

# A Study on Financing Pattern of Working Capital in IT Sector Companies in India

Dr. Pradip Kumar Das

Formerly J. K. College, Purulia, S. K. B. University, Purulia

Post. & Dist.: Purulia (West Bengal), India

E-mail: pradip57.prl@rediffmail.com

Received: September 23, 2022 Accepted: October 15, 2022 Published: October 23, 2022

# **Abstract**

Working capital in business is akin to that of heart in human body. Efficient working capital management requires well-balanced funds without which either scarcity of funds will cause obstruction in the smooth functioning of an organization or excess funds will prevent an organization from conducting its operation dexterously. Hence, a great deal of attention must be given to the management of current assets investment in an organization. Management can exercise different sources astutely in financing working capital. In this paper, an attempt has been made to unearth the size of short-term financing pattern used to finance current assets along with the contribution of various sources in the context of the selected five IT sector companies. This paper epitomizes an empirical study of the selected companies in India from diverse perspectives through statistical techniques, tables, secondary data collection strategy accessed through Internet and academic databases viz. literature reviews, website, books, journals, annual reports, etc. from 2012-2013 to 2021-2022. The results of the study show that short-term financing does not meet the full financial requirements of current assets and proportion of various short-term sources in financing working capital requirements has also mixed pattern over the years in the selected units under study.

**Keywords:** working capital, current assets, current liabilities, short-term financing, it sector companies

#### 1. Introduction

Every problem in industry has a bearing on finance. Quantum of funds necessary to finance current assets depends upon the nature of business or industry. Commitment of funds apropos of fixed assets is irreversible and, therefore, there is hardly any scope for stratagems with them. However, as regards current assets, manager has to proceed redressing policy



monitoring profitability, competition, seasonal variations, etc. Every attempt is, therefore, made for cinching perceptive and impressive management of finance. Realistically, operations, earnings and investment fluctuate. With these modulations, financing pattern also modulates. One basis of assessment of finance, therefore, is the mode of financing which concerns to company's objective of earnings and subsistence. Varied circumstances compel an industry to ensue structural changes. Salience afforded to an individual objective in rearing finance differs from industry to industry even from company to company. Short-term sources of funds cocoon less cost and have better resilience but more risky than long-term sources of funds. Management, therefore, should use both the sources wisely to finance its working capital. As a policy, one cannot generalize that working capital should always be financed through borrowings or any other particular source because a company has to meet different regularizations. Availability of funds in both appropriate quantity and variety is sometimes difficult to achieve. Therefore, financing pattern of obtaining finance in a company or in an industry is a compromise of several criteria. Docility of IT industry has assumed primeval essence in a developing country like India due to its major-domos towards the growth of economy. IT companies, therefore, mundanely explore means to redo the biz to ameliorate performance. A great deal of attention has been given in the present paper to study the financing pattern of day to day operations of a sample of five IT sector companies in India covering a period from 2012-2013 to 2021-2022.

# 2. Working Capital-Concept

Working capital connotes funds required to conduct day to day business activities. It contains two concepts-gross and net. Gross working capital contemplates total current assets whereas net working capital cogitates surplus of current assets over current liabilities (Kuchhal, 1973). Net concept of working capital is referred to as qualitative concept while gross concept as quantitative concept. Another concept which has gained more importance is operating cycle concept of working capital. Operating cycle represents the time during which investment of one unit of money will be blocked in the normal course of operation till recovery out of cash. Working capital embraces excess of current assets over current items owed to employees and others (Gerstenberg, 1963, Gladson, 1963). Both the concepts of working capital have their own merits. Gross concept measures the extent to which current assets are used to optimize productivity whereas net concept evaluates liquidity position. Hence, pre-occupation can be marked with the financial implications of working capital management and its segments. Managers should know when to look for working capital funds, how to use them and how to measure, plan and control them (Brandt, 1972). Working capital management is a key area in financial management (Vukovi'c & Jakši'c, 2019). Efficient working capital management helps develop a competitive advantage (Aktas et al., 2015; Banos-Caballero et al., 2014; Boisjoly et al., 2020). Management uses and controls economic funds thrivingly to maintain economy and profitability. Working capital management, thus, establishes balance among risk, liquidity and profitability.

## 3. Brief Profile of the Selected Companies

i)TCS Ltd.: TCS Ltd. is the largest IT company in India in terms of Revenue. TCS is an IT



services, consulting and business solutions provider that has been partnering with the world's largest businesses in their transformation journeys for the last fifty years. TCS offers a consulting-led, cognitive powered, integrated portfolio of business, technology and engineering services and solutions.

Revenue: Rs 1,67,311 Cr.; Market Cap: Rs 845,337 Cr.; Employee: 420,000; ROE: 35.98 %; Sales Growth (3Yrs): 10.47 %.

**ii)Infosys Ltd.:** Established in 1981, Infosys is an NYSE listed global consulting and IT services company. It is the second largest in the list of top 10 IT companies in India. Over the years, the company has catalyzed some of the major changes that have led to India's emergence as the global destination for software services talent.

Revenue: Rs 1,02,673 Cr.; Market Cap: Rs 282,028 Cr.; Employees: 228,000; ROE: 3.50%; Sales Growth(3Yrs): 9.81 %.

**iii) HCL Technologies Ltd.:** HCL Technologies is one of the best IT companies in India. The company is a leading global IT services company that helps global enterprises re-imagine and transform their businesses through digital technology transformation. The company leverages its global network of integrated co-innovation labs and global delivery capabilities to provide holistic multi-service delivery in key industry verticals.

Revenue: Rs 76,306 Cr.; Market Cap: Rs 153,370 Cr.; ROE: 25.76 %; Sales Growth(3Yrs): 24.74%.

**iv) Wipro Ltd.:** Wipro Ltd. is a leading global information technology consulting and business process services company. The company harnesses the power of cognitive computing, hyper-automation, robotics, cloud, analytics and emerging technologies to help clients adapt to the digital world and make them successful. It is one of the Indian IT companies recognized globally for its comprehensive portfolio of services, a strong commitment to sustainability and good corporate citizenship.

Revenue: Rs 64,338 Cr.; Market Cap: Rs 153,043 Cr.; Employees: 160,000; ROE: 17.26 %; Sales Growth (3Yrs): 4.82 %.

v) Tech Mahindra Ltd: Tech Mahindra Ltd. represents the connected world, offering innovative and customer-centric information technology experiences, enabling enterprises, associates and the society to rise. The company convergent, digital, design experiences, innovation platforms, and reusable assets connect across a number of technologies to deliver tangible business value and experiences to stakeholders.

Revenue: Rs 38,643 Cr.; Market Cap: 70,141 Cr.; Employees: 125,700; ROE: 21.58 %; Sales Growth(3Yrs): 9.45 %.

## 4. Literature Review

Financing policy effectuates finding an compatible combination of short-term and long-term financing choice to advocate investments in current assets. Working capital investment embraces a trade-off between rise and fall of costs with the stage of investment in working



capital (Firer et al., 2012). Instinctive sources of working capital are cost-free and spring from the usual practice of business. Working capital financing decisions on current assets concern a trade-off between profitability and risk (Gitman et al., 2010). In its 2009 Working Capital Survey of the top 1000 United States (US) companies, REL found that firms unnecessarily hold approximately US\$ 778 billion in working capital (REL,2009). Cash conversion cycle (CCC) impacts significantly indicating that more profitable firms are unenthusiastic to manage their working capital. Besides, financial markets slip to interdict managers for inefficient working capital management in developing markets (Abuzayed, 2012). South African listed firms do not lessen their working capital investments and exercise the criterion of Cashbuild which remains its inventory levels constant during the 2008-2009 global economic crises (Correia, Flynn, Uliana, & Wormald, 2011). Debt level, size and growth rate affects working capital management of companies. Firms with high leverage pursue an efficacious working capital management approach to avoid issue of fresh debt and equity (Palombini & Nakamura, 2012). Sales growth, firms' operating cycle, economic activity, size and permanent working capital are firms' certain features that significantly affect working capital policy. Leverage is dissonantly associated to working capital essentials (Akinlo, 2012). Sales growth, uncertain sales, costly external financing and financial distress encourage firms to pursue aggressive working capital strategies. Firms with high internal financing capacity and capital market access exercise conservative working capital policies. Operating and financing conditions should be considered when assessing working capital behavior, not exclusively industry averages. Further, industry concentration accelerates the sway of business development (Hill, Kelly, & High field, 2010). Old firms and companies with higher cash flows maintain long CCC while firms with large leverage, growth opportunities, investment in fixed assets and return on assets maintain aggressive working capital policy (Baños-Caballero, García-Teruel, & Martínez-Solano, 2010). A firm following conservative policy of financing maintains a comparatively large ratio of current assets-to-sales which beefs up firm's liquidity and abates risk. Working capital is also dubbed as short-term assets and liabilities (Brealey, Myers, & Allen, 2008). Financing of working capital is a significant area of financial management. Firms do not easily use borrowing as an outway in financial difficulties due to rigorous credit policies being pursued by lending institutions (Chiou, Cheng, & Wu, 2006; Zapalska, Clark, & Shao, 2004). Trade credit and bank credit are the key sources of working capital finance for maximum firms (Myers,1984). Implicitly, finance managers spend maximum time (over 60%) on working capital management endeavoring to breed working capital to optimal zones (Van Horne & Wachowicz, 2004; Weston, Besley, & Brigham, 1996). A firm gripping less current assets may sustain shortfall and faces obstacles in conducting smooth-running (Van Horne & Wachowicz, 2004). Financing of current assets and other assets involves a trade-off between risk and profitability (Van Horne, James, C., 1974).

# 5. Objective of the Study

The objective of the paper is to study the extent and use of short-term sources of funds for the purpose of financing the same with the relative contribution of various sources in the context of the selected IT sector units. The study also observes the change in financing pattern of working capital over a period of ten years i.e. from 2012-2013 to 2021-2022.



## 6. Research Methodology

The study is descriptive in nature and conducted by variety literatures. Descriptive study has been preferred for developing better profundity of knowledge. The researcher being an external analyst, this study purely adopts secondary data collection strategy, and considers a variety of secondary sources accessed through the Internet and academic databases viz. literature reviews, website, books, journals, annual reports, etc. for the purpose of studying the financing pattern of working capital of the selected five IT companies listed on the stock exchange for the period from 2012-2013 to 2021-2022. The latest data available for the study is 2021-2022. Hence, the study is confined to the period up to the period 2021-2022. The units selected for the study are: 1) TCS Ltd.; 2) Infosys Ltd.; 3) HCL Technologies Ltd.; 4) Wipro Ltd. and 5) Tech Mahindra. Editing, classification and tabulation of the data have been done as per the requirement of the study. Data for the years 2012-2013 and 2021-2022 have been taken in order to study the change in financing pattern of working capital over a period of 10 years i.e. from 2012-2013 to 2021-2022. The corpus of this paper is limited to establish, in the first place, importance working capital. In the second place, an assessment on the foremost mission endeavoring the different sources for financing working capital. The author has fascinated companies within IT industry as this type of industry is ballooning and revamping the contour of Indian economy. Mechanism of analysis is worthwhile for contemplating financial strengths and weaknesses of the IT sector companies.

## 7. Analysis, Results and Discussions

## 7.1 Current Ratio

With a view to ascertaining whether or not current liabilities are sufficient to finance current assets, net working capital position of the selected units is assessed and exhibited in Table.1. Table.1 evidences that current liabilities do not exceed current assets in all the selected units during the period under study. Positive net working capital position (i.e. excess of current assets over current liabilities) in the units evidences shortage of short-term financing to finance the entire current assets. Long-term funds have also been to finance current assets. But as net working capital figures do not indicate the extent to which current liabilities are used to finance current assets, ratio of current liabilities to current assets which is synonymous to current ratio is computed for the units under study and has been also been in Table.1(figures in parenthesis). Table 1 witnesses that the computed ratios are less than 100% in all the units for the years under reference i.e. for all those positive net working capital. Contribution of current liabilities used to finance current assets ranges between 22.92% in Infosys Ltd. to 87.93% in Tech Mahindra Ltd. in 2012-2013. Similarly in 2021-2022, contribution ranges between 39.12% in Tech Mahindra Ltd. to 47.63% in Infosys Ltd. Positive net working capital and less than 100% of computed ratios indicate that financing current assets are not fully met by short-term financing. On other hand, certain portion of it is made up by long-term funds in the selected units. In 2012-2013, the percentage contribution of current liabilities used to finance current assets is 87.93% for Tech Mahindra Ltd. This bears a significant proportion. Thus, it is observed that short-term financing does not meet the full financial requirements of current assets. Use of current liabilities in financing current



assets varies widely across the time. Table.1 shows that financing of current assets from short-term sources of financing i.e. from current liabilities increases in TCS Ltd. and Infosys Ltd. while the same decreases in HCL Technologies Ltd., Wipro Ltd. and Tech Mahindra Ltd. in 2021-2022 over 2012-2013.

Table 1. Net Working Capital for the selected IT sector units (Rs. in Crore)

Serial No.	Units	2012-2013	2021-2022	
1.	TCS Ltd.	19733.75	56291.00	
		(37.15%)	(40.24%)	
2.	Infosys Ltd.	27,244.00	27,461.00	
		(22.92%)	(47.63%)	
3.	HCL Technologies Ltd.	4047.73	17844.00	
		(53.12%)	(33.63%)	
4.	Wipro Ltd.	122602	28598.5	
		(56.81%)	(44.76%)	
5.	Tech Mahindra Ltd.	3731	10328.60	
		(87.93%)	(39.12%)	

Source. Annual Reports and Accounts; Results computed.

Note: Figures in parenthesis show the ratio of current liabilities to current assets.

# 7.2 Short-Term Financing

The foregoing analysis expresses the size current liabilities used to finance current assets. An attempt has been made to study the extent and use of short-term sources of funds. Short-term sources are (1) Internal short-term sources comprising miscellaneous current liabilities and short-term provisions and (2) External short-term sources comprising short-term borrowings and trade payables.

Table.2. Proportion of various sources of short-term financing (in %)

Serial	Units	A	A	В	В	С	С	D	D
No.		2012-2013	2021-2022	2012-2013	2021-2022	2012-2013	2021-2022	2012-2013	2021-2022
1.	TCS Ltd.	0.69	0.00	36.60	26.60	26.42	69.77	36.29	3.63
		(0.25)	(0.00)	(13.60)	(10.70)	(9.81)	(28.07)	(13.48)	(1.46)
2.	Infosys Ltd.	0.00	0.00	2.33	10.69	48.66	85.63	49.01	3.68
	·	(0.00)	(0.00)	(0.53)	(5.09)	(11.15)	(40.79)	(11.23)	(1.75)
3.	HCL	1.80	0.69	7.27	30.78	64.95	65.88	25.98	2.65
	Technologies	(0.96)	(0.23)	(3.86)	(10.35)	(34.50)	(22.16)	(13.80)	(0.89)
	Ltd.								
4.	Wipro Ltd.	24.73	33.11	30.53	20.22	23.60	40.77	21.14	5.90
		(14.05)	(14.82)	(17.34)	(9.05)	(13.41)	(18.25)	(12.01)	(2.64)
5.	Tech Mahindra	28.71	0.00	27.28	46.40	31.95	49.59	12.06	4.01
	Ltd.	(25.25)	(0.00)	(23.98)	(18.15)	(28.10)	(19.40)	(10.60)	(1.57)

Source: Annual Reports and Accounts; Results computed.



Notes: 1. 'A' indicates the ratio of short-term borrowings to current liabilities;

- 2. 'B' indicates the ratio of trade payables to current liabilities;
- 3. 'C' indicates the ratio of miscellaneous current liabilities;
- 4. 'D' indicates the ratio of short-term provisions to current liabilities.
- 5. Figures in parenthesis show the ratio of the respective source to current assets.

#### 7.2.1 Internal Short-Term Source

These funds are precipitated tardily to enterprises ad modum provisions and miscellaneous current liabilities. A lagging is ever-present between experiencing short-term liabilities and their retaliation. During this interval, these short-term sources provide funds which are acknowledged as spontaneous sources of short-term borrowed funds. Internal sources play a vital role in short-term financing in the units under study.

#### 7.2.1.1 Miscellaneous Current Liabilities

Table 2 (Column-C) exhibits that this internal source of funds i.e. ratio of miscellaneous current liabilities to current liabilities varies from 23.60% in Wipro Ltd. to 64.95% in HCL Technologies Ltd. for 2012-2013. In 2021-2022, the ratio varies from 40.77% in Wipro Ltd. to 85.63% in Infosys Ltd. Table also shows that the proportion of this source to current assets varies from 9.81% for TCS Ltd. to 34.50% for HCL Technologies Ltd. in 2012-2013 while the proportion is from 18.25% for Wipro Ltd. to 40.79% for Infosys Ltd. in 2021-2022. Thus, a substantial change of this type of current liability or short-term financing over time.

#### 7.2.1.2 Short-Term Provisions

Short-term provisions to current liabilities in the selected units is exhibited in Table.2(Column-D). Table shows that the amount earmarked as provisions varies from 12.06% for Tech Mahindra Ltd. to 49.01% for Infosys Ltd. in 2012-2013 while the same varies from 2.65% for HCL Technologies Ltd. to 3.68% for Infosys Ltd. in 2021-2022. Table also shows that this proportion to current assets 10.60% for Tech Mahindra Ltd. to 13.80% for HCL Technologies Ltd. in 2012-2013 while the same varies from 0.89% for HCL Technologies Ltd. to 2.64% for Wipro Ltd. in 2021-2022.

## 7.2.2 External Short-Term Source

#### 7.2.2.1 Short-Term Borrowings

Short-term borrowings are considered a common source of finance in industry. Manufacturing firms particularly use this source of fund extensively. Column-A of Table.1 evidences that the proportion of short-term borrowings is highest (28.71%) in Tech Mahindra Ltd. in 2012-2013 followed by Wipro Ltd., HCL Technologies Ltd. and TCS Ltd. In Infosys Ltd., there is no short-term borrowings. Similarly, in 2021-2022, short-term borrowings is highest for Wipro Ltd. followed by HCL Technologies Ltd. There are no short-term borrowings in the cases of TCS Ltd., Infosys Ltd. and Tech Mahindra Ltd. Short-term borrowings to current assets is highest for Tech Mahindra Ltd. followed by Wipro Ltd., HCL Technologies Ltd. and TCS Ltd. in 2012-2013. There is no short-term borrowings in Infosys



Ltd. Ltd. in this year. In 2021-2022, short-term borrowings to current assets is highest for Wipro Ltd. followed by HCL Technologies Ltd. There are no short-term borrowings for TCS Ltd., Infosys Ltd. and Tech Mahindra Ltd.

# 7.2.2.2 Trade Payables

Efficacious business pursuits foster not only the needs for credit but also to certain striking sources of credit i.e. trade payable. Trade payable is one of the cardinal sources of funds to finance inventories. Period and magnitude of trade payable differs from industry to industry and in an industry from unit to unit. Typically, repayment of this type of credit on due date has zero cost assumption. For this, businessmen support these finances for bank credit when the availability of the latter is impeded, rigorous or costly. Trade payable is instinctual and is attainable without any etiquette. But the key limitation of trade payable is that primarily it is relevant for the goods or services only. Trade payable is a short-term credit outstretched by supplier to buyer concerning the purchase of goods for extreme sale (Johnson, Robert, W., 1959). Table.2 (Column-B) shows that in 2012-2013, the size of trade payables has been 36.60% for TCS Ltd., 2.33% for Infosys Ltd., 7.27% for HCL Technologies Ltd.,30.53% for Wipro Ltd. and 27.28% for Tech Mahindra Ltd. In 2021-2022, these are 26.60% for TCS Ltd., 10.69% for Infosys Ltd., 30.78% for HCL Technologies Ltd., 20.22% for Wipro Ltd. and 46.40% % for Tech Mahindra Ltd. TCS Ltd. hold the highest position (36.60%) in 2012-2013 and Tech Mahindra Ltd. hold the highest position (46.40%) in 2021-2022.

Trade payables to current assets have been 13.60 % for TCS Ltd., 0.53% for Infosys Ltd., 3.86% for HCL Technologies Ltd., 17.34% for Wipro Ltd. and 23.98% for Tech Mahindra Ltd. In 2021-2022, these are 10.70% for TCS Ltd., 5.09% for Infosys Ltd., 10.35% for HCL Technologies Ltd., 9.05% for Wipro Ltd. and 18.15% for Tech Mahindra Ltd. Tech Mahindra Ltd. hold the highest position both in (23.98%) in 2012-2013 and in 2021-2022(18.15%).

A close look at the Table reveals that the size of miscellaneous current liabilities is highest in 2021-2022 in all the units under study. Short-term borrowings decrease in all the units over the period from 2012-2013 to 2021-2022 except in Tech Mahindra Ltd. Trade payables decrease in TCS Ltd. and Wipro Ltd. whereas the same has increased in the remaining units i.e. Infosys Ltd., HCL Technologies Ltd. and Tech Mahindra Ltd. in 2012-2013 and 2021-2022. The other two categories namely, miscellaneous current liabilities and short-term provisions also are found to play vital role in short-term financing. The amount earmarked as miscellaneous current liabilities increases in all the selected units from 2012-2013 to 2021-2022 and also hold a significant portion in financing. The size of short-term provisions decreases in all the units in 2021-2022 over 2012-2013.

## 8. Concluding Observation

- 1)Proportion of various short-term sources in financing working capital requirements shows mixed pattern over the years.
- 2) Major source of short-term financing has been observed to be miscellaneous current liabilities for TCS Ltd. followed by trade payables, short-term provisions and short-term borrowings. For Infosys Ltd., major source is miscellaneous current liabilities followed by



short-term provisions and trade payables. There is no short-term borrowings. In HCL Technologies Ltd., miscellaneous current liabilities hold the highest position followed by trade payables, short-term provisions and short-term borrowings. In Wipro Ltd., major source is miscellaneous current liabilities followed by short-term borrowings, trade payables and short-term provisions. In Tech Mahindra Ltd., major source is miscellaneous current liabilities followed by trade payables, short-term provisions and short-term borrowings.

- 3) TCS Ltd., HCL Technologies Ltd. and Tech Mahindra Ltd. follow the same pattern of short-term financing of working capital while TCS Ltd. and Wipro Ltd. follow slight difference pattern in order of preference of size.
- 4) Among the internal vs. external sources of financing, internal sources predominate over external sources. To put it differently, external sources particularly short-term borrowings are not as important as internal ones.
- 5) Miscellaneous current liabilities are observed as major source of financing over the study. On the whole, this source occupies the major source of financing working capital requirement.
- 6) Size of miscellaneous current liabilities increases from 2012-2013 to 2021-2022 while short-term provisions decreases in every unit under study.
- 7) Short-term borrowings decrease in all the units except Wipro Ltd. whereas size of trade payables show fluctuation over the period. Trade payables increase in Infosys Ltd., HCL Technologies Ltd. and Tech Mahindra Ltd. and in the remaining units i.e. TCS Ltd. and Wipro Ltd., this shows decrease.
- 8) Miscellaneous current liabilities in Infosys Ltd. hold the highest position in 2021-2022 and also in the remaining years amongst the units of study.
- 9) Contribution of individual size of short-term source of financing to current assets shows mixed trend in 2021-2022 over 2012-2013.
- 10) Miscellaneous current liabilities to current assets hold the major portion in TCS Ltd. followed by trade payables, short-term provisions and short-term borrowings. For Infosys Ltd., major contribution is miscellaneous current liabilities followed by short-term provisions and trade payables. There is no contribution of short-term borrowings. In HCL Technologies Ltd., miscellaneous current liabilities to current assets hold the major portion followed by of short-term provisions, trade payables and short-term borrowings. In Wipro Ltd., the major contribution is miscellaneous current liabilities followed by short-term borrowings, trade payables and short-term provisions. In Tech Mahindra Ltd., major contribution is miscellaneous current liabilities followed by trade payables, short-term borrowings and short-term provisions. In 2021-2022, contribution of short-term borrowings is nil in Tech Mahindra Ltd.
- 11) A cursory glance at the individual contribution of short-term sources of funds shows that miscellaneous current liabilities to current assets is found to be significant in all the units under study. This source also holds a major portion in financing current liabilities.



12) Positive net working capital and less than 100% of current ratios indicate that short-term financing does not meet full requirements of current assets. On other hand, certain portion is certainly made up by long-term funds in the selected units.

# Acknowledgement

The paper is devoted to **ALMIGHTY GOD** who shows **HIS** blessings in all walks of my life.

#### References

Abuzayed, B. (2012). Working capital management and firm's performance in emerging markets: the case for Jordan. *International Journal of Managerial Finance*, 8(2), 155-179. https://doi.org/10.1108/17439131211216620

Akinlo, O. O. (2012). Determinants of working capital requirements in selected quoted companies in Nigeria. *Journal of African Business*, 13(1), 40-50. https://doi.org/10.1080/15228916.2012.65951

Aktas, N., Croci, E., & Petmezas, D. (2015). Is working capital management value-enhancing? Evidence from firm performance and investments. *Journal of Corporate Finance*, *30*, 98-113. https://doi.org/10.1016/j.jcorpfin.2014.12.008

Baños-Caballero, S., García-Teruel, P. J., & Martínez-Solano, P. (2010). Working capital management in SMEs. *Accounting & Finance*, 50(3), 511-527. https://doi.org/10.1111/j.1467-629X.2009.00331.x

Banos-Caballero, S., Garcia-Teruel, P. J., & Martinez-Solano, P. (2014). Working capital management, corporate performance and financial constraints. *Journal of Business Research*, 67(3), 332-338. https://doi.org/10.1016/j.jbusres.2013.01.016

Boisjoly, R. P., Conine, T. E., & McDonald, M. B. (2020). Working capital management: Financial and valuation impacts. *Journal of Business Research*, 108, 1-8. https://doi.org/10.1016/j.jbusres.2019.09.025

Brandt, L. K. (1972). *Analysis for financial management*. Englewood Cliffs, N.J.: Prentice Hall Inc.

Brealey, R. A., Myers, S. C., & Allen, F. (2008). *Principles of corporate finance* (9th ed.). New York: McGraw Hill/Irwin.

Chiou, J. R., Cheng, L. & Wu, H. W. (2006). The determinants of working capital management. *Journal of American Academy of Business*, 10, 149-155.

Correia, C., Flynn, D., Uliana, E., & Wormald, M. (2011). *Financial management* (7th ed.). Cape Town: Juta. https://doi.org/10.1111/j.1467-629X.2009.00331.x

Firer, C., Ross, S. A., Westerfield, R. W., & Jordan, B. D. (2012). *Fundamentals of Corporate Finance* (5th South African ed.). Berkshire: McGraw-Hill Education.

Gerstenberg, C. W. (1963). Financial organization and management. New York: Prentice-Hall.

Gitman, L. J., Beaumont, S. M., Hall, J., Lowies, B., Marx, J., Strydom, B., & Van der Merwe, A. (2010). *Principles of managerial finance: Global and South African perspectives* (1st ed.).



Cape Town: Pearson Education South Africa

Gladson, J. W. (1963). Working capital. New York: The MacMillian Co.

Hill, M. D., Kelly, G. W., & Highfield, M. J. (2010). Net operating working capital behavior: a first look. *Financial Management*, *39*(2), 783-805. https://doi.org/10.1111/j.1755-053X.2010.01092.x

Johnson, R. W. (1959). Financial Management. Boston: Allyn & Bacon, Inc.

Kuchhal, S. C. (1973). *Corporate Finance-Principles and problems*. Allahabad: Chaitanaya Publishing House.

Myers, S. C. (1984). The capital structure puzzle. *The Journal of Finance*, *39*(3), 574-592. https://doi.org/10.1111/ij.1540-6261.1984.tb03646.x

Palombini, N. V. N., & Nakamura, W. T. (2012). Key Factors in working capital management in the Brazilian market. *RAE*, 52(1), 55-69. https://doi.org/10.1590/S0034-75902012000100005

REL. (2009). The working capital survey. REL / CFO Magazine.

Van Horne, J. C., & Wachowicz, J. C. (2004). Fundamentals of financial management (12th ed.). New York: Prentice Hall Publishers.

Van, H., & James, C. (1974). *Financial policy and management*. New Delhi: Prentice Hall of India Pvt. Ltd.

Vukovi'c, B., & Jakši'c, D. (2019). The effect of working capital management on profitability: Evidence from Southeast Europe. *Ekon. Poljop, 66*, 159-172.

Weston, J. F., Besley, S., & Brigham, E. F. (1996). *Essential of managerial finance* (11th ed.). Forth Worth: The Dryden Press Harcourt Brace College Publishers.

Zapalska, A., Clark, R., & Shao, L. (2004). Funding working capital requirements. An emerging markets perspective. *Investment Management and Financial Innovations*, 1(1), 88-99.

#### **Copyright Disclaimer**

Copyright for this article is retained by the author (s), with first publication rights granted to the journal.

This is an open-access article distributed under the terms and conditions of the Creative Commons Attribution license (http://creativecommons.org/licenses/by/4.0/).