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Leading the Digital Revolution Examining the Impact of Digital Leadership on Work Performance and Organizational Commitment in the Kawasan Industri Mitra (KIM)

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ABSTRACT

This research aims to examine and analyze the effect of digital leadership on work performance through organizational commitment. The research population is all employees in the Mitra Industrial Area (KIM) Karawang, West Java. A total of 214 samples were taken using random sampling. The digital leadership variable uses two dimensions with three indicators each, the organizational commitment variable uses three dimensions with three indicators each, and the work performance variable uses three indicators. The results obtained show a positive and significant effect of digital era leadership on work performance and a positive and significant effect of organizational commitment on work performance. These results are analyzed together with the dimensions used. The results obtained from leadership in the employee dimension are greater than the innovation focus dimension. The greatest organizational commitment is in the normative commitment dimension.

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INTRODUCTION

Leadership is a process of social influence and goal-oriented, taking place in time and adaptive environments. Leadership variables (such as the behavior of a leader) will affect the outcomes of the organization (such as the performance of a team) through closer mediating constructions, such as the motivation of followers to stay together [1]. Employees of a company consisting of a group or team want a leadership style that can support activities within the company. Team leadership style is generally most appropriate in all situations. The current situation that is constantly developing enters the stage of the technology industry, often referred to as Industry 4.0. Industry 4.0 on the system of manufacturing, product, and component-type companies. Industry 4.0, promoting industrial automation to develop innovation in manufacturing companies, product producers and component manufacturers, is a paradigm that challenges the way manufacturers think about knowledge-intensive industrial processes. Automation processes make manufacturing more flexible, smarter, and more effective and efficient [2]. If humans, machines, and processes are regulated in a smart and intelligent network, high-quality products can be made faster, and competitive advantages can be made by making production costs more competitive. Industry 4.0 relies on a number of innovative technological developments such as information and communication technology, which is used to digitize information and integrate systems at all stages of product development and service life, both within and across organizations to monitor and control physical processes and systems and support human workers using robots, smart tools, and augmented reality [3]. Industry 4.0 digitally and integrates processes vertically throughout the organization, from product development and procurement to manufacturing, logistics, and service. In Industry 4.0, dynamic business processes and engineering allow for last-minute changes in production and resulting in new ways to create value and new innovative business models. Industry 4.0 has an impact on all business fields.

The rapid process of digitalization and the need for organizations to become more efficient requires leaders who understand and adapt to new innovations for effectiveness and efficiency in managing the company [4]. The rapid development of technology requires leaders to adapt to technology and human resources. Leadership 4.0, also known as leadership in the 4th industrial era or digital leadership, is not limited to the technology industry. A leader becoming a digital leader is not just about the company's area of work, but rather it is about the leadership style and ability of the leader to inspire employees to innovate and maintain their ideas, so that company members have a strong desire to stay with the company because of the support from the leader [5]. An adaptive leadership style will cultivate follower commitment, and leadership is generally identified as a key factor in developing organizational commitment [6]. The results of the correlation between leadership style and organizational commitment were found to be positively related [7]. However, the strongest correlation was found between inspirational motivation related to commitment and between the individual consideration sub-scale related to commitment for transformational leadership. This is particularly seen in the relationship between contingency rewards and appreciation

commitment. Although there is a significant correlation between leadership style and organizational commitment, organizational commitment is not tested with a unified dimension. Although previous research has discussed the benefits of commitment and loyalty, there is less empirical research that examines the relationship at the sub-dimension level [8]. Human resource practices lead to higher company performance through their influence on employee-based capabilities and resources. In this article, we argue that certain HR development network practices can be used to manage external and internal company social networks to improve performance. The goal of this research is to examine and analyze the effect of digital leadership on work performance through organizational commitment, with a focus on the dimensions of the digital leadership and organizational commitment variables.

Organizational learning can also mediate the relationship between leadership and other variables such as organizational innovation [8]. Leadership and organizational literature shows that leadership influences, for example, innovation through the use of organizational learning variables such as organizational innovation considered as an essential element for organizations, organizational innovation still relies on organizational learning to develop innovative strategies and performance [9]. This indicates that the relationship between leadership and organizational learning can be both direct and indirect in organizational settings. Various theories about leadership are classified into individual, team, organizational, or extra-organizational levels [10]. This can be seen in the following table 1.

Tabel 1. Analyst Leadership Classified

Analyst Level	expansion	advantage
individual	**Human Resource Development** includes the development of experience [11] assessment development [12] empathy [13] and different thinking skills with the continuity of leadership. This effect is mediated by challenging developmental experiences. There is a linear relationship between cognitive abilities and continuity in an organization.	Individual Resource level benefits include self-efficacy [14] Trush [15] psychological empowerment [16] and organizational identity.
Team (group)	**Team Resource Development** Includes team learning [17] Team coaching [18] team leader development, facilitating communication, and overcoming distance-related limitations through successful technology implementation. The most effective leaders assist the team in learning by communicating motivating reasons for change and minimizing concerns about power and status differences to promote open communication in a learning environment.	Team resource benefits include group solidarity [18] team priority [9] and challenge unit goals [10]
Organization	**Organizational Resource Development includes organizational learning**	Organizational Resource

Analyst Level	expansion	advantage
	Organisasi learning [19] Human capital [15] and the development of the right capabilities, which has become an inevitable solution to addressing the challenges that surround an organization, this is called organizational learning. Entrepreneurs with harmonious passion have a higher centrality in their network groups (i.e. they are more likely to seek out members to discuss work-related problems), which increases the income they receive from peer referrals and ultimately, business income	benefits include organizational climate [20] Collective organizational engagement [6]
External	**Development of External Resources** Network Centrality [21] Eksternal ties [22] Entrepreneurs/leaders who have a harmonious enthusiasm have a higher centrality in their network groups (i.e. they are more likely to seek out members to discuss work-related issues), which increases the revenue they receive from peer referrals and, ultimately, business income.	Collective organisation engagement [6]

With respect to self-improvement, the organizational support theory argues that organizational support meets socio-emotional needs such as self-esteem, affiliation, and emotional support, leading to larger organizational identification which, in turn, increases affective commitment. All three organizational commitment concepts serve the same functional purpose: they help employees to find personal meaning in their day-to-day work activities. Organizational membership becomes a salient social category that motivates individuals to work hard on behalf of their organization [21]. Previous research has identified various positive attitudes and behaviors associated with high levels of organizational commitment Searle et. all (2011) [23], indicating that all three yield important psychological benefits to the worker.

H1 There is an influence of digital leadership on work performance mediated by Organizational Commitment.

H2 There is an influence of digital leadership on work performance

RESEARCH METHOD

The sampling method used in this study is Simple Random Sampling, a method used in random sampling from the existing population. The reason for selecting this sample is to reduce the potential for bias in the selection of respondents in selecting cases to be included in the sample.The objects of this research are employees in the Mitra Industrial Zone (KIM) Karawang, West Java, with supervisor and operator positions as samples. The number of respondents sampled was 214 from 250 questionnaires (a list of questions sent via Whatsapp to employees in KIM Karawang). The sampling technique is non-random sampling. The results of questionnaire tests found that all results are valid and fall into the reliable category [16].

Demographic data obtained is categorized according to gender, age, education and length of employment. The gender between men and women was almost the same which was 108 for men and 106 for women, this was due to the KIM Karawang Industrial Zone accepting a balanced number of male and female employees because of the various companies that allowed for male or female employees. The age of the respondents with the most was 30-35 years old as many as 88 people, which showed that the productive age was high and they were more likely to understand technology and be eager to innovate. The most educated were diploma and bachelor's degrees, indicating that formal education was still a consideration for working in some companies in the KIM area. The average length of employment was more than years, which indicates that the existing employees had worked in the area for quite

Operational Variables, Dimensions, and Indicators

Digital Era Leadership: Leadership is the process of influencing leaders and followers to achieve organizational goals through change. Traditionally, there are five key elements to define leadership including leader-follower, influence, organizational goals, people, and change [24]. The dimensions consist of: Focus on employees, focus on innovation, and with indicators: creating a friendly atmosphere by providing inspiration and as a negotiator [25]. Organizational Commitment The strength of individual employees' emotional attachment to the organization and consists of three dimensions: Affective Commitment, (employees' emotional relationship with the organization); Continuance, (the investment felt related to leaving the organization); and Normative Commitment, (the moral duty to stay with the organization) [14]. The indicators used are strong desire, aligned goals, and emotional relationship of members and the organization. Work Performance Higher corporate performance through its influence on the capabilities and resources of the top-down employee-based company. In this article, we argue that a certain SDM practice system can be used to manage Tabel 2 Operational variables and dimensions and indicators.

Table 2. Operational variables and dimensions and indicators

Variable	Dimention	Indicator
Digital Leadership is the 'process of influencing leaders and followers to achieve organizational goals through change.' Traditionally, there are five key elements to defining leadership including leader-follower, influence, organizational goals, people, and change [26]	Focus on employees	Create a friendly atmosphere Giving inspiration negotiator
	Focus on Innovation	digital leader Leading technology entrepreneur
Organizational Commitment Individual employee's strength of attachment to an organization and consists of three dimensions: affective commitment (employee's	*Affective Commitment*	1. Strong will 2. Goals are aligned 3. The emotional relationship between members and the organization

Variable	Dimention	Indicator
emotional relationship with the organization); continuance (felt investments related to leaving the organization); and normative commitment (moral obligation to stay with the organization) [14]	*continue commitment*	1. Benefits of both parties 2. Economic value 3. Participatory investment
	normative Commitment	1. Consideration of other parties 2. Dynamic work environment 3. Accept organizational values
Work performance Higher company performance through its influence on corporate capabilities and human resources based on employees. In this article, we contend that certain development HR practices systems can be used to manage the external and internal corporate top-level social networks [6].		1. Pleasure in carrying out work 2. Performance evaluation 3. Long term benefits

RESULT AND DISCUSSION

Analysis Statistics

Translation Statistical Analysis The data for this research was collected through survey and analyzed using SMARTPLS 5. The requirements that should be met in developing the model were evaluated for validity, comprising of average variance extracted (AVE), factor loading, composite reliability, Fornell-Larcker Criterion, cross-loading, and reliability evaluation. The next step was to determine the relationship between one construct to the other to assess the model fit using R 2 coefficient, predictive relevance Q2, and significance of path coefficient, f2, and Q2

Outer Model Evaluation

evaluation. Outer Model Evaluation Outer model evaluation was done to test the validity and reliability of every construct in the measurement model. Parameters used were AVE, factor loading, composite reliability, Fornell

Table 3. Validity and Reliability Criteria for Each Construct

Construct	Indicator	Loading Factor	Cronbach's Alpha	Composite reliability*	AVE**	Fornell-Larcker Criterion		
						Digital Leadership	Organizational Commitment	Work Performance
Organizational Commitment	AC1	0,834	0,864	0,848	0,682	0,323	0,693	0,444
	AC2	0,863						
	AC3	0,824						
	CC1	0,821						
	CC2	0,847						
	CC3	0,827						
	NC1	0,836						

Construct	Indicator	Loading Factor	Cronbach's Alpha	Composite reliability*	AVE**	Fornell-Larcker Criterion		
						Digital Leadership	Organizational Commitment	Work Performance
	NC2	0,819						
	NC3	0,842						
Digital Leadership	EF1	0,858	0,785	0,893	0,682	0,694	0,323	0,419
	EF2	0,863						
	EF3	0,841						
	IF1	0,876						
	IF2	0,834						
	IF3	0,831						
Work Performance	WP1	0,839	0,810	0,887	0,724	0,419	0,444	0,851
	WP2	0,880						
	WP3	0,833						

*Composite reliability should be more than 0.7
** AVE should be more than 0.5
***Cronbach's Alpha should be more than 0.7

****Fornell-Larcker Criterion should be more than the correlation value of that construct to another construct

Based on Table 3, all constructs meet the criteria for AVE (concurrent validity), composite reliability, and the Fornell Larcker criteria (discriminant validity and reliability). Additionally, the outer loadings for each indicator are greater than 0.7. According to the cross-loading values, all indicators have the highest loading on their respective construct, indicating that all constructs have acceptable discriminant validity.

Inner Model Assessment

After evaluating the outer model, Table 3 evaluates the inner models such as r-square, f-square, Q and q-square it can bes shown full model with in figure 1.

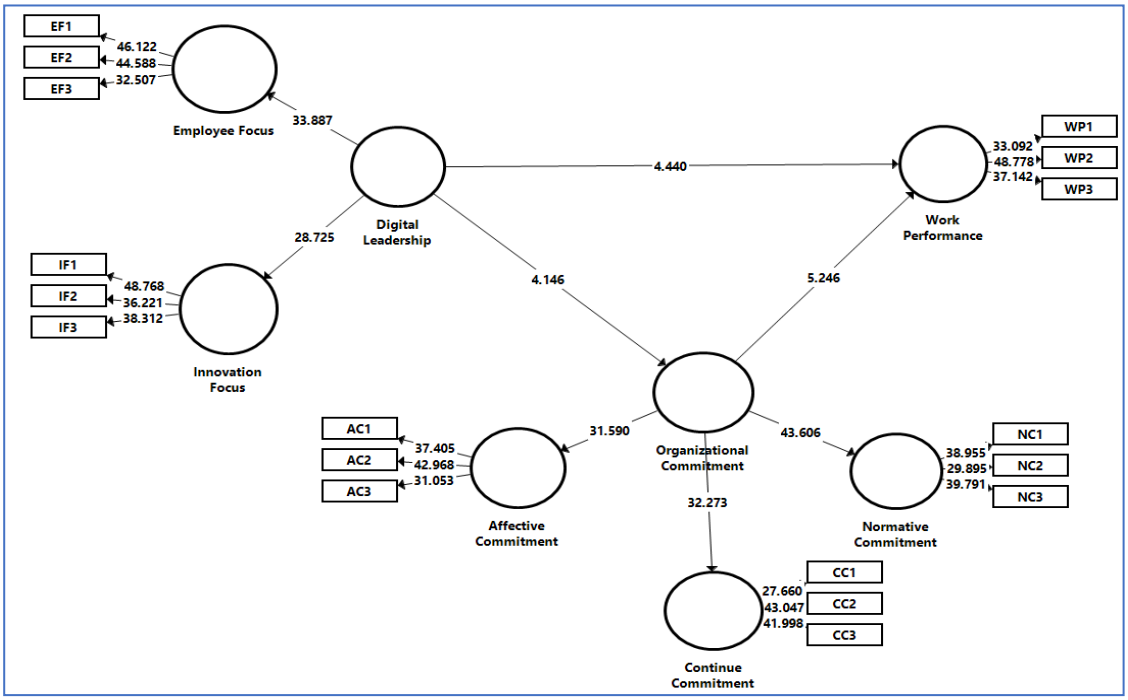

Figure 1. Full model PLS

Table 4 below shows the path beta and p values of the two pathways in the model. Path beta and p-value extracted from 500 bootstraps using SMARTPLS 5.

Table 4. Path beta, t-value, and P-value

Path	Path beta	t-value	P-value
Organizational Commitment→ Work Performance	0,344	5,426	0,000
Digital leadership→ Work Performance	0,308	4,440	0,000
Digital leadership→ Organizational Commitment	0,303	4,146	0,000

As shown in Table 4 above, all three paths are statistically significant at 5%. The betas are in positive values. This result supports Hypothesis 1 to 2 and are declared accepted. Furthermore, to test the mediation hypothesis, it can be seen in Table 5.

Table 5. Direct, indirect effect and VAF

Path	Value	P value
Digital leadership→ Work Performance [1]	**0,308**	0,000
Digital leadership→ Organizational Commitment →Work Performance [2]	0,111	0,000
Total effect (direct +indirect) [3]	0,419	0,000
VAF ([2]/[3]	0,264	0,000

Table 5 shows that the indirect effect value of digital leadership on work performance through organizational commitment was 0.111, and the value is significant at 1%. Thus, the mediating variable of organizational commitment is declared fit to be a mediator. Besides, the value of VAF was 0.264 or 26.4% which is under 80%, which indicates that the mediator is a partial mediator. Therefore, it can be concluded that organizational commitment can provide the relationship of digital leadership to work performance.

Leadership is an aspirational strength, a spirit of strength, and a creative moral strength that is able to influence members to change their attitudes so that they are in line with the wishes and aspirations of the leader [15]. Leadership is described as the capacity to guide the company towards achieving its goals and building sustainable competitive advantage. To maintain sustainable competitive advantage, companies must have products and technical systems that accelerate and enable production, communication, and cost reduction, as well as the ability to use these products and systems. Digital leadership is a fast, cross-hierarchical, team-oriented, and cooperative action with a very focused on innovation. Digital leadership competencies are highly dependent on the ability of the thinking pattern to create methods and instruments and this becomes the most important dimension for digital leaders [24]. Digital leadership refers to the core competencies in communication, content, and computing as contributions to public knowledge.

Digital leadership is dynamic and central to driving digital transformation, integrating

cultures and competencies to maximize digital technology to create value [4]. Digital technologies have an influence not only on information technology but also on how business is managed and what kind of leadership style is applied. These results are consistent with previous research such as Crossley et. all (2013) [10] Digital technology has an influence not only on the field of information technology but also on how businesses are managed and what kind of leadership style is adopted. These results are consistent with previous studies such as: Delegach et. all (2017) [5], Hsio et. all (2010) [8] who found that digital leadership has a positive effect on work performance. The results obtained from leadership on the employee dimension are greater than the innovation focus, which means that in the face of technological advances, leaders must still increase their focus on their employees, because human resources are the main factor in the development and sustainability of the companies they lead [9]. The results of the dimensions of Organizational Commitment have the greatest impact on the dimension of normative Commitment, which indicates that adaptation to the situation and external relationships is needed for leaders in this digital era. The development of innovation and transformation of a leader is essential for the sustainability of the company [15], [8].

CONCLUSION

Digital Era Leadership: Leadership is the process of influencing leaders and followers to achieve organizational goals through change. As with any research, this research has its own limitations, where the research carried out with some constraints such as the number of companies, available resources, and industry fields. As from the data collected from companies in KIM Karawang, generalization of the findings is limited. Future studies are expected to discuss about this, studies with larger sample sizes and in other regions need to be carried out to provide more detailed answers in this area. Answers from research are 100% from manufacturing companies thus can be assumed that the current study primarily focuses on manufacturing. Digital era leaders are expected to focus on employees and innovation. Cross-functional teams in organizations must treat quality improvement as an ever-ending issue. Future studies may encompass additional leadership focus such as driven by other leadership styles which also to be explored further to test several other leadership styles such as transactional, participative, charismatic, visionary, and laissez-faire for other work performance focus. For this focused research, it is suggested to conduct in-depth qualitative research on manufacturing companies in all industrial areas in West Java, to obtain more data about the phenomena in this study.

REFERENCES

[1] T. Fischer, J. Dietz, and J. Antonakis, "Leadership process models: A review and synthesis," *Journal of Management,* vol. 43, no. 6, pp. 1726-1753, 2017.

[2] M. Z. M. B. Harun and R. B. Mahmood, "The relationship between group cohesiveness and performance: An empirical study of cooperatives movement in Malaysia," *International Journal of Cooperative Studies,* vol. 1, no. 1, pp. 15-20, 2012.

[3] E. Oztemel and S. Gursev, "Literature review of Industry 4.0 and related technologies," *Journal of intelligent manufacturing,* vol. 31, pp. 127-182, 2020.

[4] L. Mihardjo, S. Sasmoko, F. Alamsyah, and E. Elidjen, "The influence of digital leadership on innovation management based on dynamic capability: Market orientation as a moderator," *Management Science Letters,* vol. 9, no. 7, pp. 1059-1070, 2019.

[5] M. Delegach, R. Kark, T. Katz-Navon, and D. Van Dijk, "A focus on commitment: The roles of transformational and transactional leadership and self-regulatory focus in fostering organizational and safety commitment," *European Journal of Work and Organizational Psychology,* vol. 26, no. 5, pp. 724-740, 2017.

[6] C. J. Collins and K. D. Clark, "Strategic human resource practices, top management team social networks, and firm performance: The role of human resource practices in creating organizational competitive advantage," *Academy of management Journal,* vol. 46, no. 6, pp. 740-751, 2003.

[7] N. S. Hill, J. H. Kang, and M.-G. Seo, "The interactive effect of leader–member exchange and electronic communication on employee psychological empowerment and work outcomes," *The Leadership Quarterly,* vol. 25, no. 4, pp. 772-783, 2014.

[8] H.-C. Hsiao, J.-C. Chang, and Y.-L. Tu, "Support for innovation, organizational learning, and organizational innovation in the vocational high schools: A Taiwanese perspective," *International Journal of Technology and Engineering Education,* vol. 7, no. 2, pp. 11-16, 2010.

[9] H. Leroy *et al.*, "Behavioral integrity for safety, priority of safety, psychological safety, and patient safety: A team-level study," *Journal of Applied Psychology,* vol. 97, no. 6, p. 1273, 2012.

[10] C. D. Crossley, C. D. Cooper, and T. S. Wernsing, "Making things happen through challenging goals: Leader proactivity, trust, and business-unit performance," *Journal of Applied Psychology,* vol. 98, no. 3, p. 540, 2013.

[11] S. J. Zaccaro *et al.*, "The influence of higher order cognitive capacities on leader organizational continuance and retention: The mediating role of developmental experiences," *The Leadership Quarterly,* vol. 26, no. 3, pp. 342-358, 2015.

[12] V. U. Druskat and S. B. Wolff, "Effects and timing of developmental peer appraisals in self-managing work groups," *journal of Applied Psychology,* vol. 84, no. 1, p. 58, 1999.

[13] K. Y. Kim, R. Eisenberger, and K. Baik, "Perceived organizational support and affective organizational commitment: Moderating influence of perceived organizational competence," *Journal of Organizational Behavior,* vol. 37, no. 4, pp. 558-583, 2016.

[14] L. J. Labrague, D. M. McEnroe–Petitte, K. Tsaras, J. P. Cruz, P. C. Colet, and D. S. Gloe, "Organizational commitment and turnover intention among rural nurses in the Philippines: Implications for nursing management," *International journal of nursing sciences,* vol. 5, no. 4, pp. 403-408, 2018.

[15] H. Zhang, H. Kwong Kwan, A. M. Everett, and Z. Jian, "Servant leadership, organizational identification, and work-to-family enrichment: The moderating role of work climate for sharing family concerns," *Human Resource Management,* vol. 51, no. 5, pp. 747-767, 2012.

[16] P. R. Hinton, C. Brownlow, and I. McMurray, *SPSS explained*. Psychology Press, 2004.

[17] D. S. DeRue and S. J. Ashford, "Who will lead and who will follow? A social process of leadership identity construction in organizations," *Academy of management review,* vol. 35, no. 4, pp. 627-647, 2010.

[18] V. T. Ho and J. M. Pollack, "Passion isn't always a good thing: Examining entrepreneurs' network centrality and financial performance with a dualistic model of passion," *Journal of Management Studies,* vol. 51, no. 3, pp. 433-459, 2014.

[19] H. Winarno and T. Absor, "Analisis Kualitas Pelayanan Dengan Metode Service Quality (Servqual) Dan Importance Performance Analysis (Ipa) Pada Pt. Media Purna Engineering," *Jurnal Manajemen Industri dan Logistik,* vol. 1, no. 2, pp. 146-160, 2017.

[20] D. J. McAllister and G. A. Bigley, "Work context and the definition of self: How organizational care influences organization-basei self-esteem," *Academy of Management Journal,* vol. 45, no. 5, pp. 894-904, 2002.

[21] T. W. Ng, "The incremental validity of organizational commitment, organizational trust, and organizational identification," *Journal of Vocational Behavior,* vol. 88, pp. 154-163, 2015.

[22] P. Balkundi and M. Kilduff, "The ties that lead: A social network approach to leadership," *The leadership quarterly,* vol. 17, no. 4, pp. 419-439, 2006.

[23] R. Searle *et al.*, "Trust in the employer: The role of high-involvement work practices and procedural justice in European organizations," *The International Journal of Human Resource Management,* vol. 22, no. 05, pp. 1069-1092, 2011.

[24] B. Oberer and A. Erkollar, "Leadership 4.0: Digital leaders in the age of industry 4.0," *International journal of organizational leadership,* 2018.

[25] M. Ahyat, S. Sahar, O. Afriwan, E. Y. Saniah, and A. M. Saputra, "Digital Transformational Leadership A Village Head On Organizational Citizenship Behavior Through Work Climate And Job Satisfaction Village Officials In Lombok Island," *Jurnal Manajemen Industri dan Logistik,* vol. 6, no. 2, pp. 242-255, 2023.

[26] S. Suparjo, Y. A. Dana, and P. Tedjo, "Relationship between Person-Organization Fit and Leader Member Exchange and Performance: A Study at Cigarette Industry in Kudus, Central Java, Indonesia," *Jurnal Manajemen Industri dan Logistik,* vol. 6, no. 2, 2023.

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