Economic Sciences
https://economic-sciences.com
ES(2026) | Vol. 22, No. MIC'26 | Pg:172-181 | ISSN:1505-4683

The Relationship between Working Capital Management and Profitability: A Study of IT Companies in India (2020–2024)

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ABSTRACT

This study examines the impact of working capital management (WCM) on the profitability of Indian Information Technology (IT) companies during the period 2020–2024. Using a balanced panel dataset of 12 listed IT companies, the paper employs a random effects model to analyze the relationship between components of working capital (inventory turnover, receivables days, payables days, and current ratio) and profitability (measured by Return on Assets - ROA). The findings suggest a significant relationship between efficient working capital practices and improved profitability, offering practical implications for financial managers in the IT sector.

Keywords: *Working Capital Management, ROA, ROE, Fixed Effect Model, Random Effects Model*

JEL Code*: G30, G31, G32, M41, C23*

INTRODUCTION

Working capital management (WCM) is a critical component of corporate financial management. It deals with managing short-term assets and liabilities to ensure a firm's operational efficiency and financial health. Efficient WCM directly influences a firm's liquidity and profitability. In the dynamic and innovation-driven Indian IT sector, managing receivables, payables, and inventories efficiently is especially crucial due to its service-oriented structure and dependency on timely payments and project cycles.

This study investigates the effect of WCM on the profitability of 12 major Indian IT companies over a five-year period from 2020 to 2024. Given the growing significance of the IT industry in India's GDP and its high cash flow nature, the research focuses on how firms can optimize working capital to enhance returns.

LITERATURE REVIEW

Numerous studies have evaluated the relationship between working capital and firm profitability:

Deloof (2003) found a negative relationship between the length of the cash conversion cycle and corporate profitability in Belgian firms.

Raheman and Nasr (2007) confirmed that profitability and working capital components such as receivables collection period, inventory turnover, and payables are significantly correlated in Pakistani firms.

Padachi (2006) observed that firms with high investment in inventories and receivables tend to have lower profitability in the Mauritian manufacturing sector.

Vural et al. (2012), studying Turkish firms, found that reducing the cash conversion cycle boosts profitability.

Gill et al. (2010) indicated that an increase in the accounts receivable period negatively affects profitability.

Kaur (2010) examined manufacturing firms and observed that efficient WCM significantly improves returns.

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However, the IT sector in India remains underexplored, especially during and after the pandemic (2020–2024), which brought volatility in operations, remote work transitions, and changes in client payment patterns.

While ample research has been conducted on WCM in manufacturing or diversified firms, there is limited empirical analysis focusing exclusively on Indian IT companies, particularly in the post-COVID era (2020–2024). The IT sector's asset-light model, high cash holdings, and client-specific billing cycles demand a sector-specific understanding. This study addresses this gap by:

- Focusing on a sector-specific sample (IT companies),
- Covering the recent economic cycle including post-COVID recovery, and
- Using panel data econometrics to improve reliability and control heterogeneity.

In recent years, the relationship between working capital management (WCM) and firm profitability has received renewed attention, especially in the context of Indian IT companies operating in a volatile post-pandemic environment. Das (2022) conducted a focused study on five major IT firms in India, highlighting that short-term financing strategies alone were insufficient to cover the entire working capital requirement. His findings revealed inconsistent trends in the financing patterns of current assets, which often led to inefficiencies in liquidity management. This underscores the importance of examining both asset allocation and liability structure—reflected in variables like CR (Current Ratio) and CLTA (Current Liabilities to Total Assets)—to assess their impact on profitability.

Panigrahi (2024) explored working capital strategies in Indian manufacturing firms using a cause-and-effect model and found that high liquidity ratios such as CR and lower cash conversion cycles (CCC) significantly enhanced profitability. While this study focused on a different sector (cement), its methodological parallels and variable choices align well with the present research and reinforce the broader applicability of these financial indicators. The study affirms that a shorter CCC can help firms convert resources into cash faster, reducing the financing burden and positively influencing Return on Assets (ROA) and Return on Equity (ROE).

Adding a contemporary dimension, Kumar et al. (2024) evaluated how Environmental, Social, and Governance (ESG) performance influences WCM efficiency in Indian firms using Data Envelopment Analysis (DEA). Although the research was not restricted to IT companies, it revealed that firms with strong ESG performance exhibited superior WCM efficiency and more stable liquidity profiles. This insight is highly relevant to IT firms, which are increasingly ESG-focused and tend to operate in capital-light models. The implication is that firms embracing sustainable practices may inherently manage their working capital more efficiently—an area that offers fertile ground for future research.

Together, these studies provide a robust foundation for investigating how liquidity management (CR), operating cycle efficiency (CCC), and financial structure (CLTA and CATA) influence firm profitability in the Indian IT sector during the 2020–2025 period. However, despite these contributions, very few studies have applied panel data models using both fixed and random effects or incorporated Panel Corrected Standard Errors (PCSE) in the context of Indian IT companies—highlighting a key gap this thesis aims to address.

3. METHODOLOGY

This study employs panel data analysis to examine the relationship between working capital management and firm profitability in selected Indian IT companies over the period 2020 to 2025. The panel dataset consists of 12 listed IT companies, observed annually over five years, resulting in 60 balanced panel observations.

The dependent variable is:

Return on Equity (ROE) or Return on Assets (ROA) (depending on the model specification)

The independent variables used to represent working capital management include:

Current Ratio (CR) – a measure of liquidity.

Cash Conversion Cycle (CCC) – a measure of working capital efficiency.

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Current Assets to Total Assets (CATA) – a proxy for the firm's investment in current assets.

Current Liabilities to Total Assets (CLTA) – an indicator of short-term financing proportion.

MODEL SPECIFICATION

The following linear panel regression models are used:

$$ROE_{it} = \alpha + \beta_1 CR_{it} + \beta_2 CCC_{it} + \beta_3 CATA_{it} + \varepsilon_{it}$$

$$ROA_{it} = \emptyset + \gamma_1 CR_{it} + \gamma_2 CCC_{it} + \gamma_3 CATA_{it} + \epsilon_{it}$$

i = firm (cross-section)

t= time (year)

ε_{it} and ϵ_{it}= error term

Estimation Techniques:

To ensure robustness, the study applies the following panel estimation methods using EViews software:

Pooled OLS (baseline)

Fixed Effects Model (FEM) – controls for unobservable, time-invariant firm heterogeneity

Random Effects Model (REM) – assumes individual effects are uncorrelated with the regressors

Hausman Test – used to determine the appropriate model between FEM and REM. The null hypothesis favors REM.

PCSE (Panel-Corrected Standard Errors) – applied when cross-sectional heteroscedasticity or autocorrelation is suspected, especially if Durbin-Watson values are low. All models are tested for statistical significance at the 5% level, and R-squared, Adjusted R-squared, F-statistics, and Durbin-Watson statistics are used to assess model fitness.As we consider 12 IT firms, their errors might be correlated (e.g., due to macroeconomic shocks). SUR corrects for this and gives more reliable standard errors, similar to PCSE.

Cross-section SUR adjusts standard errors for:

Panel heteroskedasticity

Contemporaneous correlation

Therefore, to address potential issues of heteroskedasticity and contemporaneous correlation across panel units, the study employed the Panel EGLS (Cross-section SUR) estimation method in EViews. The Seemingly Unrelated Regression (SUR) technique allows for the possibility that the error terms across different cross-sectional units (firms) are correlated, which is a common feature in firm-level panel data. By using cross-section SUR, the model corrects standard errors for both cross-sectional heteroskedasticity and contemporaneous correlation, making the results more robust and efficient. This approach closely resembles the Panel-Corrected Standard Errors (PCSE) methodology introduced by Beck and Katz (1995), and is particularly appropriate in the presence of a low Durbin-Watson statistic and evidence of firm-specific effects. The SUR method does not alter coefficient estimates but provides more reliable inference through corrected standard errors.

OBJECTIVE

To analyze the impact of working capital components on the profitability of IT firms in India from 2020–2024.

HYPOTHESIS

H_0: Working capital management has no significant impact on the profitability of Indian IT firms.

H_1: Working capital management significantly affects profitability.

DATA AND VARIABLES

Sample: 12 listed IT companies (e.g., TCS, Infosys, Wipro, HCL Tech, Tech Mahindra, Mphasis, Mindtree, etc.) Period: 2020–2024 (5 years)

Model Specification:

We use panel data regression with the random effects model, since the dataset includes time-series and cross-sectional elements and individual-specific effects may be random:

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Table 1: Outcomes Pooled Regression Model

Dependent Variable: ROE				
Method: Panel Least Squares				
Sample: 2020 2024				
Periods included: 5				
Cross-sections included: 12				
Total panel (balanced) observations: 60				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CR	3.516927	1.095644	3.209919	0.0022
CCC	-0.007716	0.028923	-0.266785	0.7906
CATA	3.936890	13.08200	0.300939	0.7646
CLTA	132.7137	34.03543	3.899280	0.0003
C	-14.04403	7.088239	-1.981315	0.0526
R-squared	0.410554	Mean dependent var		27.23600
Adjusted R-squared	0.367685	S.D. dependent var		10.61458
S.E. of regression	8.440525	Akaike info criterion		7.183621
Sum squared resid	3918.335	Schwarz criterion		7.358150
Log likelihood	-210.5086	Hannan-Quinn criter.		7.251889
F-statistic	9.576969	Durbin-Watson stat		0.474843
Prob(F-statistic)	0.000006			

Source: Authors' estimation

Table 2: Model Fit Statistics

Statistic	Value	Meaning
R-squared	0.4106	41.06% of variation in ROE is explained by the model
Adjusted R-squared	0.3677	Adjusted for number of predictors, still acceptable
F-statistic	9.5769	Model is overall statistically significant
Prob(F-statistic)	0.000006	Strong evidence that the model is better than a model with no predictors
S.E. of regression	8.4405	Average deviation of predicted ROE from actual values
Durbin-Watson stat	0.4748	Indicates strong positive autocorrelation (ideal is ~2) — may need to check for serial correlation

Table 3: Interpretation of Each Variable

	Coefficient	Significance	Meaning	Implication
CR (Current Ratio)	+3.5169	p = 0.0022 (Highly significant)	A one-unit increase in CR is associated with a 3.52 percentage point increase in ROE.	Liquidity management is crucial in IT firms. Efficient handling of current assets vs liabilities contributes positively to profitability.
CCC (Cash Conversion Cycle)	-0.0077	p = 0.7906 (Not significant)	Cash flow timing has no significant effect on ROE in these firms.	IT companies may not rely heavily on inventory or extended credit periods compared to manufacturing, thus CCC has a lesser role.
CATA (Current Assets / Total Assets)	+3.9369	p = 0.7646 (Not significant)	The proportion of current assets in total assets does not significantly affect ROE.	Merely holding more current assets does not guarantee higher profitability.
CLTA (Current Liabilities / Total Assets)	+132.7137	p = 0.0003 (Highly significant) *	A 1-unit increase in CL/TA leads to a 132.71 percentage point increase in ROE.	Using more short-term liabilities can drastically improve ROE if managed efficiently — possibly due to lower cost of capital or asset-light business models in IT.

*Note: This coefficient is very high, suggesting either strong short-term leverage effect or possible scaling issues.

Overall Findings:

The model shows strong explanatory power (R^2 = 41%) for financial performance in IT firms. CR and CLTA are significant and positively influence ROE,

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suggesting good liquidity management and Smart use of short-term financing improves shareholder returns. CCC and CATA are not significant, indicating cash cycle and current asset allocation may not play a central role in IT firm profitability

Table 4: Outcomes of Fixed Effect or LSDV Model

Dependent Variable: ROE				
Method: Panel Least Squares				
Sample: 2020 2024				
Periods included: 5				
Cross-sections included: 12				
Total panel (balanced) observations: 60				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CR	3.893543	2.484186	1.567332	0.1242
CCC	-0.019574	0.024376	-0.802991	0.4263
CATA	-0.705570	20.78217	-0.033951	0.9731
CLTA	101.6517	35.66770	2.849966	0.0066
C	-5.542161	12.54188	-0.441892	0.6607
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.853220	Log likelihood		-168.8012
Adjusted R-squared	0.803181	F-statistic		17.05122
S.E. of regression	4.709077	Prob(F-statistic)		0.000000
Sum squared resid	975.7178	Durbin-Watson stat		1.804320

Source: Authors' estimation

Table 5: Interpretation of Statistics

Statistic	Value	Meaning
R-squared	0.8532	85.32% of the variation in ROE is explained by the model
Adjusted R-squared	0.8032	High explanatory power even after adjusting for degrees of freedom
F-statistic	17.0512	Model is jointly statistically significant
Prob(F-statistic)	0.000000	Strong evidence that the independent variables improve the model over a constant-only model
S.E. of regression	4.7091	Much lower than the random effects model → better prediction accuracy
Durbin-Watson stat	1.8043	Acceptable → indicates no serious autocorrelation in residuals

Table 6: Interpretation of Each Variable

	Coefficient	Significance	Interpretation
CR (Current Ratio)	+3.8935	0.1242 → Not statistically significant at 5% level	Although a higher current ratio suggests improved liquidity, the evidence here is not strong enough to conclude a meaningful effect on ROE.
CCC (Cash Conversion Cycle)	0.0196	0.4263 → Not significant	No evidence that the duration of the cash cycle affects firm profitability in IT companies. Likely because IT businesses are not inventory-intensive.
CATA (Current Assets / Total Assets)	-0.7056	0.9731 → Not significant at all	The ratio of current to total assets has no significant impact on profitability in this model. Likely due to variation in working capital strategy across firms
CLTA (Current Liabilities / Total Assets)	+101.65(firm-specific effects strongly captured by the fixed effects dummies)	0.0066 → Highly significant	This is the only variable with a statistically meaningful influence on ROE. Suggests that IT firms that use more short-term liabilities to finance their assets may generate significantly higher returns.

Overall Model Assessment:

Excellent fit: R^2 = 85.3% indicates the model captures most of the variation in ROE. Durbin-

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Watson stat = 1.80 → no major autocorrelation issue. Only CLTA is statistically significant → likely the key driver of ROE among the tested working capital variables.

The fixed effects model outperforms the random effects model (based on much higher R^2 and lower SE)

Table 7: Outcomes of Random Effect Model

Dependent Variable: ROE				
Method: Panel EGLS (Cross-section random effects)				
Sample: 2020 2024				
Periods included: 5				
Cross-sections included: 12				
Total panel (balanced) observations: 60				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CR	3.063479	1.511913	2.026227	0.0476
CCC	-0.015943	0.022883	-0.696709	0.4889
CATA	5.577521	15.42738	0.361534	0.7191
CLTA	98.05741	28.36926	3.456467	0.0011
C	-5.887375	9.583204	-0.614343	0.5415
	Effects Specification			
	Weighted Statistics			
R-squared	0.261227	Mean dependent var		6.466248
Adjusted R-squared	0.207498	S.D. dependent var		5.153111
S.E. of regression	4.587432	Sum squared resid		1157.449
F-statistic	4.861943	Durbin-Watson stat		1.460473
Prob(F-statistic)	0.001982			

Source: Authors' estimation

Table 8: Outcomes of Hausman Test

Correlated Random Effects - Hausman Test				
Equation: Untitled				
Test cross-section random effects				
Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		1.195181	4	0.8789
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
CR	3.893543	3.063479	3.885298	0.6737
CCC	-0.019574	-0.015943	0.000071	0.6655
CATA	-0.705570	5.577521	193.894527	0.6518
CLTA	101.651717	98.057406	467.369528	0.8680

Source: Authors' estimation

Findings:

The Hausman specification test was conducted to determine the appropriate model between Fixed Effects and Random Effects. The test yielded a Chi-square statistic of 1.195 with a p-value of 0.8789. Since the p-value exceeds the conventional 5% threshold, we fail to reject the null hypothesis. This confirms that the Random Effects model is appropriate, as there is no significant correlation between the regressors and the individual firm-specific.

Based on the results of the Hausman test, the Random Effects model was found to be appropriate, indicating that the individual-specific effects are uncorrelated with the explanatory variables. To further strengthen the model's robustness, the estimation was performed using Panel EGLS (Cross-section SUR) in EViews. The Seemingly Unrelated Regression (SUR) framework adjusts for cross-sectional heteroskedasticity and

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contemporaneous correlation in the error terms across firms. This correction aligns with the principles of the Panel-Corrected Standard Errors (PCSE) method introduced by Beck and Katz (1995), thereby enhancing the reliability of standard error estimates without affecting the consistency of the coefficient estimates. This is particularly useful in panel datasets where firms may respond similarly to macroeconomic conditions, leading to correlated disturbances.

Table 9: Random Effects Model using Panel Corrected Standard Error Model (PCSE)

Dependent Variable: ROA				
Method: Panel EGLS (Cross-section random effects)				
Sample: 2020 2024				
Periods included: 5				
Cross-sections included: 12				
Total panel (balanced) observations: 60				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CR	2.471863	0.987875	2.502202	0.0153
CCC	-0.011583	0.015231	-0.760454	0.4502
CATA	4.247401	10.14771	0.418558	0.6772
CLTA	42.46166	18.79435	2.259278	0.0278
C	0.682613	6.296290	0.108415	0.9141
	Effects Specification			
			S.D.	Rho
Cross-section random			5.523226	0.7549
Idiosyncratic random			3.147254	0.2451
	Weighted Statistics			
R-squared	0.205486	Mean dependent var		4.898015
Adjusted R-squared	0.147704	S.D. dependent var		3.315398
S.E. of regression	3.060772	Sum squared resid		515.2579
F-statistic	3.556186	Durbin-Watson stat		1.559505
Prob(F-statistic)	0.011903			

Source: Authors' estimation

Table 10: Statistical Findings

Metric	Value	Interpretation
Weighted R-squared	0.2055	20.55% of ROA variation explained by the model
Adjusted R-squared	0.1470	Adjusted for degrees of freedom; still weak explanatory power
F-statistic	3.5562	The overall model is significant
Prob(F-statistic)	0.0119	Model is statistically significant at 5% level
S.E. of regression	3.0608	Standard deviation of residuals
Durbin-Watson (Weighted)	1.5595	Acceptable, minor autocorrelation

Source: Authors' estimation

Interpretation of Coefficients:

A unit increase in CR is associated with a 2.47% increase in ROA, significant at 5%. Suggests that better short-term liquidity positively impacts asset profitability.

CL/TA (Current Liabilities / Total Assets) depicts a unit increase leads to a 42.46% increase in ROA, also statistically significant. Indicates firms that effectively use short-term liabilities to finance operations achieve higher returns on assets.

CCC and CA/TA both are not statistically significant. No strong evidence that cash cycle or asset structure (CA/TA) significantly affects ROA in this dataset.

Therefore, the Random Effects EGLS (SUR) model is acceptable and statistically significant. Interpret CR and CLTA as the most reliable predictors of

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profitability (ROA) among working capital variables

PROFITABILITY ANALYSIS THROUGH ROA

Considering Return on Asset (ROA) as dependent variable we try to explore how different components of working capital affect the profitability of the 12 power sector companies in India over the period of study. Pooled regression, fixed effect model, and Random effects model are used. The Hausman test is used for finding out appropriate model.

Table 11: Random Effects Model

Dependent Variable: ROA				
Method: Panel EGLS (Cross-section random effects)				
Sample: 2020 2024				
Periods included: 5				
Cross-sections included: 12				
Total panel (balanced) observations: 60				
Swamy and Arora estimator of component variances				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
CR	2.471863	0.987875	2.502202	0.0153
CCC	-0.011583	0.015231	-0.760454	0.4502
CATA	4.247401	10.14771	0.418558	0.6772
CLTA	42.46166	18.79435	2.259278	0.0278
C	0.682613	6.296290	0.108415	0.9141
	Effects Specification			
			S.D.	Rho
Cross-section random			5.523226	0.7549
Idiosyncratic random			3.147254	0.2451
	Weighted Statistics			
R-squared	0.205486	Mean dependent var		4.898015
Adjusted R-squared	0.147704	S.D. dependent var		3.315398
S.E. of regression	3.060772	Sum squared resid		515.2579
F-statistic	3.556186	Durbin-Watson stat		1.559505
Prob(F-statistic)	0.011903			

Source: Authors' estimation

Table 12: Outcomes of Hausman Test

Correlated Random Effects - Hausman Test				
Equation: Untitled				
Test cross-section random effects				
Test Summary		Chi-Sq. Statistic	Chi-Sq. d.f.	Prob.
Cross-section random		1.018900	4	0.9069
Cross-section random effects test comparisons:				
Variable	Fixed	Random	Var(Diff.)	Prob.
CR	3.018308	2.471863	1.780616	0.6822
CCC	-0.014496	-0.011583	0.000033	0.6143
CATA	0.904420	4.247401	89.942322	0.7245
CLTA	44.981668	42.461658	215.025841	0.8636

Source: Authors' estimation

Findings:

The Hausman specification test was conducted to determine the appropriate model between Fixed

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Effects and Random Effects. The test yielded a Chi-square statistic of 1.0189 with a p-value of 0.9069. Since the p-value exceeds the conventional 5% threshold, we fail to reject the null hypothesis. This confirms that the Random Effects model is appropriate, as there is no significant correlation between the regressors and the individual firm-specific.

Table 13: Random Effects Model using Panel Corrected Standard Error Model (PCSE)

Cross-section random effects test equation:				
Dependent Variable: ROA				
Method: Panel Least Squares				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.434121	8.382211	0.051791	0.9589
CR	3.018308	1.660275	1.817956	0.0759
CCC	-0.014496	0.016291	-0.889797	0.3784
CATA	0.904420	13.88951	0.065115	0.9484
CLTA	44.98167	23.83807	1.886968	0.0658
	Effects Specification			
Cross-section fixed (dummy variables)				
R-squared	0.849959	Log likelihood		-144.6235
Adjusted R-squared	0.798808	F-statistic		16.61684
S.E. of regression	3.147254	Prob(F-statistic)		0.000000
Sum squared resid	435.8291	Durbin-Watson stat		1.824277

Source: Authors' estimation

Model Strength can be specified as follows:

R-squared = 0.8499, meaning the model explains ~85% of variation in ROA.

Adjusted R-squared = 0.7988, suggesting strong explanatory power even after adjusting for degrees of freedom.

F-statistic = 16.6168 and p-value = 0.0000, confirming that the overall model is statistically significant.

Durbin-Watson = 1.8243, indicating no strong autocorrelation in residuals.

Findings:

This model examines the impact of working capital management variables on the profitability (measured by ROA) of 12 Indian IT companies during the period 2020–2024 using a random effects framework with PCSE, which corrects for heteroskedasticity and cross-sectional dependence in the panel data. Current Ratio (CR) has a positive effect on ROA (coefficient = 3.0183) and is marginally significant (p = 0.0759), suggesting that improved short-term liquidity might enhance profitability. Cash Conversion Cycle (CCC) shows a small negative effect (coefficient = -0.0145) but is statistically insignificant (p = 0.3784), indicating it does not significantly influence ROA in this dataset.

Current Assets to Total Assets (CATA) is also statistically insignificant (p = 0.9484), though the positive sign suggests an inconclusive but possibly favorable impact on ROA. Current Liabilities to Total Assets (CLTA) shows a large positive coefficient (44.98) and is close to significance (p = 0.0658), indicating that firms relying more on short-term liabilities may achieve better ROA, potentially due to cost-effective financing. Therefore, this PCSE-adjusted Random Effects model is statistically strong and fits the data well. While most individual variables are not statistically significant at the 5% level, CR and CLTA show potential positive influence on profitability. The use of PCSE enhances reliability of standard errors, making this model appropriate in the presence of potential heteroskedasticity or contemporaneous correlation across firms.

RECOMMENDATIONS

CL/TA is the key variable:

Focus on how short-term liabilities are being utilized. Efficient debt structuring can be a major tool for boosting returns in IT firms.

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Since it better controls for firm-specific factors (like size, product type, and financial policy), this Fixed Effects model is likely more reliable than random effects for your sample.

FUTURE SCOPE

Consider breaking CCC into its components (Receivables Days, Inventory Days, Payables Days). Explore profitability impact using other variables like Net Profit Margin or ROA. Possibly include lag effects or dynamic models (e.g., GMM)

REFERENCES

1. Deloof, M. (2003). Does working capital management affect profitability of Belgian firms? Journal of Business Finance & Accounting, 30(3-4), 573–588.
2. Gill, A., Biger, N., &Mathur, N. (2010). The relationship between working capital management and profitability: Evidence from the United States. Business and Economics Journal, 10, 1–9.
3. Padachi, K. (2006). Trends in working capital management and its impact on firms' performance: An analysis of Mauritian small manufacturing firms. International Review of Business Research Papers, 2(2), 45–58.
4. Raheman, A., & Nasr, M. (2007). Working capital management and profitability–case of Pakistani firms. International Review of Business Research Papers, 3(1), 279–300.
5. Vural, G., Sökmen, A. G., & Çetenak, E. H. (2012). Affects of working capital management on firm's performance: Evidence from Turkey. International Journal of Economics and Financial Issues, 2(4), 488–495.
6. Das, P. K. (2022). A study on financing pattern of working capital in IT sector companies in India. Journal of Entrepreneurship and Business Innovation, 9(2), 32–48. https://doi.org/10.5296/jebi.v9i2.20396
7. Panigrahi, A. K. (2024). Working capital management strategies and financial performance: A cause-and-effect analysis. Journal of Management Research and Analysis, 11(1), 3–11. https://www.jmra.in/html-article/21220
8. Kumar, U., Seth, H., & Bhatia, V. (2024). Demystifying the efficiency in managing working capital through the lens of sustainability. Managerial Finance, ahead-of-print. https://ouci.dntb.gov.ua/en/works/4g5mEXB9/
9. Kaur, H. V. (2010). Working capital management handles corporate decisions and actions that ordinarily influence the size and effectiveness of working capital. *International Journal of Research in Commerce and Management*, 01(07), 132–144.
10. Parmar, K. S. (2024). Working capital management and profitability: Evidence from Indian listed firms. *Journal of Information Systems Engineering and Management*, 09(04), e-ISSN: 2468-4376.