

Mediating Impact Of Sustainable Growth: Evidence from Nifty

Waseem Bashir^{1*}, Dr. K. Karthikeyan²

^{1,2}Department of Commerce, Faculty of Science and Humanities, KTR Campus SRM Institute of Science and Technology, Tamil Nadu - 603 203.

Email ID: waseemb@srmist.edu.in

ABSTRACT

The study examines the mediating role of profitability on the link between working capital management and sustainable growth for non-financial companies listed in the NIFTY 50 index. The Baron and Kenny mediation model, along with the Sobel test, is utilized to confirm the mediating effect of profitability. The study asserts that firms can attain sustainable growth by optimizing their Cash Conversion Cycle (CCC) and improving profitability, hence fostering long-term stability and competitiveness. The study demonstrates a substantial inverse association between CCC and profitability, indicating that a reduced CCC enhances asset utilization and cash flow management. A significant association exists between profitability and sustainable growth, indicating that firms with higher ROA can maintain expansion without dependence on external finance. The study addresses a deficiency in the current literature by investigating the indirect influence of WCM on sustainable growth via profitability, providing essential insights for managers aiming to improve financial performance and sustainable development. The study highlights the significance of strategic working capital management in reconciling growth objectives with financial stability, offering a framework for companies seeking to enhance their financial strategies for sustained success.

Keywords: Sustainable Growth, Profitability, Working Capital Management

INTRODUCTION

Effective working capital management (WCM) is a critical aspect of financial strategy for businesses, playing a pivotal role in shaping their performance and potential for sustainable growth (Barros et al., 2022). The intricate balance between current assets and liabilities is fundamental to a company's ability to meet short-term obligations while maximizing profitability (Raheman & Nasr, 2007). As the business environment evolves, the significance of sound working capital practices becomes increasingly pronounced, influencing not only day-to-day operations but also long-term financial health (Bhattacharya, 2021).

Working capital, often defined as the difference between a company's current assets and liabilities, is a financial metric that underscores a firm's short-term liquidity and operational efficiency (Gitman et al., 2015). As businesses operate in an increasingly dynamic and competitive environment, the strategic management of working capital assumes heightened significance. Efficient working capital management enables companies to meet their day-to-day financial obligations, thereby ensuring operational continuity and resilience in the face of unforeseen challenges (Bashir et al., 2022).

Moreover, the relationship between working capital management, firm performance, and sustainable growth is an intricate and dynamic interplay. Researchers such as Deloof (2003) have highlighted the nuanced connection between efficient working capital management and a company's overall financial performance. As businesses

strive for sustainability in the long run, understanding how working capital practices influence performance metrics becomes imperative (Bashir & Periyasami, 2022).

As Deloof (2003) observes, how a company manages its working capital can be indicative of its financial prudence and strategic foresight. For instance, a well-structured working capital management strategy can contribute to minimizing excess idle funds, optimizing cash flows, and ultimately enhancing the return on investment. Conversely, inadequate working capital management can lead to liquidity crises, missed opportunities, and an overall negative impact on a company's financial performance (Deloof, 2003; Gitman et al., 2015).

In the contemporary business landscape, the pursuit of sustainable growth has become a paramount objective for firms aiming not only for longevity but also for relevance and competitiveness (Barney, 1991). Sustainable growth encompasses a strategic, long-term approach that goes beyond short-lived success to ensure enduring prosperity and resilience in the face of economic uncertainties (Schaltegger & Wagner, 2006). Effective working capital management can contribute to a company's ability to sustain growth by ensuring smooth operations and avoiding liquidity issues. Concerning corporate growth, Higgins (1977) introduces the notion of the sustainable growth rate, which signifies the maximum sales growth a firm can achieve without necessitating alterations to its financing decisions. The sustainable growth rate is the maximum rate at which a company can grow its sales, earnings, and dividends without having to increase debt or equity. It indicates the level of growth that a company can

maintain in the long term without jeopardizing its financial health (Van Horne et al., 2005).

Effectively managing working capital is intricately linked to achieving sustainable growth (Radasanu, 2015). When companies adeptly handle their sales policies, they generate ample cash flows for operational activities, consequently bolstering their profits over time. Profitability, in turn, emerges as a pivotal factor in sustaining growth (Ramli et al., 2022). Various studies, such as those conducted by Amouzesah et al. (2011); Lockwood & Prombutr (2010) Rahim (2017) and Arora et al. (2018), provide empirical support to this proposition by illustrating the profound impact of profitability on a firm's sustainable growth trajectory. Consequently, it is plausible to anticipate that the management of working capital influences sustainable growth by shaping a firm's profitability. This prompts an intriguing exploration of the mediating role of a company's profitability in the relationship between working capital management and sustainable growth. In light of these arguments, the primary aim of this study is to scrutinize the extent to which working capital management shapes sustainable growth through its mediating impact on profitability.

This study enriches the existing body of literature by expanding the working capital research model, which has traditionally concentrated heavily on examining its impact on profitability. Many prior studies have predominantly focused on the influence of working capital on profitability alone (Akinlo, 2012; Ponsian et al., 2014; Kasozi, 2017), overlooking the critical link between profitability and sustainable growth (Nastiti, 2019, Barros, 2022, Manaf et al., 2018). Additionally, the intricate relationship between working capital management and sustainable growth has been underscored (Carley & Christie, 2017; Fazzari & Petersen, 1993). Surprisingly, there is a dearth of studies examining the direct effect of working capital management on sustainable growth. It is anticipated that this study not only addresses this gap but also provides valuable managerial insights, suggesting that managers should tailor their working capital management strategies more precisely to enhance both profitability and achieve sustainable growth.

Reviewing Literature and Developing Hypotheses

Effective management of working capital stands as a critical factor for the sustained viability of a business over the long term. It plays a pivotal role in driving overall firm performance and ensuring that a company can readily meet its current financial obligations. Maintaining an optimal level of working capital positively impacts a business's free cash flow, influencing its profitability. Notably, there exists a negative association between profitability and the level of working capital, as demonstrated in the study by Ponsian (2014). Previous research has consistently supported this negative relationship, emphasizing that a reduction in working capital investment stimulates profitability, as evidenced by studies such as Chisti (2013; Dong & Su (2010) and Ren et al. (2019).

Furthermore, Muhammad et al. (2016) extended these findings by identifying a strong negative relationship

between WCM, specifically measured by the cash conversion cycle, and profitability in the Tobacco Industry of Pakistan. This negative association was also observed in the Polish listed firms, where Anton & Nucu (2020) confirmed that WCM negatively correlates with profitability, particularly when firms face limitations in external financing or increase their investments. Examining companies in a developing market context, Bhatia & Srivastava (2016) uncovered a negative relationship between working capital management and not only profitability but also the valuation of a company. This indicates that enhancing a firm's financial performance can be achieved by reducing the CCC. The negative correlation between CCC and firm financial performance can be explained by the fact that a shorter CCC leads to a reduced average collection period, improved inventory turnover, and extended credit terms from suppliers. These factors collectively result in reduced capital being tied up in working capital processes, thereby lowering the need for working capital financing. The reduced reliance on working capital finance leads to lower cash outflows in terms of financing costs.

While prevailing research commonly highlights a negative correlation, there are dissenting findings in some studies. For instance, Kaddumi & Ramadan (2012) observed a positive relationship between the WCM and the firm's performance of Jordan Companies. Ponsian (2014) argued that WCM is positively linked to the profitability of firms listed on the Dar es Salaam Stock Exchange. This aligns with the findings of Alsulayhim (2019), who reported a positive association between WCM and the profitability of Saudi firms. Nevertheless, it is acknowledged that each company may possess a unique optimal level of working capital, necessitating distinct strategies for enhancing profitability. Contrarily, introducing further complexity to this relationship, Bolek (2013) discovered that working capital has an insignificant effect on a company's performance. Consequently, to investigate the significant relationship between working capital management and profitability, the following hypothesis is subjected to testing.

H1: WCM significantly affects profitability.

Sustainable growth rate (SGR) indicates the maximum rate at which a company's sales can grow without requiring external financing while maintaining its target operating, debt, and dividend-pay-out ratios that are consistent with the financing policy of the firm Brigham & Houston (2013). According to (Radasanu, 2015) managers can find out how much sales their company can make without negatively impacting their cash flows by looking at their financing policies. Companies' financing policies are tied to their choices on the issuance of new shares and the maintenance of a specific debt-to-equity (DER) ratio. Thus, sustainable growth includes both the resources needed for planned expansion and the firm's ability to develop using internal funding financing sources (Rahim, 2017).

Working capital management is closely related to sustainable growth, as pointed out by Radasanu (2015). Maintaining liquidity is a key component of sound WCM, which helps businesses pay off short-term debt and gain

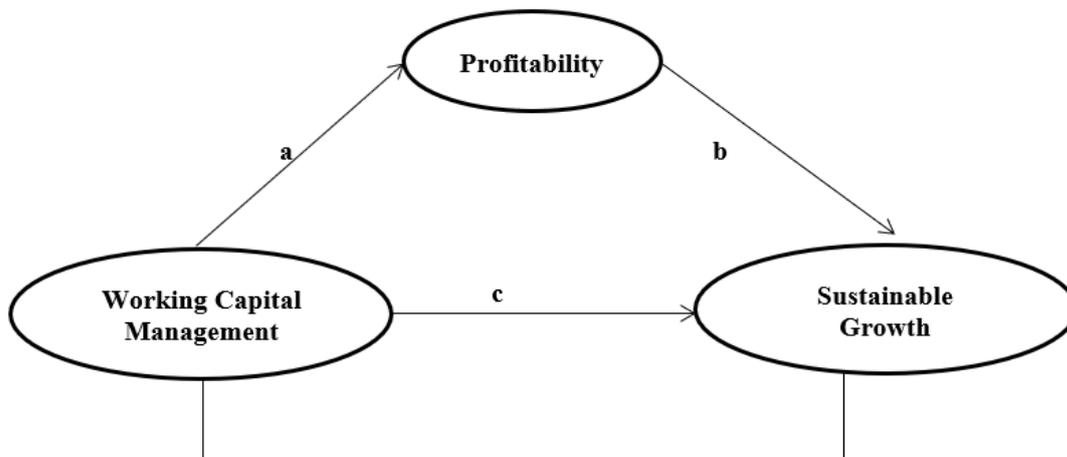
access to cheaper financing (Barine, 2012). In addition, studies conducted by Amouzeshe et al. (2011) and Fonseka et al. (2012) show that liquidity has a direct impact on sustainable growth. Successful management of working capital allows businesses to reduce the likelihood of stock-outs and ensures that their operations have access to sufficient financing, both of which are necessary for long-term success. In light of these justifications, we put out our second hypothesis:

H2: WCM significantly affects sustainable growth.

According to Saleem et al. (2023), if every other element stays the same, the sustainable growth rate will decrease. Furthermore, Rahim (2017) carried out a thorough examination of Malaysian businesses and found that profitability was a key component affecting sustainable growth. Hartono & Utami (2016) added even more depth to the discussion by clarifying the strong correlation between net profit margin and long-term growth. By means of a thorough analysis, they clarified how fluctuations in net profit margin have a significant impact on the long-term sustainability and growth potential of businesses. Their results confirmed profitability as a major factor in organisational resilience and prosperity by highlighting the importance of profit margins in promoting sustainable growth trajectories. By clarifying

the mechanisms by which profitability mediates the relationship between working capital management and sustainable growth, Mukherjee and Sen (2018) expanded our understanding. Through his explanation of how higher revenues support internal funds and, in turn, promote growth, Radasanu (2015) emphasised the complex relationship between these factors. This realisation served as a springboard for further investigations into the mechanisms governing the relationships between profitability, sustainable growth, and working capital management.

Nastiti et al. (2020) provided empirical validation for the mediating role of profitability in the relationship between working capital management and sustainable growth. While direct relationships between working capital management and sustainable growth were found to be insignificant, their research unveiled the indirect effects mediated by profitability. By elucidating the intricate pathways through which working capital management influences sustainable growth, In line with Nastiti et al. (2019), this study suggests a hypothesis that working capital management influences sustainable growth through the mediating role of profitability, as depicted in Figure 1.



c' Figure 1: Mediating effect

Research Methodology

The main purpose of the study is to examine how profitability acts as a mediator between working capital management and the sustainable growth of non-financial firms listed in NIFTY 50. Financial firms are dropped because they have distinct accounting requirements and a unique nature of their business (Alipour, 2011; Moussa, 2018). Additionally, they are subject to different regulations compared to other companies (Rasyid, 2017). The data for these companies was obtained from the "PROWESS" Database, which is monitored by the Centre for Monitoring the Indian Economy for a period of 15 years, spanning from 2009 to 2023. We perform an empirical analysis to explore the connections between variables and evaluate the impact of a potential mediating

variable using STATA. In accordance with our hypothesis statement, we employ the following estimation models:

$$ROA = a + b_1 CCC + b_2 FZ + b_3 OCF + b_4 TAT + e \quad (1)$$

$$SGR = a + b_1 CCC + b_2 FZ + b_3 OCF + b_4 TAT + e \quad (2)$$

$$SGR = a + b_1 ROA + b_2 CCC + b_3 FZ + b_4 OCF + b_5 TAT + e \quad (3)$$

To assess the role of profitability in mediating the impact of working capital management on sustainable growth, the methodology outlined by Baron and Kenny (1986) was used. The first regression tests the effect of the independent variable (CCC) on the mediator (ROA). The

second regression assesses the direct effect of the independent variable (CCC) on the dependent variable (SGR). The final regression includes both the independent variable (CCC) and the mediator (ROA) to predict the dependent variable (SGR).

In all these models, control variables are included. According to Baron and Kenny's method, if the independent variable significantly affects both the mediator and the dependent variable in the first two models, but its effect becomes insignificant when the mediator is included in the third model (while the mediator itself is significant), then mediation is present.

Additionally, Preacher and Leonardelli (2010) propose using the Sobel test as an alternative method for confirming mediation. This test is simpler and can offer clearer conclusions, particularly when results from Baron and Kenny's method are ambiguous. In this study, the Sobel test was applied after the regressions. A p-value below 0.05 in the Sobel test indicates a statistically significant mediation effect.

Model First Shows the impact of CCC on ROA. Model Second shows the impact of CCC on SGR and Model Third shows the impact of CCC on ROA through ROA as a mediating variable.

Descriptive Statistics

The conceptual relationship between dependent, independent and mediating variables used in this study is presented in Table 1

Table 1: Descriptive Statistics

	Minimum	Maximum	Mean	Std. Deviation
ROA	0.00	3.72	0.68	0.71
SGR	-4.11	12.62	3.22	1.58
CCC	-1.43	9.52	2.93	2.37
FZ	0.00	13.75	8.48	3.72
OCF	-0.30	0.40	0.08	0.09
TAT	-10.94	1.30	-1.01	1.97

Table 1 presents the statistical summary. The average ROA of 0.68 indicates that the firms generally get a moderate level of return on their assets. This average indicates that the companies are fairly effective at utilising their assets to generate profits. The presence of a standard deviation of 0.71 suggests a substantial amount of variation in profitability between firms, which highlights notable disparities in the efficiency with which firms generate earnings from their assets. These results are

Table 2: Correlation

	ROA	SGR	CCC	FZ	OCF	TAT
ROA	1					

consistent with Penman (2010). SGR quantifies a company's capacity to expand organically without relying on external funding. The negative minimum SGR of -4.11 implies deterioration in some firms. The decrease in performance may be attributed to various factors such as market difficulties, intense competition, or internal inefficiencies that impede progress. Companies with a negative SGR should prioritise the identification and resolution of the underlying factors contributing to their decline. This could entail reorganising business activities, optimising productivity, or readjusting their market approach. Conversely, a maximum SGR of 12.62 indicates strong growth for other companies, demonstrating their capacity to expand swiftly without relying on external financing. The average SGR of 3.22 indicates that enterprises are undergoing modest sustainable growth, which is beneficial for their long-term stability and well-being. These are consistent with Nastiti et al. 2019. The standard deviation of 1.58 indicates a moderate level of variability. This suggests that while most organisations achieve sustainable growth, there are a few outliers that either perform very well or poorly. These results align with Higgins' findings in 1977. A minimal CCC of -1.43 indicates that certain organisations can efficiently manage their cash flow by collecting receivables and selling goods at a faster rate than they pay their suppliers. These companies effectively oversee their working capital, which can greatly improve their ability to access cash and adapt their operations. On the other hand, a maximum CCC of 9.52 suggests that some companies require more time to convert their investments into cash, which could be due to inefficiencies in managing inventory or delayed collection of receivables. The average CCC of 2.93 suggests that organisations typically require nearly three months to finish this cycle. The average duration is the standard amount of time that companies need to convert their resources into money, which impacts their ability to access funds and operate efficiently. The firm size varies from 0.00 to 13.75, demonstrating a considerable range of variance across the firms. An average firm size of 8.48 indicates that firms are generally large, which allows them to take advantage of economies of scale and market dominance. These are consistent with Ponsian (2014). The average operating cash flow (OCF) of 0.08 indicates that enterprises typically generate a modest yet favourable cash flow from their primary business activities. Having a strong cash flow is essential for maintaining operations, making investments in growth prospects, and delivering returns to shareholders. These are consistent with Dong (2010). The negative TAT value of -1.01 indicates that, on average, the companies are not efficiently utilising their assets to create revenue.

Hypothesis Testing and Discussion

SGR	.194**	1				
CCC	-.098**	-.168**	1			
FZ	.464**	.007	.294**	1		
OCF	.535**	-.037	-.038	.375**	1	
TAT	.526**	.171**	-.354**	.224**	.450**	1

** . Correlation is significant at the 0.01 level (2-tailed).

Table 2 displays the Pearson’s correlation. None of the correlation coefficients are above 0.7, indicating that multicollinearity is not a concern. A statistically significant, albeit weak, positive correlation has been observed between ROA and SGR. This implies that more lucrative companies tend to gradually enhance their expansion. A strong negative correlation was established between SGR and CCC. These findings indicate that companies with shorter CCC tend to experience better rates of sustainable growth. Companies that possess effective cash flow management can allocate resources to support efforts aimed at expanding their operations. A weak positive correlation has been discovered between SRG and TAT. This demonstrates that companies that effectively utilise their assets to generate more sales are likely to experience higher sustainable growth. This is

because efficient asset utilisation enables firms to improve sustainable growth without relying heavily on external finance.

The regression results for evaluating our hypothesis are displayed in Table 3. All variables have a Variance Inflation Factor (VIF) < 10, indicating that multicollinearity is not a concern. The fact that the Durban Watson value falls within the acceptable range suggests that there is no issue with autocorrelation. The significance level of the model was scrutinized using F statistics and probability. The p-value is less than 0.05 in all three models, indicating that all three models are the most suitable for the investigation. The adjusted R Square values for models 1, 2, and 3 are 0.46, 0.052, and 0.086, respectively. These values indicate that the selected explanatory variables explain the explained variable to the extent of 46%, 5%, and 8%, respectively.

Table 3: Regression Results

	Model 1	VIF	Model 2	VIF	Model 3	VIF
	ROA		SGR		SGR	
ROA					.573 5.228	1.858
CCC	-0.02 (-2.17)	1.374	-.085 (-2.960)	1.374	-.073 (-2.578)	1.384
FZ	0.06 (9.60)	1.375	.025 (1.353)	1.375	-.009 (-.488)	1.556
OCF	2.11 (8.48)	1.392	-2.433 (-3.309)	1.392	-3.643 (-4.806)	1.535
TAT	0.11 (8.91)	1.537	.141 (3.890)	1.537	.079 (2.085)	1.711
F	15.10		10.629		14.290	
Prob > F	0.00		0.00		0.00	
R Square	0.46		.057		.093	
Adjusted R Square	0.46		.052		.086	
Durbin Watson	1.76		1.828		1.814	

The first model demonstrates that CCC has a statistically significant negative impact on ROA. A similar finding was also reported by Nwude et al. (2018). The negative coefficient of CCC (-0.021) suggests that an increase in the time taken by firms listed in NIFTY to convert their investments in inventory and other resources into cash, as measured by the CCC, tends to lead to a fall in their ROA. This implies that firms with a longer CCC may suffer poorer profitability. A larger CCC indicates that companies are spending more time in their manufacturing and sales operations. Consequently, these companies experience increased holding costs and may encounter liquidity problems. This can ultimately lead to a decrease in overall profitability, as evidenced by the ROA. Managers should prioritise optimising the CCC in order to increase profitability. Companies listed in the NIFTY index should prioritise efforts to optimise operations, enhance inventory management, and expedite collections, as these actions can positively influence their ROA. The control variables, such as TAT and OCF, have a significant impact on ROA. This suggests that companies are effectively employing their assets to produce sales, resulting in increased profitability. These results are consistent with the findings of Ongor and Kusa (2013). A greater operating cash flow signifies that companies are producing more revenue from their fundamental business activities, resulting in increased profitability. This overall model suggests that firms listed in NIFTY should take efforts to reduce the time taken to convert their investments in inventory into cash without compromising on sales and customer satisfaction. This equilibrium can assist the companies in substantially enhancing their overall financial performance.

Model 2 exhibits a significant negative impact of CCC on SGR, indicating an inverse association between CCC and SGR. This suggests that longer CCC is associated with lower sustainable growth rates. These results are inconsistent with the findings of Nastiti et al. (2019). It is important to note that the inefficiencies of firms in converting their inventories and receivables into cash might have a negative impact on the growth potential of the firms listed in NIFTY. Therefore, it is crucial for these organisations to find a balance between operational efficiency and growth strategies. Minimising the company's CCC might provide funds that can be allocated towards new ventures, R&D, or expanding into new markets, thereby promoting long-term growth. The companies indexed in the NIFTY should aim to decrease their CCC by enhancing inventory turnover and expediting the collection of receivables while maintaining sales and customer satisfaction levels. By implementing this strategy, companies can increase their Sustainable Growth Rate, leading to enhanced financial performance and improved growth opportunities.

The result of Model 3 reveals that the ROA has a positive and statistically significant effect on the SGR, suggesting that greater SGR are linked to higher ROA. The results are consistent with those of Etim et al. (2020) and Nugroho (2020). A ROA demonstrates the effectiveness of the companies listed in NIFTY in generating profits, which in turn promotes long-term growth. Optimising asset utilisation enables organisations to generate more

earnings without requiring extra capital, while also fostering expansion without escalating financial risk. This enhanced efficiency not only facilitates the firms in augmenting their profitability but also generates revenue for reinvesting in expansion initiatives. Companies can also attain the objective of enhancing their sustainable growth by implementing effective asset management, exercising cost controls, and making investments in initiatives with high returns. On the other hand, the detrimental impact of SGR emphasises the importance of efficient working capital management in maintaining growth. The study proposes that companies listed in NIFTY can increase their sustainable growth rate by exclusively concentrating on enhancing the ROA and properly managing the CCC. Additionally, companies can also strike a balance between their growth ambitions and financial stability.

The Sobel test was conducted to determine whether profitability significantly mediates the link between WCM and SGR. The Sobel test is employed to determine the statistical significance of the indirect impact of the independent variable on the dependent variable through the mediator. The Sobel test confirms that the mediation effect is statistically significant, indicating that profitability has a considerable influence on the link between the CCC and the SGR. Therefore, companies should prioritise the reduction of their CCC to enhance their ROA. In order to enhance profitability, firms should refrain from relying on external sources of funding for their expansion. It is recommended that firms implement a cautious investment policy for WCM. Nevertheless, companies ought to avoid excessive investments in cash, securities, and receivables as it can heighten their financial vulnerabilities and incur additional holding expenses, ultimately impeding their growth.

Table 4: Results of Mediating Effect

	Test statistic	Std. Error	p-value
Sobel test	-2.489	0.019	0.013
Aroian test	-2.460	0.019	0.014
Goodman test	-2.520	0.019	0.012

Conclusion

The study examined the significant association between WCM, profitability, and sustainable growth in non-financial firms featured on the NIFTY 50 index. The main aim was to comprehend how successful WCM practices facilitate sustainable growth, emphasizing the mediating influence of profitability. The study aimed to provide a thorough analysis of how firms might reconcile their short-term liquidity requirements with long-term growth goals by employing essential financial measures including the CCC and ROA. The study reveals a substantial negative association between the CCC and profitability. Firms that successfully decreased their CCC, thus enhancing cash flow efficiency, exhibited elevated

profitability levels. This aligns with the concept that shorter CCC durations allow firms to liberate revenue more rapidly, which might be reinvested into lucrative opportunities or utilized to diminish debt. Effective WCM guarantees that organizations have the liquidity required to fulfil their operating needs while reducing the expenses linked to maintaining surplus inventory or granting excessive credit to clients. These findings underscore the essential significance of enhancing WCM procedures as a means to improve profitability. The study affirmed a positive correlation between profitability and sustainable growth suggesting that companies demonstrating elevated ROA were more inclined to attain sustainable expansion without excessive dependence on external finance sources. This emphasizes the significance of profitability as a crucial catalyst for sustainable development, enabling companies to self-fund their growth initiatives and uphold financial stability. Generating consistent earnings is crucial for organizations seeking to maintain their competitive advantage over time, as it furnishes the requisite resources for investment in innovation, development, and other growth initiatives. Profitability was identified as a crucial mediator in the relationship between working capital management and sustainable growth. The mediation analysis, utilizing the Baron and Kenny model alongside the Sobel test, indicated that profitability acts as a mechanism by which good WCM leads to sustainable growth. This suggests that although WCM directly influences a company's capacity for sustainable growth, this impact is considerably amplified when profitability is included in the analysis. Companies

that effectively manage their working capital and convert these efficiencies into profit are more likely to attain sustained growth.

This study enhances the current literature by offering empirical data regarding the significance of WCM in attaining sustainable growth through profitability. It provides essential insights for company managers and financial strategists, highlighting that maximizing working capital transcends merely enhancing short-term liquidity or operational efficiency; it also establishes a robust platform for sustained long-term success. By concentrating on both WCM and profitability, companies can more adeptly address the problems posed by market volatility, competitive demands, and economic uncertainties. The study highlights the necessity of incorporating successful WCM practices into the comprehensive strategic management framework of organizations. Organizations that focus on optimizing their CCC and improving profitability are more capable of sustaining expansion, preserving financial stability, and attaining long-term success. The study provides practitioners with a strategic framework for managing working capital, indicating that sustained growth results not only from revenue generation but also from effective resource management and profit maximization. Subsequent studies may investigate this dynamic by analysing industry-specific variables and broadening the assessment to encompass additional financial and non-financial measures

REFERENCES

1. Akinlo, O. O. (2012). Effect of working capital on profitability of selected quoted firms in Nigeria. *Global Business Review*, 13(3), 367-381.
2. Aldubhani, M. A., Wang, J., Gong, T., & Maudhah, R. A. (2022). Impact of working capital management on profitability: Evidence from listed companies in Qatar. *Journal of Money and Business*, 2(1), 70-81.
3. Alipour, M. (2011). Working capital management and corporate profitability: Evidence from Iran. *World Applied Sciences Journal*, 12(7), 1093-1099.
4. Al-Omari, R., Oroud, Y., Makhlof, M. H., Alshehadeh, A. R., & Al-Khawaja, H. A. (2024). The impact of profitability and asset management on firm value and the moderating role of dividend policy: Evidence from Jordan. *Asian Economic and Financial Review*, 14(1), 1-11.
5. Alsulayhim, N. (2019). The relationship between working capital management and profitability. *International Business Research*, 12(8), 142-152.
6. Amouzesh, N., Moeinfar, Z., & Mousavi, Z. (2011). Sustainable growth rate and firm performance: Evidence from Iran Stock Exchange. *International Journal of Business and Social Science*, 2(23), 249-255.
7. Anton, S. G., & Afloarei Nucu, A. E. (2020). The impact of working capital management on firm profitability: Empirical evidence from the Polish listed firms. *Journal of risk and financial management*, 14(1), 1-14.
8. Arora, L., Kumar, S., & Verma, P. (2018). The anatomy of sustainable growth rate of Indian manufacturing firms. *Global Business Review*, 19(4), 1050-1071.
9. Barine, M. N. (2012). Working capital management efficiency and corporate profitability: Evidences from quoted firms in Nigeria. *Journal of applied finance and banking*, 2(2), 215-237.
10. Barney, J. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
11. Baron, R. M., & Kenny, D. A. (1986). The moderator-mediator variable distinction in social psychological research: Conceptual, strategic, and statistical considerations. *Journal of personality and social psychology*, 51(6), 1173-1182.
12. Barros, V., Falcao, P. F., & Sarmiento, J. M. (2022). Are more sustainable firms able to operate with lower working capital requirements?. *Finance Research Letters*, 46, 102407.
13. Barros, V., Falcao, P. F., & Sarmiento, J. M. (2022). Are more sustainable firms able to operate with lower working capital requirements?. *Finance Research Letters*, 46, 102407.
14. Bashir, W., & Periyasami, N. (2022). Efficiency of Working Capital Management using Y-Score Model: An Evidence of BSE SENSEX. *European Online Journal of Natural and Social Sciences*, 11(1), 73-85.
15. Bashir, W., Gunasegari, N., & Periyasami, N. (2022). Efficiency of Working Capital Management by Firms Listed in BSE SENSEX. *European Online Journal*

of Natural and Social Sciences, 11(4), 909-917.

16. Bhatia, S., & Srivastava, A. (2016). Working capital management and firm performance in emerging economies: Evidence from India. *Management and Labour Studies*, 41(2), 71-87.
17. Bhattacharya, H. (2021). Working capital management: Strategies and techniques. PHI Learning Pvt. Ltd..
18. Bolek, M. (2013). Working capital management profitability and risk: analyse of companies listed on the Warsaw Stock Exchange. *E-Finanse: Financial Internet Quarterly*, 9(3), 1-10.
19. Brigham, E. F., & Houston, J. F. (2013). *Fundamentals of financial management*. South-Western Cengage Learning.
20. Carley, M., & Christie, I. (2017). *Managing sustainable development*. Routledge.
21. Castro, N. R., & Chousa, J. P. (2006). An integrated framework for the financial analysis of sustainability. *Business Strategy and the Environment*, 15(5), 322-333.
22. Chisti, K. A. (2013). The relationship between working capital efficiency and profitability. *The Journal of Accounting and Management*, 2(3), 21-45.
23. Churchill, N. C., & Mullins, J. W. (2001). How fast can your company afford to grow. *Harvard Business Review*, 79(5), 135-143.
24. Deloof, M. (2003). Does working capital management affect profitability of Belgian firms?. *Journal of business finance & Accounting*, 30(3-4), 573-588.
25. Dong, H. P., & Su, J. T. (2010). The relationship between working capital management and profitability: a Vietnam case. *International research journal of finance and economics*, 49(1), 59-67.
26. Etim, E. O., Ihenyen, J. C., & Nsima, J. U. (2020). Financial performance determinants in the Nigerian oil and gas sector. *East African Scholars Journal of Economics, Business and Management*, 3(12), 941-951.
27. Fazzari, S. M., & Petersen, B. C. (1993). Working capital and fixed investment: new evidence on financing constraints. *The RAND Journal of Economics*, 24(3), 328-342.
28. Fonseka, M. M., Ramos, C. G., & Tian, G. L. (2012). The most appropriate sustainable growth rate model for managers and researchers. *Journal of Applied Business Research (JABR)*, 28(3), 481-500.
29. Gitman, L. J., Juchau, R., & Flanagan, J. (2015). *Principles of managerial finance*. Pearson Higher Education AU.
30. Hartono, G. C., & Utami, S. R. (2016). The comparison of sustainable growth rate, firm's performance and value among the firms in Sri Kehati index and IDX30 index in Indonesia stock exchange. *International Journal of Advanced Research in Management and Social Sciences*, 5(5), 68-81.
31. Higgins, R. C. (1977). How much growth can a firm afford?. *Financial management*, 6(3), 7-16.
32. Kaddumi, T. A., & Ramadan, I. Z. (2012). Profitability and working capital management: The Jordanian case. *International Journal of Economics and Finance*, 4(4), 217-226.
33. Kasozi, J. (2017). The effect of working capital management on profitability: a case of listed manufacturing firms in South Africa. *Investment management and financial innovations*, 14(2.2), 336-346.
34. Lockwood, L., & Prombutr, W. (2010). Sustainable growth and stock returns. *Journal of Financial Research*, 33(4), 519-538.
35. Manaf, N. A., Saad, N. M., Mohamad, N. E. A., Ali, I. M., & Rahim, N. (2018). Determinants of Sustainable Growth Rate by Using Zakon's Model to Encounter with Shariah Compliance Requirements for Shariah Securities Compliance Firms in Malaysia. *International Journal of Industrial Management*, 4(1), 16-20.
36. Moussa, A. A. (2018). The impact of working capital management on firms' performance and value: Evidence from Egypt. *Journal of Asset Management*, 19, 259-273.
37. Muhammad, H., Rehman, A. U., & Waqas, M. (2016). The relationship between working capital management and profitability: A case study of tobacco industry of Pakistan. *The Journal of Asian Finance, Economics and Business*, 3(2), 13-20.
38. Mukherjee, T., & Sen, S. S. (2018). Sustainable growth rate and its determinants: A study on some selected companies in India. *Global Multidisciplinary*, 10(1), 100-108.
39. Nastiti, P. K. Y., Atahau, A. D. R., & Supramono, S. (2019). Working capital management and its influence on profitability and sustainable growth. *Business: Theory and Practice*, 20, 61-68.
40. Nastiti, P. K. Y., Atahau, A. D. R., & Supramono, S. (2020). Does working capital management able to increase sustainable growth through asset utilization?. *The European Journal of Applied Economics*, 17(2), 136-146.
41. Nugroho, V. C. (2020). Sustainable growth rate model in Indonesian manufacturing firms. *The Winners*, 21(2), 93-100.
42. Nwude, E. C., Agbo, E. I., & Christian Ibe-Lamberts, C. I. L. (2018). Effect of cash conversion cycle on the profitability of public listed insurance companies. *International Journal of Economics and Financial Issues*, 8(1), 111-117.
43. Ongore, V. O., & Kusa, G. B. (2013). Determinants of financial performance of commercial banks in Kenya. *International journal of economics and financial issues*, 3(1), 237-252.
44. Penman, S. H. (2010). *Financial forecasting, risk and valuation: Accounting for the future*. Abacus, 46(2), 211-228.
45. Ponsian, N., Chrispina, K., Tago, G., & Mkiibi, H. (2014). The effect of working capital management on profitability. *International Journal of Economics, Finance and Management Sciences*, 2(6), 347-355.
46. Ponsian, N., Chrispina, K., Tago, G., & Mkiibi, H. (2014). The effect of working capital management on profitability. *International Journal of Economics, Finance and Management Sciences*, 2(6), 347-355.
47. Preacher, K. J., & Leonardelli, G. J. (2001). Calculation for the Sobel test. Retrieved January, 20, 2009.
48. Radasanu, A. C. (2015). Cash-flow sustainable growth rate models. *Journal of Public Administration*,

Finance and Law, (07), 62-70.

49. Raheman, A., & Nasr, M. (2007). Working capital management and profitability—case of Pakistani firms. *International review of business research papers*, 3(1), 279-300.
50. Rahim, N. (2017). Sustainable growth rate and firm performance: A case study in Malaysia. *International Journal of Management, Innovation & Entrepreneurial Research*, 3(2), 48-60.
51. Ramli, N. A., Rahim, N., Mat Nor, F., & Marzuki, A. (2022). The mediating effects of sustainable growth rate: evidence from the perspective of Shariah-compliant companies. *Cogent Business & Management*, 9(1), 2078131.
52. Rasyid, R. (2017, November). Impact of the Agressive Working Capital Management Policy on Firm's Profitability and Value: Study on Non-Financial Listed Firms in Indonesia Stock Exchange. In *International Conference on Business and Management Research (ICBMR 2017)* (pp. 207-216). Atlantis Press.
53. Ren, T., Liu, N., Yang, H., Xiao, Y., & Hu, Y. (2019). Working capital management and firm performance in China. *Asian Review of Accounting*, 27(4), 546-562.
54. Saleem, M., Amin, K., & Ullah, N. (2023). Impact Of Working Capital Management On Sustainable Growth And Profitability: Evidence From Chemical And Manufacturing Sectors Of Pakistan. *Journal of Positive School Psychology*, 7(5), 1321-1335.
55. Schaltegger, S., & Wagner, M. (2006). Managing sustainability performance measurement and reporting in an integrated manner. Sustainability accounting as the link between the sustainability balanced scorecard and sustainability reporting. In *Sustainability accounting and reporting* (pp. 681-697). Dordrecht: Springer Netherlands.
56. Van Horne, J. C., & Wachowicz, J. M. (2005). *Fundamentals of financial management*. Pearson education.
57. Zhou, G., Liu, L., & Luo, S. (2022). Sustainable development, ESG performance and company market value: Mediating effect of financial performance. *Business Strategy and the Environment*, 31(7), 3371-3387.