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The Influence of Entrepreneurial Leadership on Innovativeness Mediated by Digital Leadership

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Abstract: Companies that are affiliated with and part of state companies, such as Krakatau Information Technology, play a greater role in supporting state finances, so their performance needs to be given attention. Efforts to realize this can be made by creating a climate of innovativeness that has implications for positive changes in employees, which can be done through leadership roles with entrepreneurial and digital characteristics, so the aim of this research is to test the construct of the relationship between these variables. Quantitative methods in the space of causality were used in this research by testing PCA data for the validity approach and Cronbach's alpha for measuring reliability, while testing the mediation model using the t-test and Sobel test. The general picture shows that entrepreneurial and digital leadership directly have a positive influence on stimulating employee innovativeness, and the leader's ability to use digital technology is able to positively mediate the influence of entrepreneurial leadership on the innovative behavior of Krakatau I.T. employees.
Keywords: Digital Leadership, Entrepreneurial Leadership, Employee innovativeness

INTRODUCTION

Through state-owned enterprises, the government is able to obtain independent income through taxes and company dividends for its operations. Apart from that, the activities it carries out are related to various national strategic projects, such as the construction of road infrastructure and various supporting facilities, making this state company play an important role in the growth of the country's economic value (Sasongko, 2020). Even though the realized net profits of state-owned companies in 2023 reached a surplus of 17.78% of the target set at 196.22 trillion rupiahs, their contribution to the state through dividends and taxes was only achieved at 76.89% of the target set at 597.22 trillion rupiahs (Tohir, 2024). These parameters can be an indication that there is a need to improve performance in existing state-owned companies.

One of the state-owned companies that has a health level score of grade BBB (adequate investment with the possibility of loss) based on its audit value is PT Krakatau Steel (Tohir, 2024), where over the last two years, namely 2022 and 2023, this company recorded a loss of 562 billion rupiah and 1.1 trillion rupiah (Krakatau Steel, 2024). The company's report also shows that productivity and revenue are only driven by steel sales by as much as 86%, while non-steel factors such as service activities offered only account for 14% of the company's revenue.

PT Krakatau *Information Technology,* a subsidiary *holding of* Krakatau Sarana Infrastruktur, which is a Krakatau Steel group, is a company that operates in the field of technology services. This company is considered not to have contributed optimally to its parent company because its income is the smallest among the other 5 service subsidiaries, namely 115 billion rupiah with a net profit of 9 billion (Krakatau Sarana Infrastruktur, 2023), of which the contribution to the parent company is only 3.3% on revenue and 1.5% on profit.

One of the indications that the company's performance is not being achieved is due to a less innovative work environment, which hinders the achievement of competitive advantage (Ercantan et al., 2024). A decrease in work effectiveness, which has implications for the company's financial losses, is an indication of a decline in

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performance as a result of individual behavior that is not in line with the company's organizational direction (Mathis et al., 2017).

Leaders who are unable to provide support to their followers in detecting and exploiting various opportunities that arise in the environment will lead the organization to fail to create its competitive advantage, which can have an impact on the company's failure to carry out various innovations (Iqbal et al., 2022). A culture of innovation is very important for organizations today because it is a factor in a company's success in creating competitive advantages in the long term amidst high changes and a climate of business competition (Efawati et al., 2021).

Adaptive and innovative behavior in the innovation framework is influenced by various adaptive behaviors and characteristics demonstrated by leaders in their authority roles (Siebel et al., 2023). Further explained by Siebel et al. (2023), leaders who are able to build individual potential in the complexity of individual roles and who like disorder and regularity become more adaptive and innovative will create organizations that are more resilient and responsive.

Leaders with entrepreneurial characteristics can make the organizational environment more innovative by forming an organizational culture, which can create an organization that has a competitive advantage (Ercantan et al., 2024). This leader is also able to encourage the creation of a creative climate that encourages individuals involved in developing their intellectual agility, which encourages them to behave more innovatively in creating new opportunities in the organization (Malibari & Bajaba, 2022). In their efforts to build an innovative environment, leaders with entrepreneurial characteristics must be able to show their nature full of innovation so that they are able to build a proactive culture, which is a driving factor in creating individuals who are sensitive to the emergence of opportunities for organizational progress (Ataei et al., 2024), which is an ability in terms of digitalization in leadership is one of the factors that need to be acculturated to increase leadership effectiveness and create innovation.

Digital leadership is believed to be able to support the concept of entrepreneurial leadership orientation, which also has an impact on creating increased innovation in organizations (Sagbas et al., 2023) so that the construction of the entrepreneurial leadership model is strongly correlated with digital leadership, where leadership abilities in the context of digitalization become mediators between entrepreneurial leadership and increasing innovation through the occurrence of technological innovation absorption capacity activities in the organizational environment (Xia et al., 2023). Leadership abilities in the digitalization concept lead to the emergence and development of innovative processes among individuals in the lower line (Hadi et al., 2024) so that they feel that leaders can remain present even through liaison media. The transition from conventional leadership to the area of digitalization is currently unavoidable, so leadership roles, including entrepreneurial ones, must be able to adopt this in order to increase the position of their presence among their followers, and the final result is adaptive-innovative achievements for all individuals in the organization (Erhan et al., 2022).

The contextual role of entrepreneurial leadership is currently important in creating an innovative work environment whose characteristics provide a sense of security for followers to make risky decisions (Renko et al., 2015). The intensity of their presence can be increased by their ability to use technological means, making it easier for leaders to be present and provide direction when their followers need help. Based on research metadata, it was found that digital leadership can accelerate the acceleration of innovation (Harto et al., 2022). This theoretical argumentation leads to an interest in testing the relationship between these variables, where the role of digital leadership as

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a mediator between entrepreneurial leadership and innovativeness becomes a new model in this research.

Entrepreneurial leadership was definitively stated by Renko et al. (2015) in a simple statement, namely finding opportunities and exploiting them from an entrepreneurial perspective. This leadership paradigm is a fairly new view in which the concept of leadership and entrepreneurial characteristics are synergized, giving rise to dynamic leadership characteristics that are open to seeking opportunities and are not resistant to various risk consequences from seeking these opportunities (Ataei et al., 2024). This leadership is built on five basic characteristics: framing the challenge, absorbing uncertainty, *clearing paths, building commitment, and specifying limits,* which were built from the concept of Gupta's 2004 research model (Hidayat, 2019). The following are the constructs of the entrepreneurial leadership model:

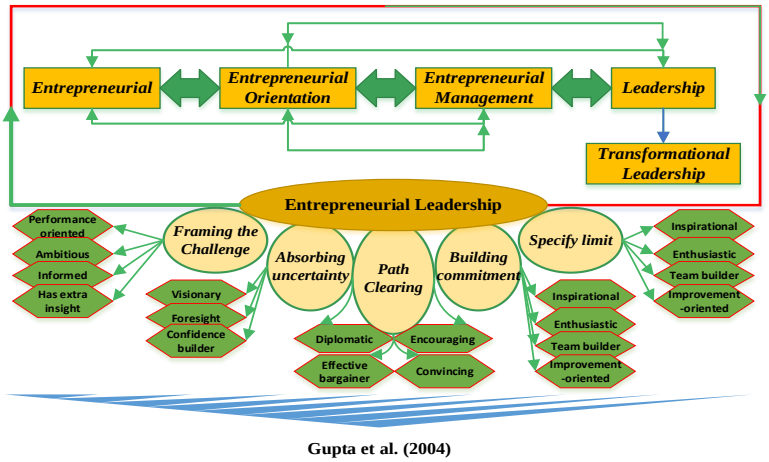

Figure 1. Concept of the Entrepreneurial Leadership Model
Source: Adaptation from Hidayat (2019); Hensellek & Simon(2020)

Digital leadership is conceptualized as leadership that uses technological means to accommodate its interests in reaching its followers, guiding and providing direction without being constrained by time and distance (Cordova-Buiza et al., 2022). The leader's ability to acculturate digital technology to improve organizational performance and maximize the potential of its business processes to create innovation is another concept of digital leadership, where the use of technology by leaders is expected to reduce delays in responding to opportunities and potential problems that arise (Hensellek & Simon, 2020). Four constructs can be used to form a concept of digital leadership based on the approach of Hutajulu et al. (2021) adapted from Satriadi et al. (2021) These include creative, innovative behavior, critical thinking, and building cooperation like the following model.

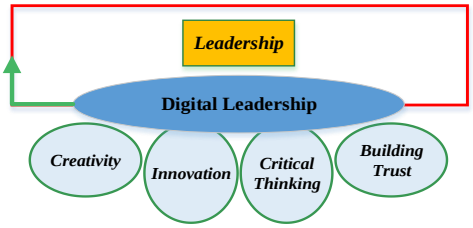

Figure 2. Digital Leadership Concept
Source: Adaptation of Hutajulu et al. (2021); Satriadi et al. (2021)

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Innovativeness is based on an analysis of individual behavioral approaches, which is related to their willingness to initiate and develop various relatively new ideas, ideas, knowledge, creativity, and actions aimed at forming essential competencies (Ardi et al., 2020), as well as formulating increasing effectiveness and efficiency in the organization (Erhan et al., 2022), where sometimes in the process the role and knowledge of technology sometimes becomes a supporting tool in creating competitive advantage (Mihardjo et al., 2019). Innovativeness: individuals are directed to become problem solvers in adaptive conditions (established and structured environments) or in innovative conditions (unstructured and unsystematic environments) (Siebel et al., 2023), where the construct in the Kirton model is divided into three groups of dimensions, namely individual originality, methodical and Mertonian as in the following model image.

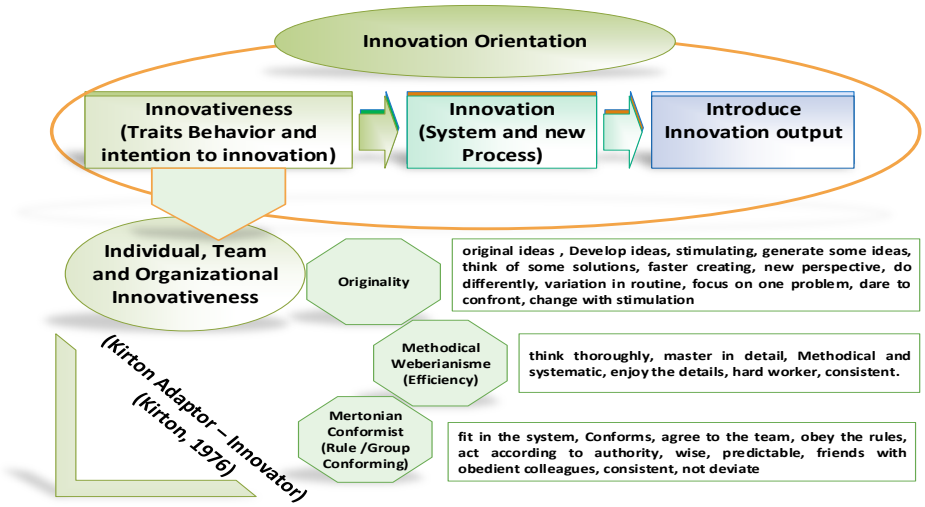

Figure 3. Kirton Innovativeness Model
Source: Adaptation from Hidayat (2019); Siebel et al. (2023)

METHODS

This research employs a quantitative causality approach, aiming to measure the relationship between variables and hypothetical assumptions using statistical and mathematical techniques ((Patten & Newhart, 2018; Sekaran & Bougie, 2016). The study was conducted at Krakatau Information Technology Company, part of the Indonesian Krakatau Steel group, which has a population of 214 employees. The minimum sample size, determined using Taro Yamane's α 5% formula (Machali, 2021), is 139 employees. The formula used is as follows:

$$n = \frac{N}{N.d^2 + 1} \rightarrow \quad n = \frac{214}{214\ x\ (0{,}05^2) + 1} = 139$$

n=Minimum sample required
N=Number of Population
d = Research error rate 5%

The research instrument was a closed-question questionnaire using a Likert scale (1: strongly disagree - 5: strongly agree), consisting of 19 questions for entrepreneurial leadership, 8 for digital leadership, and 9 for innovativeness. This research focused on variables without analyzing the relationship between research dimensions. Data were collected through an online questionnaire, targeting employees with more than one year of tenure at supervisory and lower staff levels. This sampling approach follows the non-

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probability judgment sampling method, based on criteria set by the researchers (Sekaran & Bougie, 2016).

The research was conducted from December 2023 to July 2024. The research model is a path analysis model with mediating variables. Alongside the t-test, the Sobel test was used to measure the role of mediating variables as part of the structural testing. Model testing included a normality test with skewness < 1 and/or -1 (Hatem et al., 2022); PCA (Principal Component Analysis) validity test with KMO ≥ 0.6; Bartlett's test with significance ≤ 0.05; factor loading ≥ 0.4; communalities ≥ 0.3; and cumulative total variance ≥ 50% (Hair et al., 2017; Denis, 2019, 2021; Gunawan et al., 2022). This approach did not include MSI (Method Successive Interval) data transformation.

These tests avoided the CBS-SEM (Cluster-Based Structural Equation Modeling) technique due to the sample size being below 200, as recommended by Memon et al. (2020). While PLS-SEM (Partial Least Squares Structural Equation Modeling) is often used for small samples in SEM tests, it was deemed inappropriate here, considering data stability from larger samples (Memon et al., 2020). Therefore, the normality skewness test approach, PCA validity, and Cronbach's alpha reliability > 0.6 were used to measure the accuracy of indicators in the research model. The t-test and Sobel test were used for the structural model to support hypothesis results. Data processing was conducted using SPSS and AMOS version 22, along with an online Sobel calculator for mediation testing.

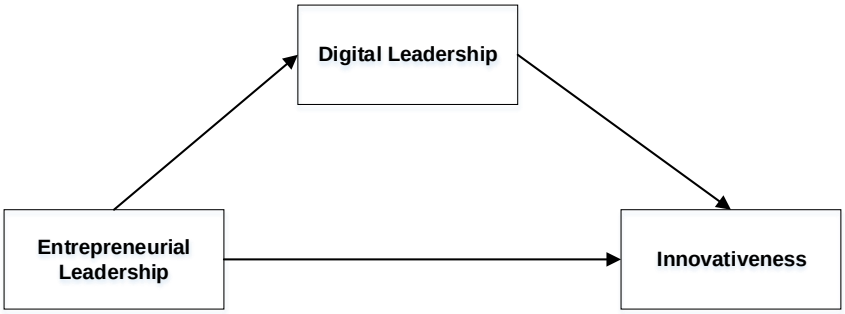

Figure 4. Conceptual Model
Source: Processed data (2024)

RESULTS AND DISCUSSION

Based on the data distribution carried out, sample data was collected from 142 respondents from the Krakatau Information Technology company, which is more than the minimum sample size required. The following is the respondent profile data:

Table 1. Respondent Profiling

Position	F	%	**Education**	F	%
Operator & main operator	61	43,0%	Senior High School	109	76,8%
Warehouse & Distribution	32	22,5%	Diploma1-D3	15	10,6%
Op.Staff & technician	22	15,5%	Bachelor Degree	17	12,0%
Foreman	19	13,4%	Master Degree	1	0,7%
SPV	8	5,6%	Total	142	0,7%
Total	142	100,0%			
Length of work	F	%	Gender	F	%
1 - 2 Tahun	3	2,1%	Male	141	99,3%
3 - 4 Tahun	27	19,0%	Female	1	0,7%
5 - 6 Tahun	78	54,9%			
> 6 Tahun	34	23,9%			
Total	142	100,0%			

Source: Data processing (2024)

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Based on the profile data, the majority of respondents are male, comprising 99.3%. Most respondents have completed their education at the senior high school level, making up 76.8% of the total. In terms of job positions, the majority are operators, accounting for 33.8%. Regarding length of service, the majority of respondents have worked for 5-6 years, representing 54.9%.

The next process is data validity and reliability testing, which is carried out, leading to the result that the data for the entrepreneurial leadership variable instrument needs to be reduced from 19 items to 9, the digital leadership variable needs to be reduced from 8 items to 5, and the innovativeness variable is not reduced and has 9 instruments, so that the data that is considered to have passed the validity and reliability test is 23 question instruments, as can be seen based on the following table and image of the results of the final data processing process.

Table 2. Normality Test

Variable: Entrepreneurial Leadership			Variable: Virtual/ Digital Leadership			Variable: Innovativeness		
Normality test Criteria		Sk < 1	Normality test Criteria		Sk < 1	Normality test Criteria		Sk < 1
Indicator	**Skewness**	**Conclusion**	**Indicator**	**Skewness**	**Conclusion**	**Indicator**	**Skewness**	**Conclusion**
X1_1_1	0,247	Pass The Test	Xm_20	-0,144	Pass The Test	y_28	-0,506	Pass The Test
X1_1_2	0,435	Pass The Test	Xm_21	-0,834	Pass The Test	y_29	-0,249	Pass The Test
X1_1_3	0,458	Pass The Test	Xm_22	-0,567	Pass The Test	y_30	0,230	Pass The Test
X1_1_4	-0,603	Pass The Test	Xm_23	-0,549	Pass The Test	y_31	0,491	Pass The Test
X1_2_5	-0,789	Pass The Test	Xm_24	-0,262	Pass The Test	y_32	-0,050	Pass The Test
X1_2_6	-0,305	Pass The Test	Xm_25	-0,728	Pass The Test	y_33	-0,055	Pass The Test
X1_2_7	-0,818	Pass The Test	Xm_26	0,363	Pass The Test	y_34	-0,017	Pass The Test
X1_3_8	0,530	Pass The Test	Xm_27	0,311	Pass The Test	y_35	0,142	Pass The Test
X1_3_9	-0,726	Pass The Test				y_36	-0,163	Pass The Test
X1_3_10	-0,487	Pass The Test						
X1_3_11	-0,650	Pass The Test						
X1_4_12	-0,006	Pass The Test						
X1_4_13	0,197	Pass The Test						
X1_4_14	-0,017	Pass The Test						
X1_4_15	0,142	Pass The Test						
X1_5_16	0,364	Pass The Test						
X1_5_17	-0,442	Pass The Test						
X1_5_18	-0,138	Pass The Test						
X1_5_19	0,536	Pass The Test						

Source: Data processing (2024)

Table 3. PCA Validity and Reliability Test

Variable: Entrepreneurial Leadershi			Variable: Virtual/ Digital Leadershi			Variable: Innovativeness		
KMO		: 0,69	KMO		: 0,755	KMO		: 0,899
Bartlett's Test of Sphericity. Sig		: 0,00	Bartlett's Test of Sphericity. Sig		: 0,00	Bartlett's Test of Sphericity. Sig		: 0,00
Cumulative Total Variance Explained		: 59,51%	Cumulative Total Variance Explained		: 52,32%	Cumulative Total Variance Explained		: 57,26%
Indicato	**Communaliti s**	**F.Loading**	**Indicato**	**Communaliti s**	**F.Loading**	**Indicato**	**Communaliti s**	**F.Loading**
X1_1_1	Eliminate	Eliminate	Xm_20	0,524	0,724	y_28	0,728	0,853
X1_1_2	Eliminate	Eliminate	Xm_21	0,440	0,664	y_29	0,553	0,743
X1_1_3	Eliminate	Eliminate	Xm_22	0,431	0,657	y_30	0,540	0,735
X1_1_4	Eliminate	Eliminate	Xm_23	0,696	0,834	y_31	0,304	0,551
X1_2_5	Eliminate	Eliminate	Xm_24	Eliminate	Eliminate	y_32	0,724	0,851
X1_2_6	Eliminate	Eliminate	Xm_25	0,525	0,724	y_33	0,577	0,760
X1_2_7	Eliminate	Eliminate	Xm_26	Eliminate	Eliminate	y_34	0,585	0,765
Indicator	Communalitie	F.Loading	Indicato	Communalitie	F.Loading	Indicato	Communalitie	F.Loading
X1_3_8	Eliminate	Eliminate	Xm_27	Eliminate	Eliminate	y_35	0,572	0,756
X1_3_9	Eliminate	Eliminate				y_36	0,570	0,755
X1_3_10	0,628	0,793						
X1_3_11	0,566	0,752						

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X1_4_12	0,618	0,786
X1_4_13	0,641	0,800
X1_4_14	0,582	0,763
X1_4_15	0,568	0,753
X1_5_16	Eliminate	Eliminate
X1_5_17	0,642	0,801
X1_5_18	0,577	0,759
X1_5_19	0,536	0,732

Croanbach's Alpha	: 0,914	Croanbach's Alpha	: 0,767	Croanbach's Alpha	: 0,905

Source: Data processing (2024)

Based on Table 2, all data from the 36-question instrument passed the normality test, with skewness values greater than 1 and/or -1. Table 3 shows that 10 items from the entrepreneurial leadership variable were eliminated due to not meeting the factor loading criteria. Three items from the digital leadership variable were also eliminated, while all items from the innovativeness variable passed. Thus, 23 items passed the PCA test, all with Cronbach's alpha > 0.6, indicating suitability for measuring the respective variables. On this basis, it is stated that all the data in the table above is considered suitable for use in measuring the respective variables. Next is testing the structural model which will test the influence and relationship between variables as in the following picture.

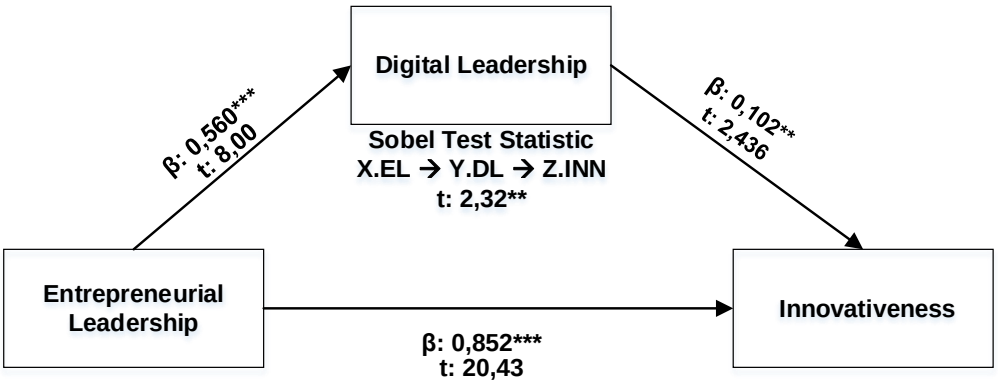

Figure 5. Final Result of Data Processing 2024 (Mediation Model)
Source: Data processing (2024)

The statistical parameters in hypothesis testing obtained the result that the t value for the entrepreneurial leadership variable on innovativeness was 20.43 > t Table 1.96. This illustrates that entrepreneurial leadership directly has a significant positive effect on the innovativeness behavior of Krakatau I.T. employees with a large influence of 0.852. These results support various research conducted by Hidayat (2019); Efawati et al. (2021); Iqbal et al. (2022); and Ataei et al. (2024), who stated that entrepreneurial leadership, with the various characteristics it brings, can provide a stimulus to individuals to behave more innovatively in organizations. Entrepreneurial leadership can build trust and make employees feel safe to act more proactively because of the nature of the leader, who is willing to bear the risk of failure for decisions taken by his followers or subordinates. The parameter that is considered the most representative of the entrepreneurial leadership variable and is considered to be able to encourage personal technology adoption behavior and increase innovativeness is the instrument of the leader's ability to stimulate intellect through providing challenging tasks for individuals so that they can act innovatively and also their willingness to be directly involved in activities. followers who aim to stimulate innovative motivation through role modeling.

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The t-test value on the digital transformation variable shows a value of 2.436 > t table 1.96, which implies that this variable has a significant positive effect on increasing the innovativeness variable in Krakatau I.T. employees by 0.102. This research supports the results of Mihardjo et al. (2019); Ardi et al. (2020); Harto et al. (2022); Erhan et al. (2022); and Hadi et al. (2024), which state that a leader's ability to master digitalization technology, which is used to reach his followers, can encourage employees and followers to behave more innovatively in the organization. Leaders who take advantage of the momentum of technological development, learn, and adopt technology more quickly can encourage their followers to be more proactive in adopting technology that supports innovation. The instrument that is considered to best represent this variable in efforts to increase employee innovation is the instrument of the leader's ability and willingness to collaborate with his followers through the use of technology (online meetings) so that they are able to build cooperation, as well as leaders who are willing to break down the complexity of problems experienced by their followers, which is This is considered to have an impact on increasing the desire to act innovatively.

The t value for the entrepreneurial leadership variable towards the digital leadership variable is 8.00 > t.table 1.96, with a beta value of 0.56. This indicates that employees' positive increase in entrepreneurial leadership characteristics will foster the perception that their leaders have mastery of technology and digitalization factors. These results support the statement of Ataei et al. (2024), which explains that entrepreneurial leaders will strive to build an innovative climate by forming a culture and improving their personal character, one of which is by increasing their potential to master various new abilities, including abilities in the field of technology.

The Sobel test on the research model shows a t value of 2.32 > ttable 1.96. This indicates that the leader's ability to master technology and digitalization is able to positively mediate the influence of entrepreneurial leadership variables on innovativeness. Employees who have the perception that their leaders have high entrepreneurial leadership characteristics will perceive them as individuals who have high digitalization abilities and knowledge as well, this can encourage them to behave more innovatively in accordance with their leaders (Ataei et al., 2024). Leaders who are aware of the importance of behaving based on an entrepreneurial mindset will encourage the environment and themselves to behave dynamically and full of innovation, one of which is by adapting various digital technologies to increase the intensity of closeness with their followers, which has a direct impact on increasing the followers' desire to act and behave. proactive and innovative to achieve organizational goals together (Efawati et al., 2021). Based on the data, it is known that the direct role of entrepreneurial leadership characteristics in increasing employee innovative behavior is greater than the presence of leader behavior (mediation) in stimulating the emergence of employee innovativeness behavior. This indicates that in the Krakatau Steel company, the presence of leaders with entrepreneurial characteristics is more expected in forming an innovative spirit compared to the emergence of leaders who are based on virtual/digital capabilities. This also provides an indication and illustration that direct meetings that display the physical presence of the leader among his followers have more meaning for employees when compared to leaders who are always integrated with technology. Apart from this, the two roles, namely entrepreneurial leadership, which is supported by the ability to use technology, can contribute directly to stimulating and increasing the interest of its followers, namely Krakatau steel information technology employees, to act proactively and innovatively.

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CONCLUSION

Increasing entrepreneurial leadership practices with various characteristics inherent in them influences the increase in innovative behavior of employees at the Krakatau I.T. company, either directly or through the mediation of the leader's ability variable in mastering technology (digital leadership). Leaders who are able to provide realistic challenges (framing the challenge), are willing to endure the failures of their followers (absorbing uncertainty), have a clear vision *(path clearing), are* able to build commitment (*building commitment),* and understand the limits of their followers' abilities (*specifying limit*), who are driven by their ability to master digitalization technology to reach, influence, and direct their followers or employees, will have an impact on the emergence and increase in their willingness to act more innovatively to achieve organizational goals.

REFERENCES

Ali Memon, M., Ting, H., Cheah, J.-H., Thurasamy, R., Chuah, F., & Huei Cham, T. (2020). Journal of Applied Structural Equation Modeling Sample Size For Survey Research: Review And Recommendations. *Journal of Applied Structural Equation Modeling*, *4*(2), 2590–4221.

Ardi, Djati, S. P., Bernarto, I., Sudibjo, N., Yulianeu, A., Nanda, H. A., & Nanda, K. A. (2020). The relationship between digital transformational leadership styles and knowledge-based empowering interaction for increasing organisational innovativeness. *International Journal of Innovation, Creativity and Change*, *11*(3), 259–277.

Ataei, P., Karimi, H., & Zarei, R. (2024). The role of entrepreneurial leadership, intellectual capital, innovativeness culture, and entrepreneurial orientation in entrepreneurial opportunity recognition by students. *Journal of Open Innovation: Technology, Market, and Complexity*, *10*(2). https://doi.org/10.1016/j.joitmc.2024.100265

Cordova-Buiza, F., Aguirre-Parra, P., Garcia-Jimenez, M. G., & Martinez-Torres, D. C. (2022). Virtual leadership as a development opportunity in business context. *Problems and Perspectives in Management*, *20*(2), 248–259. https://doi.org/10.21511/ppm.20(2).2022.20

Denis, D. J. (2019). *SPSS Data Analysis for Univariate, Bivariate, and Multivariate Statistics*. John Wiley & Sons.

Denis, D. J. (2021). *Applied Univariate, Bivariate, and Multivariate Statistics: Understanding Statistics for Social and Natural Scientists, With Applications in SPSS and R, Second Edition* (2nd ed.). Wiley. https://doi.org/10.1002/9781119583004

Efawati, Y., Ahman, E., Disman, Kusnendi, & Chaniago, H. (2021). The Effect of Entrepreneurial Leadership on Firm Innovation Through Innovative Work Behavior. *Advances in Economics, Business and Management Research*, *187*, 188–194. https://doi.org/10.2991/aebmr.k.210831.037

Ercantan, K., Eyupoglu, Ş. Z., & Ercantan, Ö. (2024). The Entrepreneurial Leadership, Innovative Behaviour, and Competitive Advantage Relationship in Manufacturing Companies: A Key to Manufactural Development and Sustainable Business Kansu. *Sustainability (Switzerland)*, *16*(6), 1–18. https://doi.org/10.3390/su16062407

Erhan, T., Uzunbacak, H. H., & Aydin, E. (2022). From conventional to digital leadership: exploring digitalization of leadership and innovative work behavior. *Management Research Review*, *45*(11), 1524–1543. https://doi.org/10.1108/MRR-05-2021-0338

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Accepted: August 05, 2024; Published: August 20, 2024;
Website: http://journalfeb.unla.ac.id/index.php/almana/article/view/2620

Gunawan, I., Redi, A. A. N. P., Santosa, A. A., Maghfiroh, M. F. N., Pandyaswargo, A. H., & Kurniawan, A. C. (2022). Determinants of Customer Intentions to Use Electric Vehicle in Indonesia: An Integrated Model Analysis. *Sustainability (Switzerland)*, *14*(4), 1–22. https://doi.org/10.3390/su14041972

Hadi, S., Setiawati, L., Kirana, K. C., Lada, S. Bin, & Rahmawati, C. H. T. (2024). The Effect of Digital Leadership and Organizational Support on Innovative Work Behavior: The Mediating Role of Emotional Intelligence. *Quality - Access to Success*, *25*(199), 74–83. https://doi.org/10.47750/QAS/25.199.09

Hair, J. F., Celsi, M., Ortinau, D. J., & Bush, R. P. (2017). *Essentials of Marketing Research E-Book* (4th ed.). McGraw-Hill.

Harto, B., Wibowo, L. A., & Yuniarsih, T. (2022). Bibliometric Analysis of Strategic Digital Leadership to Boost Innovation in Organization. *Advances in Economics, Business and Management Research*, *220*, 429–435. https://doi.org/10.2991/aebmr.k.220701.080

Hatem, G., Zeidan, J., Goossens, M., & Moreira, C. (2022). Normality Testing Methods and the Importance of Skewness and Kurtosis in Statistical Analysis. *BAU Journal - Science and Technology*, *3*(2), 1–5. https://doi.org/10.54729/ktpe9512

Hensellek, & Simon. (2020). Digital Leadership: A Framework for Successful Leadership in the Digital Age. *Journal of Media Management and Entrepreneurship*, *2*(1), 55–69. https://doi.org/10.4018/JMME.2020010104

Hidayat, M. (2019). *The Influence of Entrepreneurial Leadership on Innovativeness Mediated by Psychological Safety* [Maranatha Christian University]. https://repository.maranatha.edu/28749/

Hutajulu, R. S., Susita, D., & Eliyana, A. (2021). The Effect of Digitalization and Virtual Leadership on Organizational Innovation During the COVID-19 Pandemic Crisis: A Case Study in Indonesia. *Journal of Asian Finance, Economics and Business*, *8*(10), 57–64. https://doi.org/10.13106/jafeb.2021.vol8.no10.0057

Iqbal, A., Nazir, T., & Ahmad, M. S. (2022). Entrepreneurial leadership and employee innovative behavior: an examination through multiple theoretical lenses. *European Journal of Innovation Management*, *25*(1), 173–191. https://doi.org/10.1108/EJIM-06-2020-0212

Krakatau Sarana Infrastruktur. (2023). *Annual Report 2022: Creating Synergy, Combining Strengths, Achieving Success* (pp. 1–399). https://cm.ptksi.id/storage/annual/report/kqgCKbuQULhyzcNJ1la6MPlddlixJyilLCKUla0V.pdf

Krakatau Steel. (2024). *Annual Report 2023: Navigating Challenges, Ready to Recover*. https://www.krakatausteel.com/pdf/Krakatau_Steel_AR_SR_2023_1.pdf

Machali, I. (2021). *Metode Penelitian Kuantitatif: Panduan Praktis Merencanakan, Melaksanakan dan Analisis dalam Penelitian Kuantitatif* (A. Q. Habib (ed.); 3rd ed.). Fakultas Ilmu Tarbiyah dan Keguruan Universitas Islam Negeri (UIN) Sunan Kalijaga.

Malibari, M. A., & Bajaba, S. (2022). Entrepreneurial leadership and employees' innovative behavior: A sequential mediation analysis of innovation climate and employees' intellectual agility. *Journal of Innovation and Knowledge*, *7*(4). https://doi.org/10.1016/j.jik.2022.100255

Mathis, R. L., Jackson, J. H., Valentine, S. R., & Meglich, P. A. (2017). *Human Resource Management* (15th ed.). Cengage.

Mihardjo, L. W. W., Sasmoko, Alamsyah, F., & Elidjen. (2019). The influence of digital leadership on innovation management based on dynamic capability: Market orientation as a moderator. *Management Science Letters*, *9*(7), 1059–1070. https://doi.org/10.5267/j.msl.2019.3.018

Submitted: July 06, 2024; Revised: August 01, 2024;
Accepted: August 05, 2024; Published: August 20, 2024;
Website: http://journalfeb.unla.ac.id/index.php/almana/article/view/2620

Patten, M. L., & Newhart, M. (2018). Understanding Research Methods. In *Understanding Research Methods* (10th ed.). Routledge.

Renko, M., El Tarabishy, A., Carsrud, A. L., & Brännback, M. (2015). Understanding and measuring entrepreneurial leadership style. *Journal of Small Business Management*, *53*(1), 54–74. https://doi.org/10.1111/jsbm.12086

Sagbas, M., Oktaysoy, O., Topcuoglu, E., Kaygin, E., & Erdogan, F. A. (2023). The Mediating Role of Innovative Behavior on the Effect of Digital Leadership on Intrapreneurship Intention and Job Performance. *Behavioral Sciences*, *13*(10), 1–20. https://doi.org/10.3390/bs13100874

Sasongko, D. (2020). *Peran BUMN dalam Pemulihan Ekonomi Nasional (PEN)*. https://www.djkn.kemenkeu.go.id/artikel/baca/13437/Peran-BUMN-dalam-Pemulihan-Ekonomi-Nasional-PEN.html

Satriadi, Kusumah, S., & Agusven, T. (2021). Implementation Of E-Leadership In Government: Literature Review. *Annals of R.S.C.B.*, *25*(4), 13164–13170. http://annalsofrscb.ro

Sekaran, U., & Bougie, R. (2016). *Research Methods for Business :A Skill-Building Approach* (7th ed.). Wiley.

Siebel, M., Kaufman, E. K., D. Ada, C., & Elliot-Enggel, J. (2023). Advancing Adaptive Leadership Through Adaption Innovation Theory: Enhancements To The Holding Environment. *Journal of Leadership Studies*, *17*(1), 23–29. file:///C:/Users/Muhamad Hidayat/Downloads/J of Leadership Studies - 2023 - Seibel - Advancing Adaptive Leadership Through Adaption-Innovation Theory Enhancements to.pdf

Tohir, E. (2024). *Laporan Kinerja Kementrian BUMN 2023*. https://www.bumn.go.id/storage/kontenlaporan/files/files_1712196632.pdf

Xia, Y., Liu, X., Wang, X., Deng, H., Han, C., Liu, Z., & D, S.-B. T. (2023). The power of role models in a team: The impact of lead entrepreneur's digital leadership on digital entrepreneurial success. *Information Processing & Management*, *60*(6).

Submitted: July 06, 2024; Revised: August 01, 2024;
Accepted: August 05, 2024; Published: August 20, 2024;
Website: http://journalfeb.unla.ac.id/index.php/almana/article/view/2620