

IMPACT OF INDIVIDUAL COMPONENTS OF WORKING CAPITAL AND CORPORATE CHARACTERISTICS ON PROFITABILITY: EVIDENCE FROM SMALL AND MEDIUM MANUFACTURING FIRMS IN THE US

Manjit Kour*

Abstract *Working capital is considered to be the fuel that keeps a business running. Efficient and effective utilisation of working capital have been stressed by many researchers. Small and medium enterprises (SMEs) have a pivotal role in the US economy. This study examines the impact of working capital components and corporate factors on the profitability of small and medium enterprises (SMEs), particularly in the engineering sector in the US. The secondary data is collected from a sample of 58 SMEs in the engineering sector listed on NASDAQ. The dependent variables used in the study include alternate proxies of profitability in firms, i.e. return on assets (ROA) and revenue/sales. The independent variables in the study are working capital components (days payable, days inventory, and days receivable) and corporate factors (CEO age, CEO tenure, board size, and company size). Panel data regression method – random effect (RE) regression model is used for the study. It is found that a significant relationship exists between profitability and accounts receivable in small and medium engineering firms in the US. A positive relationship between days receivable and profitability suggests that longer accounts receivable periods enhance firms' profitability. It suggests that firms should ease their credit policy and follow a conservative receivable policy, wherein they lengthen the time period for accounts receivable. This study can be very useful for small manufacturing firms in the efficient working capital management decision-making process.*

Keywords: *Working Capital Management, Panel Data Analysis, Random Effect (RE) Regression Model, Profitability of Small Firms*

INTRODUCTION

For smooth and uninterrupted operations in a firm, working capital plays a central role (Pais & Gama, 2015; Tauringana & Afrifa, 2013). A robust system of managing the management of a firm is an indicator of its efficiency. A firm is considered to have a good liquidity position if it has more working capital. Working capital management encompasses all the activities involving upholding optimal levels of current liabilities and current assets in the business. Working capital management is crucial to maintaining ideal levels of liquidity, profitability, and risks in any business (Deloof, 2003). Suppose a firm maintains a high level of working capital, it will lead to opportunity costs, whereas having less working capital will interrupt the business's operations. Hence, there always arises the situation of a tradeoff between profitability and liquidity (Garcia-Teruel & Martinez-Solano, 2007). To strike a balance between liquidity and

profitability, a firm always needs to achieve an idyllic level of working capital. Different working capital decisions can impact the business positively or negatively. So, it is pertinent to focus on the efficient management of working capital for the success of a business. Working capital management has gained more relevance due to the current downturn and its impact on business (Enqvist et al., 2011).

Quite a few studies have stressed the significance of efficient working capital management (Tingbani, 2015; Tauringana & Afrifa, 2013; Afeef, 2011). Inefficient handling of working capital is considered one of the key reasons for the failure of many businesses (Padachi, 2006). Hence, working capital management has to be given higher priority for business profitability and sustainability. It is one of the important aspects of businesses that needs to be adapted and adjusted as per specific policies of the business, which is instrumental in managing the components of working capital and for the smooth functioning of operations (Gill et al., 2010).

* Associate Professor, USB (BBA), Chandigarh University, Chandigarh, India. Email: manjuz_99@yahoo.com

Management of working capital encompasses various components, like accounts payable, accounts receivable management, and inventory management (Afrifa, 2013; Tauringana & Afrifa, 2013; Pais & Gama, 2015). The profitability and risk of a business, to a very large extent, are dependent on the efficient management of working capital; consequently, the value of a business depends on it as well (Tingbani, 2015). By implementing sustainable working capital management practices, the managers can enhance the business's profitability (Yazdanfar & Ohman, 2014). An aggressive working capital management policy associated with individual components of working capital results in better performance of businesses (Prasad et al., 2019; Akindele & Odusina, 2015). The survival and growth of a business depend on profitability. Hence, it is very important to identify factors that directly impact firms' profitability. Various studies have been done in different countries to evaluate the impact of working capital components on profitability, and it has been established that working capital components impact the profitability of firms (Dong & Su, 2010; Gill et al., 2010; Tingbani, 2015; Tauringana & Afrifa, 2013; Garcia Teruel & Martinez-Solano, 2010; Deloof, 2003). However, most of the studies focused on big firms only. Moreover, it was also observed that very few studies are done on SMEs, but the researcher was unable to find any study that was done sector-wise. Small and medium enterprises (SMEs) have a pivotal role in the US economy. This study examines the impact of working capital components on the profitability of small and medium enterprises (SMEs), particularly in the engineering sector. The firm's profitability also depends on corporate factors like company age, company size, age of CEO, tenure of CEO, and business size (Dissanayake et al., 2022; Guest, 2009; Mangena et al., 2010; Allgood & Farrell, 2003; Diks, 2016). Hence, in this study, corporate factors are also examined to appraise their impact on profitability to get a comprehensive view of profitability. The alternate proxies of management taken in this study will be COGS, sales/revenue (Prasad et al., 2019), and return on assets (ROA), for better impact capturing.

LITERATURE REVIEW

This section expounds on a brief overview of the literature on the relationship between individual components of working capital and alternative profitability proxies. It has been suggested by previous researchers (Afrifa, 2013; Tingbani, 2015) to examine the impact of working capital on profitability by exploring the effect of each working capital component on profitability individually. So, in the following sections, the influence of individual working capital components on profitability is discussed individually.

Relationship between Individual Components of Working Capital and Profitability

Inventory Management and Profitability

For the sustainability of profits in a firm, inventory management has a central role (Koumanakos, 2008; Tingbani, 2015). Mathuva (2013) argued that it is not necessary to uphold perfect inventory levels, as firms can produce only that many products demanded by the market. However, due to imperfections in the market, the firms are supposed to maintain inventory to cope with market uncertainties (Tingbani, 2015). The decisions related to inventory management have a direct bearing on the firm's profitability and risk exposure (Afrifa, 2013; Tingbani, 2015; Gill et al., 2010). Nazir and Afza (2009) supported an aggressive inventory policy that cuts inventory carrying costs. Bhattacharya (2008) had given the same suggestion and also advocated the Just-In-Time (JIT) inventory strategy to minimise carrying costs (Tingbani, 2015). JIT inventory system results in higher profitability due to significant cost savings (Ahmad & Pletcher, 2004). It has been established by various studies that there is a negative association between the profitability of firms and the number of days of inventory (Boute et al., 2004; Shah & Shin, 2007; Dong & Su, 2010; Mathuva, 2013). It was advocated by Deloof (2003) that maintenance of an optimum level of inventory can add value for the shareholders. Some studies also reported a negative association between profitability and inventory in days (Boute et al., 2004; Shah & Shin, 2007). It was argued by Gill et al. (2010) that operational disruptions could be avoided by maintaining high inventory levels. It has been reported in various studies that to fulfil anticipated sales demands, some companies resort to having a high level of inventory (Nobanee, 2009; Padachi, 2006; Bhattacharya, 2008). Hence, it is hypothesised that:

H1: There is a significant relationship between days inventory and return on assets.

H2: There is a significant relationship between days inventory and revenue.

Accounts Receivables and Profitability

Accounts receivable refers to short-term credit offered to its customers by the firms. The accounts receivable policy of a firm directly impacts the firm's profitability (Tingbani, 2015; Garcia-Teruel & Martinez-Solano, 2010). A firm may embrace either conservative or aggressive receivable policies (Afrifa, 2013; Tingbani, 2015). The decrease in accounts receivable time aligns with the aggressive receivable policy

(Tingbani, 2015). The aggressive receivable policy can contribute to an increase in a firm's profitability (Tingbani, 2015) and many times can help save firms from bankruptcy (Couderc, 2006). It has been observed in many studies that shrinkage of the payment period or days payable improves the firms' profitability by acting as a source of cash flow (Garcia-Teruel & Martinez-Solano, 2010; Nobanee & Alitajjar, 2009; Tingbani, 2015; Dong & Su, 2010). Conservative policy of receivables, on the other hand, refers to lengthening the time for accounts receivables. It has been observed in various studies that customers start realising the money utility of commodities if the accounts receivable policy is stretched (Blazenko & Vandezande, 2003). However, it is argued by Afrifa (2013) that when short-term financing option is provided to high-risk customers, it can result in high rates of default and hence can negatively impact the profitability of a firm. Thus, it is hypothesised that:

H3: There is a significant relationship between days receivable and return on assets.

H4: There is a significant relationship between days receivable and revenue.

Accounts Payable and Profitability

Accounts payable is the short-term credit offered to the suppliers and constitutes an important source of finance in most businesses (Garcia Teruel & Martinez-Solano, 2010; Tingbani, 2015; Wilner, 2000). It has been reported in many studies in different countries that trade payable constitutes a major portion of the firms' financing (Garcia-Teruel & Martinez Solano, 2010; Peterson & Rajan, 1997). By delaying the payment resulting in the minimising of the transactional costs of payment of bills, the firms can maximise their profitability (Nelson, 2002; Bhattacharya, 2008; Banerjee et al., 2007). Previous studies also pointed out that few firms having good access to credit facilities act as intermediaries by borrowing money from banks and then lending the same to customers in accounts payable (Bougheas et al., 2009; Garcia-Teruel & Martinez-Solano, 2010).

A few studies have concluded that companies that have proper credit access in the financial markets tend to perform the intermediary role as they can borrow from banks and can lend the same to customers as accounts payable (Garcia-Teruel & Martinez Solano, 2010; Emery, 1984). It is also found in various studies (Garcia-Teruel & Martinez-Solano, 2010; Bougheas et al., 2009). Firms relax trade credit to minimise the costs related to transactions, and monitoring and trade credit information are shifted to customers as additional administrative costs. Hence, it is hypothesised that:

H5: There is a significant relationship between days payable and return on assets.

H6: There is a significant relationship between days payable and revenue.

Relationship between Corporate Governance Factors and Profitability

Board Size and Profitability

The association between board size and profitability has been confirmed in various studies (Guest, 2009). The corporate board has to play both conformance and performance roles for the corporate, which are significant for the business's profitability (Ntim, 2013). Sharma and Dey (2022) reported in their study that audit committee size has a positive and significant impact on the return on assets (ROA). It was reported that board size negatively impacts profitability (Jensen, 1993; Guest, 2009). Larger board size can lead to free riddance and avoidance of responsibility by directors (Ntim, 2013). It also leads to inefficiency due to a lack of proper communication and coordination (Jensen, 1993). Few studies also reported that board size positively influences firms' profitability (Dalton & Dalton, 2005; Uadiale, 2010; Bathla, 2008; Tingbani, 2015). A larger board size means pooling of skills of different board directors from diverse backgrounds, which results in increased efficiency in decision making and other management tasks, and hence, increased profitability (Lehn et al., 2004). A larger board size also facilitates the easy formation of various committees for enhanced effectiveness and efficiency of the board (Tingbani, 2015). Hence, it is hypothesised that:

H7: There is a significant relationship between board size and return on assets.

H8: There is a significant relationship between board size and revenue.

Chief Executive Officer (CEO) Tenure and Profitability

CEO tenure and profitability of a firm also have an association, and it has been proved in various studies that CEO tenure has a positive linkage with the profitability of firms (Allgood & Farrell, 2003). Whereas some studies have found that CEO tenure will reduce profitability; for example, when the CEO is in the post for a longer term, their bargaining power increases and they start charging higher remuneration, thus impacting profitability (Allgood & Farrell, 2003; Hill & Phan, 1991). It has also been argued by Gabarro (1987) that only two years are sufficient for a CEO to understand the system completely and gain expertise to take effective decisions. If a CEO retains the position

for a long time, it leads to acquiring complete knowledge about operations and other company factors, which will help improve profitability. Kyereboah Coleman (2007) also suggested that CEOs with lengthy tenure are motivated to increase the company's profits as they like to see positive outcomes of their decisions. Lengthy tenured CEOs also help in decreasing monitoring costs, thus increasing the firm's profitability. New CEOs, on the other hand, increase the monitoring costs, as they need to be monitored initially until they gain the confidence and trust of the management. This leads to high monitoring costs for new CEOs. However, a contrary conclusion was given by Shen and Cannella (2002), who contended that new CEOs tend to be more careful as they know they are being watched. Hence, it is hypothesised that:

H9: There is a significant relationship between CEO tenure and return on assets.

H10: There is a significant relationship between CEO tenure and revenue.

Company Size and Profitability

A firm's profitability is impacted by the company's size (Dash, 2020; Mathuva, 2010; Padachi, 2006). Firm size, firm age, and independent directors are found to have a positive impact on corporate performance (Agarwal & Singh, 2022). Economies of scale plays a major role in increasing profitability with an increase in the firm's size, as it leads to a reduction in the cost of innovation and cost of production, thus enhancing profitability (Hardwick, 1997). With big size, the firms' bargaining power is elevated to help them strike cheaper deals with suppliers and vendors regarding rates and credit terms (Tingbani, 2015). Big firms consequently get preference over small firms in terms of financing by financial institutions (Yang & Chen, 2009). Big firms are the preferred choice of the qualified workforce due to their high-paying capacity and future growth prospective, which lead to efficient staff being recruited in big firms, thus positively impacting productivity and profitability (Yang & Chen, 2009). Hence, it is hypothesised that:

H11: There is a significant relationship between company size and return on assets.

H12: There is a significant relationship between company size and revenue.

CEO Age and Profitability

The age of the CEO has a direct bearing on the performance and profitability of the firm (Diks, 2016). Older CEOs have more experience and expertise, enabling them to make good decisions and avoid risky projects (Diks, 2016). It has

been argued in previous studies that old CEOs attain the status quo and are unable to produce new ideas (Hambrick & Mason, 1984). It was pointed out by MacCrimmon and Wehrung (1986) that aptitude for risk reduces with age, and hence older CEOs sometimes ignore profitable ventures as well. Hence, it is hypothesised that:

H13: There is a significant relationship between CEO's age and return on assets.

H14: There is a significant relationship between CEO's age and revenue.

MODEL OF THE STUDY

Based on the literature review and hypothesis of the study, the research model developed for this study is depicted in Fig. 1.

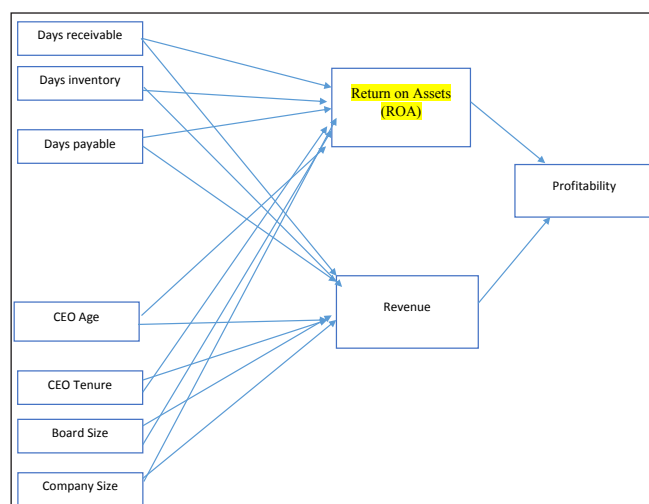


Fig. 1: Model of the Study

METHODS

The researcher has used a descriptive, and especially, an ex-post facto method for this study (Shefali & Kour, 2022). The secondary data was collected from a sample of 58 manufacturing SMEs, specifically SMEs in the engineering sector in the US that are listed on NASDAQ. The required data was collected for the period of six years, i.e. 2014-2019. The data was collected from financial reports available on various financial websites (Market watch, Bloomerang) and other published reports (like NASDAQ and so on).

The dependent variables used in the study included alternate proxies of profitability in firms, i.e. return on assets (ROA) and revenue/sales. ROA is a good indicator for measuring the performance of efficient utilisation of resources; hence, it was used as a profitability measure in this study (Tingbani, 2015).

Another reason for preferring ROA was that it is suitable for inter-industry comparison, which results in removing size effects (Lev & Sunder, 1979). Two sets of independent variables are used in the study. The first set of independent variables consisted of working capital components – days payable, days inventory, and days receivable.

Table 1: Variables in the Study

Variable	Formula
ROA	Profit/Assets
Days inventory	Inventories/(Sales/365)
Days payable	Payables/(Sales/365)
Days receivable	Receivables/(Sales/365)

The other set of independent variables used is corporate governance variables, i.e. CEO age, CEO tenure, board size, and company size. Corporate governance variables are available in financial reports and the detailed financial statements of the companies.

The statistical technique of Pearson's correlation analysis and multivariate regression analysis were used for hypothesis testing. The data about alternative proxies of profitability and working capital components for 58 companies was collected for six years; it was panel data as it consisted of information about different companies (cross-sections) for different years (time). The panel data regression method was used as it has many advantages; it offers adequate variability, more informative data, more degrees of freedom, and less collinearity (Baltagi, 2005). It also controls individual heterogeneity and can easily measure and detect effects that are impossible to detect in pure cross-section data (Tingbani, 2015). Hence, panel data regression method was deemed fit to find the relationship between alternate proxies of profitability and working capital components. The models that were tested in panel data regression are given below:

$$Rev_{it} = \alpha_0 + \beta_1 \text{Days Receivable} + \beta_2 \text{Days Inventory} + \beta_3 \text{Days Payable} + \mu_i + \lambda_t + \varepsilon_{it} \quad (1)$$

$$ROA_{it} = \alpha_0 + \beta_1 \text{Days Receivable} + \beta_2 \text{Days Inventory} + \beta_3 \text{Days Payable} + \mu_i + \lambda_t + \varepsilon_{it} \quad (2)$$

Where, β denotes regression coefficients, the subscript i denotes the n th company ($i = 1, \dots, 58$), the subscript t denotes the t^{th} year ($t = 1, \dots, 6$), λ_t is the parameters of time dummy variables, μ_i is the unobservable heterogeneity (individual effects), and ε_{it} is the error term.

The data on corporate governance factors was collected for 2019 only; hence, multivariate regression method was used to find the relationship between alternate proxies of profitability and corporate governance factors. The models to be tested in linear regression are given below:

$$Rev = \beta_0 + \beta_1 \text{CEO Age} + \beta_2 \text{CEO Tenure} + \beta_3 \text{Board Size} + \beta_4 \text{Company Size} + \mu \quad (3)$$

$$ROA = \beta_0 + \beta_1 \text{CEO Age} + \beta_2 \text{CEO Tenure} + \beta_3 \text{Board Size} + \beta_4 \text{Company Size} + \mu \quad (4)$$

ANALYSIS

Pearson's correlation analysis (Table 2) shows that days receivable is significantly correlated to return on assets (ROA). ROA and revenue are also found to be significantly correlated. However, no significant correlation was found between other factors and profitability proxies. This indicates no significant relationship between alternate proxies of profitability and working capital and corporate governance. However, to validate this, we have done panel regression analysis and multivariate regression analysis.

Table 2: Pearson's Correlation Analysis

	Rev	ROA
Revenue	1	0.395*
		(0.002)
CEO Age	-0.133	-0.198
	(0.319)	(0.136)
CEO Tenure	-0.099	-0.175
	(0.460)	(0.188)
Board Size	-0.022	0.108
	(0.870)	(0.421)
Company Size	0.086	-0.068
	(0.521)	(0.611)
Days Receivable	-0.022	0.901*
	(0.874)	(0.000)
Days Inventory	-0.060	-0.009
	(0.653)	(0.945)
Days Payable	-0.068	-0.090
	(0.614)	(0.504)
Return on Assets	0.395*	1
	(0.002)	

The numbers in parenthesis are significance levels. *Represents test is significant at 5%.

Relationship between Alternate Proxies of Profitability and Working Capital Components

To find the relationship between alternate proxies of profitability (revenue and ROA) and working capital

components (DI, DP, and DR), we have used pooled OLS regression analysis. The results of the pooled data regression are shown in Table 3. It is observed that there is a positive relationship between DR (days receivable) and ROA (return on assets). The regression model 1 (revenue as dependent variable) is found to be non-significant, and regression model 2 (ROA as dependent variable) is found to be significant (F-test: 7.068324). The adjusted R square of the model depicts that this model explains that 5% of the variance in ROA is due to the independent variable in the study. To check the presence of heteroscedasticity and serial correlation, and to validate pooled panel data regression results, the Breusch-Pagan test was done (Padachi, 2006). The results of the Breusch-Pagan test for both models point to the presence of homoscedasticity. Hence, pooled OLS regression was rejected for both models.

As pooled OLS regression was not deemed fit for both models, the random effect (RE) regression model was used for the study. The RE (between groups) method was based on GLS regression and was adopted for the study (Afrifa, 2013). It is observed (Table 4) that in model 1, no significant relationship is found between revenue and independent variables (DI, DR, and DP), and the regression model is also not significant. In model 2, a positive and significant relationship is found between days receivable and ROA; the model is significant with an adjusted R square of 3.7%. Hausman test was conducted to test the validity of the RE regression model. The result of the tests also points towards the validity of the RE regression model for the association between revenue and working capital components (DP, DI, and DR).

Table 3: Results of Pooled OLS Regression Analysis

	Model 1	Model 2
Dependent Variable	Revenue	ROA
Independent Variable		
DI	14.88845 (0.8750)	0.052892 (0.2612)
DR	-0.164914* (0.0235)	0.003676* (0.0000)
DP	-35.61507 (0.7097)	-0.065803 (0.1669)
C	9097.449 (0.3508)	10.24835* (0.0012)
Adjusted R ²	-0.007358	0.050681
R ²	0.001504	46.46637
S.E of Regression	93498.30	46.46637

F-test	0.169746 (0.916776)	7.068324 (0.000128)
	Model 1	Model 2
Dependent Variable	Revenue	ROA
Independent Variable		
Breusch-Pagan Test (Both)	0.051561 (0.8204)	52.09032 (0.0000)
Breusch-Pagan Test (Cross-section)	0.008300 (0.9274)	51.62248 (0.0000)
Breusch-Pagan Test (Time)	0.043261 (0.8352)	0.467833 (0.4940)
Number of Observations	342	342

The numbers in parenthesis are significance levels. *Represents test is significant at 5%.

Table 4: Random Effect (RE) Regression Model

	Model 1	Model 2
Dependent Variable	Revenue	ROA
Independent Variable		
DI	14.50171 (0.8801)	0.050437 (0.2293)
DR	-0.160660* (0.0258)	0.003118* (0.0000)
DP	-35.22913 (0.7170)	-0.062855 (0.1381)
C	9087.947 (0.1590)	10.26361* (0.0003)
Adjusted R ²	-0.007386	0.037006
R ²	0.001476	0.045478
S.E of Regression	93175.89	44.89199
F-test	0.166577 (0.918869)	5.367993 (0.001273)
Hausman Test	0.067031 (0.0055)	118.824081 (0.0000)
Number of Observations	342	342

The numbers in parenthesis are significance levels. *Represents test is significant at 5%.

Relationship between Alternate Proxies of Profitability and Corporate Governance Factors

Multivariate regression analysis was done to find the association between alternate proxies of profitability and corporate governance factors (Table 5). No significant

relationship was found between alternate proxies of profitability (revenue and ROA) and corporate governance factors (CEO age, CEO tenure, board size, and company size) in both the models.

Table 5: Multivariate Regression Analysis

	Model 1	Model 2
Dependent Variable	Revenue	ROA
Independent Variable		
CEO Age	-673.555 (0.467)	-0.684 (0.386)
CEO Tenure	-137.076 (0.865)	-0.211 (0.759)
Board Size	-379.169 (0.893)	1.251 (0.601)
Company Size	-2.914 (0.985)	-0.054 (0.678)
Constant	45831.778 (0.352)	41.500 (0.322)
Adjusted R ²	-0.062	0.038
R ²	0.031	0.053
S.E of Regression	44498.32966	37.84394
F-test	0.330 (0.892)	0.583 (0.713)
Number of Observations	57	57

The numbers in parenthesis are significance levels. *Represents test is significant at 5%.

DISCUSSION AND CONCLUSION

This study examined the impact of working capital components and corporate factors on the profitability of the engineering sector of small and medium enterprises (SMEs) in the US. Data of 58 manufacturing SMEs listed on NASDAQ was used for this study. Correlation analysis and panel data regression method were used in the study. It was found that there is no relationship between profitability and days payable and days inventory in small and medium engineering firms in the US. A significant relationship has been reported between profitability and accounts receivable in small and medium engineering firms in the US. Many previous studies have also proposed the relationship between profitability and accounts receivable (Tingbani, 2015; Garcia-Teruel & Martinez-Solano, 2010; Peel et al., 2000). A positive relationship between days receivable and profitability suggests that longer accounts receivable periods enhance firms' profitability. It suggests that firms

should ease their credit policy and follow a conservative receivable policy, wherein they lengthen the time period for accounts receivable. This helps in creating good relations with customers and long-lasting relationships. As customers get more time to pay, they order more without much worry. To create trust in the quality of their products, small and new firms offer extra trade credit to their customers (Garcia-Teruel & Martínez-Solano, 2010). Lengthening the trade credit period is a way of extending product guarantee, which gives customers a chance to know the product in and out, thus improving customer satisfaction (Bastos & Pindado, 2007). Some firms also tend to use a lengthy trade receivable period as a sales promotion technique and to attract new customers; this concept is in line with the product differentiation theory, as here lengthy trade receivable period is used to differentiate a firm's product from other products (Blazenko & Vandezande, 2003). Customers tend to realise the monetary utility of products when a lengthy credit period is offered to them (Blazenko & Vandezande, 2003). This price discrimination is used by firms to maximise their sales, as the customers feel that the cost of buying the product is reduced due to a long credit period tenure (Garcia-Teruel & Martínez-Solano, 2010). It can be concluded that firms can use lengthy trade credit as an effective price discrimination policy to attract more customers, build the confidence of their customers in their products, and increase their sales, and thus, profitability.

REFERENCES

- Afeef, M. (2011). Analyzing the impact of working capital management on the profitability of SME's in Pakistan. *International Journal of Business and Social Science*, 2(22), 173-183.
- Afrifa, G. (2013). *Working capital management and AIM listed SME companies profitability: A mixed research method approach* (Doctoral dissertation, Bournemouth University).
- Agarwal, S., & Singh, A. (2020). Firm characteristics and corporate performance: Evidence from India. *Journal of Commerce and Accounting Research*, 11(1), 96-104.
- Ahmad, A., Mehra, S., & Pletcher, M. (2004). The perceived impact of JIT implementation on firms' financial/growth performance. *Journal of Manufacturing Technology Management*, 6(7), 148-153.
- Allgood, S., & Farrell, K. A. (2003). The match between CEO and firm. *The Journal of Business*, 76(2), 317-341.
- Anderson, D. R., Sweeney, D. J., Williams, T. A., Freeman, J., & Shoesmith, E. (2007). *Statistics for business and economics*. London: Thomson Learning.

- Baltagi, B. H. (2005). *Econometric analysis of panel data*. (3rd ed.). New York: John Wiley & Sons Inc.
- Bastos, R., & Pindado, J. (2007). An agency model to explain trade credit policy and empirical evidence. *Applied Economics*, 39(20), 2631-2642.
- Blazenko, G. W., & Vandezande, K. (2003). Corporate holding of finished goods inventories. *Journal of Economics and Business*, 55(3), 255-266.
- Bougheas, S., Mateut, S., & Mizen, P. (2009). Corporate trade credit and inventories: New evidence of a trade-off from accounts payable and receivable. *Journal of Banking & Finance*, 33(2), 300-307.
- Boute, R. N., Lambrecht, M. R., Lambrechts, O., & Sterckx, P. (2007). An analysis of inventory turnover in the Belgian manufacturing industry, wholesale and retail and the financial impact on inventory reduction. *Organizations & Markets eJournal*. doi:<http://dx.doi.org/10.2139/ssrn.1089005>; Retrieved December 9, 2021, from <https://ssrn.com/abstract=1089005>
- Couderc, F. (2006). *Short-rate interest rate models in the HJM framework: Models, calibration and MC simulation*. Technical report, Risk Metrics Group.
- Dash, M. (2020). Determinants of working capital in the Indian sugar industry. *Journal of Commerce and Accounting Research*, 9(2), 41.
- Deloof, M. (2003). Does working capital management affect profitability of Belgian firms? *Journal of Business Finance & Accounting*, 30(3-4), 573-588.
- Dhamija, A. K., Yadav, S. S., & Jain, P. K. (2014). The impact of corporate governance on the financial performance: A study of nifty companies. *International Research Journal of Finance and Economics*, 121, 60-75.
- Diks, J., Rodriguez, J. C. & Driessen, J. (2016). *The impact of CEO characteristics on firm value*. Tilburg University, 1-31.
- Dissanayake, D. H. S. W., Dam, L. B., Potharla, S., & Bhayani, S. J. (2022). Mapping the corporate governance research in BRICS economies - A bibliometric analysis. *Journal of Commerce and Accounting Research*, 11(2), 70-81.
- 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.
- Emery, G. W. (1984). A pure financial explanation for trade credit. *Journal of Financial and Quantitative Analysis*, 19(3), 271-285.
- Enqvist, J., Graham, M., & Nikkinen, J. (2012). The impact of working capital management on firm profitability in different business cycles: Evidence from Finland. Electronic Library. Retrieved September 4, 2020, from <http://ssm.com/abstract=1794802>
- García-Teruel, P. J., & Martínez-Solano, P. (2007). Effects of working capital management on SME profitability. *International Journal of Managerial Finance*, 3(2), 164-177.
- 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), 1-9.
- Guest, P. M. (2009). The impact of board size on firm performance: Evidence from the UK. *The European Journal of Finance*, 15(4), 385-404.
- Hardwick, P. (1997). Measuring cost inefficiency in the UK life insurance industry. *Applied Financial Economics*, 7(1), 37-44.
- Hill, C. W., & Phan, P. (1991). CEO tenure as a determinant of CEO pay. *Academy of Management Journal*, 34(3), 707-717.
- Jensen, M. C. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *The Journal of Finance*, 48(3), 831-880.
- Koumanakos, D. P. (2008). The effect of inventory management on firm performance. *International Journal of Productivity and Performance Management*, 57(5), 355-369.
- Kyereboah-Coleman, A. (2007). The impact of capital structure on the performance of microfinance institutions. *The Journal of Risk Finance*, 8(1), 56-71.
- MacCrimmon, K. R., & Wehrung, D. A. (1986). Assessing risk propensity. In *Recent Developments in the Foundations of Utility and Risk Theory* (pp. 291-309). Dordrecht: Springer.
- Mangena, M., Taurigana, V., & Chamisa, E. (2012). Corporate boards, ownership structure and firm performance in an environment of severe political and economic crisis. *British Journal of Management*, 23, S23-S41.
- Mathuva, D. M. (2013). Determinants of corporate inventory holdings: Evidence from a developing country. *The International Journal of Applied Economics and Finance*, 7(1), 1-22.
- Nazir, M. S., & Afza, T. (2009). Working capital requirements and the determining factors in Pakistan. *IUP Journal of Applied Finance*, 15(4), 28-38.
- Nobanee, H., & Al Hajjar, M. (2009). Working capital management and firm's profitability: An optimal cash conversion cycle. Available at SSRN, 147123.

- Ntim, C. G. (2013). An integrated corporate governance framework and financial performance in South African-listed corporations. *South African Journal of Economics*, 81(3), 373-392.
- 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.
- Pais, M. A., & Gama, P. M. (2015). Working capital management and SMEs profitability: Portuguese evidence. *International Journal of Managerial Finance*, 11(3), 341-358.
- Patro, S., Lehn, K., & Zhao, M. (2009). Determinants of the size and structure of corporate boards: 1935-2000. *Financial Management*, 38(4), 747-780.
- Peel, M. J., Wilson, N., & Howorth, C. (2000). Late payment and credit management in the small firm sector: Some empirical evidence. *International Small Business Journal*, 18(2), 17-37.
- Prasad, P., Sivasankaran, N., Paul, S., & Kannadhasan, M. (2019). Measuring impact of working capital efficiency on financial performance of a firm: An alternative approach. *Journal of Indian Business Research*, 11(1), 75-94.
- Shah, R., & Shin, H. (2007). Relationships among information technology, inventory, and profitability: An investigation of level invariance using sector level data. *Journal of Operations Management*, 25(4), 768-784.
- Shefali, & Kour, M. (2022). Comparative risk-returns analysis of stocks in the Indian stock market. *Journal of Commerce and Accounting Research*, 11(3), 66-73.
- Shen, W., & Cannella, A. A. Jr. (2002). Power dynamics within top management and their impacts on CEO dismissal followed by inside succession. *Academy of Management Journal*, 45(6), 1195-1206.
- Tauringana, V., & Afrifa, G. A. (2013). The relative importance of working capital management and its components to SMEs' profitability. *Journal of Small Business and Enterprise Development*, 20(3), 1462-6004.
- Tingbani, I. (2015). *Working capital management and profitability of UK firms: A contingency theory approach* (Doctoral dissertation, Bournemouth University).
- Wilner, B. S. (2000). The exploitation of relationships in financial distress: The case of trade credit. *The Journal of Finance*, 55(1), 153-178.
- Yang, C. H., & Chen, K. H. (2009). Are small firms less efficient? *Small Business Economics*, 32(4), 375-395.
- Yazdanfar, D., & Öhman, P. (2014). The impact of cash conversion cycle on firm profitability: An empirical study based on Swedish data. *International Journal of Managerial Finance*, 10(4), 442-452.