DIGITAL LEADERSHIP STYLE ON EMPLOYEE COHESIVENESS IN SERVICE SECTOR AT PANDEMIC ERA

Andreas Wijaya¹*, Sophia Reni Susilo², Lelly Christin³, Valencia⁴, Steven Jonathan Salim⁵, Maria Angeline⁶, Catherine Vondrea⁷

¹Faculty of social science and humanity, Bunda Mulia University, Jakarta, 14430, Indonesia
Email: andreaswijaya15@gmail.com
²Faculty of social science and humanity, Bunda Mulia University, Jakarta, 14430, Indonesia
Email: Susilo@bundamulia.ac.id
³Faculty of social science and humanity, Bunda Mulia University, Jakarta, 14430, Indonesia
Email: Lchristin@bundamulia.ac.id
⁴Faculty of social science and humanity, Bunda Mulia University, Jakarta, 14430, Indonesia
Email: Lchristin@bundamulia.ac.id
⁵Faculty of social science and humanity, Bunda Mulia University, Jakarta, 14430, Indonesia
Email: Lchristin@bundamulia.ac.id
⁶Faculty of social science and humanity, Bunda Mulia University, Jakarta, 14430, Indonesia
Email: Lchristin@bundamulia.ac.id
⁷Faculty of social science and humanity, Bunda Mulia University, Jakarta, 14430, Indonesia
Email: Lchristin@bundamulia.ac.id

*Penulis Korespondensi

ABSTRACT
The outbreak of the COVID-19 pandemic has become the main hindrance that needs to be tackle for survival, almost all countries in the world are overwhelmed to overcome the situation. The new challenge is working with the senior generation in adopting new technology, therefore digital leaders must be tech savvy and bring the workforce with them. In leadership research both in manufacturing and services only raised the phenomenon after the crisis that occurred in 2008, while the discussion of leadership who worked virtually during the crisis still did not have research results that have high validity. The first gap found in this study discusses the use of leadership styles in virtual teams, previous research have debated issue of transformational and transactional leadership, the results show that transformational leadership is more direct employees to achieve goals than transactional leadership.
which has a negative effect on virtual teams. Second, there are still some interesting questions to be answered in previous research, including: How leadership styles facilitate individual affective and motivational processes and virtual team collaboration. This study aims to analyze effective leadership styles for digital leaders in fostering team cohesiveness with the IPO theory. Quantitative data collection methods were taken with purposive techniques to obtain appropriate samples. Research subjects include employees with lower management (staff) positions who work in a virtual work environment. The pilot study in this study collected 100 samples will then be tested using SMART PLS for data analysis. This study concludes that transformational leadership models can affect work motivation, and work motivation has an influence on employee cohesiveness.

**Keywords:** E-leadership, motivation, affective, employee cohesiveness

1. **INTRODUCTION**

   **Background**

   The outbreak of COVID-19 pandemic is salient hindrance, almost whole country in the world immersed to cope the situation. Therefore, compulsory lockdown measurement and social distancing in severe restriction composed to subside the contagious of infection diseases. However, the mandatory is a “double-edge-sword”. Since unveiled lockdown and curfew diminishing demand several industries dramatically, devastating impact on business and more people losing their jobs, income and also have a fear concurrently. The disperse of crisis area ranging from health as well as economic is a vivid description how the risen of VUCA era. The concept from Bennis and Nanus (2003) classified the situation in Volatility, Uncertainty, Complexity, Ambiguity). In term of volatility area, the impact of particular change in high rates outcome have rip out old page and start again, for instance: 5 countries in G7 groups including United Kingdom, Germany, Italy, France and Canada the number of infection rates in July have declined, however an astonishing rebound of in October almost embarked another repercussion ensuing the demand and spending become scarce. Secondly, the uncertainty in low predictability of contagious who will get infected have successfully altering the human behavior in life and workplace and the interaction among employee and the process for seller and buyer.

   **Consequences** from the government curtail, several company placed in short-term furlough (kurzarbeit) and mostly business activities transformed into digital workplace to ensuring their employee safely while work from home. Nevertheless, ambiguity of the when the vaccines or best treatment will be provided, who will have a privilege to get it, and how it will be distributed to all people properly. Reviewed how the leadership would be challenged in VUCA world. Although leadership was remarkably mature concept, yet in VUCA era the connection of pandemic and digital transformation gives leader competencies and role of leader changes dramatically.

   This research used piecemeal approached to embrace on leadership topics. Initially, bibliometric network analysis using the VOS viewer software version 1.6.9 According to N. J. van Eck and L. Waltman (2017) VOS viewer can used to creating maps based on network data and visualized to exploring the map. Therefore, the data was collected with "leadership" and "digital" as a keyword in the literature search engine at Pro quest, Scopus consisting of Leadership And Organization Development Journal, Journal Of Management Studies, Strategy And Leadership, Leadership Quarterly, Leadership, Journal Of Leadership And Organizational Studies, Journal Of Management, Human Resources Management from early 2000 up until the end of 2020. Thereby, 1084 literature was collected, the data from figure 1 shows there 99999999 is a strong line visualization from leadership strategy, big data, age, social medium, e-leadership.

   This research used piecemeal approached to embrace on leadership topics. Initially, bibliometric network analysis using the VOS viewer software version 1.6.9 According to Eck and Waltman (2017) VOS viewer can used to creating maps based on network data and visualized to exploring
the map. Therefore, the data was collected with "leadership" and "digital" as a keyword in the literature search engine at Pro quest, Scopus consisting of Leadership And Organization Development Journal, Journal Of Management Studies, Strategy And Leadership, Leadership Quarterly, Leadership, Journal Of Leadership And Organizational Studies, Journal Of Management, Human Resources Management from early 2000 up until the end of 2020. Thereby, 1084 literature was collected, the data from figure 1 shows there is a strong line visualization from leadership strategy, big data, age, social medium, e-leadership.

![Network Visualization](image1.png)

Figure 1. Network Visualization.
Source: Process by author using VOS Viewer

However, in figure 2, describes the term of leadership strategy and technology still lack of studies, most of research conducted in separated cluster form, furthermore it indicate there is an open angle to be discussed more.

![Density Visualization](image2.png)

Figure 2. Density Visualization
Source: Process by author using VOS Viewer

Using technology and technology influenced leader to relating leaders and followers. E-leadership is defined as a social influence process embedded in both proximal and distal contexts mediated by AIT that can produce a change in attitudes, feelings, thinking, behavior, and performance for individuals, groups, and/or organizations. Notably, e-leadership in an organization can occur at any hierarchical level. It may involve one-to-one and one-to-many interactions within and across large units and organizations. In previous study, the topic of e-
leadership already conducted in prevalence area, Cascio and Shurygailo (2003) focused how to manage in virtual teams; Zaccaro and Bader (2003) leadership skill to fostering e-leadership in their teams; Malhotra, et al (2007) leader need to ensuring distribution diversity at the teams. Concurrently with Watson (2008) found virtual workers had lower career achievement than physical employees.

Moreover, the rising issues from e-leadership had been soared, Siebdrat, et al (2009) in MIT Sloan Management Review suggest how communicate and coordinate with the teams without have regular physical presence of co-workers. For example: Different time zones ensure conflict and stress for employees. Siebdrat, et al (2009) mentioned the prominent question what kind of leadership will effectively address the traditional as well as new challenges, inspiring teams and increase team cohesion to create successful virtual teams. The couple of studies had conducted to measuring the effective of leadership in virtual team using IPO (Input-Process-Output) theory with multiple mediators as variable represented the effect on team effectiveness, however the study still have missing gaps issues and several limitation.

**Our Contribution**

Firstly, the gaps of which of e-leadership style to managing virtual team was captured from (M. Howell, et al (2005); Purvanova and Bono, 2009) examined transformational and transactional leadership, result showed the transformational leadership accompanying people to achieve the goals whereas transactional have a negative effect in virtual leadership. Furthermore, Hambley, et al (2007) adding medium as moderating variable to examining transformational and transactional leadership in virtual teams cohesion, as a result there is no significant effect of leadership style in virtual cohesion, however medium play a significant role, in their experiment richer communication media gives higher constructive team interaction scores. Nonetheless, C. Liao (2017) captured virtual leader might need proactively guiding their member reduced richness social information through computer as mediated communication tools. This finding also revealed how medium was important to in e-leadership.

Secondly, there are several questions remain unanswered, such as: How leadership style facilitates process of individual affective and motivation and virtual team collaboration? Could medium potentially moderating the communication between leader and followers? Meanwhile, the disperse of Covid-19 bring another impact for employee mental as stressor, Liao (2017) shows the existing literature emphasized on virtual work environment still lack of research in crisis situation. Many employees also reported being stressed in their workplace varied time of workplace, taking care for their family children, or even helping their children to complete their school task. May this condition affecting virtual team cohesion?

This research will conduct multilevel approach IPO (Input-Process-Output) model as theoretical model to answering the question. Despite of IPO theory model had conducted by several researcher, the limitation in IPO theory still need to be improved based on previous study: Liao (2017) conducted the study with the laboratory setting with the student, Bartsch, et al (2020) investigate study with service employees as a single course. Furthermore, to postulate the gap of e-leadership, this study will considered to adding the medium and stressor as mediator in longitudinal study to reveal the impact of e-leadership in virtual teams

**E leadership**

Leadership in the digital age has evolved into ‘e-leadership’. (Avolio, et al 2000; Salter, Harris, et al, 2014) defined as a social influence mediated by digital technology that can altering
attitudes, feeling, thinking, behaviour and performance. Digital technology had changed of boundaries into boundaryless organizational structures and collaborative business environment in economies scale and scope. In the virtual context collaboration Li, et al (2016) identifying the foundation of e-leadership divided in three stage level, ranging from micro, meso, and macro. The concept at micro level focused on communication with virtual teams and communication skill, and coordinate their workers through digital media. Based on Salter, et al (2014), current trends in media, mobile, big data, Internet of things, cloud computing are prevalence of micro organisational behaviour. On the other criteria, Kahai, et al (2013) examining e-leadership at a meso level is as change of information use in organisations, and how it affecting the loci and mechanism leadership, such as: greater transparency, the rise of social networks, and increased use of tracking devices. Macro level of e-leadership emphasize to implications of e-leadership in organizational change and organizational transformation.

![Figure 3. e-Leadership concept at micro, meso, and macro level](image)

**IPO Theory**

IPO theory (Input-Process-Output) was demonstrated from the early findings on social psychology; J.E. McGrath (1964) and adapted by (\ Hackman, 1983; Ingham, et al, 1974) to understanding team functioning. The existing model had been concerned in mediator to effect inputs on team effectiveness Mathieu, et al (2008) and multilevel perspectives was embarked by (Liao, 2017; Dulebohn and Hoch, 2017; Bartsch, 2020) to emphasizing leader behaviour contribution related in processes and prominent situation in virtual team. Therefore, in this research will investigate which leadership style (as the part of e-leadership) will effectively coordinating virtual team in VUCA era. virtual team in VUCA era.

**INPUT**

Research from Huang (2010) indicates the transformational and transactional are two of appropriate leadership style to influence followers success in virtual team. The emergence of transformational and transactional depends in context how the interaction from leaders and followers. Liao (2017) define in term transformational leadership as relation oriented and transactional leadership as task oriented. Transformational leadership is more reflect relationship values and emerge in time of distress, and in Pramono, et al (2022) transformational leadership is able to make an impact positive for innovativeness the transformational leaders motivate their followers to effort the instrumental personal abilities. On the other hand, transactional leadership observed in task order and follow instruction to satisfy needs (Liao,2017; Li, et al, 2016) define in term transformational leadership as relation oriented and transactional leadership as task oriented.
**PROCESS**

The leadership have an impact in either at individual and team related process in IPO model Liao (2017). Looking at virtual work environments, leadership mediate individual- and team-related process factors, including the relationship between input and output (Huang, et al 2010; Liao, 2017). In terms of the VUCA, affective and behavioural process of employee are likely being affected in their working and living conditions, therefore this research concentrated on how cognitive, affective, and motivational in individual level and virtual collaboration, team work tension in team level.

When people work in teams they encounter two issues that can either help or hinder their team spirit and motivation; first is their belief about whether other team members have the variety of skills and knowledge necessary to achieve team goals; and, second is their expectation about whether the team will collaborate effectively to get the job done.

**OUTCOME**

The concept of cohesiveness argued as facilitates for a better performance. Group cohesion motivates, as well as allows, for coordinating activities. Team cohesion as the final output the IPO model was considered to answering the call from Eissa, et al (2012) that found new challenge in e-leadership comprising from application and information, such as: specific traits, attitudes and behavior to ensuring team cohesion. Snellman (2014): The main challenge for e-leaders seems to reside in their ability to inspire and motivate team members to mutual, active and continuous communication, which is known to increase cohesion and motivation.

In the term of VUCA era, this research considering stressor as mediator variable as source from several situation; (Bartsch et al, 2020; Gómez et al, 2020) consider plausible stressors due to relationships at work (e.g., interpersonal animosity stress affects employees’ ability to empathize with others, poor leadership); Restauri and Sheridan (2020) stressors intrinsic to a job (e.g., workload, time pressure). In this study, three of categories stressed was chosen to measuring stress from employee workplace.

![Research Framework](image-url)

**Figure 4. Research Framework**
Based on these explanations, obtained research questions and generate research hypotheses as follows:

**Research Question:**

- H1a: Transformational leadership affects individual affective
- H1b: Transformational leadership affects individual motivation
- H2a: Individual affective affects team cohesiveness
- H2b: Individual affective affects team cohesiveness

### 2. RESEARCH METHOD

This research will investigate the effective leadership style for e-leadership in multilevel approach on individual and team process. The IPO model was adopted from (Bartsch et al, 2020; Liao, 2017), therefore the research will be conducted in quantitative approach and Longitudinal study design to confirmed the e-leadership context in richer study from micro, meso, and macro.

This research is a quantitative research using a questionnaire. The subject in this study are staff level who work remotely from home. Minimum sample size estimation based on based on Inverse Root Method Kock and Hadaya (2018) to approach minimum sample, therefore the data had been collected 100 sample. The data will collected with non-probability technique, therefore, the sample will given closed ended question in Likert scale. As a result, collected data will be analyzed using PLS statistical software.

### 3. RESULTS AND DISCUSSION

The description of the frequency of respondents based on the gender of the respondents is shown in Table 4.2 below.

<table>
<thead>
<tr>
<th>No</th>
<th>Gender</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Man</td>
<td>44</td>
</tr>
<tr>
<td>2</td>
<td>Woman</td>
<td>66</td>
</tr>
</tbody>
</table>

Based on research data obtained from 100 respondents related to gender, it can be concluded that the majority of respondents are men, with a percentage of 66%, women with a percentage of 44% from a total of 100% of the total respondents as many as 100 respondents.

**Description of Respondent's Education Level**

The description of the frequency of respondents based on the education level of the respondents is shown in Table 2

<table>
<thead>
<tr>
<th>No</th>
<th>Level of education</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Senior high school</td>
<td>38</td>
</tr>
<tr>
<td>2</td>
<td>S1</td>
<td>52</td>
</tr>
<tr>
<td>3</td>
<td>S2</td>
<td>10</td>
</tr>
</tbody>
</table>

Based on Table 2, it can be concluded that the majority of respondents have an undergraduate education background with a percentage of 52%, followed by high school education at 38%.

**Data Analysis and Interpretation**
Data analysis in this study used SMART PLS with the following research model

![Research Model](https://example.com/research_model.png)

**Figure 5. Research Model**
Source: SMARTPLS 3, 2021

In this study, the outer model and inner model tests will be carried out to answer the research results:
- Test Outer Model

In the outer model test, various stages will be carried out, namely validity testing and reliability testing:
- Validity test
- Convergent validity test

**Table 3. Convergent Validity Test**
Source: SMARTPLS 3, 2021

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Cronbach's Alpha</th>
<th>Composite Reability</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Cohesiveness</td>
<td>0.722</td>
<td>0.511</td>
<td>0.758</td>
</tr>
<tr>
<td>Individual level Affective</td>
<td>0.527</td>
<td>0.702</td>
<td>0.809</td>
</tr>
<tr>
<td>Individual level Motivation</td>
<td>0.511</td>
<td>0.511</td>
<td>0.722</td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td>0.536</td>
<td>0.536</td>
<td>0.527</td>
</tr>
</tbody>
</table>

Based on the convergent validity test carried out in Table 3, it shows that the AVE value has met the valid requirements, which is above the value of 0.5.

**Table 4. Discriminant Validity Test**
Source: SMARTPLS 3, 2021

<table>
<thead>
<tr>
<th></th>
<th>Employee Cohesiveness</th>
<th>Individual level Affective</th>
<th>Individual level Motivation</th>
<th>Transformational Leadership</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Cohesiveness</td>
<td>0.659</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual level Affective</td>
<td>0.42</td>
<td>0.629</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Individual level Motivation</td>
<td>0.283</td>
<td>0.276</td>
<td>0.669</td>
<td></td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td>0.118</td>
<td>0.428</td>
<td>0.351</td>
<td>0.726</td>
</tr>
</tbody>
</table>
Based on these data, it can be concluded that they have met the validity requirements (Wijaya, 2019).

● Reliability Test
The value of the reliability test can be seen in Table 5, show that each variable has exceeded the reliable requirements, which is above 0.6 (Wijaya, 2019).

<table>
<thead>
<tr>
<th>Variabel</th>
<th>Cronbach’s Alpha</th>
<th>Composite Reability</th>
<th>AVE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Cohesiveness</td>
<td>0,722</td>
<td>0,511</td>
<td>0,758</td>
</tr>
<tr>
<td>Individual level Affective</td>
<td>0,527</td>
<td>0,702</td>
<td>0,809</td>
</tr>
<tr>
<td>Individual level Motivation</td>
<td>0,511</td>
<td>0,511</td>
<td>0,722</td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td>0,536</td>
<td>0,536</td>
<td>0,527</td>
</tr>
</tbody>
</table>

● Inner Model Test
The Inner test model show R square value and significance test.

<table>
<thead>
<tr>
<th></th>
<th>R Square</th>
<th>R Square Adjusted</th>
</tr>
</thead>
<tbody>
<tr>
<td>Employee Cohesiveness</td>
<td>0,306</td>
<td>0,39</td>
</tr>
<tr>
<td>Individual level Affective</td>
<td>0,100</td>
<td>0,11</td>
</tr>
<tr>
<td>Individual level Motivation</td>
<td>0,323</td>
<td>0,314</td>
</tr>
<tr>
<td>Transformational Leadership</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Based on the results of the R square test, it can be concluded that employee cohesiveness have an effect individual level affective by 11.%, and and individual level motivation 31.4%, and the remaining 60.6%. indicates that there are other variables that affect employee cohesiveness

● Sample Significance Test

<table>
<thead>
<tr>
<th></th>
<th>T Statistics</th>
<th>P Values</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transformational Leadership - Individual level Affective</td>
<td>2,217</td>
<td>0,027</td>
</tr>
<tr>
<td>Transformational Leadership-Individual level Motivation</td>
<td>3,810</td>
<td>0,000</td>
</tr>
<tr>
<td>Individual level Affectives-Employee Cohesiveness</td>
<td>3,826</td>
<td>0,001</td>
</tr>
<tr>
<td>Individual level Motivation-Employee Cohesiveness</td>
<td>4,356</td>
<td>0,002</td>
</tr>
</tbody>
</table>

Based on the results of the study, the value of the significance test shows all hypothesis are accepted,Firstly, transformational leadership had effect on individual level affective it can be shown by the amount of P-value<0,05, looking for this finding, the employee feel more positive affective to have passionate, interest to work. Secondly, secondly transformational leadership also had effect on individual level motivation, it can be shown by the amount of P-value<0,05
respectively. as a result, transformational leadership had positive influence to affective and motivation. From this point, employee feel have a direction either work at office or home to finish their work. In furthermore, the variable of individual level affective had significance effect to employee cohesiveness, it can be seen from P-value <0.005. From this part, employee felt affective activity with their leader will give a positive environment to stick them together in cohesiveness, on the one hand individual level motivation also had significance effect to team cohesiveness. Employee with strong motivation will influence each other to cohesive. As consequences of affective and motivation had been soared, employee being engaged a part of team and become cohesive in their workplace.

4. CONCLUSION AND RECOMMENDATIONS
Looking for this study, several points can be concluded, First of all, transformational leadership had significant effect to individual level affective and support the previous research, therefore transformational leadership had similar result to affected individual level motivation, in contrary result from Bartsch et al (2020) had no effect from transformational leadership to individual level motivation. Hence, this finding indicates for leader to take a lesson for improving their sense of caring, employee will have higher affective and motivational level. Therefore, individual level affective and individual level motivation had significant effect, both of this finding had a similar study from (Stashevsky and Koslowsky, 2006; Liao, 2017). There is a distinction when employee work from office and work from home, they can’t meet with each other, from this point, individual affective and motivation are key point in this digital era. People need their individual motivation to keep their cohesive with the party. Furthermore, this finding shows a next question such as: what kind leadership style will suitable in virtual team? Would virtual team show a performance as well as conventional team? This study suggest to other researcher to find out this question to adding knowledge of organizational and leadership in digital era.

LIMITATION
In the first place, the amount of sample in this study are 100, that indicate need to be enlarge. In addition, this research is still ongoing in the Jakarta area, so it can be a consideration to conduct further research such as adding respondents outside Jakarta.

Acknowledgement
This study was supported by Bunda Mulia University students for their support in research from technical and statistical support.

REFERENCES


https://doi.org/10.24912/jmieb.v7i1.22751