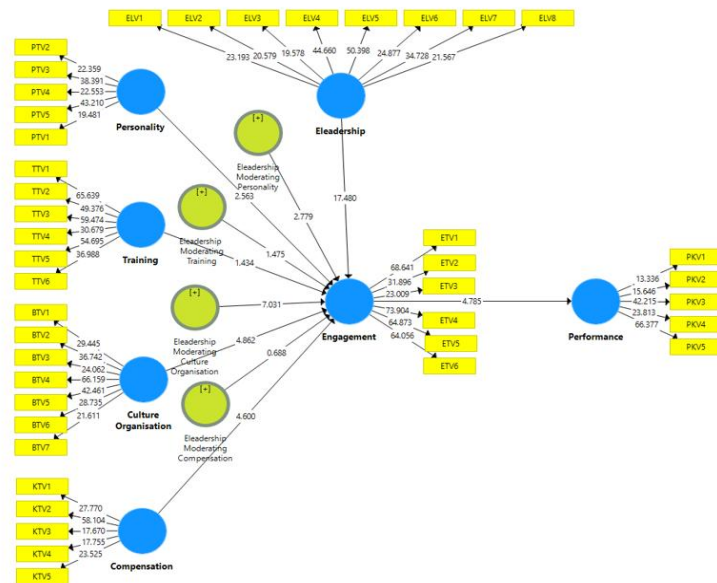


Figure 4: Inner Model Moderating

The result T-test for moderation e-leadership on personality team, training, organization culture, and compensation is:

Table 4: Hypothesis Testing Moderating

Hypothesis	Sample Mean (M)	Standard Deviation	T Statistics	P Values	Conclusion
e-Leadership Moderating Personality-> Engagement	0,045	0,044	2,779	0,018	H5a Accepted
e-Leadership Moderating Training -> Engagement	-0,113	-0,113	1,475	0,141	H5b not accepted
e-Leadership Moderating Culture Organization -> Engagement	0,190	0,189	7,031	0,029	H5c accepted
e-Leadership Moderating Compensation> Engagement	-0,035	-0,033	0,688	0,152	H5d not accepted

Positive moderating on team personality by T-value 2.779>1.96, e-leadership negative moderating training by T- value 1.475 < 1.96, e-leadership moderating positively by T-7.031 >1.96 to organization culture, and e-leadership moderating negative T-value 0.688 <1.96 negative moderating on compensation and training. Positive moderating on personality and culture organization in creating engagement, while negative moderating e-leadership on Training and Culture means that e-leadership weakens the influence of training and culture organization on virtual team engagement. The result analyse moderating test is:

The results of the research on testing the **H5a** hypothesis, it was found that the leader's communication in providing input, as a mediator, increases the positive and significant influence on the involvement of teams from various personalities in achieving good performance. Leaders help maximize the performance of the four team personalities that support the work performance of [88][25][45]. E-leadership strengthens the influence of team personality on virtual team engagement.

The results of the **H5b** test show that e-leadership has a negative moderating effect on training on engagement that meaning the presence of e-leadership reduces the effect of training on virtual team engagement. E-leadership developing a vision that appeals to employees focuses on achieving goals has problem solving techniques, has goals, and spends time on training and team development in an effort to increase employee retention in line with the research of [78][79] because It is hoped that team involvement will not be carried out only because of training but requires a personal leadership approach by e-leadership, because training is limited, so a leadership role is needed.

The results of the hypothesis test **H5c** e-leadership positive moderate work culture, meaning that the presence of e-leadership strengthens organizational culture has a positive and add influence on team engagement so that organizational culture and leader performance also moderates overall professional job satisfaction by focusing on testing the joint mediating effect that works engagement and trust can produce is in line with the research of [69][91]

The results of testing the **H5d** hypothesis are that e-leadership has a negative moderating effect on compensation. E-Leadership has a negative moderating effect, meaning that e-leadership reduces the effect of compensation on team motivation to engage in virtual [83]. With e-leadership the team is involved the motivation and role of the leader, because compensation as a system has provided its own motivation for team performance as revealed in previous research [73]

VI. CONCLUSION

The result of research that five independent variables team personality, training, organizational culture, compensation, and e-leadership have a positive and significant impact on virtual work engagement and impact on virtual team performance that is proven all variable must develop to increase work performance of virtual team, all variable still relevant to manage virtual team. The result of the research e-leadership moderating the other four independent variables found that e-leadership moderates positively or strengthens the influence of team personality and organizational culture on engagement, and e-leadership moderates negatively or weakens the effect of compensation and training on work engagement that's mean strong e-leadership can reduce impact of training and compensation and active work participant does not depend on training and compensation, when effective e-leader is work can make effective virtual Work. When all component can work effective then implication improve work engagement and work performance for achieve goal organization.

6.1. Limitation

This research is still limited to one type of company with 350 respondents and has not been compared with several companies that also do full work virtually until now. This research is also still limited to examining the mediating variable of work engagement, has not examined other variables that also have an influence on the performance of the virtual team. Respondents who are being researched are adapting to virtual work so that the capabilities and supporting facilities in virtual work are not optimal.

In future research, it can be further developed by grouping respondents according to their field of work so that it will further sharpen the influence of each variable on team involvement. The effect of e-leadership on engagement is very significant on engagement and this has a positive influence on leadership development in the next generation, and this research can be developed more broadly by examining respondents with millennial age so that they can provide an overview of e-leadership in the future. Future research can also examine more deeply how e-leadership moderates other variables whether the effect will be the same or different in the next few years. In further research, it can be investigated more deeply and in detail each personality has an influence on how much involvement, and also what kind of personality is a challenge for e-leadership so that the moderating effect of e-leadership can be examined more deeply. In future research, it is also possible to further examine how the variables of team personality, work culture, training, e-leadership compensation have an effect on virtual teams specifically for the millennial generation. The variables studied in this study have very interesting dimensions to examine in more depth so that they will get a complete virtual team management system

6.2. Theoretical implications

In this study, we examine more deeply how virtual work is very different from non-virtual work, where performance support instruments change, from how traditional leadership turns into virtual leadership that must be able to manage human resources and technology simultaneously. How team personality,

organizational culture, compensation, and training affect virtual team performance, how performance instruments build virtual work and create engagement without in-person meetings.

6.3. Practical implications

This study are expected to provide views for all stakeholders, especially HR practitioners in managing virtual teams with several supporting aspects that need to be considered so as to achieve the expected virtual team performance. This research is also expected to be able to minimize security risks, losses, and comfort in virtual work by selecting and conducting a team personality assessment so as to know which teams can join and which teams cannot join virtual work. This study implies that companies give attention to the personality and how the personality of the team interacts with fellow teams but how the personality of the team affects the team's ability to manage and use technology to face future challenges. Likewise with organizational culture where the six dimensions of participant management, ethics, clarity of work, learning organization, and pride in the organization are very important to be included in the organizational culture so that this will be a reference for how the organization manages its virtual team. The implications related to training and compensation as a system that has a significance influence on the engagement and performance of virtual teams are very important to be continuously upgraded or adapted to existing situations and conditions. So that the effect of training and compensation is still large on engagement and performance.

This research also implies that although e-leadership has been implemented optimally and has direct implications for engagement that can strengthen or weaken the supporting factors for virtual team performance, and this is how companies empower human resources and technology needs to be continuously improved because in this technological development leadership cannot be separated from the influence of technology or only traditional leadership abilities in managing teams but must have the ability to manage technology. In this millennial era, leadership is very attached to the ability of a leader to design strategy, implementation, and work based on technology.

The wider implication is that responding to the needs of consumers and customers to get fast, accurate, safe, effective, and efficient service requires the collaboration of human resources and technology services, and this is a very important task for e-leadership in implementing corporate strategy. So that the performance of the virtual team can really be maximized without being limited by space and time. All of the variables studied have implications for the management of teams that work virtually, if all the supporting factors for engagement and performance are optimized it will make the process of transforming work from face to face to virtual resulting in team involvement and performance that will support the goals and sustainability of the company.

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