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THE IMPACT OF WORK POLICY CHANGES ON ENERGY EFFICIENCY AND IT PROJECT PERFORMANCE: A CASE STUDY OF PT IHSAN SOLUSI INFORMATIKA

Farid Nurdin[1)]

[1)]Magister Management, Universitas Widyatama, Indonesia

Corresponding author: farid.nurdin@widyatama.ac.id

Abstract

The COVID-19 pandemic has driven significant changes in organizational work policies, compelling companies to reassess operational efficiency and employee productivity. PT Ihsan Solusi Informatika, an information technology company with 140 employees, initially implemented a Work From Office (WFO) policy, then shifted to Work From Home (WFH) during the pandemic, and subsequently returned to WFO post-pandemic. This study aims to analyze the impact of these policy changes on two key indicators: electricity consumption as a measure of operational efficiency, and project completion timeliness as an indicator of employee productivity. Company data revealed a 62.57% reduction in annual electricity costs during the WFH period (from IDR 20,748,000 in 2019 to IDR 7,767,000 in 2020). However, there was a significant decline in employee productivity, with only 3 out of 10 projects completed on time during the WFH period, compared to 9 out of 10 projects during the WFO period. These findings indicate a trade-off between cost efficiency and work performance in the implementation of remote work policies. This study recommends the adoption of a hybrid work model(a combination of WFO and WFH)as a more balanced approach to enhancing both operational efficiency and employee productivity. Strengthening remote work infrastructure and project management systems is also advised to support optimal and sustainable work outcomes.

Keywords: Work From Home (WFH), Work Form Office (WFO), energy efficiency, employee productivity, work policy.

Introduction

Since the beginning of 2020, the world has faced unprecedented challenges due to the COVID-19 pandemic, which has significantly impacted various aspects of life, including organizational operations and employee behavior. Large-scale social restrictions and regional lockdown policies compelled many companies to adopt remote working (*Work from Home* or WFH) strategies to maintain operational continuity while minimizing the risk of virus transmission. Previously, WFH was only implemented by a small segment of companies with specific characteristics, but the pandemic drastically shifted this paradigm. As noted by Waizenegger et al. (2020), the sudden rise in remote work adoption has presented both new challenges and opportunities for organizations across multiple industries. Technology-based companies were among the most adaptable to this shift, as most of their core activities could be performed digitally. In this context, the pandemic acted as an accelerator for digital transformation and the evolution of workplace policies. However, these changes also introduced managerial challenges, particularly in maintaining effective communication, fostering collaboration, and monitoring productivity. Studies by Kniffin et al. (2021) and Carillo et al. (2021) have highlighted that while WFH can reduce operational costs—such as electricity and commuting expenses—its impact on productivity and goal achievement remains contested.

PT Ihsan Solusi Informatika, a mid-sized information technology company in Indonesia with 140 employees, is a relevant case study for observing these changes in practice. At the onset of the pandemic, the company fully transitioned to WFH as a response to public health directives. As the situation gradually improved, the company shifted back to a Work from Office (WFO) model. These policy transitions yielded measurable effects, especially in terms of operational costs—as reflected in electricity consumption—and employee productivity, indicated by the timeliness of project completion.This study aims to analyze in detail how different work arrangements—WFO, WFH, and a combination of both—affect organizational efficiency and effectiveness. It focuses on two key metrics: energy consumption as an indicator of cost efficiency, and project completion timeliness as a measure of work effectiveness. By utilizing empirical data from PT Ihsan Solusi Informatika, this research provides concrete insights into how changing work policies can influence company performance in the context of a medium-sized tech firm in Indonesia.

Furthermore, the study seeks to offer data-driven recommendations for designing a hybrid work model that balances the advantages of both WFO and WFH systems. By considering operational requirements, employee preferences, and long-term sustainability goals, the proposed hybrid model aims to serve as a viable solution

for the post-pandemic era. Ultimately, this research contributes to the broader academic and practical discourse on sustainable work practices and organizational resilience in the face of global disruptions.

Methods

This study employs a case study approach with a descriptive quantitative analysis method, based on internal data from PT Ihsan Solusi Informatika. This approach was chosen to evaluate and compare the company's operational efficiency and employee productivity during two different work policy periods: WFO in 2019 and WFH in 2020. The analysis focuses on two main variables:

1. Electricity consumption costs, as an indicator of operational energy usage.
2. Project performance, measured by the number of projects completed on time.

Data Collection

The data utilized in this study were derived from internal documentation provided by PT Ihsan Solusi Informatika, ensuring the use of accurate and relevant organizational records. The data collection process focused on two primary dimensions: operational efficiency, represented by electricity consumption, and work effectiveness, represented by project performance outcomes. First, electricity consumption data were gathered from the company's electricity payment reports, covering a continuous 12-month period during the implementation of the Work from Office (WFO) system from January to December 2019, and another 12-month period during the implementation of the Work from Home (WFH) system from January to December 2020. These records provided quantitative insights into fluctuations in operational utility costs associated with each work policy.

Second, project performance data were obtained from the company's internal project management system, which maintains records on the execution and completion of various projects. All project data used in this study were drawn from the same two comparative periods (2019 for WFO and 2020 for WFH), allowing for a consistent and meaningful analysis of the effect of work arrangements on employee productivity.

By relying exclusively on internal documents that reflect real-time operational and performance metrics, this study ensures that the collected data are both authentic and contextually relevant. The consistency in the timeframe across the two datasets strengthens the validity of comparative analysis, minimizing the influence of external temporal factors. Moreover, using pre-existing company data reduces the risk of self-reporting bias and enhances the objectivity of the research findings.

Data Analysis

The analysis was conducted by comparing the total annual electricity costs and the rate of on-time project completion between the WFO and WFH periods. Descriptive statistics were used to present the differences, including percentage changes and comparison tables, in order to illustrate the impact of work policy shifts on operational efficiency and project productivity.

Results and Discussions

This study presents a comparative analysis between the WFO period in 2019 and the WFH period in 2020, focusing on two key indicators: electricity consumption costs as a representation of operational efficiency, and project performance as an indicator of employee productivity.

Electricity Consumption Costs

Table 1 Resume Energy Consumed

No	Year	Work pattern	Electricity cost (Rp)	Energy (kWH)
1	2019	WFO	20.748.000	14.362
2	2020	WFH	7.767.000	5.375

Source: Internal data PT Ihsan Solusi Informatika

From the table data above, we can calculate the electricity cost savings:

Cost Savings = Electricity costs in 2019 - Electricity costs in 2020
= 20.748.000 – 7.767.000
= Rp 12.981.000

Percentage of savings = Cost Savings / Electricity Cost in 2019 x 100%
= 12.981.000/20.748.000 x 100%
= 62,57%

Electric Energy Saving = Electric Energy in 2019 - Electric Energy in 2020
= 4.362 – 5.375
= 8.987 kWH
Percentage of savings = Cost Savings / Electricity Cost in 2019 x 100%
= 8.987/14.362 x 100%
= 62,57%

The data indicate a significant reduction in electricity costs during the WFH period. The company's total annual electricity cost during the WFO period (2019) was recorded at IDR 20,748,000, whereas during the WFH period (2020), the cost decreased to IDR 7,767,000. This represents a savings of 62.57%, demonstrating improved operational energy efficiency as a result of the implementation of remote work policies. These savings are due to the reduced use of office facilities such as lighting, air conditioning, and electronic equipment, etc.

Project Performance (Employee Productivity)

Table 2 project performance in 2019

No	Project	Status
1	A	Completed, delivery on time
2	B	Completed, delivery on time
3	C	Completed, delivery on time
4	D	Completed, delivery on time
5	E	Completed, delivery not on time
6	F	Completed, delivery on time
7	G	Completed, delivery on time
8	H	Completed, delivery on time
9	I	Completed, delivery on time
10	J	Completed, delivery on time

Source: Internal data PT Ihsan Solusi Informatika

Table 3. project performance in 2020

No	Project	Status
1	K	Completed, delivery on time
2	L	Completed, delivery on time
3	M	Completed, delivery not on time
4	N	Completed, delivery on time
5	O	Completed, delivery not on time
6	P	Completed, delivery not on time
7	Q	Completed, delivery not on time
8	R	Completed, delivery not on time
9	S	Completed, delivery not on time
10	T	Completed, delivery not on time

Source: Internal data PT Ihsan Solusi Informatika

Table 4. Resume project performance in 2019-2020

Year	Project on time	Project not on time	Total project	Succes Rate
2019	9	1	10	90%
2020	3	7	10	30%

Decline Succes Rate = 90% - 30% = 60%
= 60% / 90 %
= 66,67%

The data indicate a significant decline in project performance during the WFH period. In 2019 (WFO), 9 out of 10 projects were successfully completed on time. However, in 2020 (WFH), only 3 out of 10 projects met the scheduled deadlines. This reflects a 66,67% decrease in project success rate, suggesting a notable decline in employee productivity during the implementation of remote work policies.

Implications of the Findings

The findings of this study reveal a trade-off between operational cost efficiency and project productivity. While WFH can effectively reduce operational expenses, the decline in productivity presents a challenge that organizations must address. These results highlight the potential of adopting a hybrid work model as a more balanced alternative to support both efficiency and performance.

Discussion

The results of this study demonstrate that the company's work policy significantly impacts both operational efficiency and employee productivity. The transition from WFO to WFH led to substantial savings in electricity costs, but also had a negative effect on project completion performance.

1. **Operational Efficiency During WFH**
   The 62.57% reduction in electricity costs during the WFH period indicates that remote work policies hold considerable potential for lowering a company's operational burden, particularly in terms of energy expenses. This finding aligns with the research of Choudhury et al. (2020), which suggests that remote work implementation can significantly reduce office expenditures, including electricity, transportation, and physical workplace facilities.
2. **Decline in Productivity and Project Performance**
   The decrease in the proportion of projects completed on time—from 90% during the WFO period to 30% during WFH—suggests a substantial impact on employee productivity. This decline may be attributed to several factors, such as limited digital infrastructure at home, the absence of direct supervision, challenges in team communication, and distractions in the domestic work environment. These findings are consistent with studies by Wang et al. (2021) and Galanti et al. (2021), which noted that although WFH increases flexibility, not all organizations are equipped with the systems and work culture necessary to support optimal remote productivity.
3. **Consideration of a Hybrid Work Model**
   Given the apparent trade-off between cost efficiency and reduced project performance, this study suggests the adoption of a hybrid work model as a balanced solution. This model allows companies to maintain operational efficiency by reducing physical office activities, while still fostering discipline and collaboration through periodic in-person interactions. Research by Alexander et al. (2021) also emphasizes that a well-designed hybrid work model can improve job satisfaction, enhance productivity, and stabilize operational costs. Therefore, companies are encouraged to strengthen their remote work infrastructure, develop output-based performance evaluation systems, and provide digital project management training.

Conclusion

This study concludes that the shift in work policy from Work From Office (WFO) to Work From Home (WFH) at PT Ihsan Solusi Informatika had a dual impact on operational efficiency and employee productivity. From an operational perspective, the implementation of WFH successfully reduced the company's electricity consumption costs by 62.57%, reflecting a significant improvement in energy efficiency. However, there was a substantial decline in productivity, with the on-time project completion rate dropping from 90% to 30%. These findings indicate that although WFH offers advantages in terms of cost savings, it also presents challenges in project management and individual performance. Therefore, organizations need to adopt a work model that sustainably balances operational efficiency with employee productivity.

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