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Trends in Working Capital Management and its Impact on Firms' Performance: An Analysis of Mauritian Small Manufacturing Firms

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A well designed and implemented working capital management is expected to contribute positively to the creation of a firm's value The purpose of this paper is to examine the trends in working capital management and its impact on firms' performance. The trend in working capital needs and profitability of firms are examined to identify the causes for any significant differences between the industries. The dependent variable, return on total assets is used as a measure of profitability and the relation between working capital management and corporate profitability is investigated for a sample of 58 small manufacturing firms, using panel data analysis for the period 1998 – 2003. The regression results show that high investment in inventories and receivables is associated with lower profitability. The key variables used in the analysis are inventories days, accounts receivables days, accounts payable days and cash conversion cycle. A strong significant relationship between working capital management and profitability has been found in previous empirical work. An analysis of the liquidity, profitability and operational efficiency of the five industries shows significant changes and how best practices in the paper industry have contributed to performance. The findings also reveal an increasing trend in the short-term component of working capital financing.

Field of Research: Accounting and Finance

1. Introduction

A firm is required to maintain a balance between liquidity and profitability while conducting its day to day operations. Liquidity is a precondition to ensure that firms are able to meet its short-term obligations and its continued flow can be guaranteed from a profitable venture. The importance of cash as an indicator of continuing financial health should not be surprising in view of its crucial role within the business. This requires that business must be run both efficiently and profitably. In the process, an asset-liability mismatch may occur which may increase firm's profitability in the short run but at a risk of its insolvency. On the other hand, too much focus on liquidity will be at the expense of profitability and it is common to find finance textbooks (for e.g see Gitman, 1984 and Bhattacharya, 2001) begin their working capital sections with a discussion of the risk and return tradeoffs inherent in alternative working capital policies. Thus, the manager of a business entity is in a dilemma of achieving desired tradeoff between liquidity and profitability in order to maximize the value of a firm.

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Small businesses are viewed as an essential element of a healthy and vibrant economy. They are seen as vital to the promotion of an enterprise culture and to the creation of jobs within the economy (Bolton Report, 1971). Small Medium-Sized Enterprises (SMEs) are believed to provide an impetus to the economic progress of developing countries and its importance is gaining widespread recognition. Equally in Mauritius the SMEs occupy a central place in the economy, accounting for 90% of business stock (those employing up to 50 employees) and employing approximately 25% of private sector employees (Wignaraja and O'Neil, 1999; CSO, 2003; NPF, 2004). Storey (1994) notes that small firms, however, they are defined, constitute the bulk of enterprises in all economies in the world. However, given their reliance on short-term funds, it has long been recognized that the efficient management of working capital is crucial for the survival and growth of small firms (Grablowsky, 1984; Pike and Pass, 1987). A large number of business failures have been attributed to inability of financial managers to plan and control properly the current assets and current liabilities of their respective firms (Smith, 1973).

Working capital management (WCM) is of particular importance to the small business. With limited access to the long-term capital markets, these firms tend to rely more heavily on owner financing, trade credit and short-term bank loans to finance their needed investment in cash, accounts receivable and inventory (Chittenden et al, 1998; Saccurato, 1994). However, the failure rate among small businesses is very high compared to that of large businesses. Studies in the UK and the US have shown that weak financial management - particularly poor working capital management and inadequate long-term financing - is a primary cause of failure among small businesses (Berryman, 1983; Dunn and Cheatham, 1993). The success factors or impediments that contribute to success or failure are categorized as internal and external factors. The factors categorized as external include financing (such as the availability of attractive financing), economic conditions, competition, government regulations, technology and environmental factors. While the internal factors are managerial skills, workforce, accounting systems and financial management practices.

Some research studies have been undertaken on the working capital management practices of both large and small firms in India, UK, US and Belgium using either a survey based approach (Burns and Walker, 1991; Peel and Wilson, 1996) to identify the push factors for firms to adopt good working capital practices or econometric analysis to investigate the association between WCM and profitability (Shin and Soenen, 1998; Anand, 2001; Deloof, 2003).

Specific research studies exclusively on the impact of working capital management on corporate profitability of the small manufacturing companies are scanty, especially for the case of Mauritius. The financial management of small firms in developing countries and in particular, Mauritius, a small island developing state is altogether an ignored area of research. Keeping this in view and the wider recognition of the potential contribution of the SME sector to the economy of developing countries, our study is a modest attempt to measure and analyse the trend of working capital investment and needs of small manufacturing firms. This study, therefore, attempts to assess the impact of WCM on profitability of a sample of small manufacturing companies and its results are expected to contribute to the existing literature on working capital and SMEs.

The study objectives are to examine the working capital management of the sample firms, and in particular to:

- To examine the impact of accounts receivables days, inventories days, accounts payable days and cash conversion cycle on return on total assets; and
- To analyse the trend in working capital needs of firms and to examine the causes for any significant differences between the industries.

The rest of the paper is organized as follows: *Section 2* looks briefly at the theoretical underpinnings and the relevant literature which attempts to explain the link between poor performance and working capital management. The methodological part and the explanatory variables used for the analysis part are dealt at *Section 3*. The data analysis and the empirical findings are discussed in *Section 4* and *Section 5* concludes on the results.

2. Literature Review

Theoretical underpinnings

Nature and Importance of working capital

The working capital meets the short-term financial requirements of a business enterprise. It is a trading capital, not retained in the business in a particular form for longer than a year. The money invested in it changes form and substance during the normal course of business operations. The need for maintaining an adequate working capital can hardly be questioned. Just as circulation of blood is very necessary in the human body to maintain life, the flow of funds is very necessary to maintain business. If it becomes weak, the business can hardly prosper and survive. Working capital starvation is generally credited as a major cause if not the major cause of small business failure in many developed and developing countries (Rafuse, 1996). The success of a firm depends ultimately, on its ability to generate cash receipts in excess of disbursements. The cash flow problems of many small businesses are exacerbated by poor financial management and in particular the lack of planning cash requirements (Jarvis et al, 1996).

The Management of Working Capital

While the performance levels of small businesses have traditionally been attributed to general managerial factors such as manufacturing, marketing and operations, working capital management may have a consequent impact on small business survival and growth (Kargar and Blumenthal, 1994). The management of working capital is important to the financial health of businesses of all sizes. The amounts invested in working capital are often high in proportion to the total assets employed and so it is vital that these amounts are used in an efficient and effective way. However, there is evidence that small businesses are not very good at managing their working capital. Given that many small businesses suffer from undercapitalisation, the importance of exerting tight control over working capital investment is difficult to overstate.

A firm can be very profitable, but if this is not translated into cash from operations within the same operating cycle, the firm would need to borrow to support its continued working capital needs. Thus, the twin objectives of profitability and liquidity must be synchronised and one should not impinge on the other for long. Investments in current assets are inevitable to ensure delivery of goods or services to the ultimate customers and a proper management of same should give the desired impact on either profitability or liquidity. If resources are blocked at the different stage of the supply chain, this will prolong the cash operating cycle. Although this might increase profitability (due to increase sales), it may also adversely affect the profitability if the costs tied up in working capital exceed the benefits of holding more inventory and/or granting more trade credit to customers.

Another component of working capital is accounts payable, but it is different in the sense that it does not consume resources; instead it is often used as a short term source of finance. Thus it helps firms to reduce its cash operating cycle, but it has an implicit cost where discount is offered for early settlement of invoices.

Review of previous studies

Although working capital is the concern of all firms, it is the small firms that should address this issue more seriously. Given their vulnerability to a fluctuation in the level of working capital, they cannot afford to starve of cash. The study undertaken by (Peel *et al*., 2000) revealed that small firms tend to have a relatively high proportion of current assets, less liquidity, exhibit volatile cash flows, and a high reliance on short-term debt. The recent work of Howorth and Westhead (2003), suggest that small companies tend to focus on some areas of working capital management where they can expect to improve marginal returns. For small and growing businesses, an efficient working capital management is a vital component of success and survival; i.e both profitability and liquidity (Peel and Wilson, 1996). They further assert that smaller firms should adopt

formal working capital management routines in order to reduce the probability of business closure, as well as to enhance business performance. The study of Grablowsky (1976) and others have showed a significant relationship between various success measures and the employment of formal working capital policies and procedures. Managing cash flow and cash conversion cycle is a critical component of overall financial management for all firms, especially those who are capital constrained and more reliant on short-term sources of finance (Walker and Petty, 1978; Deakins et al, 2001).

Given these peculiarities, Peel and Wilson (1996) have stressed the efficient management of working capital, and more recently good credit management practice as being pivotal to the health and performance of the small firm sector. Along the same line, Berry et al (2002) finds that SMEs have not developed their financial management practices to any great extent and they conclude that owner-managers should be made aware of the importance and benefits that can accrue from improved financial management practices. The study conducted by De Chazal Du Mee (1998) revealed that 60% enterprises suffer from cash flow problems. Narasimhan and Murty (2001) stress on the need for many industries to improve their return on capital employed (ROCE) by focusing on some critical areas such as cost containment, reducing investment in working capital and improving working capital efficiency. The pioneer work of Shin and Soenen (1998) and the more recent study of Deloof (2003) have found a strong significant relationship between the measures of WCM and corporate profitability. Their findings suggest that managers can increase profitability by reducing the number of day's accounts receivable and inventories. This is particularly important for small growing firms who need to finance increasing amounts of debtors.

Mauritius provides a good case study for this paper as it looks at the small and medium sized enterprises operating in the manufacturing sector of a small island developing state. Most of the previous studies on working capital management and financial management of small firms have focused on the US, UK and some other developed countries like Belgium and Australia.

3. Methodology

The primary aim of this paper is to investigate the impact of WCM on corporate profitability of Mauritian small manufacturing firms. This is achieved by developing a similar empirical framework first used by Shin and Soenen (1998) and the subsequent work of Deloof (2003). We extend our study by also analysing the trends in working capital need of firms and to examine the possible causes for any significant differences between the industries.

Our study focuses exclusively on the small manufacturing firms operating in five major industry groups which are both registered and organised as proprietary/private companies. This restriction places a limit on the number of firms qualifying for the study and is further narrowed down following the revised Companies Act of 2001 which requires firms with a given turnover threshold to file only an aggregated financial statements.

Thus the empirical study is based on a sample of 58 small manufacturing companies. The data has been collected from the financial statements of the sample firms having a legal entity and have filed their annual return to the Registrar of Companies. The sample was drawn from the directory of Small Medium Industrial Development Organisation (SMIDO), a database for registered manufacturing firms operating in diverse activities and for which data was available for a 6 years' period, covering the accounting period 1997-98 to 2002-03. The companies qualified for the above two conditions are further grouped into industries based on the classification as listed in the 2003 directory. Thus the data set covers 58 firms from five industry sub-sectors: food and beverages, leather garments, paper products, prefabricated metal products and wood furniture. This has given a balanced panel data set of 348 firm-year observations for a sample of 58 firms.

For the purpose of this study, profitability is measured by Return on Total Assets (ROTA), which is defined as profit before interest and tax divided by total assets. The operating income measure of profitability used in the study of Deloof (2003) is not appropriate for this study. The SMEs is characterised by a low fixed assets base and relied to a large extent on accounts payable to fund its gross working capital. Thus a comprehensive measure of profitability is best captured by computing the return on total assets which is equal to the total liabilities of the firms, made up mainly of equity capital and current liabilities. Some firms have significant fixed financial assets and were thus excluded from the calculation of ROTA.

The explanatory variables

The efficiency ratios, namely accounts receivable, inventory and accounts payable have been computed, using the formulas as listed in ***Appendix 1***. The Cash Conversion Cycle (CCC) is used as a comprehensive measure of working capital as it shows the time lag between expenditure for the purchases of raw materials and the collection of sales of finished goods. The longer the cycle, the larger the funds blocked in working capital. The return on assets is a better measure since it relates the profitability of the business to the asset base. There are many ways of managing return on assets but, in principle, key levers are, of course, profit increase and assets reduction. The latter has become more important to many businesses as the former becomes more elusive.

Control variables

In order to account for firm's size and the other variables that may influence profits, sales a proxy for size (the natural logarithm of sales), the gearing ratio (financial debt/total assets), the gross working capital turnover ratio (sales/current assets) and the ratio of current assets to total assets are included as control variables in the regressions. The regressions also include the ratio of current liabilities to total assets to measure the degree of aggressive financing policy, with a high ratio being relatively more aggressive.

Table 1 gives the descriptive statistics for the main variables used in this study. Return on total assets is on average 5.6 % with paper products industry having the highest return of 11%. The leather and garments industry reported a negative operating profit margin, which could be explained by their high foreign exchange risk exposure and the high labour costs. Typical to the SME sector, the firms have relied mostly on short-term financing, with the metals industry being more aggressive, with an average of 82%. On average firms collect their receivables after 65 days while they take on average 116 days to pay suppliers. The average CCC is 105 days, implying that typical to the manufacturing sector firms turnover their stocks on an average of 3.3 times a year. This shows the influence of leather and garments, metals products and wood and furniture industries holding inventories for more than 150 days, with a maximum value of 1688 days.

Mean sales value for the sample companies is 10 million rupees, with only the paper products industry having a value twice the amount. On average about 22% of all assets are financed with financial debt. It is also noteworthy that the average firm in the sample has a gross working capital turnover ratio of 3.1, thus indicating a lower operational efficiency.

Working Capital Analysis

The major components of gross working capital include stocks (raw materials, work-in-progress and finished goods), debtors, cash and bank balances. The composition of working capital depends on a multiple of factors, such as operating level, level of operational efficiency, inventory policies, book debt policies, technology used and nature of the industry. While inter- industry variation is expected to be high, the degree of variation is expected to be low for firms within the industry. **Table – 2** gives an analysis of each component of working capital and some interesting trends can be deduced.

Table - 1: Six Year Means and Standard Deviations for the Variables

	INDUSTRIES					
VARIABLES	*ALL (N=348)*	*FB (n=36)*	*LG (n=72)*	*PP (n=48)*	*PMP (n=114)*	*WF (n=78)*
ROTA	0.0563 (0.2077)	0.0244 (0.0888)	0.0261 (0.2709)	0.1121 (0.1261)	0.0691 (0.1449)	0.0459 (0.2810)
OPM	0.0036 (0.3396)	0.0158 (0.0679)	-0.0476 (0.5903)	0.0868 (0.0886)	0.0226 (0.0979)	-0.0336 (0.4106)
GEAR	0.2192 (0.3034)	0.1867 (0.1985)	0.1984 (0.3414)	0.2477 (0.2546)	0.2718 (0.3702)	0.1591 (0.1989)
CR	1.844 (3.084)	1.143 (0.817)	1.159 (0.646)	2.843 (4.087)	2.050 (3.836)	1.883 (3.002)
QAR	0.940 (1.629)	0.623 (0.709)	0.567 (0.662)	1.531 (2.341)	0.969 (1.472)	1.023 (2.097)
CA/TA	0.6471 (0.2434)	0.609 (0.285)	0.705 (0.174)	0.493 (0.292)	0.659 (0.262)	0.680 (0.184)
CL/TA	0.7021 (0.8234)	0.7433 (0.4864)	0.683 (0.278)	0.409 (0.276)	0.828 (1.287)	0.686 (0.563)
SK/CA	0.5150 (0.2863)	0.5533 (0.3019)	0.564 (0.254)	0.417 (0.228)	0.504 (0.323)	0.528 (0.273)
TD/CA	0.3076 (0.2588)	0.3500 (0.2458)	0.337 (0.261)	0.397 (0.298)	0.236 (0.215)	0.309 (0.274)
CA_TURN	3.108 (3.474)	4.427 (4.763)	2.127 (1.362)	4.717 (5.914)	2.856 (3.004)	2.785 (2.063)

Notes:
The Standard Deviations is given in parentheses. The variables are defined as in ***Appendix 1***
The industries are Food & Beverages (FB); Leather & Garments (LG); Paper Products (PP); Prefabricated Metal Products (PMP) and Wood & Furniture (WF)

Table 2: Components of Current Assets and Liquidity Ratios

Industry	CR		QAR		SK/CA		TD/CA		CA/TA		CL/TA	
	1998	*2003*	*1998*	*2003*	*1998*	*2003*	*1998*	*2003*	*1998*	*2003*	*1998*	*2003*
FB	1.24	1.07	0.56	0.70	0.59	0.50	0.49	0.33	0.65	0.58	0.75	0.77
LG	1.08	1.38	0.51	0.55	0.51	0.58	0.41	0.27	0.71	0.68	0.68	0.72
PMP	0.97	1.80	0.59	0.85	0.45	0.59	0.32	0.24	0.55	0.74	0.76	0.85
PP	2.24	2.13	1.05	1.56	0.39	0.36	0.40	0.27	0.45	0.50	0.49	0.40
WF	1.74	1.52	1.03	0.97	0.46	0.53	0.28	0.21	0.63	0.74	0.67	1.00

Notes:
The variables are defined as in ***Appendix 1*** and the Industries classification is as in ***Table 1***

A comparison of inventory composition of industries over the years shows only slight improvement for the food and beverages and the paper products industries. It is interesting to note the consistent improvement in trade debtors share of current assets in all the industries and except for the food and beverages, it represents less that 30% of total current assets. Thus it can be deduced that the companies have monitored the accounts receivable reasonably well and this could be partly due to their need for generating funds from the operating activities instead of relying from outside funds.

Except for the paper products, the other four industries have a greater reliance on short-term funds and this is even more in 2003. The prefabricated metal product is financing 85% of its assets out of current liabilities and this over-reliance may be a threat to the industry's survival. In terms of liquidity, all the four industries, food and beverages, garments, metal products, wood and furniture are having less liquid assets to meet their current obligations and if this becomes permanent, it may affect supplies of materials and thus production.
The proportion of liquid assets to total assets is above 70% for the wood and metal industries, indicating a low fixed assets base. This implies that these two industries can operate with a relatively low investment in fixed assets as compared to the other industries like printing and garments where the production tend to be heavily mechanised. Another plausible reason could be that the Mauritian small manufacturing firms have been more concerned about current operations than about longer term issues like capacity and technology. Weinraub and Visscher (1998), also report industry-wise differences in the level of aggressiveness with respect to working capital investment over time.

4. Empirical Analysis

Impact of WCM on Profitability

Correlation Analysis

Table 3 presents Pearson correlation coefficients for the variables used to assess the impact of working capital management on profitability, measured by return on total assets. ROTA is significantly positively correlated with OPM and capital-turnover ratio, but negatively correlated with the measures of WCM, except for the cash conversion cycle. This positive relation for CCC is consistent with the view that resources are blocked at the different stage of the supply chain, thus prolonging the operating cycle. This might increase profits due to increase sales, especially where the costs of tied up capital is lower than the benefits of holding more inventories and granting more trade credit to customers. Also the small manufacturing firms may be able to obtain trade credit from the suppliers and this is supported by the higher proportion of current liabilities to total assets for all the industries except for the paper products.

However, care must be exercised while interpreting the Pearson Correlation coefficients because they cannot provide a reliable indicator of association in a manner which controls for additional explanatory variables. Examining simple bivariate correlation in a conventional matrix does not take account of each variable's correlation with *all* other explanatory variables. Our main analysis will be derived from appropriate multivariate models, estimated using fixed effects framework and pooled OLS.

Table 3

Pearson Correlation Coefficients

58 Small Manufacturing Companies, 1998 - 2003: 348 Firm- Year Observations

	OPM	A_TURN	GEAR	CA/TA	SK/CA	TD/CA	CL/TA	INV_days	AR_days	AP_days	CCC	LN_sales
Return on total assets	0.751	0.293	-0.291	0.054	-0.124	0.054	-0.056	-0.119	-0.104	-0.192	0.035	0.240
Operating profit margin		0.143	-0.307	0.053	-0.052	0.108	-0.120	-0.023	-0.382	-0.312	0.039	0.263
Assets turnover			-0.182	0.090	-0.138	0.024	0.218	-0.444	-0.192	-0.238	-0.239	0.146
Gearing				-0.153	0.293	0.014	-0.092	0.172	-0.065	-0.079	0.176	-0.319
Current Assets/Total Assets					0.166	-0.038	0.199	0.243	0.032	0.029	0.187	0.045
Stock/Current Assets						-0.143	0.003	0.579	-0.244	-0.149	0.449	-0.168
Trade Debtors/Current Assets							-0.133	-0.135	0.024	-0.006	-0.084	0.008
Current Liabilities/Total Assets								-0.052	0.071	0.252	-0.260	0.064
Inventories Days									-0.052	0.049	0.712	-0.173
Accounts Receivables days										0.754	-0.126	-0.196
Accounts Payables days											-0.485	-0.262
Cash Conversion Cycle												-0.001
Ln(sales)												

Notes:
The variables definition are given at ***Appendix 1***

Regression Analysis

To investigate the impact of working capital management on profitability, the model used for the regressions analysis is expressed in the general form as given in ***equation 1*** and the variable *ivndays* will be replaced in turn by the other explanatory variables: ARdays, APdays and CCC.

$$ROTA = f(\ln sales, gear, cata, clta, turnca, ivndays) \qquad \textbf{Equation (1)}$$

$$ROTA_{it} = \beta_0 + \beta_1 \ln sales_{it} + \beta_2 gear_{it} + \beta_3 cata_{it} + \beta_4 clta_{it} + \beta_5 turnca_{it} + \beta_6 ivndays_{it} + \varepsilon_{it} \qquad \text{[model 1]}$$

$$ROTA_{it} = \beta_0 + \beta_1 \ln sales_{it} + \beta_2 gear_{it} + \beta_3 cata_{it} + \beta_4 clta_{it} + \beta_5 turnca_{it} + \beta_6 ardays_{it} + \varepsilon_{it} \qquad \text{[model 2]}$$

$$ROTA_{it} = \beta_0 + \beta_1 \ln sales_{it} + \beta_2 gear_{it} + \beta_3 cata_{it} + \beta_4 clta_{it} + \beta_5 turnca_{it} + \beta_6 apdays_{it} + \varepsilon_{it} \qquad \text{[model 3]}$$

$$ROTA_{it} = \beta_0 + \beta_1 \ln sales_{it} + \beta_2 gear_{it} + \beta_3 cata_{it} + \beta_4 clta_{it} + \beta_5 turnca_{it} + \beta_6 ccc_{it} + \varepsilon_{it} \qquad \text{[model 4]}$$

Where the subscript *i* denoting firms (cross-section dimension) ranging from 1 to 340 and *t* denoting years (time-series dimension) ranging from 1 to 6. The variables are defined as in ***Appendix 1***

The model specifies above is estimated using the regression-based framework (Fixed Effects and Pooled OLS) as employed by Deloof (2003). Our model differs, first by using ROTA as a comprehensive measure of profitability and the model includes asset-management and financing policy as control variables. The data set used for this part is pooled across firms and years, given an unbalanced panel data set of 340 firm-year observations since not all firms provide data for all the years and after controlling for outlying values.

Table 4 below gives the results of the fixed effects estimations (regressions 1 to 4) and for the pooled OLS (regressions 5 to 8). In all regressions, standard errors are calculated using White's correction for heteroscedasticity. The OLS regressions were also run with industry dummies and year dummies. The results being not significantly different are not reported.

A classical test for panel data is one of fixed effects model (FEM) versus Random Effects Model (REM). In the REM, it is assumed that there is a single common intercept term, but that the intercepts for individual firms vary from this common intercept in a random manner. To determine which of these estimators are more appropriate to use, both a fixed effects and a random effects estimator was used to estimate the coefficients in models 1 to 4.The Hausman test, which is a test for the null hypothesis of no correlation, rejects this null hypothesis and so the decision is taken to employ a fixed effects framework.

The first half of **Table 4** represents the results of regression 1 to 4, applying a fixed effects methodology, where the intercept term is allowed to vary across firms. It is immediately obvious from the adjusted R-squared values that the use of a firm specific intercept improves the explanatory power of these models. In Regression 5, the adjusted R-squared explain 14% of the variation in profitability under OLS but within a fixed effects framework the model's explanatory power increases to 36%.

Table 4

Regressions of Profitability on Working Capital Variables

58 Small Manufacturing Companies, 1998 - 2003: 340 Firm- Year Observations

Dependent Variable:	***Return on Total Assets***							
Regression Model:	*Fixed Effects*				*Pooled OLS*			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Ln_Sales	0.1562	0.1084	0.0926	0.1224	0.0705	0.0660	0.0517	0.0691
	(0.018)	(0.035)	(0.061)	(0.017)	(0.016)	(0.017)	(0.062)	(0.009)
Gearing	-0.1979	-0.2065	-0.1951	-0.1976	-0.1456	-0.1537	-0.1661	-0.1597
	(0.167)	(0.145)	(0.141)	(0.162)	(0.128)	(0.094)	(0.074)	(0.095)
CA/TA	0.2656	0.2574	0.2234	0.2257	0.1199	0.1125	0.1016	0.1034
	(0.022)	(0.030)	(0.048)	(0.045)	(0.020)	(0.046)	(0.078)	(0.053)
CL/TA	-0.1035	-0.0820	-0.0596	-0.0665	-0.0311	-0.0294	-0.0203	-0.0243
	(0.133)	(0.218)	(0.408)	(0.326)	(0.301)	(0.329)	(0.497)	(0.398)
CA_TURN	0.0165	0.0131	0.0131	0.0159	0.0119	0.0116	0.0108	0.0134
	(0.009)	(0.004)	(0.005)	(0.003)	(0.001)	(0.000)	(0.001)	(0.000)
INV_DAYS	***0.0002***				***-0.00002***			
	(0.320)				*(0.697)*			
AR_DAYS		***-0.0004***				***-0.00006***		
		(0.032)				*(0.103)*		
AP_DAYS			***-0.0002***				***-0.00011***	
			(0.178)				*(0.092)*	
CCC				***0.0002***				***-0.00008***
				(0.145)				*(0.105)*
Adjusted R^2	0.36	0.37	0.38	0.36	0.13	0.14	0.15	0.14

Notes: p-values (robust for heteroscedasticity) in parentheses. OLS-regressions include 5 industry dummies and 6 year dummies (results not reported). Variables are defined as in ***Appendix 1***.

While the coefficient of inventories variable is positive in regression 1, it has the expected sign in the OLS regression 5, but the coefficient is not significantly different from zero. The coefficients of the other variables included in the model are significant, except for financial debt and working capital financing. The firms' profitability as measured by ROTA increases with firms' size, gross working capital efficiency, and with a lesser aggressiveness of asset management. This is contrary to the traditional theory of asset management, where a conservative policy is expected to sacrifice profitability at the expense of liquidity. This could be explained by the fact that small firms tend to have a lower fixed assets base and thus rely mostly on the turnover of current assets to generate more profits. This was observed consistently in the regressions results, with a p-values ranging from 0.02 to 0.05. As reveals by the study of Deloof (2003), the capital structure has a negative impact on profitability; except for our findings the coefficient of financial debt is insignificant for the FEM, but is significant for the pooled regressions at 0.1level. The aggressive financing policies observes for the sample small firms, which is expected to contribute positively to profitability have revealed otherwise. But, however, the results are not significantly different from zero (p-values ranges from 0.133 to 0.497). This is a commonly observed feature of the small firms and this has the tendency of increasing the risk of a short-term liquidity problem.

In regression 2, a highly significant relation is found between ROTA and number of days accounts receivable (p-value = 0.032), which implies that an increase in the number of days accounts receivable by 1 day is associated with a decrease in profitability by 0.04%. The coefficient for accounts payable days is negative and confirms the negative correlation between profitability and the number of days accounts payable. Unlike the previous work of Deloof (2003), the result is not significant for the FEM, but is significant at 0.1level for the pooled OLS. This would imply that less profitable firms take longer to settle payment to creditors. So when profitability falls, less cash is generated from operations and firms are able to survive by postponing payment to suppliers. Trade credit received from other firms in particular suppliers of goods represent a major source of working capital financing. Therefore, when the prospects of profitability are poor, the small firms are able to seek an extension on the credit period from their suppliers. This is usually acceptable by the supplier as an element of trust is built based on the repeated orders placed by the firms. The study of Woodruff, (2001, p11) confirmed that the buyer-seller relationship and the information gathered by the 'supplier in the course of doing business are useful in determining repayment prospects'.

In regressions 5 to 8, the determinants of ROTA are estimated using Pooled OLS instead of the FEM, and include 5 year dummies and 5 industry dummies as independent variables. OLS estimation ignores firm specific differences in profitability. The results confirm the relationship between profitability and the working capital measurement. Except for inventory days, the coefficients of accounts receivable, accounts payable and CCC are significant. One significant difference between the FEM and the OLS estimation is that in regression (8) profitability decreases with the cash conversion cycle, which would imply that owner-managers can increase profits by shortening their working capital cycle. It is interesting to note that the adjusted R^2s of the OLS regressions is much lower than the adjusted 'within' R^2s of the fixed effects regressions. Thus the regression models explain a much higher proportion of the variations in profitability *within* firms than *between* firms.

5. Conclusion

The different analyses have identified critical management practices and are expected to assist managers in identifying areas where they might improve the financial performance of their operation. The results have provided owner-managers with information regarding the basic financial management practices used by their peers and their peers attitudes toward these practices. The working capital needs of an organization change over time as does its internal cash generation rate. As such, the small firms should ensure a good synchronization of its assets and liabilities.

This study has shown that the paper and printing industry has been able to achieve high scores on the various components of working capital and this has positively impact on its profitability. On this premise this industry may be referred as the 'hidden champions' and could thus be used as best practice among the SMEs.

Further, this research concludes that there is a pressing need for further empirical studies to be undertaken on small business financial management, in particular their working capital practices by extending the sample size so that an industry-wise analysis can help to uncover the factors that explain the better performance for some industries and how these best practices could be extended to the other industries. This would also assist policy-makers and educators to identify the requirements of, and specific problems faced by small firms in Mauritius, especially as more emphasis is placed on the sector by the government. This study has come at an opportune time where the Mauritian government is deploying resources to help the SME sector so that the latter can positively contribute to the Mauritian economy. This analysis has been constrained by the sample size and the nature of the data, which could have well affected the results. Further studies will aim at increasing the sample size for still better and consistent panel estimates.

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Appendix 1: Independent explanatory variable – Financial Ratios

Variable Name	Definition
OPM	Operating profit margin is PBIT/Sales
ROTA	Return on total assets is PBIT/Total Assets
A_TURN	Assets turnover is Sales/Total Assets
GEAR	Gearing is Total Debt/Total Assets
CR	Current Ratio is Current Assets/Current Liabilities
QAR	Quick Assets Ratio is (Current Assets – Stocks)/Current Liabilities
CA/TA	Current Assets to Total Assets
CL/TA	Current Liabilities to Total Assets
SK/CA	Stocks to Current Assets
TD/CA	Trade Debtors to Current Assets
INV_DAYS	Number of Inventory days is (Stocks * 365)/Cost of Sales
AR_DAYS	No. of days Accounts Receivable is (Accounts Receivable * 365)/Sales
AP_DAYS	No. of days Accounts payable is (Accounts Payable * 365)/Cost of Sales
CCC	Cash Conversion Cycle is (INV_days + AR_days – AP_days)
CA_TURN	Current Assets Turnover is Sales/Current Assets
LN_ Sales	LN_Sales is the natural logarithm of sales