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Work Effectiveness and Productivity as Antecedents of Work from Home Outcomes: Evidence from Indonesian Multi-Finance Employees

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ABSTRACT

The COVID-19 pandemic compelled Indonesian financial institutions to adopt Work from Home (WFH) arrangements under conditions of severe infrastructure constraint and minimal organizational preparation, generating acute uncertainty about the employee capacities associated with favorable remote-work outcomes. Prior Indonesian studies more often model WFH as an antecedent of productivity or performance than examine employees' perceived WFH outcomes as the dependent construct. In this study, WFH outcomes refer to employees' overall evaluation of the favorability of their WFH experience, reflected in work flexibility, stress disturbance, family/work-life interface, travel time, and health/work-life balance. This study examines the individual and simultaneous associations of work effectiveness and work productivity with WFH outcomes among employees of PT KB Finansia Multi Finance during the COVID-19 pandemic period 2020–2021. A quantitative cross-sectional design was employed; primary data were collected via structured Likert-scale questionnaires administered in 2022 to 187 employees selected through probability random sampling, with respondents instructed to recall the 2020–2021 WFH period. Data were analyzed using simple and multiple linear regression with Kolmogorov-Smirnov normality, Tolerance/VIF multicollinearity, and Deviation-from-Linearity diagnostics. Work effectiveness and work productivity are both positively associated with WFH outcomes, and their simultaneous inclusion yields substantially higher explanatory power than either predictor alone. This study contributes a sector-specific dual-predictor perspective on WFH outcomes in Indonesia's multi-finance setting and offers practical implications for remote workforce deployment design.

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1. INTRODUCTION

The COVID-19 pandemic rapidly escalated into a global health crisis and triggered major policy responses in Indonesia, including large-scale social restrictions and subsequent mobility-control measures. These developments also accelerated work-from-home (WFH) adoption across many sectors (Djalante et al., 2020; Rachmawati et al., 2021).

The enforced transition to Work From Home (WFH) constitutes a structural shift in the employment relationship, redefining how organizations assign responsibilities, enforce accountability, and monitor performance output.

WFH refers to paid work performed away from the employer's premises, typically supported by information and communication technologies (Allen et al., 2015; Mustajab et al., 2020). As a form of telecommuting, the arrangement has long been associated with reduced commuting and greater flexibility, but the COVID-19 period forced its implementation at an unprecedented scale (Gajendran & Harrison, 2007; Mungkasa, 2020).

The success of WFH implementation is fundamentally shaped by two core human resource dimensions: work effectiveness and work productivity. In the work-performance literature, effectiveness refers to the extent to which employees achieve work goals accurately, on time, and in accordance with expected standards (Tridasawarsa et al., 2019). Work productivity reflects the extent to which employee capability and work resources are converted into useful output under a given work arrangement (Koopmans et al., 2014; Prasetyaningtyas et al., 2021). Remote work can disrupt routines, coordination, and motivational structures, which may weaken both effectiveness and productivity (Allen et al., 2015; Chinnaiah & Chythra, 2021).

Existing evidence presents mixed findings. In Indonesia, WFH has been found to positively affect employee productivity in the banking sector (Prasetyaningtyas et al., 2021) and lecturer productivity in higher education settings (Simarmata, 2020). At the same time, WFH effectiveness has been shown to depend strongly on enabling conditions such as digital infrastructure, IT training, and management support (Afrianty et al., 2022). A key limitation of prior studies is that they predominantly treat WFH as an antecedent of productivity or performance rather than as an outcome shaped by employee capacities. This gap remains especially relevant for Indonesia's multi-finance sector, which has received limited attention in the published remote-work literature.

This study addresses the identified gap through three contributions. First, it repositions employee effectiveness and productivity as antecedent organizational capacities associated with favorable WFH outcomes in the multi-finance context. Second, it employs an integrated dual-predictor framework that simultaneously estimates the individual and joint explanatory power of effectiveness and productivity on WFH outcomes. Third, it adds sector-specific empirical evidence from Indonesia's multi-finance industry, extending the geographic and sectoral scope of existing knowledge without claiming exhaustive coverage of all prior studies.

Accordingly, this study pursues three research objectives: (RO1) to examine the association between employee work effectiveness and WFH outcomes; (RO2) to examine the association between employee work productivity and WFH outcomes; and (RO3) to assess the simultaneous association of work effectiveness and productivity with WFH outcomes among employees of PT KB Finansia Multi Finance during the COVID-19 pandemic period 2020–2021.

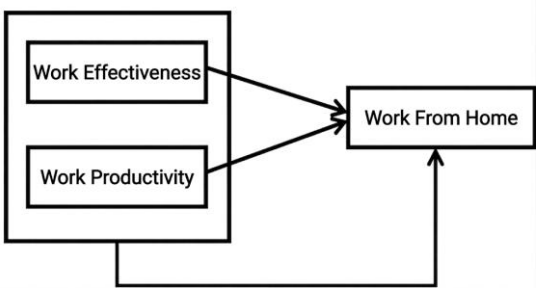

Figure 1. Conceptual Framework

2. THEORETICAL FRAMEWORK AND HYPOTHESES

2.1 Theoretical Foundations

Work effectiveness originates in the organizational behavior literature as a criterion for evaluating the extent to which employees attain work goals. In empirical studies, work effectiveness is commonly reflected in the accuracy, quality, quantity, and timeliness of task completion (Tridasawarsa et al., 2019). Under remote-work conditions, these elements become increasingly dependent on employee self-regulation because direct supervisory monitoring and immediate workplace cues are reduced (Allen et al., 2015).

Work productivity occupies a complementary but distinct theoretical space. At the individual level, productivity is reflected in the extent to which employees sustain useful output and task performance efficiently under a given work arrangement (Koopmans et al., 2014). During WFH, productivity is also shaped by work-life balance, work stress, digital capability, and the availability of organizational support (Afrianty et al., 2022; Subari & Sawitri, 2022).

The WFH construct is theorized as a form of telecommuting in which paid work is performed away from the principal office and mediated by digital technologies (Allen et al., 2015; Mustajab et al., 2020). Prior telework literature consistently associates WFH with flexibility, reduced commuting time, changes in the work–life interface, stress dynamics, and performance-related outcomes (Gajendran & Harrison, 2007; Bloom et al., 2015; Rachmawati et al., 2021). The theoretical rationale connecting effectiveness and productivity to WFH outcomes rests on a capacity-utilization logic: employees who enter WFH arrangements with stronger effectiveness and productivity capacities are better positioned to adapt performance routines, manage environmental disruptions, and sustain output quality under remote-work constraints.

2.2 Work Effectiveness and Work From Home Outcomes

Work effectiveness—understood as goal-consistent task completion in terms of quality, quantity, and timeliness—constitutes a foundational precondition for functional remote-work performance (Tridasawarsa et al., 2019). In WFH environments, reduced face-to-face supervision increases the importance of self-regulation, disciplined time use, and structured communication (Allen et al., 2015). Indonesian evidence also shows that WFH effectiveness depends on adequate digital infrastructure, IT training, and managerial support (Afrianty et al., 2022).

H1: Work effectiveness is positively and significantly associated with WFH outcomes

2.3 Work Productivity and Work From Home Outcomes

The productivity–WFH relationship operates through a distinct mechanism. Remote-work productivity depends not only on employee capability but also on the extent to which the arrangement supports concentration, autonomy, and efficient use of time and resources (Bloom et al., 2015; Prasetyaningtyas et al., 2021). Indonesian and sectoral evidence indicates that WFH, work-life balance, and work stress are jointly associated with employee productivity (Subari & Sawitri, 2022), while academic employees in Indonesia also report significant productivity effects under WFH arrangements (Simarmata, 2020).

H2: Work productivity is positively and significantly associated with WFH outcomes

2.4 Joint Effect of Work Effectiveness and Productivity on WFH Outcomes

While H1 and H2 isolate independent contributions, these constructs are functionally non-independent. Telework research shows that performance under remote arrangements depends jointly on task discipline, self-management, digital support, and the efficient conversion of effort into output (Allen et al., 2015; Gajendran & Harrison, 2007). Under WFH conditions, both effectiveness and productivity are simultaneously pressured by domestic distraction, reduced coordination, and infrastructure constraints (Rachmawati et al., 2021; Chinnaiah & Chythra, 2021).

H3: Work effectiveness and work productivity are jointly and significantly associated with WFH outcomes

3. METHODOLOGY

3.1 Research Design

This study adopts a quantitative cross-sectional research design, grounded in positivist philosophy and oriented toward hypothesis testing through numerical measurement. Primary data were collected via structured self-administered questionnaires distributed to employees of PT KB Finansia Multi Finance, Jakarta, concerning their WFH experience during 2020–2021, while data collection itself was conducted between May and August 2022. Respondents therefore assessed the earlier WFH period retrospectively. To reduce recall drift, the questionnaire explicitly anchored responses to the documented company WFH period and used concrete work-condition indicators rather than abstract evaluations. Before participation, respondents received study information explaining the research purpose, voluntary participation, anonymity, and confidential use of responses; returning the completed questionnaire was treated as informed consent.

3.2 Population, Sampling, and Sample Size

The target population comprises all employees of PT KB Finansia Multi Finance actively employed during the WFH implementation period, totaling N = 350 individuals. Probability random sampling was employed, assigning equal selection probability to all population members. Sample size was determined using the Slovin formula at a 5% margin of error:

$$n = N / [1 + N(e)^2] = 350 / [1 + 350(0.05)^2] = 187 \text{ respondents}$$

The realized sample of n = 187 satisfies minimum adequacy thresholds for the planned regression analyses.

3.3 Data Collection

Data were collected through field research using structured questionnaires administered directly to respondents. Response options followed a five-point Likert scale anchored at 1 (Strongly Disagree) to 5 (Strongly Agree), with reverse scoring applied to negatively worded items. Supplementary contextual data—including WFH scheduling records and workforce transition data—were drawn from company administrative records used solely as organizational background.

3.4 Measurement Instruments

All constructs were operationalized using established indicators from the prior literature and subjected to validity and reliability screening. Work effectiveness (X1) was measured using 12 items across three indicators—work quantity, work quality, and time utilization—adapted from Tridasawarsa et al. (2019). Work productivity (X2) was measured using 20 items across five indicators reflecting employee capability, work enthusiasm, self-development, quality, and efficiency, adapted from individual work performance and WFH productivity literature (Koopmans et al., 2014; Subari & Sawitri, 2022); items Q5 and Q15 were removed following validity screening ($r < r\text{-table} = 0.143$), yielding 18 retained items. WFH outcomes (Y) were conceptualized as employees' perceived favorability of the WFH experience rather than WFH adoption itself; accordingly, Y was measured using 20 items across five evaluative dimensions—work flexibility, stress disturbance, family/work-life interface, travel

time, and health/work-life balance—adapted from telework studies (Allen et al., 2015; Bloom et al., 2015; Rachmawati et al., 2021). These indicators were retained as a composite outcome because, taken together, they capture whether employees experienced WFH as more or less favorable during the pandemic period. Items Q2 and Q16 were removed, yielding 18 retained items. Table 1 presents the full measurement framework.

Table 1. Measurement Instruments

Variable	Conceptual Definition	Indicators	Items	Source
Work Effectiveness	State of perfect work success achieved in full accordance with pre-established plans	Work Quantity; Work Quality; Time Utilization	12	Tridasawarsa et al. (2019)
Work Productivity	Measure of efficiency expressed as the ratio of output to input (goods/services vs. capital, materials, labor)	Ability; Work Enthusiasm; Self-Development; Quality (Mutu); Efficiency	18*	Koopmans et al. (2014); Subari & Sawitri (2022)
WFH Outcomes	Employees' perceived favorability of the WFH experience during the pandemic period, reflected in flexibility, stress, work-life interface, commuting-time change, and health/work-life balance	Flexible Work Env.; Stress Disturbance; Family/Work-Life Interface; Travel Time; Health & Work-Life Balance	18*	Allen et al. (2015); Bloom et al. (2015); Rachmawati et al. (2021)

*Note: *Items Q5, Q15 (X2) and Q2, Q16 (Y) removed after validity screening (r < 0.143, α = 0.05). Source: Primary data, processed (2022).*

3.5 Validity and Reliability

Instrument validity was assessed using Pearson Product Moment correlation, comparing each item's r-computed value against the critical r-table value of 0.143 (df = n − 2 = 185; α = 0.05, two-tailed). All 12 items of X1 satisfied this criterion. For X2, items Q5 (r = 0.101, p = 0.169) and Q15 (r = 0.108, p = 0.141) fell below threshold and were removed. For Y, items Q2 (r = 0.125, p = 0.089) and Q16 (r = 0.086, p = 0.242) were similarly removed.

Internal consistency reliability was assessed using Cronbach's alpha (Cronbach, 1951): X1 (α = 0.536), X2 (α = 0.492), and Y (α = 0.487). These values are below the conventional 0.70 benchmark and therefore should be interpreted cautiously. Nevertheless, the scales were retained for three reasons: (1) the items were adapted from prior studies and screened through item-validity testing; (2) this study applies them in a specific pandemic-era, single-company context with contextualized wording; and (3) the analysis is intended to provide exploratory, context-bound evidence rather than definitive scale validation. Accordingly, the findings should be read as indicative associations and not as evidence of fully mature measurement instruments.

3.6 Analytical Strategy

Hypothesis testing employed five complementary procedures: (1) simple and multiple linear regression coefficient estimation; (2) the t-test for partial significance (t-computed > t-table = 1.972; df = 185; α = 0.05, two-tailed); (3) the F-test for simultaneous significance (F-computed > F-table = 3.04; N1 = 2, N2 = 185); (4) Pearson correlation to assess association strength; and (5) the coefficient of determination (R^2). Prior to hypothesis testing, three classical assumption diagnostics were conducted: Kolmogorov-Smirnov normality test (sig. > 0.05 = normal); Tolerance/VIF multicollinearity test (Tolerance > 0.10, VIF < 5.00 = no multicollinearity); and Deviation from Linearity F-test (p > 0.05 = linear relationship confirmed). All analyses were executed using IBM SPSS Statistics Version 25. Because the substantive variables were measured through the same respondent questionnaire in a single wave, the regression coefficients are interpreted as associations rather than causal effects. Procedurally, anonymity was preserved and construct items were grouped by variable to reduce evaluation apprehension, but common method bias cannot be ruled out fully.

4. RESULTS

4.1 Respondent Profile

The final sample comprised 187 valid respondents. By gender, 94 (50.3%) were male and 93 (49.7%) female—a near-perfectly balanced composition. Age distribution was concentrated in productive middle cohorts: 18–23 years (n = 42; 22.5%), 24–29 years (n = 54; 28.9%), 30–35 years (n = 56; 29.9%), and 36–41 years (n = 35; 18.7%). Organizational tenure was broadly distributed: 1–3 years (n = 50; 26.7%), 4–6 years (n = 43; 23.0%), 7–9 years (n = 45; 24.1%), and ≥10 years (n = 49; 26.2%), indicating that the sample captures both early-career and experienced employees with substantive exposure to the WFH policy period.

4.2 Descriptive Statistics

Table 2. Descriptive Statistics (N = 187)

Statistic	Work Effectiveness	Work Productivity	WFH Outcomes
Mean	36.316	53.118	53.572
Median	36.000	53.000	54.000
Mode	39.000	50.000	53.000
Skewness	0.038	0.092	−0.213
SE of Skewness	0.178	0.178	0.178
Kurtosis	−0.437	−0.289	−0.065
SE of Kurtosis	0.354	0.354	0.354

Source: Primary data, processed (2022).

All three variables exhibit skewness and kurtosis values well within the ±3.000 interval, confirming symmetric, platykurtic distributional forms. Among individual item profiles, the highest-valued X1 indicator was Q6 (work quality; Σ = 575) while Q3 (work quantity; Σ = 512) was lowest, indicating

quality maintenance as a relative strength but workload volume management as the principal area requiring intervention. For X2, Q3 (ability; Σ = 584) scored highest while Q19 (efficiency; Σ = 488) was lowest—isolating efficiency as the most adversely affected productivity dimension under remote conditions. For Y, Q3 (flexible work environment; Σ = 600) was highest while Q8 (stress disturbance; Σ = 519) was lowest.

4.3 Classical Assumption Diagnostics

Table 3. Classical Assumption Diagnostic Results

Test	Path	Statistic	Decision
Kolmogorov-Smirnov (Normality)	X1	Asymp. Sig. = 0.150	Normal (> 0.05)
	X2	Asymp. Sig. = 0.080	Normal (> 0.05)
	Y	Asymp. Sig. = 0.200	Normal (> 0.05)
Tolerance/VIF (Multicollinearity)	X1	Tol = 1.000; VIF = 1.000	No Multicollinearity
	X2	Tol = 1.000; VIF = 1.000	No Multicollinearity
Deviation from Linearity	X1 – Y	F = 0.904; p = 0.589	Linear (p > 0.05)
	X2 – Y	F = 0.806; p = 0.744	Linear (p > 0.05)

Source: Primary data processed via SPSS v.25 (2022).

4.4 Hypothesis Testing Results

H1: Association of Work Effectiveness with WFH Outcomes. Simple linear regression of WFH outcomes on work effectiveness yielded:

$$WFH = 43.433 + 0.913\ (X_1)$$

The coefficient for X1 (B = 0.913; SE = 0.079; β = 0.648; t = 11.563; p = 0.000) is positive and statistically significant, with t-computed (11.563) substantially exceeding t-table (1.972). The model F-statistic of 133.707 (p = 0.000) exceeds F-table (3.04). The Pearson correlation r = 0.648 (p = 0.000) indicates a moderately strong positive bivariate association. R^2 = 0.420 indicates that work effectiveness accounts for 42.0% of variance in WFH outcomes. H1 is supported.

H2: Association of Work Productivity with WFH Outcomes. Simple linear regression of WFH outcomes on work productivity produced:

$$WFH = 35.749 + 0.769\ (X_2)$$

The coefficient for X2 (B = 0.769; SE = 0.062; β = 0.674; t = 12.399; p = 0.000) is positive and statistically significant, with t-computed (12.399) exceeding t-table (1.972). The model F-statistic (153.737; p = 0.000) exceeds F-table (3.04). R^2 = 0.454, indicating that work productivity alone explains 45.4% of variance in WFH outcomes. H2 is supported.

H3: Joint Association of Work Effectiveness and Productivity with WFH Outcomes. Multiple linear regression incorporating both predictors yielded:

$$WFH = 1.102 + 0.932\ (X_1) + 0.784\ (X_2)$$

Both partial coefficients retain significance in the joint model: X1 (B = 0.932; SE = 0.034; β = 0.661; t = 27.160; p = 0.000) and X2 (B = 0.784; SE = 0.028; β = 0.687; t = 28.206; p = 0.000). The model F-statistic (751.803; p = 0.000) overwhelmingly exceeds F-table (3.04). The multiple correlation coefficient R = 0.944, R^2 = 0.891, and Adjusted R^2 = 0.890 indicate that work effectiveness and productivity together explain 89.0% of variance in WFH outcomes. H3 is supported.

Table 4. Regression Results Summary

Path	Coeff	SE	β	t / F	p	R^2
X1 → Y	0.913	0.079	0.648	t=11.563	0.000	0.420
X2 → Y	0.769	0.062	0.674	t=12.399	0.000	0.454
X1 → Y	0.932	0.034	0.661	t=27.160	0.000	0.891
X2 → Y	0.784	0.028	0.687	t=28.206	0.000	(Adj.=0.890)
F-test	—	—	—	F=751.803	0.000	—

Note: t-table = 1.972 (df = 185; α = 0.05, two-tailed); F-table = 3.04 (N1 = 2, N2 = 185). Source: Primary data, processed (2022).

Table 5. Summary of Hypothesis Test Outcomes

Path	B	β	t / F	p	R^2	Decision
X1 → Y	0.913	0.648	t=11.563	0.000	0.420	H1 Supported
X2 → Y	0.769	0.674	t=12.399	0.000	0.454	H2 Supported
X1+X2 → Y	—	—	F=751.803	0.000	0.891	H3 Supported

Source: Primary data, processed (2022).

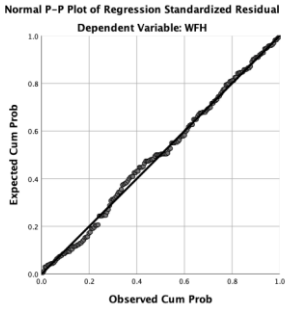

Figure 2. Scatterplot — Effectiveness → WFH

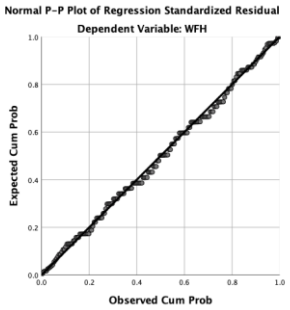

Figure 3. Scatterplot — Productivity → WFH

5. DISCUSSION

5.1 Work Effectiveness as an Antecedent of WFH Outcomes

The confirmation of H1 indicates that employee work effectiveness is positively associated with WFH outcomes in this sample. This finding is theoretically consistent with work-effectiveness literature emphasizing goal attainment, accuracy, timeliness, and self-regulation in task execution (Tridasawarsa et al., 2019). In telework settings, these capabilities become especially important because direct supervisory monitoring is reduced and coordination is mediated by digital tools (Allen et al., 2015). Indonesian evidence also suggests that WFH effectiveness is strengthened when employees receive

adequate managerial and technological support (Afrianty et al., 2022).

5.2 Work Productivity as an Antecedent of WFH Outcomes

The confirmation of H2 indicates that work productivity is positively associated with WFH outcomes, with marginally stronger unadjusted predictive power than effectiveness at the simple regression stage ($R^2 = 0.454$ vs. 0.420). Productivity in WFH settings depends on employees' ability to sustain task performance while managing autonomy, work-life boundaries, and resource constraints (Koopmans et al., 2014; Bloom et al., 2015). Indonesian evidence from banking and public-sector settings similarly indicates that WFH productivity is closely linked to work-life balance, work stress, and supporting work conditions (Prasetyaningtyas et al., 2021; Subari & Sawitri, 2022).

5.3 Joint Effect: Additive Complementarity

The most substantive finding is the confirmation of H3: work effectiveness and work productivity together explain 89.0% of variance in WFH outcomes—a markedly higher proportion than either predictor achieves alone. This pattern is plausible because the dependent construct captures employees' overall evaluation of the same WFH experience from which effectiveness and productivity perceptions were also reported, making the predictors conceptually proximal to the outcome. The near-zero inter-predictor correlation ($r = -0.020$; $p = 0.788$) suggests that the two predictors are not redundant and may capture distinct dimensions of remote-work experience. At the same time, the very high joint R^2 should be interpreted cautiously because single-source, self-reported data collected in one survey wave can inflate shared variance. Prior Indonesian remote-work studies more commonly model productivity or performance as dependent variables rather than employees' perceived WFH outcomes, so the present R^2 is not directly comparable as a like-for-like benchmark. The present evidence therefore supports additive complementarity in this sample rather than a universally generalizable magnitude.

5.4 Practical Implications

First, WFH readiness assessments should explicitly evaluate employee effectiveness profiles—particularly time utilization capacity—given that time utilization was the weakest effectiveness dimension identified. Organizations should implement structured pre-WFH time management training and clear daily output targets. Second, productivity enablement should prioritize efficiency infrastructure: targeted investments in broadband access subsidies, standardized home office equipment allowances, and digital workflow tools are likely to yield the greatest marginal returns in WFH performance. Third, effectiveness-building and productivity-enablement programs must be co-designed and co-delivered, as joint gains substantially exceed what either program achieves independently. These implications are particularly salient for Indonesian multi-finance firms operating under dual pressures of OJK regulatory compliance and high client-service intensity.

6. CONCLUSION

6.1 Summary of Findings

This study examined the association of work effectiveness and work productivity with WFH outcomes among employees of PT KB Finansia Multi Finance during the COVID-19 pandemic period 2020–2021. All three hypotheses received statistical support. Work effectiveness is positively associated with WFH outcomes ($\beta = 0.648$; $R^2 = 0.420$), supporting H1. Work productivity is also positively associated with WFH outcomes ($\beta = 0.674$; $R^2 = 0.454$), supporting H2. When both predictors are entered simultaneously, their joint explanatory power is substantially higher than that of either predictor alone (Adj. $R^2 = 0.890$; $F = 751.803$; $p < 0.001$), supporting H3 and suggesting complementary association patterns within this sample. These results should be interpreted as sample-specific associations rather than causal effects.

6.2 Theoretical Contributions

This study makes two theoretical contributions. First, it reframes work effectiveness and work productivity as antecedent capacities associated with employees' perceived WFH outcomes rather than treating WFH solely as an antecedent of performance. Second, it adds sector-specific evidence from Indonesia's multi-finance context that effectiveness and productivity may operate as complementary correlates of favorable WFH outcomes (Simarmata, 2020; Prasetyaningtyas et al., 2021).

6.3 Limitations and Future Directions

Four boundary conditions qualify these findings. First, the single-organization cross-sectional design precludes causal inference and limits generalizability; longitudinal designs tracking employees across pre-WFH, WFH, and post-WFH phases would enable dynamic modeling. Second, the exclusively quantitative design cannot capture experiential nuances; mixed-methods designs integrating structured interviews would yield richer explanatory insight. Third, the model does not incorporate potential boundary conditions such as digital infrastructure quality, work stress, managerial support, or organizational communication quality as moderating or mediating mechanisms (Afrianty et al., 2022; Subari & Sawitri, 2022). Fourth, the single-country, single-sector scope constrains cross-contextual generalization; comparative studies across ASEAN multi-finance markets would clarify whether the mechanism is sector-specific or reflects broader developing-economy patterns.

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