

The Effect of FHRM and Open Innovation on Organizational Resilience mediated by Intellectual Capital on Employees of PT Telkom Indonesia in Jakarta

Jaka Putra¹, Muhammad Maulana Yusuf², Vina Fauziah³, Netania Emilisa⁴

^{1,2,3,4} Management Study Program, Faculty of Economics and Business, Trisakti University Jakarta, Indonesia

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ABSTRACT

This study aims to analyze the influence of Flexible Human Resource Management (FHRM) and Open Innovation on Organizational Resilience, mediated by Intellectual Capital. The research was conducted on 181 employees of PT Telkom Indonesia in Jakarta using a quantitative approach through survey methods. The sampling technique employed was purposive sampling. Data were collected using a questionnaire and analyzed using Structural Equation Modeling (SEM). The results show that FHRM has a positive and significant effect on Organizational Resilience ($\beta = 0.194$; $p = 0.000 < 0.05$). Open Innovation also has a significant positive effect on Organizational Resilience ($\beta = 0.293$; $p = 0.004 < 0.05$). Furthermore, FHRM significantly influences Intellectual Capital ($\beta = 0.221$; $p = 0.000 < 0.05$), as does Open Innovation ($\beta = 0.711$; $p = 0.000 < 0.05$). Intellectual Capital was found to have a significant positive effect on Organizational Resilience ($\beta = 0.694$; $p = 0.000 < 0.05$). Mediation analysis using the Sobel test revealed that Intellectual Capital fully mediates the relationship between FHRM and Organizational Resilience ($\beta = 0.153$; $p = 0.000 < 0.05$), as well as the relationship between Open Innovation and Organizational Resilience ($\beta = 0.493$; $p = 0.000 < 0.05$). These findings highlight Intellectual Capital as a critical factor in strengthening the impact of FHRM and Open Innovation on organizational resilience. The practical implication of this study underscores the importance of strategic investments in human capital development and innovation capabilities to enhance an organization's adaptability and sustainability in a dynamic business environment.

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Corresponding Author:

Jaka Putra,
Management Study Program, Faculty of Economics and Business,
Trisakti University Jakarta.
Jl. Kyai Tapa No.1, Grogol, Jakarta 11440, Indonesia
Email: netania@trisakti.ac.id

1. INTRODUCTION

Advances in digital technology, especially the internet, have become a key factor in supporting education, connecting individuals and providing access to information. Digital media opens up opportunities for more open and participatory communication, while changing the way people interact through more interactive communication methods in the modern era (Farah et al., 2024.). In this era, the communication system has become very open, allowing individuals to express their views on politics, social, and culture with minimal restrictions (Liu et al., 2018). DKI Jakarta, as the center of government of the Republic of Indonesia, has an important role as the nation's capital. This role makes Jakarta a very dense city, with a population that continues to grow every year. The high

population density in this region raises various problems that are a challenge for DKI Jakarta Emilisa et al., 2024).

The telecommunications industry, which has been a key driver of digital technology adoption, is also facing challenges from its own innovations. In the 1990s, the industry enjoyed its heyday through telephone and short message service (SMS). However, the advent of Over The Top (OTT) applications such as WhatsApp, Line, and Facebook Messenger, which offer free messaging and voice calling services over the internet, began to shake this dominance. The impact is clear, as experienced by Telefonica, a major Spanish telecommunications company, which recorded an 8.7% decline in fixed-line service users in the 2016-2018 period. On the other hand, the use of data services actually increased by 2% in the same period, indicating a shift in consumer preferences towards internet-based services (Kusuma et al., 2021).

PT Telkom Indonesia (Persero) Tbk continues to transform to become a leading digital telecommunications company that is able to adapt to various challenges and market dynamics in the rapidly growing digital era. This step is in line with Telkom's vision to contribute to advancing society through digitalization. As part of its efforts, Telkom focuses on building reliable infrastructure and providing connectivity that reaches all parts of Indonesia.

Organizational Resilience, which is a company's ability to survive and recover from disruptions, has become an important attribute in ensuring sustainable business performance (Lengnick-Hall et al., 2011). This is particularly important for PT Telkom Indonesia, given its central role in Indonesia's digital infrastructure and the dynamic nature of the telecommunications industry. Organizational Resilience is crucial for PT Telkom Indonesia to remain competitive and adapt to rapidly changing market dynamics (Lee et al., 2013a). In such a situation, Flexibility-Oriented Human Resource Management (FHRM) and Open Innovation are two key strategies that can help the company stay strong. FHRM plays an important role in building Organizational Resilience by promoting an adaptive workforce, capable of responding to change (Teece et al., 2016). Open Innovation has become a strategic approach that encourages organizations to look beyond their internal resources and collaborate with external entities, such as other companies, research institutions, and startups (Bogers et al., 2018). Open Innovation can drive significant progress, especially in the telecommunications sector where technology is rapidly evolving (Randhawa et al., 2016).

Organization Resilience is considered important because in a dynamic business environment, Organization Resilience is able to adapt quickly to changes in markets, technology and regulations. This allows Organization Resilience to remain competitive and relevant amidst uncertainty (Timothy & Kathleen, 2007). (Li & Lin, 2024a) FHRM suggests that improving organizational adaptability by providing extensive skills and knowledge to core employees. Since FHRM can enhance organizational resilience by encouraging employees to participate in sustainability initiatives, FHRM contributes to the formation of a more adaptive and change-responsive culture, which is an important component of organizational resilience (Bhamra et al., 2011). Open Innovation is important because it enhances creativity, expands resources, and accelerates the development of new products and services, which are critical in maintaining competitiveness in the marketplace (H. W. 2003b) Chesbrough, 2004). Open innovation enables Resilience Organizations to adapt quickly to market changes and new challenges. By incorporating ideas from external sources, organizations can create more innovative and sustainable solutions and improve their ability to deal with uncertainty (Timothy & Kathleen, 2007). Organization Resilience with strong Intellectual Capital tends to be better able to face difficulties and take advantage of new opportunities, which increases organizational resilience in the long run (Vogus & Sutcliffe, 2007).

In addition to Open Innovation, Intellectual Capital is also considered an important factor in supporting Organization Resilience. Intellectual Capital includes knowledge-based resources owned by the company, which consists of intangible assets such as the results of intellectual processes, knowledge, skills, creativity, and relationships and networks (Daou et al., 2019). According to the Knowledge-Based View (KBV), knowledge plays a key role in creating competitive advantage for organizations, as this knowledge is embedded in the processes, interactions, and human relationships within the organization. KBV asserts that organizations can transform knowledge-based assets into valuable capabilities through careful strategic planning (Miller, 2003). Furthermore, how

to optimally utilize Intellectual Capital to improve strategy and decision making in order to build Organization Resilience still needs to be researched more deeply. (Emilisa et al., 2024b) There is still debate on how managers can effectively develop organizational learning capabilities in their organizations.

This research focuses on PT Telkom Indonesia in Jakarta, which is located at The Telkom Hub in South Jakarta and PT Telekomunikasi Indonesia (Persero) Tbk in Central Jakarta, which is the center of business activities and management of the largest telecommunications company in Indonesia. This study emphasizes differences in the aspects of place, time, respondents, and variables used compared to previous studies. Most of the previous studies were conducted in developed countries or in various sectors such as manufacturing, information technology, and technology services, and tended to highlight the relationship of variables at the organizational level such as Open Innovation and innovation performance. However, very few studies have highlighted the telecommunications sector in Indonesia, especially in Jakarta as the center of business activities. Previous research has also mostly looked at the top management perspective, without considering the contribution of the operational workforce in building Organizational Resilience.

2. RESEARCH METHOD

This study applied a quantitative causal approach to investigate the influence of Flexibility-Oriented Human Resource Management (FHRM) and Open Innovation on Organizational Resilience, with Intellectual Capital as a mediating variable. Primary data were collected via an online questionnaire from 181 employees of PT Telkom Indonesia in Jakarta using purposive sampling, while secondary data came from relevant documents such as annual reports and academic publications. The research instrument consisted of 36 questionnaire items across four variables, and its validity and reliability were tested using factor loading (>0.40) and Cronbach's Alpha (>0.70). Data analysis was conducted using Structural Equation Modeling (SEM) with SmartPLS, allowing for the testing of both direct and indirect effects. Sobel tests were also employed to evaluate the mediating role of Intellectual Capital. Combining both primary and secondary data enhanced the validity, depth, and context of the findings, enabling the study to answer the research questions comprehensively.

3. RESULTS AND DISCUSSIONS

Hypothesis Test

The hypothesis is tested to determine whether there is an influence of FHRM and Open Innovation on Organizational Resilience mediated by Intellectual Capital, so the hypothesis is tested using the Structural Equation Model (SEM) analysis method. The hypothesis is tested by measuring the p-value or level of significance (alpha) of 0.05. The basis for decision making is based on (Hair et al., 2022), namely:

- a. If the p-value > 0.05 then H_0 is supported and H_a is not supported, meaning there is no significant effect. The hypothesis is not supported.
- b. If the p-value < 0.05 then H_0 is not supported and H_a is supported, meaning there is a significant effect. The hypothesis is supported.

Analysis of the role of FHRM on Organizational Resilience

Table 1. Hypothesis Test Results H_{a1}

Hipotesis	Estimasi (β)	Prob.	Keputusan
FHRM memiliki pengaruh positif terhadap Organizational Resilience	0,194	0,000	H_1 didukung

Source: Results of data processing using AMOS.

Pembahasan Hasil Penelitian

The first hypothesis examines the effect of FHRM on Organizational Resilience, with the following hypothesis:

H_0 : FHRM has no positive influence on Organizational Resilience

H_a : FHRM has a positive influence on Organizational Resilience

Based on the results of hypothesis testing in Table 1, the estimate value of 0.194 shows a beta sign in accordance with the proposed hypothesis, where FHRM has a positive influence on

Organizational Resilience. Based on the test results above, a p-value of $0.000 \leq 0.05$ (alpha 5%) is obtained so that H01 is not supported or Ha1 is supported and it can be interpreted that statistically there is a positive influence between FHRM on Organizational Resilience, meaning that the higher the level of FHRM, the higher the Organizational Resilience of employees.

Analysis of the role of Open Innovation on Organizational Resilience

Table 2. Hypothesis Test Results Ha2

Hipotesis	Estimasi (β)	Prob.	Keputusan
<i>Open Innovation</i> memiliki pengaruh positif terhadap <i>Organizational Resilience</i>	0,293	0,004	H ₂ didukung

Source: Results of data processing using AMOS

The second hypothesis examines the effect of Open Innovation on Organizational Resilience, with the following hypothesis:

H02: Open Innovation does not have a positive influence on Organizational Resilience

Ha2: Open Innovation has a positive influence on Organizational Resilience

Based on the hypothesis test results in Table 2, the estimate value of 0.293 shows a beta sign in accordance with the proposed hypothesis, where Open Innovation has a positive influence on Organizational Resilience. Based on the test results above, a p-value of $0.004 \leq 0.05$ (alpha 5%) is obtained so that H02 is not supported or Ha2 is supported and it can be interpreted that statistically there is a positive influence between Open Innovation on Organizational Resilience, meaning that the higher the level of Open Innovation, the higher the level of Organizational Resilience in employees.

Analyze the role of FHRM on Intellectual Capital

Table 3. Hypothesis Test Results Ha3

Hipotesis	Estimasi (β)	Prob.	Keputusan
<i>FHRM</i> memiliki pengaruh positif terhadap <i>Intellectual Capital</i>	0,221	0,000	H ₃ didukung

Source: Results of data processing using AMOS

The third hypothesis tests the effect of Career Variety on Intellectual Capital, with the following hypothesis:

H03: FHRM has no positive influence on Intellectual Capital

Ha3: FHRM has a positive influence on Intellectual Capital

Based on the hypothesis test results in Table 3, the estimate value of 0.221 shows a beta sign in accordance with the proposed hypothesis, where FHRM has a positive influence on Intellectual Capital. Based on the test results above, the p-value of $0.000 \leq 0.05$ (alpha 5%) is obtained so that H03 is not supported or Ha3 is supported and it can be interpreted that statistically there is a positive influence between FHRM on Intellectual Capital, meaning that the higher the level of FHRM, the higher the level of Intellectual Capital in employees.

Analyze the role of Open Innovation on Intellectual Capital

Table 4. Hypothesis Test Results Ha4

Hipotesis	Estimasi (β)	Prob.	Keputusan
<i>Open Innovation</i> memiliki pengaruh positif terhadap <i>Intellectual Capital</i>	0,711	0,000	H ₄ didukung

Source: Results of data processing using AMOS

The fourth hypothesis examines the effect of Open Innovation on Intellectual Capital, with the following hypothesis:

H04: Open Innovation does not have a positive influence on Intellectual Capital

Ha4: Open Innovation has a positive influence on Intellectual Capital

Based on the hypothesis test results in Table 4, the estimate value of 0.711 shows a beta sign in accordance with the proposed hypothesis, where Open Innovation has a positive influence

on Intellectual Capital. Based on the test results above, a p-value of $0.000 \leq 0.05$ (alpha 5%) is obtained so that H04 is not supported or Ha4 is supported and it can be interpreted that statistically there is a positive influence between Open Innovation on Intellectual Capital, meaning that the higher the level of Open Innovation, the higher the level of Intellectual Capital in employees.

Analisis peran Intellectual Capital terhadap Organizational Resilience

Table 5. Hypothesis Test Results Ha5

Hipotesis	Estimasi (β)	Prob.	Keputusan
<i>Intellectual Capital</i> memiliki pengaruh positif terhadap <i>Organizational Resilience</i>	0,694	0,000	H ₅ didukung

Source: Results of data processing using AMOS

The fourth hypothesis examines the effect of Intellectual Capital on Organizational Resilience, with the following hypothesis:

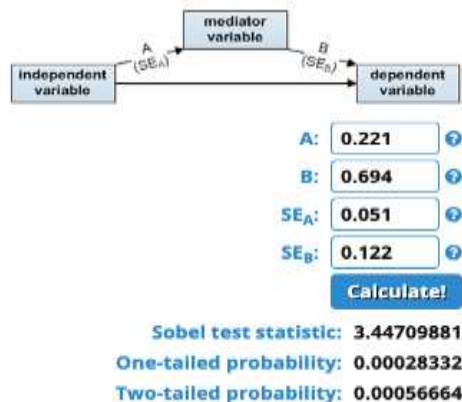
H05: Intellectual Capital has no positive influence on Organizational Resilience

Ha5: Intellectual Capital has a positive influence on Organizational Resilience

Based on the hypothesis test results in Table 5, the estimate value of 0.694 shows a beta sign in accordance with the proposed hypothesis, where Intellectual Capital has a positive influence on Organizational Resilience. Based on the test results above, a p-value of $0.000 \leq 0.05$ (alpha 5%) is obtained so that H05 is not supported or Ha5 is supported and it can be interpreted that statistically there is a positive influence between Intellectual Capital on Organizational Resilience, meaning that the higher the level of Intellectual Capital, the higher the level of Organizational Resilience in employees.

Analysis of the effect of FHRM on Organizational Resilience mediated by Intellectual Capital

In testing the sixth hypothesis, namely the effect of FHRM on Organizational Resilience mediated by Intellectual Capital, with the following hypothesis testing results:



The sixth hypothesis of the effect of FHRM on Organizational Resilience mediated by Intellectual Capital, with the following hypothesis:

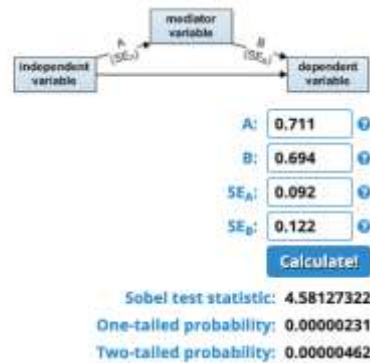
H06: FHRM does not have a positive influence on Organizational Resilience mediated by Intellectual Capital.

Ha6: FHRM has a positive influence on Organizational Resilience mediated by Intellectual Capital

Based on the results of testing the sixth hypothesis using the Sobel test, it is found that FHRM has a significant effect on Organizational Resilience mediated by Intellectual Capital based on a p-value of $0.000 < 0.05$. The estimate value is 0.153 which indicates that there is a negative influence between FHRM which has a significant effect on Organizational Resilience mediated by Intellectual Capital. So it can be interpreted that Intellectual Capital is full mediation in influencing FHRM on Organizational Resilience. So it can be concluded that the sixth hypothesis of this study is supported..

Analysis of the role of Open Innovation on Organizational Resilience mediated by Intellectual Capital

In testing the seventh hypothesis, namely the effect of Open Innovation on Organizational Resilience mediated by Intellectual Capital, with the following hypothesis testing results:



The sixth hypothesis examines the effect of Open Innovation on Organizational Resilience mediated by Intellectual Capital, with the following hypothesis:

H07: Open Innovation does not have a positive influence on Organizational Resilience mediated by Intellectual Capital.

Ha7: Open Innovation has a positive influence on Organizational Resilience mediated by Intellectual Capital.

Based on the results of testing the sixth hypothesis using the sobel test, it is found that Open Innovation has a significant effect on Organizational Resilience mediated by Job Crafting based on a p-value of $0.000 < 0.05$. The estimate value is 0.493 which indicates that there is a negative influence between Open Innovation which has a significant effect on Organizational Resilience mediated by Intellectual Capital. So it can be interpreted that Intellectual Capital is full mediation in influencing Open Innovation on Organizational Resilience. So it can be interpreted that the seventh hypothesis of this study is supported..

Discussion of Research Results

The results of the discussion of each hypothesis in this study are as follows:

H1: FHRM has a positive influence on Organizational Resilience

The first hypothesis in this study concluded that there is a significant positive influence between Flexible Human Resource Management (FHRM) on Organizational Resilience. This result is in line with previous research (Li & Lin, 2024), which shows that the FHRM approach can increase Organizational Resilience, especially in the face of dynamic challenges. This is due to FHRM's ability to encourage adaptability and empower employees to better respond to changes in the work environment. Based on his observations, organizations that implement FHRM, such as flexible work policies, training that supports the development of diverse skills, and a results-based approach, show higher levels of resilience. For example, a company that gives employees the option to work remotely during times of crisis shows an increase in the organization's ability to keep operating without major disruptions. In addition, flexibility in distributing tasks and responsibilities allows teams to more easily adjust to sudden changes, such as fluctuating market demand or unexpected technical challenges.

(Li & Lin, 2024a), however, caution that FHRM is not just about giving employees more freedom. Organizations also need to ensure that this flexibility is balanced with clear communication, technological support, and effective management systems. With a balanced strategy, FHRM can be a catalyst for strengthening Organizational Resilience, creating a work culture that is not only resilient, but also innovative and solution-oriented. This approach allows organizations to not only survive difficult situations, but also take advantage of opportunities that arise from these challenges. The mean value on the FHRM variable shows that many organizations have implemented flexible measures, such as adjustable working hours and needs-based training programs. Meanwhile, the mean value on the Organizational Resilience variable indicates that more flexible organizations have a greater chance of surviving and thriving amidst uncertainty.

H2 : Open Innovation has a positive influence on Organizational Resilience

The second hypothesis in this study concludes that there is a significant positive influence between Open Innovation and Organizational Resilience. These results are in line with previous research (Ju, 2023b) which shows that the application of Open Innovation can increase Organizational Resilience in the face of changes and challenges in the business environment. This is due to Open Innovation's ability to encourage external and internal collaboration, which in turn strengthens organizational adaptability and responsiveness to market dynamics. Based on his observations, organizations that adopt Open Innovation practices, such as collaboration with external partners, participation in innovation networks, and knowledge sharing across departments, show higher levels of resilience. For example, a technology company that actively collaborates with startups and research institutions is able to develop innovative solutions faster, making it better prepared for market disruption. In addition, openness to new ideas and technologies allows organizations to be more flexible in adjusting their business strategies according to changes in the external environment. This is also supported by the mean value on the Open Innovation variable shows that many organizations have implemented collaborative measures, such as strategic partnerships and incubation programs. Meanwhile, the mean value on the Organizational Resilience variable shows that organizations that are more open to innovation have a better ability to survive and thrive amidst uncertainty.

H3: FHRM has a posited influence on Intellectual Capital

The third hypothesis in this study concluded that there is a significant positive influence between Flexible Human Resource Management (FHRM) and Intellectual Capital. This result is in line with previous research (Ju, 2023) which shows that the implementation of a Flexible Human Resource Management (FHRM) management system can increase organizational Intellectual Capital. This is due to FHRM's ability to encourage the development of valuable skills, knowledge, and relationships among employees, which in turn strengthens the company's intellectual assets. Based on his observations, organizations that implement FHRM practices, such as training tailored to individual needs, flexibility in work assignments, and promotion of cross-departmental collaboration, show improvements in their Intellectual Capital components. For example, a company that provides employees with opportunities to participate in cross-functional projects can increase collective knowledge and internal social networks, which are important elements of intellectual capital. In addition, flexibility in work arrangements allows employees to more effectively share information and ideas, which contributes to an increase in the organization's intellectual capital.

The mean value on the FHRM variable also shows that many organizations have implemented flexible measures, such as adjustable working hours and needs-based skills development programs. Meanwhile, the mean value on the Intellectual Capital variable shows that organizations that are more flexible in human resource management have stronger intellectual assets, which include valuable knowledge, skills and social networks.

H4: Open Innovation has a positive influence on Intellectual Capital

The fourth hypothesis in this study concludes that there is a significant positive influence between Open Innovation and Intellectual Capital. This is supported by previous research (Gebremichael, 2018) which shows that implementing an Open Innovation strategy can strengthen an organization's Intellectual Capital by encouraging cross-border collaboration, knowledge sharing, and adoption of new ideas from various external and internal sources. Based on his observations, companies that implement Open Innovation, such as building strategic partnerships, collaborating with startups, or working with research institutions, tend to have higher levels of Intellectual Capital. For example, organizations that actively adopt technologies from third parties or share knowledge with external partners are able to enrich their intellectual assets, both in the form of knowledge, skills, and strategic relationships.

H5: Intellectual Capital has a Positive Effect on Organizational Resilience

Research conducted by (Li & Lin, 2024a) concluded that there is a significant positive influence between Intellectual Capital and Organizational Resilience. His research supports these findings, showing that Intellectual Capital which includes knowledge, skills, and relationships plays an important role in increasing Organizational Resilience to various challenges and changes in the business environment. Based on his observations, organizations with high levels of Intellectual

Capital tend to be more adaptive and responsive in dealing with crisis situations. For example, companies that have knowledgeable employees and a strong network of relationships are able to find innovative solutions and quickly adapt to market changes. In addition, an organizational structure that supports the flow of information and continuous learning allows companies to anticipate and respond to challenges more effectively.

The average value on the Intellectual Capital variable indicates that many organizations have invested in the development of human resources, information technology, and external relations. Meanwhile, the mean value on the Organizational Resilience variable indicates that organizations with strong Intellectual Capital have a better ability to survive and thrive amidst uncertainty..

H6: Flexible Human Resource Management (FHRM) has a Positive Effect on Organizational Resilience Mediated by Intellectual Capital

The sixth hypothesis in the study concluded that there is a significant positive influence between FHRM on Organizational Resilience mediated by Intellectual Capital. These results are in line with previous studies (Li & Lin, 2024a) which state that the implementation of Flexible Human Resource Management (FHRM) systems can increase organizational Intellectual Capital, which in turn strengthens Organizational Resilience in the face of changes and challenges. Based on his observations conducted on 219 businesses in the Yangtze River Delta region, China, it was found that the role of Intellectual Capital was able to fully mediate the positive effect of FHRM on Organizational Resilience. This was seen when these businesses implemented flexible work policies and skills development programs tailored to the individual needs of employees. These policies increase employees' knowledge, skills, and social networks, which are key components of Intellectual Capital. Based on the description above, it can be concluded that the improvement of this model allows organizations to be more adaptive and responsive to market dynamics and external challenges, thereby increasing the overall organizational resilience of this intellectual allows organizations to be more adaptive and responsive to market dynamics and external challenges, thereby increasing the overall organizational resilience.

H7 : Open Innovation has a Positive Effect on Organizational Resilience Mediated by Intellectual Capital.

The seventh hypothesis in the study concluded that there is a significant positive influence between Open Innovation on Organizational Resilience mediated by Intellectual Capital. These results are in line with previous studies (Li & Lin, 2024) which show that Open Innovation strategies, such as collaboration with external partners and participation in innovation networks, can enrich organizational intellectual capital. This increase in Intellectual Capital, in turn, strengthens the organization's ability to adapt and survive in the face of changes and challenges in the business environment.

Based on our observations at PT Telkom Indonesia in Jakarta, the effective implementation of Open Innovation has improved employees' knowledge and skills, and encouraged internal and external collaboration. Employees involved in collaborative projects with external partners are able to generate creative solutions that strengthen the company's competitive position. This process enriches the company's intellectual capital and drives the adoption of Open Innovation, which in turn improves the organization's ability to adapt and survive amidst fast-changing market dynamics..

Table 6. Direct and Indirect Effect on Turnover Intention

No	Keterangan	β
1.	<i>Organizational Resilience ← Open Innovation</i>	0,293
2.	<i>Organizational Resilience ← FHRM</i>	0,194
3.	<i>Organizational Resilience ← Intellectual Capital ← Open Innovation</i>	0,493
4.	<i>Organizational Resilience ← FHRM ← Open Innovation</i>	0,153

Source: Data Processing Results

Based on the table above, it can be seen that the direct effect of Open Innovation on Organizational Resilience has an estimated value of 0.293. This result shows that organizations that implement Open Innovation strategies, such as external collaboration and knowledge sharing, can directly

improve the organization's ability to survive and adapt amid challenges. These measures provide greater flexibility in responding to the dynamics of the business environment.

Meanwhile, the direct effect of Flexible Human Resource Management (FHRM) on Organizational Resilience has an estimated value of 0.194. This indicates that FHRM practices, such as work flexibility, customized training, and results-based workforce management, also contribute positively, although not as much as Open Innovation. FHRM helps organizations build resilience by encouraging employee skill development and adaptability.

Furthermore, the effect of Open Innovation on Organizational Resilience mediated by Intellectual Capital has the highest estimated value, which is 0.493. This result confirms that Intellectual Capital plays an important role as an intermediary, strengthening the relationship between Open Innovation and Organizational Resilience. Intellectual Capital, such as knowledge, skills, and relational networks, helps organizations to be more resilient in the face of change by leveraging innovative ideas generated from Open Innovation.

Also, the effect of FHRM (Flexible Human Resource Management) on Organizational Resilience mediated by Intellectual Capital has an estimated value of 0.154. These results indicate that Intellectual Capital, which includes knowledge, skills, and relational relationships, acts as an intermediary that strengthens the relationship between FHRM and organizational resilience. Although the estimated value is lower than that of Open Innovation, Intellectual Capital still makes a significant contribution in enhancing an organization's ability to adapt and survive in the face of challenges, thanks to the flexibility offered by FHRM in managing human resources effectively.

Based on these findings, organizations can optimize their resilience by increasing investment in Intellectual Capital through Open Innovation. In addition, the implementation of FHRM that supports flexibility and employee development can also contribute to increased Organizational Resilience. This combined strategy can help organizations to survive and thrive in an increasingly dynamic market situation.

4. CONCLUSION

This study was conducted to see the effect of the Survey of the influence of Flexibility-Oriented Human Resource Management (FHRM) and Open Innovation on Organization Resilience mediated by Intellectual Capital with 181 respondents of PT Telkom Indonesia employees in Jakarta, having a majority of male gender aged 24–34 years with the last education S1 and a length of work of 1–5 years. There are seven hypotheses, where all hypotheses are supported. Based on the analysis of this research, it can be explained as follows: the results of hypothesis testing show that FHRM, Open Innovation, Intellectual Capital, and Organization Resilience have a positive and significant influence. The results of testing the first hypothesis show that FHRM has a positive and significant effect on Organizational Resilience. The results of testing the second hypothesis show that Open Innovation has a positive and significant effect on Organizational Resilience. From the results of testing the third hypothesis, it shows that FHRM has an influence on Intellectual Capital. From the results of testing the fourth hypothesis, it shows Open Innovation has a positive and significant effect on Intellectual Capital. From the results of testing the fifth hypothesis, it shows Intellectual Capital has an influence on Organizational Resilience. From the results of testing the sixth hypothesis shows Intellectual Capital as a full mediation of the influence between FHRM on Organizational Resilience. The results of testing the seventh hypothesis show Intellectual Capital as a full mediation of the influence between Open Innovation on Organizational Resilience.

REFERENCES

- Bhamra, R., Dani, S., & Burnard, K. (2011). Resilience: The concept, a literature review and future directions. In *International Journal of Production Research* (Vol. 49, Issue 18, pp. 5375–5393). <https://doi.org/10.1080/00207543.2011.563826>
- Bogers, M., Chesbrough, H., & Moedas, C. (2018). Open innovation: Research, practices, and policies. *California Management Review*, 60(2), 5–16. <https://doi.org/10.1177/0008125617745086>
- Bogers, M., Zobel, A. K., Afuah, A., Almirall, E., Brunswicker, S., Dahlander, L., Frederiksen, L., Gawer, A., Gruber, M., Haefliger, S., Hagedoorn, J., Hilgers, D., Laursen, K., Magnusson, M. G., Majchrzak, A., McCarthy, I. P., Moeslein, K. M., Nambisan, S., Piller, F. T., ... Ter Wal, A. L. J. (2017). The open

- innovation research landscape: established perspectives and emerging themes across different levels of analysis. *Industry and Innovation*, 24(1), 8–40. <https://doi.org/10.1080/13662716.2016.1240068>
- Chesbrough, H., & Bogers, M. (2013). *Explicating Open Innovation: Clarifying an Emerging Paradigm for Understanding*. <http://ssrn.com/abstract=2427233> Electronic copy available at: <https://ssrn.com/abstract=2427233> Electron iccopy available at: <http://ssrn.com/abstract=2427233>
- Daou, A., Joseph, J., Yousif, D. S., Fathallah, R., & Reyes, G. (2019). Intellectual capital and resilience in torn societies. *Journal of Intellectual Capital*, 20(4), 598–618. <https://doi.org/10.1108/JIC-01-2019-0008>
- Duchek, S. (2020). Organizational resilience: a capability-based conceptualization. *Business Research*, 13(1), 215–246. <https://doi.org/10.1007/s40685-019-0085-7>
- Emilisa, N., Yudhaputri, E. A., Trisakti, U., & Dizar, S. (2024.-a). *Connections Between Work-Life Balance and Job Insecurity among Firefighters in Jakarta Indonesia*.
- Emilisa, N., Yudhaputri, E. A., Trisakti, U., & Dizar, S. (2024b). *Connections Between Work-Life Balance and Job Insecurity among Firefighters in Jakarta Indonesia*.
- Farah, A., Calista, I., & Hartono, A. (2024). *PT TELKOM INDONESIA'S DIGITAL TRANSFORMATION STRATEGY FACING THE DIGITAL ERA BY UTILIZING CORPORATE COMMUNICATIONS*.
- Farzaneh, M., Wilden, R., Afshari, L., & Mehralian, G. (2022). Dynamic capabilities and innovation ambidexterity: The roles of intellectual capital and innovation orientation. *Journal of Business Research*, 148(April 2021), 47–59. <https://doi.org/10.1016/j.jbusres.2022.04.030>
- Gebremichael, H. S. (2018). The impact of open innovation practice on innovative performance through intellectual capital: Empirical study on SMEs. *African Journal of Business Management*, 12(20), 609–619. <https://doi.org/10.5897/ajbm2018.8651>
- Hair, J. F., Tomas, G., Hult, M., Ringle, C. M., & Sarstedt, M. (2022). *A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)*. <https://www.researchgate.net/publication/354331182>
- He, D. S., Liu, T. W., & Lin, Y. Y. (2024). Efficiency evaluation of intellectual capital for value creation: a case study of the semiconductor industry in Taiwan. *Journal of Intellectual Capital*, 25(4), 744–774. <https://doi.org/10.1108/JIC-11-2023-0259>
- Kusuma, E. A., Pribadiyono, & Riharjo, I. B. (2021). *Transformasi Digital Industri Telekomunikasi di Era Disrupsi*.
- Lee, A. V., Vargo, J., & Seville, E. (2013a). Developing a Tool to Measure and Compare Organizations' Resilience. *Natural Hazards Review*, 14(1), 29–41. [https://doi.org/10.1061/\(asce\)nh.1527-6996.0000075](https://doi.org/10.1061/(asce)nh.1527-6996.0000075)
- Lee, A. V., Vargo, J., & Seville, E. (2013b). Developing a Tool to Measure and Compare Organizations' Resilience. *Natural Hazards Review*, 14(1), 29–41. [https://doi.org/10.1061/\(asce\)nh.1527-6996.0000075](https://doi.org/10.1061/(asce)nh.1527-6996.0000075)
- Liu, X., Zhang, X., Jia, M., Fan, L., Lu, W., & Zhai, X. (2018). 5G-based green broadband communication system design with simultaneous wireless information and power transfer. *Physical Communication*, 28, 130–137. <https://doi.org/10.1016/j.phycom.2018.03.015>
- Miller, D. (2003). An asymmetry-based view of advantage: Towards an attainable sustainability. *Strategic Management Journal*, 24(10 SPEC ISS.), 961–976. <https://doi.org/10.1002/smj.316>
- Naqshbandi, M. M. (2016). Managerial ties and open innovation: examining the role of absorptive capacity. *Management Decision*, 54(9), 2256–2276. <https://doi.org/10.1108/MD-03-2016-0161>
- Randhawa, K., Wilden, R., & Hohberger, J. (2016). A Bibliometric Review of Open Innovation: Setting a Research Agenda. *Journal of Product Innovation Management*, 33(6), 750–772. <https://doi.org/10.1111/jpim.12312>
- Roumpi, D. (2023). Rethinking the strategic management of human resources: lessons learned from Covid-19 and the way forward in building resilience. *International Journal of Organizational Analysis*, 31(1), 215–231. <https://doi.org/10.1108/IJOA-09-2021-2974>
- Schilke, O., Hu, S., & Helfat, C. E. (2018). Quo vadis, dynamic capabilities? A content-analytic review of the current state of knowledge and recommendations for future research. *Academy of Management Annals*, 12(1), 390–439. <https://doi.org/10.5465/annals.2016.0014>
- Sekaran Uma, & Bougie Roger. (2016). *Research Methods for Business: A Skill-Building Approach*. <https://doi.org/http://lccn.loc.gov/2015051045>
- Shipton, H., Sanders, K., Atkinson, C., & Frenkel, S. (2016). Sense-giving in health care: the relationship between the HR roles of line managers and employee commitment. *Human Resource Management Journal*, 26(1), 29–45. <https://doi.org/10.1111/1748-8583.12087>
- Siddiq, M. U., & Sultan, S. A. (2023). Role of Flexibility-oriented HRM System in Promoting Human Resource Flexibility for Firm Innovation. In *Journal of Personnel Management* (Vol. 1, Issue 1).
- Teece, D., Peteraf, M., & Leih, S. (2016). *Dynamic Capabilities and Organizational Agility: RISK, UNCERTAINTY, AND STRATEGY IN THE INNOVATION ECONOMY*.
- Timothy, vogus, & Kathleen, M. S. (2007). *sitasi vogus2007*.

- Vogus, T. J., & Sutcliffe, K. M. (2007). Organizational resilience: Towards a theory and research agenda. *Conference Proceedings - IEEE International Conference on Systems, Man and Cybernetics*, 3418–3422. <https://doi.org/10.1109/ICSMC.2007.4414160>
- Williams, T. A., Gruber, D. A., Sutcliffe, K. M., Shepherd, D. A., & Zhao, E. Y. (2017). Organizational response to adversity: Fusing crisis management and resilience research streams. *Academy of Management Annals*, 11(2), 733–769. <https://doi.org/10.5465/annals.2015.0134>
- Zighan, S., & Ruel, S. (2023). SMEs' resilience from continuous improvement lenses. *Journal of Entrepreneurship in Emerging Economies*, 15(2), 233–253. <https://doi.org/10.1108/JEEE-06-2021-0235>