

# The Effect of Populations Administration Information System Technology on the Performance of Operator's Populations Administration Service through Organizational Citizenship Behavior as an Intervening Variable

Achmad Jati Purbo<sup>1</sup>, Toni Herlambang<sup>2</sup>, Retno Endah Supeni<sup>3</sup>  
<sup>1,2,3</sup>Muhammadiyah University of Jember, Indonesia



DOI : <https://doi.org/10.61796/icossh.v2i1.61>



## Sections Info

### Article history:

Submitted: January 22, 2025  
Final Revised: February 6, 2025  
Accepted: February 12, 2025  
Published: March 8, 2025

### Keywords:

Public service motivation  
Competence  
Professionalism  
Employee performance

## ABSTRACT

**Objective:** This research aims to analyze the effect of populations administration information system technology on the performance of operator's populations administration service through organizational citizenship behavior as an intervening variable. **Method:** Research design can be classified as explanatory/confirmatory research. The population to be studied is all employees of population administration service operators in sub-district offices throughout Jember Regency, amount 132 people. Hypothesis testing in this research uses Structural Equation Modeling (SEM) with the WarpPLS statistical tool. **Results:** Findings of this research state that populations administration information system technology has significant effect on the organizational citizenship behavior and the performance of operator's populations administration service. Organizational citizenship behavior has significant effect on the performance of operator's populations administration service. The population administration system has significant effect on employee performance through organizational citizenship behavior. **Novelty:** This research uses a model of the influence of information system technology on service operator performance by involving organizational citizenship behavior as mediator or intervening. Thus, this model is the answer to the existing research gap related to staff performance.

## INTRODUCTION

The role of the Indonesian State Civil Service as quality Human Resources (HR) is an important pillar in realizing a modern, accountable and transparent government. The quality of human resources is a strategic issue in efforts to realize the goals of good, clean and dignified government. [1] stated that humans are the most important element in an organization, as well as its most valuable possession.

The public's expectation for better public services certainly requires the readiness of the state civil apparatus to carry out general government tasks and national development. Performance is defined as the result of a person's efforts which is achieved with effort, ability, and task perception [2]. According to [3] employee performance is defined as the results obtained from work functions or activities carried out as behavior and results. Evaluation of employee performance can be assessed by several parties involved and by representative evaluators. Achieving employee performance cannot be separated from several factors that influence it, including organizational citizenship behavior, employee cognitive abilities, work experience, and information technology in the form of administrative systems.

Extra role behavior from employees is very necessary for organizations/institutions in today's rapidly changing and flexible environment. Organizational Citizenship

Behavior (OCB) which is a multidimensional concept that covers various aspects of voluntary behavior, namely beyond requirements [4]. OCB is behavior carried out by employees outside of their recognized routine job duties and assignments. This behavior is organizationally desirable because of its relationship to organizational effectiveness [5]. OCB is defined as individual behavior, that is, wisdom, not directly or explicitly recognized by formal reward systems, and which overall promotes the effective functioning of the organization. Citizenship behavior in the workplace is a form of maintaining and enhancing the social and psychological context that supports task performance. Previous empirical research also found a positive relationship between OCB and performance including [6], [7], [8]. Different research results were obtained [9], [10].

As working conditions develop, it is important for employees to take personal initiative to work well. For example, information technology in the form of a public service administration information system is currently developing rapidly, forcing organizations to adapt quickly, while also expecting employees to be proactive and more flexible in their work roles. Employees who proactively adapt and structure work experience more meaning and adapt better to changing circumstances; employees are also more innovative and perform better in their overall job role and participate more actively in work by seeking challenges and having control over what they do [11]. Technological innovations are emerging to provide services that are more easily accessible to the public, so government institutions must be aware of the importance of using these new technologies [12].

Information technology tools in the form of a population administration information system (TI-SIAK) greatly facilitate the performance of public service tasks in the field of population administration. At the same time, employees are increasingly using these technologies for non-work-related purposes while at work, which is referred to as Personal Use of Technology at Work (PUTW) [13]. Empirical research that provides evidence of the relationship between information technology in the form of administrative systems and OCB and performance includes [14]-[17], [18].

Various problems related to the performance of public services in the field of population administration indicate that there is still a need to improve the performance of sub-district employees (service operators). Referring to the description above, this research examines the influence of population administration information systems on the performance of population administration service operators through organizational citizenship behavior as an intervening variable.

## **RESEARCH METHOD**

The research design was created to answer the problem formulation through basic concepts, hypothesis development, sampling techniques, data collection techniques, and data analysis methods [19]. This research design is included in explanatory/confirmatory research [20]. The population to be studied is all employees of population administration service operators in sub-district offices throughout Jember Regency, namely 132 people.

The sampling technique in research is a saturated sample. According to [21] that, "saturated sampling is a sample determination technique when all members of the population are used as samples.

Variables are research objects, or what is the point of attention of a research to be studied and conclusions drawn [21]. There are three research variables, namely endogenous variables, exogenous variables, and intervening variables. Operational measurements of these variables can be seen in Table 1.

**Table 1.** Identification and measurement research variables.

No	Variable	Indicator
1	Population Administration Information Systems (X)	<ul style="list-style-type: none"> <li>a. Speeding Up Work</li> <li>b. Increase Productivity</li> <li>c. Effectiveness</li> <li>d. Makes work easier</li> <li>e. Beneficial</li> <li>f. Easy to use and learn [22]</li> </ul>
2	Organizational Citizenship Behavior (Z)	<ul style="list-style-type: none"> <li>a. Conscientiousness</li> <li>b. Altruism</li> <li>c. Civic Virtue</li> <li>d. Sportsmanship</li> <li>e. Courtesy [23]</li> </ul>
3	Staff Performance (Y)	<ul style="list-style-type: none"> <li>a. Completes tasks specified in the job description</li> <li>b. Meet job performance requirements</li> <li>c. Fulfill all responsibilities required by the job</li> <li>d. Fulfill obligations to do work</li> <li>e. Able to carry out important tasks [24]</li> </ul>

The data analysis stage as a form of research hypothesis testing uses Structural Equation Modeling (SEM) with the WARPPLS statistical tool. Structural Equation Modeling (SEM) is an integrated approach between factor analysis, structural models and path analysis [25].

## RESULTS AND DISCUSSION

### *Results*

#### **Respondent Descriptive Statistics**

The research respondents were all 132 staff of population administration service operators in sub-district offices throughout Jember Regency.

**Table 2.** Descriptive statistics of respondent demographics.

	Criteria	Frequency (peoples)	Percentage (%)
Age	a. < 30 years old	43	32,6
	b. 30 - 50 years old	78	59,1
	c. > 50 years old	11	8,3
	Total	132	100,0
Gender	a. Male	88	66,7

	b. Female	44	33,3
	Total	132	100,0
Marital status	a. Marry	106	80,3
	b. Not Married Yet	26	19,7
	Total	132	100,0
Education Level	a. Elementary Scholl	0	0,0
	b. Junior High Scholl	0	0,0
	c. Senior High Scholl	18	13,6
	d. Diploma	58	43,9
	e. Bachelor	46	34,8
	f. Postgraduate	10	7,6
	Total	132	100,0
Position	a. Echelons	0	0,0
	b. Staf	132	100,0
	Total	132	100,0
Experience	a. < 5 years	27	20,4
	b. 5 - 10 years	76	57,6
	c. > 10 years	29	22,0
	Total	132	100,0

Sumber: Data processed

### Structural Equation Modeling (PLS-SEM) Analysis Results

The SEM-PLS model test results can be presented in the following figure.

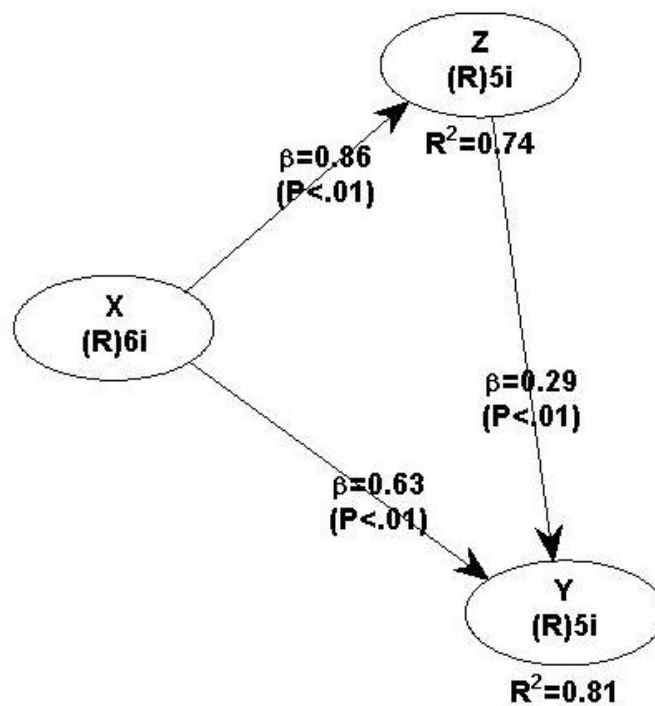


Figure 1. SEM-PLS model test result.

### Direct Effect Test Results

The test results obtained a fit model, then each path coefficient can then be interpreted which represents the direct effect. Detailed direct influence testing is presented in the following Table 3.

**Table 3.** Direct effect test result.

Effect		Estimate	S.E.	P	Result
Population Administration Information Systems	→ Organizational Citizenship Behavior	0,857	0,071	<0,001	H1 accepted
Population Administration Information Systems	→ Staff Performance	0,630	0,075	<0,001	H2 accepted
Organizational Citizenship Behavior	→ Staff Performance	0,294	0,081	<0,001	H3 accepted

Source: Data processed

The results of direct effect testing show that the Population Administration Information System has a significant effect on organizational citizenship behavior. The Population Administration Information System has a significant effect on staff performance, and organizational citizenship behavior has a significant effect on staff performance.

### Indirect Effect Test Results

An indirect relationship occurs between the exogenous latent variable of the population administration information system (X) and the endogenous latent variable related to the performance of the population administration service operator (Y) and the endogenous intervening variable organizational citizenship behavior (Z). A summary of the indirect influence of these variables can be seen in the following Table. 4

**Table 4.** Indirect effect test result.

Effect		Estimate	S.E.	P	Result
Sistem Informasi Administrasi Kependudukan	→ Organizational Citizenship Behavior → Staff Performance	0,252	0,058	<0,001	H4 accepted

Source: Data processed

The results of the indirect influence test show that organizational citizenship behavior acts as an intervening variable in the relationship between the population administration information system and the performance of population administration service operators. Thus, the hypothesis states that the population administration

information system has a significant effect on staff performance through organizational citizenship behavior.

### Analysis of the Coefficient of Determination (R<sup>2</sup>)

Testing at this stage is by looking at the R-square value. In this case, the R-square value describes the variation in changes in exogenous variables that can be explained by endogenous variables. The test results related to the R-square value can be seen in the following Table 5.

**Table 5.** R-Square values.

Variables	Variables Name	R-square
Z	Organizational citizenship behavior	0,735
Y	Staff Performance	0,813

Source: Data processed

Based on Table 5, the R-square value of the organizational citizenship behavior construct is 0.735 and the R-square value of the civil service operator performance construct is 0.813. An R-square of 0.735 can be interpreted as meaning that 73.5% of the variability in changes in organizational citizenship behavior can be explained by population administration information system variables. An R-square of 0.813 can be interpreted as meaning that 81.3% of the variability in changes in population administration service operator performance can be explained by population administration information system variables and organizational citizenship behavior.

### Summary of Research Hypothesis Testing Results

After analyzing the data using SEM-PLS, the following is a summary of the results of research hypothesis testing. The results of hypothesis testing as explained in the previous sub-chapter relate to the direct influence of exogenous variables on endogenous variables as well as the indirect influence of exogenous variables on endogenous variables involving intervening or mediating variables.

**Table 6.** Summary of hypothesis testing results.

No	Research Hypothesis	Conclusions
1	The population administration information system has a significant effect on organizational citizenship behavior	H <sub>1</sub> accepted
2	The population administration information system has a significant effect on the performance of population administration service operators	H <sub>2</sub> accepted
3	Organizational citizenship behavior has a significant effect on the performance of population administration service operators	H <sub>3</sub> accepted
4	The population administration information system has a significant effect on the performance of population	H <sub>4</sub> accepted

administration service operators through organizational citizenship behavior

---

Source: Data processed

### *Discussion*

#### **The Effect of Population Administration Information Systems on Organizational Citizenship Behavior**

The research results show that the population administration information system has a significant effect on organizational citizenship behavior. This means that if the population administration information system gets better, it will improve the organizational citizenship behavior of employees of population administration service operators in sub-district offices throughout Jember Regency.

Technological innovations are emerging to provide services that are more easily accessible to the public, so government institutions must be aware of the importance of using these new technologies [12]. Apart from technology, government institutions motivate their employees to be enthusiastic about working and produce optimal work in accordance with what the organization expects. Population administration information system (IT) devices connected to the internet, such as computers, tablets and smartphones, are everywhere in the workplace. This IT device greatly facilitates the performance of employee work tasks. At the same time, employees are increasingly using these technologies for non-work-related purposes while at work, which is referred to as personal use of technology at work (PUTW) [13].

Technological innovation, including the use of information systems, can effect Organizational Citizenship Behavior (OCB). OCB is the behavior of employees who voluntarily help the company's sustainability by carrying out tasks beyond the given standards. OCB can have a positive impact on the organization, such as helping to increase the productivity of co-workers, helping to increase managerial productivity and helping to make efficient use of resources. Changes in the organization's innovative climate will encourage changes in employees' extra-personal role behavior. This argument is in line with the empirical validation [18] that a climate conducive to employee innovation is associated with OCB indicating that when an organization improves, the level of implementation of employees' creative ideas may lead to positive emotions that trigger extra-role behavior.

#### **The Effect of Population Administration Information Systems on the Performance of Population Administration Service Operators**

The research results show that the population administration information system has a significant effect on the performance of population administration service operators. This means that the population administration information system is considered effective in improving the performance of population administration service operators in sub-district offices throughout Jember Regency.

A population administration information system is defined as a collection of knowledge, processes and tools used to create, produce or improve goods or services [22]. In everyday life, population administration information systems are used for various purposes, such as helping solve problems, fostering creativity, increasing effectiveness, and increasing efficiency in carrying out activities or work. This technology can also make it easier and more efficient for humans to do their work.

Technological innovations are emerging to provide services that are more easily accessible to the public, so government institutions must be aware of the importance of using these new technologies [12]. Apart from technology, government institutions motivate their employees to be enthusiastic about working and produce optimal work in accordance with what the organization expects. Population administration information system (IT) devices connected to the internet, such as computers, tablets and smartphones, are everywhere in the workplace. This IT device greatly facilitates the performance of an employee's work duties, including population administration service operators. Several studies related to commitment which have implications for performance include [14]-[18].

### **The Effect of Organizational Citizenship Behavior on the Performance of Admin Service Operators**

The research results show that organizational citizenship behavior has a significant effect on the performance of population administration service operators. This means that if the organizational citizenship behavior of employees of Administering Service Operators in sub-district offices throughout Jember Regency is higher, it will cause the performance of Administering Service Operators to be better.

OCB is conceptually synonymous with prosocial organizational behavior, organizational spontaneity, extra-role behavior, and contextual performance. [5] stated organizational justice as a key antecedent of OCB. This shows that the support of environmental factors, especially spiritual behavior and mentality, job satisfaction, organizational commitment, conscience, friendliness, mood and perceived organizational justice can effect OCB. Of these variables, satisfaction and perceived organizational justice are the strongest predictors of OCB. In addition, awareness is the most supported in terms of factors that influence individual characteristics.

One concept that is closely related to individual performance is Organizational Citizenship Behavior (OCB) which is defined by Organ as individual behavior that is not directly or explicitly recognized by the reward system but generally influences the organization so that the organization can run efficiently and effectively through sources of change, innovation and adaptability [23]. OCB is a concept that continues to develop and is interesting to research because it is known as a measuring tool for organizational behavior that will have an impact on organizational performance [26]. This behavior is organizationally desirable because of its relationship to organizational effectiveness [5]. OCB is defined as individual behavior, that is, wisdom, not directly or explicitly recognized by formal reward systems, and which overall promotes the effective

functioning of the organization. Several studies studied the effect of OCB on individual and organizational performance. Previous empirical research also found a positive relationship between OCB and performance including [6]; [7]; and [8].

### **The Effect of the Population Administration Information System on the Performance of Population Administration Service Operators with the Mediation of Organizational Citizenship Behavior**

The research results show that the population administration information system does not have a significant effect on the performance of population administration service operators with the mediation of organizational citizenship behavior. Referring to these results, it can be stated that organizational citizenship behavior acts as an intervening variable in the relationship between the population administration information system and the performance of population administration service operators. This means that the better the population administration information system will be followed by better organizational citizenship behavior and will ultimately improve the performance of population administration service operators.

Technological innovation, including the use of information systems, can effect Organizational Citizenship Behavior (OCB). OCB is the behavior of employees who voluntarily help the company's sustainability by carrying out tasks beyond the given standards. OCB can have a positive impact on the organization, such as helping to increase the productivity of co-workers, helping to increase managerial productivity and helping to make efficient use of resources. changes in the organization's innovative climate will encourage changes in employees' extra-personal role behavior.

Population administration information system (IT) devices connected to the internet, such as computers, tablets and smartphones, are everywhere in the workplace. This IT device greatly facilitates the performance of an employee's job duties, including population administration service operators.

### **CONCLUSION**

**Fundamental Finding :** Based on the descriptions that have been expressed in the discussion, several conclusions can be drawn as the findings of this research, namely that the population administration system has a positive and significant effect on organizational citizenship behavior. The population administration system has a positive and significant effect on the performance of population administration service operators. Organizational citizenship behavior has a positive and significant effect on the performance of population administration service operators. The population administration system has a positive and significant effect on employee performance through organizational citizenship behavior. **Implication :** The findings suggest that improving the population administration system can enhance both organizational citizenship behavior and the performance of service operators. This indicates that policymakers and administrators should focus on optimizing the system to achieve better efficiency and service outcomes. **Limitation :** The research object is only limited to

population administration service operators in sub-district offices throughout Jember Regency, so generalization of the results has not been achieved. Further research can be carried out with broader objects (regional or national). The next limitation relates to this research only examining the effect of information systems technology on organizational citizenship behavior and employee performance. **Future Research** : Future research should formulate and develop models related to factors that effect organizational citizenship behavior and employee performance. Future research can test other variables and use different approaches to obtain better findings.

## REFERENCES

- [1] S. P. Siagian, *Manajemen Sumber Daya Manusia*, 1st ed. Jakarta: Bumi Aksara, 2019.
- [2] A. Wilkinson, *Human Resource Management: A Very Short Introduction*. Oxford: Oxford University Press, 2022.
- [3] Sedarmayanti, *Manajemen Sumber Daya Manusia: Reformasi Birokrasi Dan Manajemen Pegawai Negeri Sipil*. Bandung: PT Refika Aditama, 2019.
- [4] D. Hapsari, S. Riyanto, and E. Endri, "The Role of Transformational Leadership in Building Organizational Citizenship: The Civil Servants of Indonesia," *J. Asian Financ. Econ. Bus.*, vol. 8, no. 2, pp. 0595–0604, 2021, doi: 10.13106/jafeb.2021.vol8.no2.0595.
- [5] P. M. Podsakoff, S. B. Mackenzie, and N. P. Podsakoff, *The Oxford Handbook of Organizational Citizenship Behavior*. Oxford: Oxford University Press, 2019.
- [6] I. Maidelis, B. Budiyanto, and A. Agustedi, "The mediating role of organizational commitment and organizational citizenship behavior on the effect of organizational justice on the performance of civil servants," *Manag. Sci. Lett.*, vol. 12, no. 4, pp. 341–348, 2022, doi: 10.5267/j.msl.2022.2.008.
- [7] Rino, Syahrizal, Armida, and M. O. Darni, "Influence of Transformational Leadership on Organizational Citizenship Behavior and Organizational Task Performance Cross Level Analysis on Micro Small and Medium Enterprises in Indonesia," *Qual. - Access to Success*, vol. 24, no. 193, pp. 46–60, 2023, doi: 10.47750/QAS/24.193.06.
- [8] A. Bustomi, I. Sanusi, and Herman, "Pengaruh Organizational Citizenship Behavior (OCB) Terhadap Kinerja Pegawai (Studi Survei pada Pegawai Kementerian Agama Kota Bandung)," *Tadbir J. Manaj. Dakwah*, vol. 5, no. 1, pp. 1–16, 2020, doi: 10.15575/tadbir.v5i1.2002.
- [9] J. A. Chandra, N. N. P. M. G, and N. Qomariah, "Impact of Organizational Citizenship Behavior, Leadership, Individual Characteristics and Competence on Teacher Performance," *J. Manaj. Dan Bisnis Indones.*, vol. 6, no. 2, pp. 244–257, 2021, doi: 10.32528/jmbi.v6i2.4091.
- [10] D. M. Utami and I. G. Riana, "The Influence of Transformational Leadership and Organizational Commitment on Organizational Citizenship Behavior and Employee Performance (A Study on Employees of The Ministry of Industry)," *J. Ekon.*, vol. 12, no. 03, pp. 1566–1577, 2023, doi: 10.30737/ekonika.v8i2.4532.
- [11] A. P. Mangkunegara, *Manajemen Sumber Daya Manusia Perusahaan*. Bandung: PT. Remaja Rosdakarya, 2019.
- [12] T. Rohayatin, *Desain dan Inovasi Peningkatan Kualitas Pelayanan Publik Berbasis Pelanggan*. Yogyakarta: Deepublish, 2023.
- [13] S. Ibad and M. C. Ulum, *Inovasi Pelayanan Publik*. Malang: Intrans Publishing, 2023.
- [14] H. Heslina and A. Syahrini, "The Influence of Information Technology, Human Resources Competency and Employee Engagement on Performance of Employees," *Golden Ratio Hum. Resour. Manag.*, vol. 1, no. 1, pp. 01–12, 2021, doi: 10.52970/grhrm.v1i1.100.
- [15] R. D. Mawarti, T. Laras, and N. Nadia, "Kinerja Karyawan : Dampak Teknologi Informasi Dan Locus Of Control Dengan Organizational Citizenship Behavior (OCB) Sebagai

- Variabel Mediasi (Survei Pada Karyawan Perumda Pdam Tirtamarta Kota Yogyakarta)," *el-Jizya J. Ekon. Islam*, vol. 10, no. 2, pp. 142–160, 2022, doi: 10.24090/ej.v10i2.6894.
- [16] W. Harjanti, T. Wahjoedi, A. Kartika Sari, P. Budi Setiadi, and S. Suhermin, "Work Experience, Interpersonal Communication on Performance and Use of Information Technology, Aircraft Maintenance Companies," *EKUITAS (Jurnal Ekon. dan Keuangan)*, vol. 5, no. 4, pp. 513–532, 2021, doi: 10.24034/j25485024.y2021.v5.i4.4840.
- [17] I. K. S. Sapta, M. Muafi, and N. M. Setini, "The Role of Technology, Organizational Culture, and Job Satisfaction in Improving Employee Performance during the Covid-19 Pandemic," *J. Asian Financ. Econ. Bus.*, vol. 8, no. 1, pp. 495–505, 2021, doi: 10.13106/jafeb.2021.vol8.no1.495.
- [18] G. O. Oyovwe-Tinuoye, S. U. Omeluzor, and I. O. Patrick, "Influence of ICT skills on job performance of librarians in university libraries of South-South, Nigeria," *Inf. Dev.*, vol. 37, no. 3, pp. 345–358, 2021, doi: 10.1177/0266666920983393.
- [19] Zulganef, *Metode Penelitian Bisnis dan Manajemen*. Bandung: Refika Aditama, 2019.
- [20] S. Seran, *Metodologi Penelitian Ekonomi Dan Sosial*. Yogyakarta: Deepublish, 2020.
- [21] Sugiyono, *Metode Penelitian Kuantitatif Kualitatif dan R&D*. Bandung: Alfabeta, 2019.
- [22] S. Sundari, *Manajemen Sumber Daya Manusia Dan Masa Depan Dunia Kerja Di Era Industri 4.0 Dan Society 5.0*. CV Jejak (Jejak Publisher), 2023.
- [23] T. Setyowati and I. Puspitadewi, *Perilaku Organisasi Dan Organizational Citizenship Behavior (Teori dan Konsep)*. Jember: UM Jember Press, 2023.
- [24] S. P. Robbins and T. A. Judge, *Organizational Behavior, 18th Edition*. New York: Pearson, 2019.
- [25] I. Ghozali, *Structural Equation Modeling Metode Alternatif dengan Partial Least Squares (PLS)*, IV. Semarang: Badan Penerbit Universitas Diponegoro, 2020.
- [26] S. B. Pasaribu, F. S. Goestjahjanti, S. Srinita, D. Novitasari, and B. Haryanto, "The Role of Situational Leadership on Job Satisfaction, Organizational Citizenship Behavior (OCB), and Employee Performance," *Front. Psychol.*, vol. 13, no. May, pp. 10–13, 2022, doi: 10.3389/fpsyg.2022.896539.

---

**Achmad Jati Purbo**

Muhammadiyah University of Jember, Indonesia

**\*Toni Herlambang (Corresponding Author)**

Muhammadiyah University of Jember, Indonesia

Email: [toniherlambang@unmuhjember.ac.id](mailto:toniherlambang@unmuhjember.ac.id)

**Retno Endah Supeni**

Muhammadiyah University of Jember, Indonesia

Email: [retnoendahsupeni@unmuhjember.ac.id](mailto:retnoendahsupeni@unmuhjember.ac.id)

---