



Regular article

# The Influence of Digital Leadership and Online Training on Employee Performance Through Job Satisfaction in a Hybrid Work Environment at the BPJS Ketenagakerjaan Sumbagut Office

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## ABSTRACT

This study aims to analyze the influence of digital leadership and online training on employee performance through job satisfaction in a hybrid work environment at the BPJS Ketenagakerjaan Sumbagut Regional Office. Digital transformation and the implementation of a hybrid work system require organizations to strengthen technology-based leadership as well as employee competency development in order to maintain optimal performance. This research uses a quantitative approach with a survey method. The research sample was determined using a purposive sampling technique, with a total of 81 employees as respondents. The data analysis method used is Structural Equation Modeling (SEM) based on Partial Least Squares (PLS). The results show that digital leadership has a positive and significant effect on both job satisfaction and employee performance. Online training also has a positive and significant effect on job satisfaction and employee performance. Furthermore, job satisfaction is proven to have a positive and significant effect on employee performance. The indirect effect testing indicates that job satisfaction is able to significantly mediate the influence of digital leadership and online training on employee performance. These findings suggest that strengthening digital leadership and designing relevant and interactive online training can improve job satisfaction, which in turn enhances employee performance in a hybrid work environment. The implications of this study emphasize the importance of developing digital competencies for both leaders and employees, as well as optimizing online training systems that are aligned with job needs in order to support productivity and service quality in public sector organizations.

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## Introduction

The era of digitalization has accelerated a fundamental transformation in the way people work across the globe. According to the International Labour Organization (ILO) (2023) in its report "World Employment and Social Outlook 2023", 41% of global organizations have adopted hybrid work models as a result of digital transformation. This

is reinforced by a study from Global Workplace Analytics (2022), which reported a 77% increase in hybrid work adoption since 2019, reflecting a significant shift in the global work paradigm. This transformation not only changes how organizations operate but also introduces new challenges in leadership, competency development, and employee performance management.

In Southeast Asia, Indonesia has shown significant growth in digital adoption. According to an official report by Statistics Indonesia (Badan

Pusat Statistik) (2023) in "E-Commerce Statistics Indonesia 2023", the growth in digital transactions occurred as a result of the post-pandemic period, which changed behavioral patterns ranging from social interaction, work, and shopping to banking access, all of which have become a new lifestyle in society. These habits have continued to persist, commonly referred to as the "new normal". These changes in behavioral patterns represent a key momentum for the government to support and further educate the public in adapting to, utilizing, and optimizing the digital sector as a driver of the economy.

A report by the Ministry of Communication and Informatics (2023) reveals that many companies have adopted remote (hybrid) working models to ensure operational continuity. Digital collaboration tools such as Slack, Microsoft Teams, and Zoom have become essential for communication and project management, enabling employees to work from home while staying connected with their teams, conducting virtual meetings, and managing tasks effectively. However, this implementation faces various challenges, particularly in the areas of digital leadership and employee competency development. Mohanty et al. (2024) identify communication challenges as a primary barrier in adapting digital leadership styles to new work systems. One of the difficulties leaders face in maintaining close relationships with colleagues is the lack of access to adequate devices and technical authorization to lead video conferences. The quality of available technology significantly affects effectiveness in developing strong leadership, building trust, fostering social exchange, and enabling team collaboration in virtual environments.

According to Jessica (2023), during the pandemic, the trend of working from home (WFH) increased significantly as restrictions on public activities forced work to be conducted online. Indonesian workers were able to experience and benefit from this WFH system. Even after returning to normal conditions, WFH remains popular among many workers in Indonesia due to the various advantages it offers. Observing these changing trends, JobStreet conducted a survey to understand Indonesian workers' preferences regarding work systems, including work from office (WFO), hybrid, and WFH.

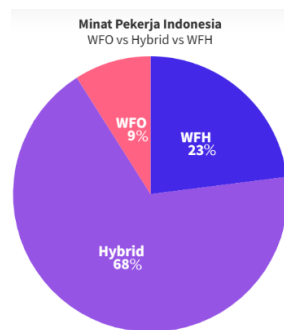


Figure 1 Indonesian Worker Preference Chart

Based on a JobStreet survey, the majority of Indonesian workers now prefer a hybrid work system (a combination of WFO and WFH), while only 9% are fully interested in working from the office. Before the pandemic, 68% of workers preferred working from the office because hybrid work was not yet popular, and most companies still required employees to work on-site, with only 4% showing interest in WFH. The pandemic shifted workers' perceptions, as they began to experience the benefits of WFH, such as saving on transportation costs that could be allocated to other needs. For migrant workers, WFH reduces the need to rent accommodation, allowing housing expenses to be redirected elsewhere. In addition, working from home enables employees to save time, especially for those who live far from the office, and provides flexibility to manage household responsibilities or pursue additional jobs. Workers can also choose companies outside their city or even abroad without considering relocation costs. However, working from home also presents challenges, particularly for those in environments that are not conducive to remote work, such as unstable internet connections, unclear working hours, and less effective team communication (Radika, 2020).

In the public service sector in particular, digital transformation has become a strategic priority in optimizing services for the community. Research conducted by Cahyarini (2021) indicates that there are challenges in internalizing the understanding of requirements and procedures among service officers, which can affect performance in increasingly digital and hybrid work environments, as well as in the development of digital transformation programs aimed at improving the quality of public services ultimately impacting employee performance in hybrid settings. This is further supported by a study by Hidayat et al. (2023), which highlights the importance of digital leadership and organizational support in enhancing employee satisfaction and work engagement amid organizational digital transformation.

Based on the phenomena and explanations above, it shows that in the era of hybrid work driven by digitalization, various elements such as digital leadership, online training, and employee job satisfaction play an important role in supporting organizational adaptation to change. Adaptive digital leadership can support employees in understanding and utilizing technology, while online training helps improve their competencies to adapt to digital work environments. However, challenges in communication, the effectiveness of online training, and suboptimal levels of job satisfaction remain obstacles that need to be addressed in order to achieve optimal employee performance in remote work settings, particularly in the public service sector. These facts encourage the researcher to conduct a more in-depth study entitled "The Effect of Digital Leadership and Online Training on Employee Performance Through Job Satisfaction in the Hybrid Work Area of BPJS Ketenagakerjaan Sumbagut Office".

## Literature Review

### Leadership

Leadership is a fundamental concept in management and organizational studies that relates to the process of influencing others to achieve common goals. According to Peter G. Northouse (2022), leadership is defined as “a process whereby an individual influences a group of individuals to achieve a common goal,” meaning that leadership is the process in which an individual influences a group to achieve shared objectives through communication, motivation, inspiration, and the provision of strategic direction so that these goals can be achieved effectively.

### Digital Leadership

According to Siagian (2019), digital leadership is the ability and insight of a leader to guide an organization or company in transforming toward the digital era. This includes the capability to strategically utilize digital technology to improve operational efficiency, innovation, and organizational competitiveness. A digital leader must be able to recognize the opportunities and challenges arising from technological developments, as well as inspire teams to adopt change with an adaptive attitude. In order to achieve organizational goals in the current digital era, various aspects are required, including leadership elements or leaders with a digital mindset (Cahyarini, 2021).

### Training

According to Asari et al. (2023), training is an educational process designed to develop specific skills, such as mastery of particular software or a deep understanding of certain business procedures. This program is generally aimed at improving the abilities required to perform current job tasks as well as preparing individuals for responsibilities they may undertake in the future. Meanwhile, Fauzan et al. (2023) define training as a learning process that involves the use of various specially designed techniques and methods to enhance an individual's skills, knowledge, and work capabilities. This process not only focuses on mastering technical skills but also on developing competencies that support productivity and effectiveness in carrying out job responsibilities.

### Job Satisfaction

According to Indrastuti (2020), job satisfaction is a subjective condition in which its assessment is based on a comparison between what employees actually receive from their work and what they expect, desire, or consider appropriate for themselves. Meanwhile, Setiono and Sustiyatik (2023) state that job satisfaction generally refers to an individual's attitude toward their job. Since it is related to attitude, the concept of job satisfaction includes various aspects such as conditions and behavioral tendencies. Although job satisfaction is not directly visible or tangible, it can be reflected in work outcomes.

### Employee Performance

According to Budiyanto and Mochklas (2020), performance is a representation of the level of success in implementing an activity, program, or policy to achieve the goals, objectives, vision, and mission of an organization in a lawful manner that does not violate regulations and is in accordance with moral and ethical values. All of this is reflected in the strategic planning formulated by the organization. Meanwhile, Amalia (2017) defines performance as the results of work and work behavior achieved in completing assigned tasks and responsibilities within a certain period of time.

## Methodology

### Research Population and Sample

The population in this study consists of all employees of BPJS Ketenagakerjaan located in Medan City, including the Regional Office (Kanwil) for the Northern Sumatra Region (SUMBAGUT), the Medan City Branch Office, and the Medan North Branch Office. This population was selected because these three offices represent the center of the implementation of digital transformation programs and the adoption of a hybrid work system, where some tasks are performed online and others are conducted face-to-face at the office. This study aims to explore the influence of digital leadership and online training on employee performance in a hybrid work context, with job satisfaction serving as a mediating variable.

This study uses a census method, in which all members of the population are included as research respondents. The population consists of all employees of BPJS Ketenagakerjaan located in Medan City, including the Regional Office for the Northern Sumatra Region (SUMBAGUT), the Medan City Branch Office, and the Medan North Branch Office. The total population in this study is 81 employees working under a hybrid work system. This population was selected because these three offices represent the center for implementing digital transformation programs and adopting a hybrid work system, where some tasks are carried out online and others are conducted face-to-face at the office. The study aims to explore the influence of digital leadership and online training on employee performance in a hybrid work context, with job satisfaction as a mediating variable.

### Data Analysis

Data analysis is an activity carried out after data from all samples have been collected and processed based on the characteristics of the variables, the research objectives, and the types of respondents. It involves tabulating the data according to the variables from all samples, presenting the data for each variable examined, and conducting tabulation and data testing to address the problem statements outlined in the formulated hypotheses. The data analysis method used in this study is SEM-PLS analysis.

**Results and Discussion**

*Respondent Characteristics*

The respondent characteristics in this study include gender, age range, marital status, and level of education. In detail, the characteristics of the respondents are presented in Table 1:

Table 1. Respondent Characteristics Based on Gender

Characteristics	Frequency	Presentation
Man	56	69,1
Woman	25	30,9
<b>Total</b>	<b>81</b>	<b>100</b>

Source: Data processed (2026)

Based on Table 1, the characteristics of the respondents indicate that the majority are male, totaling 56 individuals (69.1%), while female respondents number 25 individuals (30.9%), reflecting the employee composition at the BPJS Ketenagakerjaan Sumbagut Office, which is dominated by male employees. Furthermore, the characteristics of respondents based on age are presented in Table 2:

Table 2. Respondent Characteristics Based on Age

Characteristics	Frequency	Presentation
20 – 30	38	46,9
31 – 40	33	40,7
41 – 50	9	11,1
> 50	1	1,2
<b>Total</b>	<b>81</b>	<b>100</b>
Characteristics	Frequency	Presentation

Source: Data processed (2026)

Based on Table 2, the characteristics of the respondents show that most are in the productive age range, particularly those aged 31–40 years with 33 individuals (40.7%) and 21–30 years with 26 individuals (32.1%). This indicates that the respondents have a relatively good level of work experience and adaptability to the implementation of digital technology in a hybrid work system. Furthermore, the characteristics of respondents based on marital status are presented in Table 3:

Table 3. Respondent Characteristics Based on Status

Characteristics	Frequency	Presentation
Marry	76	93,8
Not married yet	5	6,2
<b>Total</b>	<b>81</b>	<b>100</b>

Source: Data processed (2026)

Based on Table 3, the characteristics of the respondents indicate that the majority are married, totaling 76 individuals (93.8%), which suggests the importance of job stability and job satisfaction in supporting employee performance. Furthermore, the characteristics of respondents based on education level are presented in Table 4:

Table 4. Respondent Characteristics Based on Education Level

Characteristics	Frequency	Presentation
Diploma	6	7,4
Bachelor	35	43,2
Masters	40	49,4
<b>Total</b>	<b>81</b>	<b>100</b>

Source: Data processed (2026)

Based on Table 4, the characteristics of the respondents indicate that the majority hold a Master’s degree, totaling 40 individuals (49.4%), followed by those with a Bachelor’s degree at 35 individuals (43.2%). This suggests that employees have an adequate educational background to understand digital leadership practices and to effectively participate in online training. Therefore, this is relevant to the study’s focus on examining the influence of digital leadership and online training on employee performance through job satisfaction within a hybrid work environment at the BPJS Ketenagakerjaan Sumbagut.

*The Influence of Digital Leadership on Job Satisfaction*

The results of the study indicate that digital leadership ( $X_1$ ) has a positive and significant effect on job satisfaction ( $Z$ ). This finding suggests that the better the implementation of digital leadership within the organization, the higher the level of employee job satisfaction. Leadership that is adaptive to technological developments, open to change, and capable of facilitating digital communication and collaboration has a positive impact on employees’ sense of comfort, engagement, and positive attitudes toward their work.

*The Influence of Digital Leadership on Employee Performance*

Based on the test results, digital leadership ( $X_1$ ) has a positive and significant effect on employee performance ( $Y$ ). This finding indicates that the role of leaders who are able to effectively utilize digital technology directly contributes to improving employee performance. Leaders who are visionary and responsive to digital changes can encourage employees to work more efficiently, innovatively, and to achieve the performance targets set by the organization.

*The Influence of Digital Leadership on Employee Performance through Job Satisfaction*

The results of the study indicate that digital leadership ( $X_1$ ) has a positive and significant effect on employee performance ( $Y$ ) through job satisfaction ( $Z$ ). This finding shows that the magnitude of the indirect effect of digital leadership on employee performance is 0.488 or 48.8%. It indicates that job satisfaction acts as a mediating variable in the relationship between digital leadership and employee performance. Effective digital leadership is able to first improve employees’ job satisfaction, which in turn indirectly enhances their performance.

*The Influence of Online Training on Job Satisfaction*

The results of the study indicate that online training ( $X_2$ ) has a positive and significant effect on job satisfaction ( $Z$ ). This finding shows

that online training that is conducted in a structured manner and relevant to job needs is able to increase employee job satisfaction. Online training provides ease of access to learning, time flexibility, and opportunities for competency development, which contribute to increased self-confidence and employees' satisfaction with their work.

#### *The Influence of Online Training on Employee Performance*

The results of the study indicate that online training ( $X_2$ ) has a positive and significant effect on employee performance ( $Y$ ). This finding proves that online training plays an important role in improving employee performance. Through the enhancement of knowledge and skills gained from training, employees are able to perform their tasks more effectively, accurately, and productively, which directly contributes to improved performance.

#### *The Influence of Online Training on Employee Performance through Job Satisfaction*

The results of the study indicate that online training ( $X_2$ ) affects employee performance ( $Y$ ) through job satisfaction ( $Z$ ). The magnitude of the indirect effect of online training on employee performance is 0.581 or 58.1%. This result indicates that job satisfaction mediates the effect of online training on employee performance. Effective online training is able to improve employee job satisfaction, which in turn contributes to a sustained increase in employee performance.

#### *The Influence of Job Satisfaction on Employee Performance*

The results of the study indicate that job satisfaction ( $Z$ ) has an effect on employee performance ( $Y$ ). This finding shows that employees with a high level of job satisfaction tend to demonstrate better performance. Job satisfaction encourages employees to work more responsibly, be more committed, and have higher motivation in completing their tasks.

## **Conclusions**

Based on the results of the research and the discussion presented in the previous chapter, this study aims to analyze the influence of digital leadership and online training on employee performance, with job satisfaction as a mediating variable. Based on the hypothesis testing and data analysis conducted, the following conclusions can be drawn:

1. Digital leadership has a positive and significant effect on job satisfaction. This result shows that the better the implementation of digital leadership within the organization, the higher the level of employee job satisfaction. Leadership that is adaptive to technological developments, open to change, and capable of facilitating digital communication and collaboration has a positive impact on employees' sense of comfort, engagement, and positive attitudes toward their work.
2. Digital leadership has a positive and significant effect on employee performance. This finding indicates that the role of

leaders who are able to effectively utilize digital technology directly contributes to improving employee performance. Leaders who are visionary and responsive to digital changes can encourage employees to work more efficiently, innovatively, and to achieve the performance targets set by the organization.

3. Online training has a positive and significant effect on job satisfaction. This study shows that online training that is conducted in a structured manner and relevant to job needs is able to increase employee job satisfaction. Online training provides ease of access to learning, time flexibility, and opportunities for competency development, which contribute to increased self-confidence and employees' satisfaction with their work.
4. Online training has a positive and significant effect on employee performance. This finding proves that online training plays an important role in improving employee performance. Through the enhancement of knowledge and skills obtained from training, employees are able to perform their tasks more effectively, accurately, and productively, which directly improves performance.
5. Job satisfaction has a positive and significant effect on employee performance. The results of this study indicate that employees with a high level of job satisfaction tend to demonstrate better performance. Job satisfaction encourages employees to work more responsibly, be more committed, and have higher motivation in completing their tasks.
6. Digital leadership has a positive and significant effect on employee performance through job satisfaction as a mediating variable. This finding shows that job satisfaction acts as an intermediary variable in the relationship between digital leadership and employee performance. Effective digital leadership first improves employee job satisfaction, which then indirectly enhances employee performance.
7. Online training has a positive and significant effect on employee performance through job satisfaction as a mediating variable. This result indicates that job satisfaction mediates the effect of online training on employee performance. Effective online training is able to improve employee job satisfaction, which ultimately contributes to a sustained improvement in employee performance.

Future research is expected to further develop this study by adding other variables such as work motivation, organizational commitment, or digital work culture in order to obtain a more comprehensive understanding of the factors influencing employee performance. In addition, future researchers may expand the research object and use

different research methods so that the results of the study have stronger generalizability.

## References

- Asari, A., Romindo, Syamsu, R., Abdurohim, Yossi H., Faidal, Zainiyatul A., Ari K., Ning, S., Siti, M., Hanna, M. D., Nugroho B. S., Muhamad B. (2023). *Manajemen Sdm Di Era Transformasi digital*. Yogyakarta: CV. Istana Agency
- Badan Pusat Statistik. (2023). *Statistik E-Commerce Indonesia 2023*. Jakarta: BPS-Statistics Indonesia
- Budiyanto, E. (2020). *Kinerja Karyawan Ditinjau dari Aspek Gaya Kepemimpinan, Budaya Organisasi Dan Motivasi Kerja (Pendekatan Riset)*. Banten: CV AA Rizky
- Cahyarini, F. D. (2021). Implementasi digital Leadership dalam Pengembangan Kompetensi digital pada Pelayanan Publik. *Jurnal Studi Komunikasi Dan Media*, 25(1), 47. <https://doi.org/10.31445/jskm.2021.3780>
- Fauzan, R., Ni Desak, M, S, D., Ratna, H., Roy, S., Adhy, F., Rasti, Y., Nurchayati, Desy, S & Aprizal. (2023). *Manajemen Sumber Daya Manusia (Pengantar di Era Modern)*. Sumatera Barat: PT. Global Eksekutif Teknologi.
- Global Workplace Analytics. (2022). *Global Work-from-Home Experience Survey*. Available at: <https://globalworkplaceanalytics.com/global-work-from-home-experience-survey>
- Hidayat, F., Sumantri, S., Rumengan, A. E., Wibisono, C., & Khaddafi, M. (2023). The Effect of digital Leadership, Information Technology and digital Competency on Employee Performance in the digital Era: Mediating Role of Job Satisfaction. *International Journal of Advances in Social Sciences and Humanities*, 2(2), 61–68. <https://doi.org/10.56225/ijassh.v2i2.204>
- Jessica, Kristina. (2023). *Tren Sistem Bekerja Berubah Pasca Pandemi, Pekerja Indonesia Lebih Suka hybrid*. Diakses dari <https://goodstats.id/article/tren-sistem-bekerja-berubah-pasca-pandemi-pekerja-indonesia-lebih-suka-hybrid-ZSQyE>
- Mohanty, A. K., Parker, W. H., Bora, N. P., Chauhan, A. K., Kumar, M., & Bhardwaj, N. (2024). digital Leadership in the Era of hybrid Work: Challenges, Strategies, and the Role of Emerging Technologies. *Library Progress International*, 44(3), 6711–6719
- Radika, KC. (2020). *Kendala dalam Melaksanakan Work From Home (WFH)*. Diakses dari <https://www.hadirr.com/blog/kendala-work-from-home/>
- Siagian, S. (2019). *Manajemen Sumber Daya Manusia*. Jakarta: Bumi Aksara