



## AN ANALYTICAL STUDY ON THE COMPONENTS OF WORKING CAPITAL IN MICRO AND SMALL ENTERPRISES IN CHITTOOR DISTRICT

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### ABSTRACT

In spite of the significance of MSMEs as an important sub-sector of Industries, towards the contribution of GDP, income and employment generation, poverty alleviation, development of traditional art and culture, their efficient management has not received sufficient attention, in developing economies, particularly in India. There is a dearth of research at a district level; the researchers have not paid adequate attention towards the studies that have aimed at an analysis of efficient management of working capital in MSMEs, at district level. Keeping this research gap in view, the present study was conducted keeping the different components of working capital in view, which provides an answer to the problem of trade-off between liquidity and profitability of these enterprises.

In India too, the 633.88 lakh MSMEs are found operating in rural and urban areas, providing employment to 1109.8 lakh persons and contributing 28.9 per cent to the GDP. However, the recent studies revealed that the working capital gap for MSMEs has been widening particularly in short term borrowings, inventory and receivables to the extent of 13 to 16 per cent. RBI has also observed that credit to MSMEs registered a negative growth rate during the last fiscal year. Hence, it is inevitable to assess and analyze to what extent MSMEs in India are managing different components of working capital efficiently.

Being influenced by the necessity, the present paper makes an attempt to analyze the trends and to what extent the working capital and its components are managed efficiently at district level, upon which much attention was not paid.

A field survey was conducted in Chittoor district of Andhra Pradesh, to collect primary data from 100 micro and small enterprises representing agro-food and allied based, textile based and mineral based categories of enterprises. Necessary data was collected for a period of 6 years. I.e. from 2011-12 to 2016-17. Besides the analysis of current assets and liabilities, the study attempts to analyze the results with statistical techniques like Two-way ANOVA and Karl Pearson's Correlation Coefficient. Relevant hypotheses were formulated and tested with the help of these techniques.

It is found in the analysis that the agro-food and allied based enterprises have focused on total current assets rather than on current liabilities, keeping them at less than 50.0 per cent of the total liabilities. The textile based enterprises have high proportion of trade receivables and maintained an ideal proportion of inventories. They could manage trade payables to the minimum extent. The mineral based enterprises attached greater importance to maintain total current assets at high level compared to total current liabilities, with a cautious preference.

The ANOVA results made it clear that there exist significant variances in current assets, current liabilities as well as net working capital of the enterprises among three categories of sample enterprises and during the reference period also. The correlation coefficients explained that there was a perfect positive correlation between current assets and liabilities, quick assets and current liabilities. However, an insignificant positive correlation was found between net working capital and value of sales of the enterprises. To conclude, the sample enterprises were found managing the working capital efficiently and it is suggested that they have to pay a cautious attention to cash conversion cycle, receivables, trade payables as well as short term borrowings to improve the efficiency further.

**Keywords:** Current Assets, Current Liabilities, Net working Capital, Trade Receivables, Trade Payables, cash and cash equivalents

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### 1. INTRODUCTION

Economists, particularly the Classical Economists, have put forth a variety of arguments to explain the role of "Money". According to them, money or assets could be put to economic use and money could be converted as "Capital" or "Investment", which they have considered as "life-blood of circular flow of wealth". Generally, economists have included "Capital" as one of important factor of production, the active driver to propel the creation of wealth. In this sense, capital consists the assets which improve the capability of the owner of factors of production, specifically to perform economically useful work. If we go

through the "Wealth of Nations, we can easily conclude that Adam Smith, the Father of Economics, was the first economist, who distinguished between fixed and circulating capital (working capital). He referred to circulating capital as the assets consumed in the process of production like raw materials and intermediated goods. (Refer: Adam Smith's Wealth of Nations, Book-II, Chapter-1 and O'Rourke, 2017, 2018). The Classical School thought that "the money available to pay wages for working class" as working capital and the total output produced equals the amount of profits (R) and wages paid to labour



(W) [i. e.  $O = R+W$ ]. Marx has attached greater importance to variable capital (working capital) and the rate of return on turnover ( $R$ ). (Benjamin Higgins, 1973) and in his view, current capital costs (working capital) bears a fixed relation to the total stock of capital. Schumpeter, who has postulated “unstable growth theory” (Theory of Economic Development, 1911; Joan Robinson, 1942: Schumpeterian System, 1950), attached a vital role for capital resources that enables the entrepreneur to inject or introduce innovation of five forms of innovations. According to Schumpeter, “normal credit” and financial institutions play an important role that permits the entrepreneurs (New Men) to buy producer’s goods, which today is called as “inventory, investment, containing stocks of raw materials, manufactured inputs and final goods awaiting sale”. For Schumpeter money is “essentially a device for carrying on business transactions, a mere satellite of commodities, a servant of the processes in the world of goods” (Agnes Festre and Eric Nasica, 2009). J.M. Keynes, a revolutionary British economist, who has explained the concept of “Marginal Efficiency of Capital” (MEC), argued that MEC should be greater than rate of interest and advocated that MEC (return from additional unit of capital) decreases, as the stock of capital increases, thus warned the owners of enterprises to maintain an equilibrium size of capital stock (or MEC = rate of interest), which varies inversely with rate of interest. While explaining the factors that determine MEC, he has attached much importance to “liquid assets” (volume of working capital), which have to be efficiently utilized to take the advantage of investment opportunities. (J.M. Keynes, 1936; Shradha Bajracharya, 2018). In modern days, investors, bankers, owners of enterprises and creditors have been considering working capital as a critical element to watch as a variety of potential interactions that take place among its components.

#### A. Working Capital and its Significance

In simple words, working capital represents a financial metric that measures the operational liquidity available to an enterprise or an organization and is considered as “a part of operating capital”. In general terminology, working capital is treated as the life blood of an enterprise, which is estimated as the net current assets available for day-to-day operating activities and could be referred as “current assets less current liabilities”. It is to be noted that whenever current assets are less than current liabilities, an enterprise has to face the problem of deficiency of working capital. Hence, each and every enterprise must pay greatest attention to the status of working capital and its components. We know well that the process of capital budgeting deals with the decisions related to acquiring the capital and analyzing the capital expenditure of an enterprise or organization, on which the financial efficiency of that enterprise/organization depends to the maximum extent. It is for this reason that excessive investments in capital increase the operating costs and the resultant inadequacy of financial resources makes that enterprise/organization to operate at a sub-optimal level, which negatively impacts the profitability. These explanations reveal the fact that an effective management of working capital is highly essential particularly the maintenance of optimum levels of current assets and current liabilities and their administration occupies a place of significance.

Efficient management of working capital ensures an enterprise/organization, adequate cash flow for meeting short term debt obligations and operating expenses. This process of management is essential for maintenance of an optimal balance among the different components of working capital like cash, receivables, inventory and payables, which facilitate the competitive advantage in the business of an enterprise. It is to be kept in mind that both shortage and excess of working capital result into disadvantages in exploring the market opportunities available and creditworthiness. Referring to the optimum balance of components of working capital, many experts argued that there would be a trade-off between liquidity and profitability and appropriate balance between these two is necessary. (Timothy Kosgey and Alex Njiru, 2016; Ms. Parinita Saikia and Dr. Balin Hazarika, 2018; Gorondustse et al. 2017; Wambugu, (2013). Otherwise,

the profitability and rate of return on capital would be badly affected and imbalances among different components of working capital occur. The imbalances of working capital, if any, affect the growth in number of customers, long run availability of capital and negatively impacts the operational success of an enterprise/organization.

#### B. Management of Working Capital in MSMEs:

The foregoing discussion amply reveals that a strategic approach is to be adopted for maintenance of relationship between short term assets and liabilities so that an enterprise could continue with its day-to-day operations and meet the debt obligations, which is a fundamental function of an enterprise, especially for Micro, Small and Medium Enterprises (MSMEs). It was observed that MSMEs were the important sources of provision of employment opportunities, physical goods and services and contribution to the GDP in most of the economies around the globe. (Poon and Stram, 1997). The recent developments in ICT have paved the way for e-Transformation, e-Business and e-Government, and are changing each and every economic activity profoundly, particularly the business activities. (Hol and Gimige, 2009; Rao, Metts and Monge, 2003). In Australia 6.08 lakhs of SMEs contribute to 70.0 percent of employment opportunities and as the major propelling enterprises for the development of innovations and for getting significant share in the global market, contributing 40.0 per cent to the GDP of its economy. In MENA region, it was estimated that 19–23 million MSMEs operating in this region are contributing 2/3rds of total formal employment. (The Middle East Investment Initiative, 2019).

#### C. The Present Scenario of MSMEs in India

It is quite evident that MSMEs have been playing a dominant role in the economic development of developing countries and regional economies. The Governments are looking at these enterprises as the best mechanism to achieve meaningful inclusive growth, empowerment of women and as a strategy to achieve sustainable economic, regional and social development. In India, according to 73rd round of NSSO, 633.88 lakh enterprises are operated comprising 630.52 lakh micro (99.46 per cent), 3.31 lakh small (0.52 per cent) and 0.05 lakh (0.02 per cent) medium enterprises. This survey estimated that these enterprises are providing employment to 1109.8 lakh persons, which includes 264.92 lakh female workers (23.87 per cent) and the structure of proprietorship of these enterprises indicate that 123.91 lakh enterprises (20.37 per cent) were owned by the female owners. West Bengal tops the share with female workers (23.42 per cent) followed by Tamilnadu (10.37 per cent) and Telangana (7.85 per cent). Andhra Pradesh occupied 6th place with 6.76 per cent (8.4 lakh enterprises) owned by female owners in India. According to the reports of Ministry of MSMEs, the share of MSMEs in GVA was estimated as 31.83 per cent (2016-17) and the share in GDP (2016-17) was 28.90 per cent. Among 633.88 lakh enterprises, 324.88 lakh enterprises (51.0 per cent) are located in rural areas and 16.55 per cent of the units are owned by socially disadvantaged sections like SCs and STs. Micro enterprises dominate in the provision of employment to the estimated 1076.19 lakh workers (96.96 per cent) both in rural (489.30 lakh persons) and urban areas (586.88 lakh persons), The Directorate General of Commercial Intelligence and Statistics announced that the share of exports of products related to MSMEs in India for the year 2018-19 was 48.10 per cent. Keeping in view the vital role of MSMEs, in economic development, the Government of India has initiated a number of policy initiatives like UAM, Framework for Revival and Rehabilitation, MSME Data Bank, MY MSME, MUDRA grants, PMEGP, ZED, Credit Guarantee Scheme, Credit Linked Capital Subsidy Scheme, Digital Payments, MSME SAMADHAN, MSME SAMBANDH, MSME SAMPARK etc., All these initiatives testify the efforts to boost the growth of MSMEs in India. The Government of India has been striving to overhaul the MSME ecosystem to make more competitive and productive.



### D. Management of Working Capital in MSMEs in India

The foregoing discuss makes it evident that MSMEs have to manage each and every component of working capital, so that production activities are continued without any disturbance. The recent statistics on increasing number of sick MSME units show that there were 2.22 lakh sick units as on March, 2013 and this number has increased to 4.86 lakh units by the end of March, 2016 (Business Line, January, 15, 2018). An attempt of probing into the reasons for the sickness revealed that delayed payments by the buyers (trade receivables), existence of overall credit gap to the enterprises and lack of awareness about various Government initiatives were the major reasons. The Report of Expert Committee on MSMEs (U.K. Sinha Committee, 2019) has observed that though micro enterprises stand for lowest NPAs and account for significant growth, there was a credit gap of Rs. 20–25 million to these enterprises. It was also observed that only 20 to 40 per cent of the total funds were raised to finance the requirement of working capital and overdraft from the banks worked out to a high proportion of 45.0 per cent to meet the demand for working capital needs in these units and most of the MSMEs were found suffering from inadequate amounts of working capital (Viktor Kovelskiy, 2015).

All these observations make us to infer that the efficient management of working capital is highly necessary for the sustainable development of MSMEs and for productive contribution to the process of inclusive growth.

### E. The Present Study:

Keeping the influential role of efficient management of working capital for the sustained development of MSMEs, a study was undertaken in one of the districts of Andhra Pradesh – Chittoor – to appraise the performance and management of working capital in Micro and Small Enterprises, keeping the small number of Medium Enterprises aside, deliberately. Both primary and secondary data was collected and utilized for the analysis. The rationale for selecting Chittoor district hinges on the fact that it is a part of Rayalaseema region, which is regularly prone to droughts and agriculture, being the primary economic activity to accommodate the labor force, which is mostly seasonal one and it is the MSME sector, which has to play an active supplementary role and as a prime source of employment and income generation, comparatively with a low amount of capital, particularly for unskilled and semi-skilled unemployed youth, next to agriculture sector.

### F. Sample Size

An on-field survey was conducted, canvassing a structured questionnaire to 100 owners of Micro and Small Enterprises in Chittoor district covering all the three revenue divisions of the district. These selected enterprises belong to three categories of micro and small enterprises – Agro, food and allied based (36 units), Textile based units (34 units) and Mineral based units (30 units). The sample was selected based on multi-stage random sampling technique. Personal interview was conducted to collect the necessary primary data on different components of working capital (Current Assets and Current Liabilities) in the light of the objectives laid down for the present study during the months of August and September, 2019 for a reference period of 6 financial years i.e. from 2011-12 to 2016-17. Secondary data was collected from the reports of CPO, Chittoor district, DC, MSMEs, DIC, Chittoor, Records of the sample enterprises and other published reports related to MSMEs in Andhra Pradesh and Chittoor district.

## 2. REVIEW OF LITERATURE

Inadequate inflow of financial resources to meet the working capital needs is found to be the main hurdle for MSMEs, which draws back the development of these enterprises. Each enterprise and its financial manager have to pay much attention to financial health of each and every component of working capital. Narayan (2019) has argued that though the organized financial institutions are directed to satisfy the credit needs of the MSMEs, inordinate official paper work, delay in

sanctioning and releasing the loan amounts sanctioned, inflexible guarantee requirements act as main hurdles for the access to finance, which were found negatively impacting the business opportunities.

A case study of Micro enterprises in Assam, conducted by Parinita Saikia and Balin Hazarika (2018) revealed that besides supply of credit to MSMEs, marketing facilities and infrastructural facilities also play a vital role for the successful operation of MSMEs. An attempt was made by Krishnan and Pavithran (2018) in Kerala to study the impact of inventory management on the profitability of small and medium enterprises. Their study concluded that higher the mean values of inventory practices higher was the rate of profitability and hence better inventory management yields good profits for enterprises. The research study conducted by Gorondutse (2017) observed that there was a significant relation between the components of working capital and profits to be realized by the MSMEs.

Dr. Nalla Bala Kalyan and Hareesh Babu (2017) have dealt with the problems and prospects of micro and small enterprises in Chittoor district with a sample of 192 enterprises covering 8 categories. Specific focus was laid on internal and external problems faced by these enterprises. They have identified that raw material and skilled labour were not available in adequate amounts and for an uninterrupted supply of qualitative raw materials, middle men should be eliminated and concessional supply of power goes a long way for reducing the cost of production in these enterprises.

Kanak and Guner (2016) has identified a negative correlation between management of working capital and the performance of MSMEs. Viktor Kovelskiy (2015), who examined different sources of financing the needs of working capital concluded that majority of the owners of MSMEs in India were dissatisfied with the delayed and prolonged process of sanctioning the loans to meet their short term and day-to-day operations. Singh and Kumar (2017) in their study made an attempt to analyze the performance of working capital observed that working capital management was an important mechanism on which the profitability of an enterprise depends to the maximum extent. A study was conducted by Saravanan and Ramganes (2013) observed that financial decisions on liquid assets and current liabilities play significant role in the stabilization of financial health of an enterprise. Venkataramana et.al (2013) have used ratio analysis for studying the impact of receivables management on profitability. ANOVA technique was used to measure the efficiency of receivables management. The analysis revealed that the efficient management of receivables had a positive effect on profitability.

### NEED FOR THE STUDY

After going through the review of literature present in the above paragraphs, it can be easily traced out that there is a dearth of field level studies on the performance of working capital employed in MSMEs particularly at district level. No doubt much research has been carried out during the past years in general and on the impact of efficient management of working capital both in developed and developing countries. However, the studies that examined the different components of working capital at micro level subdivided into Current Assets and Current Liabilities are scanty, particularly with reference to Micro and Small Enterprises in a drought-prone district like Chittoor. Keeping in view this research gap, the present study was undertaken to analyze the impact of the components of working capital on sales and net profits of micro and small enterprises in Chittoor district.

### OBJECTIVES OF THE STUDY

Primarily the present paper aims at an examination of trends in different components of working capital – current assets and current liabilities – employed in micro and small enterprises in Chittoor district, the following are the specific objectives of the study:

1. To study the structure and components of working capital employed and the availability of net working capital with the sample micro and small enterprises.



2. To analyze the variance in current assets, current liabilities and Net Working Capital among the three categories of sample enterprises.
3. To assess the existence of correlation between Current Assets and Current Liabilities; Quick Assets and Current Liabilities and Sales and Net Profits of sample enterprises.
4. To work out the Volume of Sales and Net Working Capital of the sample enterprises

### HYPOTHESES

The following three sets of null hypotheses were formulated and tested for the present study.

1.  $H_0$  = There is no difference in means of average current assets among the three categories of sample enterprises during the reference period.

$H_a$  = There is a difference in the means of average current assets among the three categories of sample enterprises during the reference period.

2.  $H_0$  = There is no difference in means of average current liabilities among the three categories of sample enterprises during the reference period.

$H_a$  = There is a difference in the means of average current assets among the three categories of Sample enterprises during the reference period.

3.  $H_0$  = There is no difference in means of average net working capital among the three categories of sample enterprises during the reference period.

$H_a$  = There is a difference in the means of average net working capital among the three categories of sample enterprises during the reference period.

### TOOLS OF ANALYSIS

For a better understanding of the observations made in the study, statistical tools like Percentages, Two-way ANOVA and Pearson's Correlation Coefficient were used. Two-way ANOVA was adopted to estimate the variations in Current Assets, Current Liabilities and Net Working Capital during the reference period (6 years) for all the three categories of sample micro and small enterprises. Similarly Karl Pearson's Correlation Coefficient was used to measure the strength of a linear association between Current Assets and Liabilities; Quick Assets and Current Liabilities and Net Working Capital and Sales.

## 3. DISCUSSION AND DATA ANALYSIS

### A. Characteristics of Sample enterprises

The information collected on different aspects of socio-enterprise operational characteristics reveal that majority of the owners belong to the age group of 31 to 50 years and only 9.0 per cent were young entrepreneurs having age of less than 30 years. Social status of the owners reveals that majority of them (42.0 per cent) belonged to BCs and 36.0 were from socially forward groups. Majority of the owners have received (37.8 per cent) technical education and 32.6 per cent were graduates. 86.8 per cent of the enterprises were operated under sole proprietorship and remaining units were found run by partnership. It was observed that 46.4 per cent of the owners have reported that they had previous experience with the same type of enterprises and 81.6 per cent of the owners belonged to Chittoor, their native district. All the owners of the sample enterprises were found operating the units from 2000 onwards.

### B. Trends in Components of Working Capital Employed

As discussed earlier, the constituents of working capital in the sample enterprises comprise current assets and current liabilities and their respective ingredients. An estimation of net working was also calculated by deducting the total current liabilities from total current

assets. The discussion related to the components of working capital employed in the three sample categories of Micro and Small enterprises is presented in Tables.1, 2 and 3.

### I. Agro, food and allied based Enterprises:

The trends in the components of working capital employed in sample Agro, food and allied enterprises (n=36) is presented in Table. 1. (Refer Appendix Table.1)

It is evident from the data presented in Table.1 that there was a continuous increase in the amount total current assets, which was Rs.78.7 lakhs in 2012, have increased to Rs. 116.76 lakhs indicating an increase of 48.4 per cent in 2017 over 2012. The calculations show that total current assets constituted 55.12 per cent of total assets (C) in 2012 and have increased to 70.63 per cent in 2017. Similarly, total current liabilities which were Rs. 66.13 lakh in 2012 have increased to Rs.82.54 lakhs in 2017, indicating an increase of 24.8 per cent. It is seen that working capital investment in total current assets were high compared to total current liabilities. Among the constituents of total current assets, proportion of inventories and trade receivables have accounted for 22.6 per cent to 28.1 per cent and 15.8 per cent to 21.4 per cent respectively. There is no much variance in proportion of cash and cash equivalents, which ranged from 12.6 per cent to 14.0 per cent and associated with this trend, inventories were also found to be the sources of illiquidity for these sample enterprises. This situation, other things remaining the same, cautions the liquidity position and it is inevitable for the sample enterprises to pay greater attention to improve their liquidity. Besides, the data shows that the proportion of short term borrowings and loans from informal sources together worked out to 27.5 per cent to 30.0 per cent of the total current liabilities is found adding pressure over amounts to be paid.

However, the position of networking capital seems to be better, as this amount has increased from Rs.12.57 lakh to Rs. 34.22 lakh during the reference period, indicating a strong networking capital base of the enterprises. The index values calculated for current assets revealed that there was an increase of amount of current assets from 6.15 to 48.36 per cent during the study period, which is found higher than the increase in current liabilities, which have increased from 4.7 per cent to 24.8 per cent over the base year of 2011-12. Being influenced by the efficient management of current assets, net working capital has increased from 13.6 per cent to 172.24 per cent during the reference years.

### II. Textile -based Enterprises:

The trends in the components of working capital employed in sample Textile-based enterprises (n=34) is presented in Table. 2 (Refer: Appendix Table.2)

A perusal of the data presented in Table. 2 summarizes that the amount of total current assets in the sample textile-based enterprises has increased from Rs. 48.34 lakhs in 2012 to Rs,69.24 lakhs in 2017, indicating a percentage increase of 43.2 per cent in 2017 over 2012. The increase in total current assets had an impact on net fixed assets, causing a decline from 52.9 per cent of total assets in 2012, to Rs. 51.65 lakhs (42.7 per cent) of total assets in 2017. These sample enterprises were found more interested in investment in total current assets rather than on net fixed assets, since the proportion of total current assets has increased from 51.0 per cent in 2014 to 57.3 per cent in 2017, with a continuous decline of net working capital from 49.0 per cent in 2014 to 42.7 per cent in 2017.

Viewed from the components of total current assets, trade receivables have increased from 21.2 per cent (Rs. 21.76 lakhs) in 2012 to 23.6 per cent (Rs. 28.57 lakhs) in 2017, thus occupied the highest proportion in total assets. The proportion of inventories has varied from 16.3 per cent in 2012 to 18.3 per cent in 2017, indicating a percentage increase of 31.6 per cent during the reference period. It seems, the sample enterprises could not pay adequate attention on cash and cash





equivalents, as its proportion has declined from 6.1 per cent in 2012 to 3.3 per cent in 2017, with an exception of the years 2015 and 2016..

The trends in total liabilities indicate that non-current liabilities overtook the proportion of total current liabilities during the study period. The proportion of total current liabilities was worked out to a proportion of 34.0 per cent (Rs. 34.96 lakhs) in 2012, which has declined from the year 2014 (32.3 per cent ) onwards to 30.4 per cent in 2017, in spite of increase in absolute terms from Rs.34.96 lakhs to Rs.36.79 lakhs . The position of trade payables showed a favorable trend, as they have decreased from Rs.13.78 lakhs (13.4 per cent) in 2012 to Rs. 12.14 lakhs (10.0 per cent) in 2017. On the contrary, the proportion of short term borrowings has increased from Rs.12.31 lakhs to Rs. 15.24 lakhs and there was an increase in loan from informal sources from Rs. 6.76 lakhs to Rs. 7.52 lakhs, particularly during the years 2014, 2015, and 2016, its proportion was found high.

The calculations of index values show that the rate of increase in current liabilities was found lower than the total current assets, during the study period. There was an increase of 43.2 per cent in total current assets compared to rate of increase in total current liabilities to the tune of 5.2 per cent in 2017, except for the year 2013. It seems these sample enterprises have enjoyed a favorable situation with reference to net working capital, which indicated a significant increase from -2.7 per cent in 2012 to 159.6 per cent in 2017.

**III. Mineral-based Enterprises**

The trends in the components of working capital employed in sample Mineral-based enterprises (n=30) during the reference years is presented in Table. 3. (Refer: Appendix Table.3)

It is noticed from the data presented in Table.3 that total current assets ranged from 31.37 lakhs (59.6 per cent) in 2012 to Rs.44.26 lakhs indicating an increase of 41.1 per cent in 2017 over 2012. Net fixed assets constituted 40.04 per cent in 2012 and continuously declined to 34.5 per cent, though in absolute terms it has increased from Rs. 21.29 lakhs to Rs. 23.35 lakhs during the study period.

Among the different items of total current assets, inventories have occupied a lion's share ranging from 23.5 per cent to 25.5 per cent, indicating an overall increase of 39.5 per cent in 2017 over 2012. Inventories were followed by total receivables, which was found decreasing from 15.4 per cent to 13.7 per cent., occupied the high

proportion in total assets. Similarly, cash and cash equivalents constituted 13.7 per cent in 2012 and have marginally decreased to 12.5 per cent in 2017, in spite of its absolute increase from Rs.7.23 lakhs to Rs. 8.44 lakhs in 2017.

Hence, it is evident that these sample enterprises have focused adequate attention on their current assets rather than on fixed assets during the study period.

The total liabilities as presented in Table. 3 comprised both total current liabilities and non-current liabilities and these enterprises have given more importance to non-current liabilities (long term funds) rather than on total current liabilities. As seen from the data, total current liabilities accounted for 47.5 per cent in 2012 and with a marginal decline to 43.17 per cent in 2017. Viewed from different components of total liabilities, trade payables accounted for highest proportion of 16.6 per cent in 2012, which has decreased to 11.0 per cent in 2017, with consequent increase in short term borrowings from 15.5 per cent to 18.5 per cent. It seems these sample enterprises have favored short term borrowings to meet the demands from trade payables. This source of liabilities was complemented with loans from informal sources constituting a declining proportion of 14.0 per cent to 8.6 per cent during the reference period. The data reveal a comfortable networking capital position, as it has increased from Rs. 6.38 lakhs to 15.10 lakhs, specifically from 2015 onwards.

The calculations of index values also show a favorable increasing trend in current assets associated with a marginal increase in current liabilities. The rate of increase in current assets was worked out as 41.1 per cent in 2017, over 20-12, with a low rate of increase in current liabilities, particularly from 2014 onwards. Influenced by the maintenance of current assets and liabilities, the rate of increase in net working capital has registered an increasing trend, from 2015 onwards during the reference period.

**ANALYSIS OF VARIANCE (ANOVA) AND TESTING THE HYPOTHESES**

**A. Analysis of Variance in Current Assets**

Two-Way ANOVA test was applied for assessing the variances in total current assets of all the three categories of sample micro and small enterprises for the reference period of 6 years. The results of the test are presented in Table. 4.

**Table. 4. Two-way ANOVA Results for Current Assets:**

Source of Variance	SS	DF	MS	F	P-value	F-critic
Rows	8.678.442	2	4339.221	175.88221 *	0.000	4.102821
Columns	1235.69	5	247.1537	10.0170135*	0.001197	3.325835
Error	246.7118	10	24.67118			
Total	10160.92	17				

**Note:** \* significant at 5% level

The results of Two-way ANOVA results reveal that F-Value (175.88221) is higher than F-critic (4.102821) at 5% level of significance and can be inferred that there is a significant differences in the indices of total current assets among the sample categories of enterprises. Hence the Ho formulated in the 1st set, with reference to average current assets among the three categories of sample enterprises during the reference period is rejected and Ha related to this item of reference is accepted.

The results also show that the calculated F-value for the reference years worked out to 10.0179135, as against the F-critic value of 3.325835 at 5% level of significance. Hence it is inferred that there is a significant variances in current assets during the study period. Hence, Ho is rejected and Ha is accepted.

**B. Two-way ANOVA Results for Current Liabilities**

An attempt was made to identify the variances in current liabilities of all the three categories of sample enterprises for the reference period



of 6 years. A Two-way ANOVA test was applied for this purpose and the

results are presented in Table. 5.

**Table. 5. Two-way ANOVA Results for Current Liabilities:**

Source of Variance	SS	DF	MS	F	P-value	F-critic
Rows	6536.149	2	3268.075	364.9571 *	0.000	4.102821
Columns	114.0294	5	22.80546	2.546811096**	0.0097728	3.325835
Error	89.54679	10	8.954679			
Total	6739.726	17				

**Note:** \* significant at 5% level; \*\* not significant at 5% level

The results of ANOVA test as presented in Table. 5 reveal that the calculated F-value for the sample categories (Rows-364.9571) is higher than the F-critic value at 5% level of significance, which tells us that there are significant variations in current liabilities among the these categories. Hence, the hypothesis formulated (Ho) in the 2<sup>nd</sup> set i.e. there is no difference in means of current liabilities among the three categories of sample enterprises is rejected.

Similarly, with reference to the reference years (Columns) the calculated F-value (2.546811096) is lower than the F-critic value (3.325835) at 5% level of significance, which explains that there are variations in current liabilities during the reference years and are insignificant. Hence the alternative hypothesis formulated (Ha) with reference to study period is accepted.

**C ANOVA for Working Capital**

Estimation was made to assess the variances in the amount of working capital among the three categories of sample enterprises for the 6 reference years. The results are presented in Table. 6.

**Table. 6. Two-way ANOVA Results for Working Capital**

Source of Variance	SS	DF	MS	F	P-value	F-critic
Rows	545.5614	2	272.7807	25.253101*	0.000123	4.102821
Columns	662.1529	5	132.4306	12.259967*	0.000528	3.325835
Error	108.0187	10	10.80187			
Total	1315.733	17				

**Note:** \* significant at 5% level

An observation of the ANOVA results presented in Table.6 exhibit that the F-value for Rows (Categories of Sample Enterprises) which worked out to 25.253101, is greater than the F-critic (4.102821) at 5% level of significance. It is understood that there are significant variations in the amount of working capital among the three categories of sample enterprises. Hence, the hypothesis formulated in the 3<sup>rd</sup> set (Ho) is rejected and the alternative hypothesis (Ha) is accepted.

With reference to the variations in the reference years, it is found that the calculated F-value (12.259967) is higher than the F-critic (3.325835) value at 5% level of significance. It means that there are significant variations in the working capital of the sample enterprises and hence the hypothesis formulated (Ho) is rejected and the alternative hypothesis (Ha) is accepted.

**D. Testing the Correlation among the components of Working Capital**

An analysis of correlation between two variables show that if one variable changes in value, it is easily expected that there would be a

tendency of the other variable to change in particular direction and this analysis facilitates the future expectation of the value of one variable with the changes in the other variable. Hence, to assess the correlation between the components of working capital invested in the sample enterprises, an attempt is made to present the results of Pearson's Correlation Coefficient to identify the correlation between Current Assets and Current Liabilities; between Quick Assets and Current Liabilities and the correlation between Net Working Capital and the value of Sales. It is a known fact that current assets and current liabilities are dependent on each other, which influence the efficiency of management of working capital in micro and small enterprises. Likewise, the quick assets (liquid assets) act as buffer to meet the day-to-day operating expenses, and if the amount quick assets are low, the enterprises has to resort to the sources of credit, which increases the amount of current liabilities. Similarly the net working capital represents the financial strength of an enterprise and bears a relationship with that of value of sales of the enterprise. Hence, to identify the correlation between these important variables, Karl Pearson's Correlation Co-efficient was calculated to test the following null hypotheses were formulated and the results are presented in tables. 7, 8 and 9.

**E. Hypotheses formulated**

There is no correlation between current assets and current liabilities

Relationship between quick assets and current liabilities does not exist

Total value of sales is not related to Net Working Capital

**F. Correlation between Current Assets and Current Liabilities:**

The results of the application of Karl Pearson' Correlation technique to the variables of Current Assets and Liabilities of sample enterprises is presented in Table. 7.

**Table.7. Results of the Correlation between Current Assets and Liabilities**

Source of Correlation	Mean	R	R <sup>2</sup>	P-value	Significance
Current Assets	90.933	0.9762	0.953	0.000843	5%
Current Liabilities	72.225				

The results reveal that the observed correlation coefficient is highly significant at 5% level because p-value is almost equal to zero. The calculations reveal a perfect positive relationship between current assets and liabilities of the sample enterprises. Hence the first hypothesis formulated is rejected.



**G. Correlation between Quick Assets and Current Liabilities**

The results of the application of Karl Pearson' Correlation technique to the variables of Current Assets and Liabilities of sample enterprises is presented in Table. 8

**Table. 8. Results of the Correlation between Quick assets and current liabilities**

Source of Correlation	Mean	R	R <sup>2</sup>	P-value	Significance
Quick Assets	52.342	0.9347	0.8747	0.006257	5%
Current Liabilities	72.225				

The calculation of correlation coefficient indicates that 87.47 percent of variation in current liabilities is explained in terms of quick assets. It means that there exists a perfect positive correlation in between quick assets and current liabilities. Keeping this positive correlation in view, the sample enterprises have to pay much attention on quick assets to manage the current liabilities at optimum level. Hence the hypothesis formulated (2) that relationship between quick assets and current liabilities does not exist is not accepted and rejected.

**H. Correlation between Net Working Capital and Value of Sales**

The results of the application of Karl Pearson' Correlation technique to the variables of Net Working Capital and Value of Sales of the mple enterprises is presented in Table. 9.

**Table. 9. Results of the Correlation between Net Working Capital and Value of Sales**

Source of Correlation	Mean	R	R <sup>2</sup>	P-value	Significance
Net working capital	18.708	0.7472	0.5583	0.87784	5%*
Value of Sales	124.542				

Note: \* not significant

The result of correlation coefficient reveals that the variable net working capital has only a moderate correlation since the correlation coefficient explains 55.83 per cent of variation in value of sales in terms of net working capital. The remaining 44.17 per cent is not

explained by correlation coefficient and also the relationship explained is not statistically significant.

**4. CONCLUSION**

An overview of the analysis presented above indicates that there was a favorable management of working capital in all the three categories of sample enterprises during the study period. The agro-food and allied enterprises have maintained a satisfactory level of trade receivables, with favorable cash and cash equivalents during the reference period. In the case of textile-based enterprises, it is observed that the proportion of cash and cash equivalents was not satisfactory, though inventory management was found satisfactory. The sample enterprises have managed trade payables with a cautious approach and were found decreasing during the reference period. The textile-based sample enterprises were found extracting the credit sources efficiently. The sample mineral-based enterprises have maintained high proportion of total current assets, ranging from 60.0 per cent to 65.5 per cent, which should be maintained at optimal level. The liabilities management is found satisfactory as these enterprises have maintained decreasing amounts of loans from informal sources and trade payables.

However, in the visits to the offices of sample enterprises, it was noticed that some of the sample enterprises were not keeping the financial records properly and they have to recognize the fact that keeping these records improves the performance of their business. It was observed that the maintenance of credit information and details of the customers was not satisfactory and the details of collection of receivables to arrive at correct details of outstanding accounts was absent in some of the enterprises, which negatively impacts the cash inflows and results into inability of meeting the business obligations. It is suggested that the sample enterprises have to pay a cautious attention towards the credit taken from informal sources, which burdens them with high rate of interest. These enterprises must aware that the recent reforms with GST like Trade Receivables Discounting System (TReDS) to sell/discount their trade receivables boost the efficient functioning of MSMEs. An efficient inventory management (safety stock) certainly boosts the efficient functioning and minimizes the waste in the enterprises. It is inevitable for them to maintain the records of all inflows and outflows of cash and keeping a minimum balance of cash certainly improves their functional efficiency.

**Appendix Table.1. Trends in Size and Components of Working Capital – Agro, food and allied Enterprises (Average per enterprise in Rs. Lakhs)**

Components of Working Capital	Reference Period					
	2012	2013	2014	2015	2016	2017
Inventories	32.29 (22.62)	38.14 (25.92)	39.16 (26.11)	36.16 (24.30)	39.22 (25.09)	46.52 (28.14)
Current Investments	1.77 (1.23)	3.00 (2.04)	4.11 (2.74)	3.20 (2.15)	3.88 (2.48)	5.02 (3.04)
Trade Receivables	22.60 (15.83)	23.95 (16.28)	23.86 (15.91)	25.98 (17.46)	26.63 (17.03)	35.42 (21.42)
Cash and Cash Equivalents	18.05 (12.64)	13.56 (9.22)	15.05 (10.03)	16.93 (11.38)	18.86 (12.06)	23.12 (13.99)
Other Current Assets	3.99 (2.80)	4.89 (3.32)	3.93 (2.62)	3.76 (2.53)	5.87 (3.76)	6.68 (4.04)
<b>A. Total Current Assets</b>	<b>78.70 (55.12)</b>	<b>83.54 (56.78)</b>	<b>86.11 (57.41)</b>	<b>86.03 (57.82)</b>	<b>94.46 (60.42)</b>	<b>116.76 (70.63)</b>
B Net Fixed Assets	64.08 (44.88)	63.58 (43.22)	63.89 (42.59)	62.76 (42.18)	61.87 (39.58)	48.56 (29.37)
<b>C Total Assets (A+B)</b>	<b>142.78 (100.0)</b>	<b>147.12 (100.0)</b>	<b>150.00 (100.0)</b>	<b>148.79 (100.0)</b>	<b>156.33 (100.0)</b>	<b>165.32 (100.0)</b>
Short term Borrowings	21.98 (15.48)	23.56 (16.02)	24.48 (16.32)	21.76 (14.61)	24.12 (15.43)	28.31 (17.13)
Loans from Informal Sources	17.26	18.11	18.93	19.26	19.99	22.16



		(12.09)	(12.31)	(12.62)	(12.94)	(12.79)	(13.40)
	Trade Payables	24.76 (17.34)	24.95 (16.96)	25.18 (16.79)	23.57 (15.84)	26.11 (16.70)	27.09 (16.39)
	Other Current Liabilities	2.13 (1.49)	2.64 (1.79)	3.27 (2.18)	3.98 (2.68)	4.77 (3.05)	4.98 (3.01)
<b>D</b>	<b>Total Current Liabilities</b>	<b>66.13</b> <b>(46.32)</b>	<b>69.26</b> <b>(47.08)</b>	<b>71.86</b> <b>(47.91)</b>	<b>68.57</b> <b>(46.08)</b>	<b>74.99</b> <b>(47.97)</b>	<b>82.54</b> <b>(49.93)</b>
E	Non-current Liabilities	76.65 (53.68)	77.86 (52.92)	78.14 (52.09)	80.22 (53.92)	81.34 (52.03)	82.78 (50.07)
<b>F</b>	<b>Total Liabilities (D+E)</b>	<b>142.78</b> <b>(100.0)</b>	<b>147.12</b> <b>(100.0)</b>	<b>150.00</b> <b>(100.0)</b>	<b>148.79</b> <b>(100.0)</b>	<b>156.33</b> <b>(100.0)</b>	<b>165.32</b> <b>(100.0)</b>
<b>G</b>	<b>Net Working Capital (A-D)</b>	<b>12.57</b>	<b>14.28</b>	<b>14.25</b>	<b>17.46</b>	<b>19.47</b>	<b>34.22</b>
H	Value of Sales	115.27	128.39	116.34	121.12	131.48	134.65
I	Index Values (2012=100) of:						
	a. Current Assets	100	106.15	109.42	109.31	120.03	148.36
	b. Current Liabilities	100	104.70	108.70	103.70	113.40	124.80
	c. Net Working Capital	100	113.60	113.37	138.90	154.90	272.24

Source: Primary data.

Appendix Table. 2. Trends in Size and Components of Working Capital –Textile-based Enterprises (Average per enterprise in Rs. Lakhs)

Components of Working Capital		Reference Period					
		2012	2013	2014	2015	2016	2017
	Inventories	16.79 (16.3)	17.24 (16.2)	19.45 (17.4)	21.43 (18.6)	21.68 (18.7)	22.10 (18.3)
	Current Investments	1.10 (1.1)	1.87 (1.8)	2.89 (2.6)	3.24 (2.8)	3.67 (3.2)	4.26 (3.5)
	Trade Receivables	21.76 (21.2)	23.13 (21.7)	24.28 (21.7)	25.87 (22.4)	26.10 (22.5)	28.57 (23.6)
	Cash and Cash Equivalents	6.23 (6.1)	6.87 (6.4)	7.11 (6.4)	7.86 (6.8)	8.96 (7.7)	10.08 (3.3)
	Other Current Assets	2.46 (2.4)	2.37 (2.2)	3.21 (2.9)	3.09 (2.7)	3.16 (2.7)	4.23 (3.5)
<b>A.</b>	<b>Total Current Assets</b>	<b>48.34</b> <b>(47.1)</b>	<b>51.48</b> <b>(48.3)</b>	<b>56.94</b> <b>(51.0)</b>	<b>61.49</b> <b>(53.3)</b>	<b>63.57</b> <b>(54.8)</b>	<b>69.24</b> <b>(57.3)</b>
B	Net Fixed Assets	54.38 (52.9)	55.13 (51.7)	54.28 (49.0)	53.98 (46.7)	52.36 (45.2)	51.65 (42.7)
<b>C</b>	<b>Total Assets (A+B)</b>	<b>102.72</b> <b>(100.0)</b>	<b>106.61</b> <b>(100.0)</b>	<b>111.72</b> <b>(100.0)</b>	<b>115.47</b> <b>(100.0)</b>	<b>115.93</b> <b>(100.0)</b>	<b>120.89</b> <b>(100.0)</b>
	Short term Borrowings	12.31 (12.0)	12.89 (12.1)	13.46 (12.0)	13.12 (11.4)	12.87 (11.1)	15.24 (12.6)
	Loans from Informal Sources	6.76 (6.6)	7.34 (6.9)	9.23 (8.3)	9.29 (8.0)	8.76 (7.6)	7.52 (6.2)
	Trade Payables	13.78 (13.4)	15.89 (14.9)	11.26 (10.1)	12.12 (10.5)	12.52 (10.8)	12.14 (10.0)
	Other Current Liabilities	2.11 (2.0)	2.34 (2.2)	2.12 (1.9)	2.01 (1.7)	1.97 (1.7)	1.89 (1.6)
<b>D</b>	<b>Total Current Liabilities</b>	<b>34.96</b> <b>(34.0)</b>	<b>38.46</b> <b>(36.1)</b>	<b>36.07</b> <b>(32.3)</b>	<b>36.54</b> <b>(31.6)</b>	<b>36.12</b> <b>(31.2)</b>	<b>36.79</b> <b>(30.4)</b>
E	Non-current Liabilities	67.76 (66.0)	68.15 (63.9)	75.65 (67.7)	78.93 (68.4)	79.81 (68.8)	84.10 (69.6)
<b>F</b>	<b>Total Liabilities (D+E)</b>	<b>102.72</b> <b>(100.0)</b>	<b>106.61</b> <b>(100.0)</b>	<b>111.72</b> <b>(100.0)</b>	<b>115.47</b> <b>(100.0)</b>	<b>115.93</b> <b>(100.0)</b>	<b>120.89</b> <b>(100.0)</b>
<b>G</b>	<b>Net Working Capital (A-D)</b>	<b>13.38</b>	<b>13.02</b>	<b>20.87</b>	<b>24.95</b>	<b>27.45</b>	<b>34.73</b>
H	Value of Sales	57.83	59.76	62.94	60.43	64.38	67.29
I	Index Values (2012=100) of:						
	a. Current Assets	100	106.5	117.8	127.2	131.5	143.2
	b. Current Liabilities	100	110.0	103.2	104.5	103.3	105.2
	c. Net Working Capital	100	97.3	156.0	186.5	205.2	259.6

Source: Primary data.



**Appendix Table.3.Trends in Size and Components of Working Capital – Mineral-based Enterprises  
(Average per enterprise in Rs. Lakhs)**

Components of Working Capital		Reference Period					
		2012	2013	2014	2015	2016	2017
	Inventories	12.36 (23.5)	13.11 (23.0)	14.23 (24.0)	15.16 (24.7)	16.87 (26.2)	17.24 (25.5)
	Current Investments	2.87 (5.5)	2.62 (4.7)	3.11 (5.2)	3.89 (6.4)	4.22 (6.5)	5.33 (7.9)
	Trade Receivables	8.13 (15.4)	8.78 (15.6)	8.85 (14.9)	8.57 (14.0)	8.96 (13.9)	9.27 (13.7)
	Cash and Cash Equivalents	7.23 (13.7)	7.17 (12.7)	7.12 (12.0)	7.96 (13.0)	8.24 (12.8)	8.44 (12.5)
	Other Current Assets	0.78 (1.5)	1.97 (3.5)	2.23 (3.8)	2.78 (4.5)	3.17 (4.9)	3.98 (5.9)
<b>A.</b>	<b>Total Current Assets</b>	<b>31.37 (59.6)</b>	<b>33.65 (59.7)</b>	<b>35.54 (59.9)</b>	<b>38.36 (62.6)</b>	<b>41.46 (64.3)</b>	<b>44.26 (65.5)</b>
B	Net Fixed Assets	21.29 (40.04)	22.74 (40.3)	23.76 (40.1)	22.89 (37.4)	22.97 (35.7)	23.35 (34.5)
<b>C</b>	<b>Total Assets (A+B)</b>	<b>52.66 (100.0)</b>	<b>56.39 (100.0)</b>	<b>59.30 (100.0)</b>	<b>61.25 (100.0)</b>	<b>64.43 (100.0)</b>	<b>67.61 (100.0)</b>
	Short term Borrowings	8.14 (15.5)	7.25 (12.9)	10.22 (17.2)	9.98 (16.3)	9.34 (14.5)	12.49 (18.5)
	Loans from Informal Sources	7.36 (14.0)	7.14 (12.7)	7.16 (12.1)	6.10 (10.0)	6.04 (9.4)	5.79 (8.6)
	Trade Payables	8.73 (16.6)	12.06 (21.4)	10.85 (18.3)	9.12 (14.9)	9.08 (15.5)	7.42 (11.0)
	Other Current Liabilities	076 (1.4)	1.98 (3.5)	2.04 (3.4)	2.78 (4.5)	2.52 (3.9)	3.46 (5.1)
<b>D</b>	<b>Total Current Liabilities</b>	<b>24.99 (47.5)</b>	<b>28.43 (50.4)</b>	<b>30.27 (51.0)</b>	<b>27.98 (45.7)</b>	<b>27.88 (43.3)</b>	<b>29.16 (43.1)</b>
E	Non-current Liabilities	27.67 (52.5)	27.96 (49.6)	29.03 (49.0)	33.27 (54.3)	36.55 (56.7)	38.45 (56.9)
<b>F</b>	<b>Total Liabilities (D+E)</b>	<b>52.66 (100.0)</b>	<b>56.39 (100.0)</b>	<b>59.30 (100.0)</b>	<b>61.25 (100.0)</b>	<b>64.43 (100.0)</b>	<b>67.64 (100.0)</b>
<b>G</b>	<b>Net Working Capital (A-D)</b>	<b>6.38</b>	<b>5.22</b>	<b>5.27</b>	<b>10.38</b>	<b>13.58</b>	<b>15.10</b>
H	Value of Sales	45.08	47.82	41.37	51.45	48.78	52.34
I	Index Values (2012=100) of:						
	a. Current Assets	100	107.3	113.3	122.3	132.2	141.1
	b. Current Liabilities	100	113.8	121.1	111.1	111.6	116.7
	c. Net Working Capital	100	81.8	82.6	162.7	212.9	236.7

Source: Primary Data.

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