

# PROFITABILITY ANALYSIS OF A SMALL AND PARTNERSHIP ENTERPRISE - A CASE STUDY OF KRISTNA ENGINEERING WORKS

<sup>1</sup>Dr. Venkateswararao. Podile, <sup>2</sup>Dr. K. Sudha Rani, <sup>3</sup>Dr. Ch. Hema Venkata Siva Sree

<sup>1</sup>Professor, MBA Department & Principal Investigator, <sup>2</sup>Associate Professor, <sup>3</sup>Co-Investigator

<sup>1</sup>Project: DST/NSTMIS/05/04/2017-18, Andhra Loyola Institute of Engineering and Technology, Vijayawada, India.

<sup>2</sup>Department of Commerce, S.D.M.S. Mahila Kalasala, Vijayawada, India

<sup>3</sup>Project: DST/NSTMIS/05/04/2017-18, Vijayawada, India

*Abstract:* Owners and Managers are naturally interested in financial soundness of their Business Enterprise. Financial soundness can be measured in terms of operating efficiency. Operating efficiency of an enterprise means its ability to earn adequate returns to owners and depends ultimately on the profits earned by the enterprise. The profitability of an enterprise is measured by profitability ratios. In this paper, an attempt is made to do Profitability Analysis of Kristna Engineering Works. Kristna Engineering Works is one of the leading manufacturers and exporters from India engaged in the manufacturing of Sugar Mill Rollers, Blank Shells, Mill Spares, Crane Preparatory Devices and spares for sugar and for other allied industries. It is a small and partnership enterprise located at Vijayawada of Krishna district of Andhra Pradesh. Profitability analysis was done through analyzing various profit margins, Profitability ratios relating to investments and Profitability ratios relating to various expenses. Profit margins covered include Gross Profit Margin, Operating Profit Margin and Net Profit Margin. Profitability ratios relating to investments include Return on Assets (ROA), Return on Capital Employed (ROCE) and Return on Share holder's equity (ROSE). Profitability ratios relating to various expenses include Cost of Goods sold Ratio, Operating Expenses Ratio, Administrative Expenses Ratio, Selling Expenses Ratio and Financial Expenses Ratio. Chi-square test is used for testing the hypotheses formed.

*Index Terms - Financial Expenses Ratio, Net Profit Margin, Operating Profit Margin, Return on Assets (ROA), Return on Capital Employed (ROCE), Selling Expenses Ratio.*

## I. Introduction

Owners and Managers are naturally interested in financial soundness of their Business Enterprise. Financial soundness can be measured in terms of operating efficiency. Operating efficiency of an enterprise means its ability to earn adequate returns to owners and depends ultimately on the profits earned by the enterprise. The profitability of an enterprise is measured by profitability ratios. There are three important profitability ratios namely profitability ratios relating to sales, profitability ratios relating to investment and profitability ratios relating to expenses. In this paper, an attempt is made to do Profitability Analysis of Kristna Engineering Works. Kristna Engineering Works is one of the leading manufacturers and exporters from India engaged in the manufacturing of Sugar Mill Rollers, Blank Shells, Mill Spares, Crane Preparatory Devices and spares for sugar and for other allied industries. It is a small and partnership enterprise located at Vijayawada of Krishna district of Andhra Pradesh. Kristna Engineering Works was established in the year 1969. This company is catering the needs of more than Two hundred and fifty sugar mills located in India and overseas. This Enterprise has an annual turnover of Rupees 4118.1 lakhs as per 2015-16 Accounts. The total assets of the company are Rupees 3713.1 lakhs.

## II. Review of Literature

Gangadhar (1982)<sup>1</sup> had conducted the profitability Analysis of large public limited cement companies in India. V. K. Purohit (1982)<sup>2</sup> had examined the profitability trends of manufacturing industries in Indian corporate sector during 1950-51 to 1970-71. Sindhu Rani (1998)<sup>3</sup> had examined the factors affecting profitability in Indian textile industry. Md. Rafiqul Islam (2000)<sup>4</sup> had conducted a study on the profitability of Fertilizer Industry in Bangladesh from 1985-86 to 1994-95. Manorselvi and Vijayakumar (2007)<sup>5</sup> had examined the trends in of profits of the selected Indian automobile companies during the period 1991-92 to 2003-04. Hyz and Gikas(2012)<sup>6</sup> had done profitability analysis of SME sector in Poland. Oni Timothy Olukunle (2017)<sup>7</sup> had done Profitability Analysis of Small scale Fishery Enterprise in Nigeria. Venkateswararao.Podile (2017)<sup>8</sup> had examined the recent MSME policy of Andhra Pradesh. Venkateswararao.Podile et al., (2017)<sup>9</sup> examined working capital management in PL Plast Pvt Ltd. Venkateswararao.Podile et al., (2017)<sup>10</sup> had examined various Government schemes supporting MSMEs in India. Venkateswararao.Podile et al., (2018)<sup>11</sup> examined working capital management in Sri Rama Chandra Paper Boards Ltd. Venkateswararao.Podile (2018)<sup>12</sup> examined working capital management in Tulasi seeds Pvt.Ltd. Venkateswararao.Podile et al., (2018)<sup>13</sup> studied working capital management in Sri Nagavalli solvent oils Pvt. Ltd. Venkateswararao.Podile et al., (2018)<sup>14</sup> analysed working capital management in Naga Hanuman Solvent Oils Private Limited. Venkateswararao.Podile (2018)<sup>15</sup> examined working capital management in Cuddapah Spinning Mills Ltd. Venkateswararao.Podile et al., (2018)<sup>16</sup> studied working capital management in Kristna Engineering Works. Venkateswararao.Podile et al., (2018)<sup>17</sup> examined working capital

management in Radhika Vegetables Oils Pvt. Ltd. Venkateswararao.Podile et al., (2018)<sup>18</sup> examined working capital management in Power Plant Engineering Works in Andhra Pradesh. Venkateswararao.Podile et al., (2018)<sup>19</sup> examined working capital management in Nagas Elastomer Works. Venkateswararao.Podile et al., (2018)<sup>20</sup> had studied working capital management in M.G.Metallic Springs Pvt. Ltd. Venkateswararao.Podile et al., (2018)<sup>21</sup> had studied working capital management in Sri Srinivasa Spun Pipes Company. Venkateswararao.Podile et al., (2018)<sup>22</sup> had studied working capital management in Raghunath Dye Chem Pvt. Ltd. Venkateswararao.Podile et al., (2018)<sup>23</sup> had examined working capital management in Maitreya Electricals Pvt. Ltd. Venkateswararao.Podile et al., (2018)<sup>24</sup> had examined working capital management in Laxmi Vinay Poly Print Packs Pvt. Ltd. Venkateswararao.Podile et al., (2018)<sup>25</sup> had done capital structure analysis of M.G.Metallic Springs Pvt. Ltd. Venkateswararao.Podile et al., (2018)<sup>26</sup> had done capital structure analysis of Naga Hanuman Solvent Oils Private Limited. Venkateswararao.Podile et al., (2018)<sup>27</sup> had done capital structure analysis of Raghunath Dye Chem Pvt. Ltd. Venkateswararao.Podile et al., (2018)<sup>28</sup> had done capital structure analysis of Nagas Elastomer Works. Venkateswararao.Podile et al., (2018)<sup>29</sup> had done capital structure analysis of Tulasi Seeds Pvt. Ltd. Venkateswararao.Podile et al., (2018)<sup>30</sup> had done capital structure analysis of Maitreya Electricals Private Limited. Venkateswararao.Podile et al., (2018)<sup>31</sup> had done capital structure analysis of Bharat Cashew Manufacturing Company. Venkateswararao.Podile et al., (2018)<sup>32</sup> had done capital structure analysis of Sri Rama Chandra Paper Boards Limited. Venkateswararao.Podile et al., (2018)<sup>33</sup> had done capital structure analysis of Power Oxides Private Limited. Venkateswararao.Podile et al., (2018)<sup>34</sup> had done capital structure analysis of Laxmi Vinay Poly Print Packs Private Limited. Venkateswararao.Podile et al., (2018)<sup>35</sup> had studied working capital management in Power Oxides Pvt. Ltd. Venkateswararao.Podile et al., (2018)<sup>36</sup> had done capital structure analysis of Radhika Vegetable Oils Private Limited. Venkateswararao.Podile et al., (2018)<sup>37</sup> had done capital structure analysis of Sri Nagavalli Solvent Oils Private Limited. Venkateswararao.Podile et al., (2018)<sup>38</sup> had done capital structure analysis of P.L.Plant Private Limited. Venkateswararao.Podile (2018)<sup>39</sup> had done capital structure analysis of Power Plant Engineering Works. Venkateswararao.Podile (2018)<sup>40</sup> had done Profitability Analysis of Bharat Cashew Manufacturing Company. Venkateswararao.Podile (2018)<sup>41</sup> had done Profitability Analysis of Sri Ramachandra Paper Boards Private Limited. Venkateswararao.Podile (2018)<sup>42</sup> had done Profitability Analysis of Tulasi Seeds Private Limited. Venkateswararao.Podile (2018)<sup>43</sup> had done Profitability Analysis of Power Plant Engineering Works. Venkateswararao.Podile et al., (2018)<sup>44</sup> had done Profitability Analysis of Maitreya Electricals Private Limited. Venkateswararao.Podile et al., (2018)<sup>45</sup> had done Profitability Analysis of P.L.Plant Private Limited. Venkateswararao.Podile et al., (2018)<sup>46</sup> had done Profitability Analysis of M.G.Metallic Springs Private Limited. Venkateswararao.Podile, (2018)<sup>47</sup> had done Profitability Analysis of Power Oxides Private Limited. Venkateswararao.Podile, (2018)<sup>48</sup> had done Profitability Analysis of Laxmi Vinay Poly Print Packs Private Limited. Venkateswararao.Podile, (2018)<sup>49</sup> had done Profitability Analysis of Sri Srinivasa Spun Pipes Company. It was found that most of the studies dealt with Profitability analysis of different large Enterprises and of sectors in India and abroad. Some of the studies dealt with MSME policies. Some other studies though dealt with MSMEs, they were confined to working capital management and capital structure analysis. Few studies dealt with profitability analysis of the firms in different sectors. There was no study on Profitability analysis of a Small and Partnership Enterprise which is engaged in the manufacturing of Sugar Mill Rollers, Blank Shells, Mill Spares, Crane Preparatory Devices and spares for sugar and for other allied industries. Hence, this study is taken up.

### III. Objectives

The general objective of the study is to do Profitability Analysis of Kristna Engineering Works. The specific objectives include the following.

1. To examine Gross profit margin, Operating profit margin and Net Profit Margin of Kristna Engineering Works during the period of study.
2. To investigate into various profitability ratios relating to investment in Kristna Engineering Works during the period of study.
3. To analyze various profitability ratios related to expenses in Kristna Engineering Works during the period of study.
4. To examine the overall profitability of Kristna Engineering Works during the period of study.
5. To offer suggestions for improvement of profitability of the Enterprise, if required.

### IV. Hypotheses

- H<sub>01</sub>: Gross Profit Margin of Kristna Engineering Works is uniform during the period of study.  
 H<sub>02</sub>: Operating Profit Margin of Kristna Engineering Works is uniform during the period of study.  
 H<sub>03</sub>: Net Profit Margin of Kristna Engineering Works is uniform during the period of study.  
 H<sub>04</sub>: Return on Assets (ROA) in Kristna Engineering Works is uniform during the period of study.  
 H<sub>05</sub>: Return on Capital Employed (ROCE) in Kristna Engineering Works is uniform during the period of study.  
 H<sub>06</sub>: Return on Share holder's equity (ROSE) in Kristna Engineering Works is uniform during the period of study.  
 H<sub>07</sub>: Cost of Goods sold Ratio in Kristna Engineering Works is uniform during the period of study.  
 H<sub>08</sub>: Operating Expenses Ratio in Kristna Engineering Works is uniform during the period of study.  
 H<sub>09</sub>: Administrative Expenses Ratio in Kristna Engineering Works is uniform during the period of study.  
 H<sub>10</sub>: Selling Expenses Ratio in Kristna Engineering Works is uniform during the period of study  
 H<sub>11</sub>: Financial Expenses Ratio in Kristna Engineering Works is uniform during the period of study.

## V. Methodology

The present study is mainly based on secondary data. The data is taken from the financial statements including balance sheet, trading account and profit and loss account of Kristna Engineering Works. The period of study is ten years covering the financial years from 2006-07 to 2015-16. The data gathered is analyzed through the ratios relating to profitability of the enterprise. Profitability analysis was done through analyzing various profit margins, Profitability ratios relating to investments and Profitability ratios relating to various expenses. Profit margins covered include Gross Profit Margin, Operating Profit Margin and Net Profit Margin. Profitability ratios relating to investments include Return on Assets (ROA), Return on Capital Employed (ROCE) and Return on Share holder's equity (ROSE). Profitability ratios relating to various expenses include Cost of Goods sold Ratio, Operating Expenses Ratio, Administrative Expenses Ratio, Selling Expenses Ratio and Financial Expenses Ratio. Chi-square test is used for testing the hypotheses formed.

## VI. Profitability Analysis with Profit Margins

Profit Margins are based on the assumption that an Enterprise should earn sufficient profit on each Rupee of sales.

### Gross Profit Margin

Gross Profit Margin has varied between 22.4 and 26.7 during the period of study. Gross Profit Margin is slightly low during the period of study. This was due to high cost of production. Management should make efforts to reduce cost of production. It is found in the significance test that Gross Profit Margin is uniform during the period of study.

**Table-1: Gross Profit Margin**

(Figures in Lakhs)

Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Gross Profit	636.2	732.4	883.5	632.4	856.5	925	1084.5	1031.4	1127.2	921.2
Sales	2462.8	2870.8	3306.6	2442.8	3731.4	4039.2	4274.0	4123.7	4360.0	4118.1
Gross Profit Margin	25.8	25.5	26.7	25.9	23.0	22.9	25.4	25.0	25.9	22.4

Source: Annual Reports of Kristna Engineering Works from 2006-07 to 2015-2016.

Calculated value of Chi-Square for Gross Profit Margin = 0.8. Calculated value is less than critical Value at 5% level of Significance i.e.,  $0.8 < 16.919$ . Hence,  $H_{01}$  is accepted.

### Operating Profit Margin

Operating Profit Margin has varied between 11.2 and 16.9 during the period of study. Operating Profit Margin is low during the period of study due to high cost of production. It is found in the significance test that Operating Profit Margin is uniform during the period of study.

**Table-2: Operating Profit Margin**

(Figures in Lakhs)

Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
EBIT	349.4	484.6	545.4	332.6	442.7	492.1	624.6	624.9	527.6	461.4
Sales	2462.8	2870.8	3306.6	2442.8	3731.4	4039.2	4274.0	4123.7	4360.0	4118.1
Operating Profit Margin	14.2	16.9	16.5	13.6	11.9	12.2	14.6	15.2	12.1	11.2

Source: Annual Reports of Kristna Engineering Works from 2006-07 to 2015-2016.

Calculated value of Chi-Square for Operating Profit Margin = 2.6. Calculated value is less than critical Value at 5% level of Significance i.e.,  $2.6 < 16.919$ . Hence,  $H_{02}$  is accepted.

### Net Profit Margin

Net Profit Margin has varied between 3.1 and 10.2 during the period of study. Net Profit Margin is low during the period of study due to high cost of production. Positive Net Profit Margin indicates that the firm is covering its financial expenses. It is found in the significance test that Net Profit Margin is uniform during the period of study.

**Table-3: Net Profit Margin**

(Figures in Lakhs)

Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Profit	250.8	252.6	264.3	120.1	189.5	198.2	266.4	233.1	171.8	125.7
Sales	2462.8	2870.8	3306.6	2442.8	3731.4	4039.2	4274.0	4123.7	4360.0	4118.1
Net Profit Margin	10.2	8.8	8.0	4.9	5.1	4.9	6.2	5.7	3.9	3.1

Source: Annual Reports of Kristna Engineering Works from 2006-07 to 2015-2016.

Calculated value of Chi-Square for Net Profit Margin = 7.5. Calculated value is less than critical Value at 5% level of Significance i.e.,  $7.5 < 16.919$ . Hence,  $H_{03}$  is accepted.

## VII. Profitability Analysis with Profitability Ratios Related to Investment

Profitability ratios relating to investment are based on the assumption that an Enterprise should earn good profit on its investment.



**Return on Assets (ROA)**

Return on Assets Ratio has varied between 3.4 and 17.4 during the period of study. It is found in the significance test that Return on Assets Ratio is not uniform during the period of study. Return on Assets Ratio is less than 10 during last seven years of the study, which indicates that there is need for better profitability management in the enterprise.

**Table-4: Return on Assets (ROA)**

(Figures in Lakhs)

Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Profit	250.8	252.6	264.3	120.1	189.5	198.2	266.4	233.1	171.8	125.7
Average Total Assets	1443.7	1643.3	1907.4	1733.6	2292.4	2604.6	2953.6	3083.3	3767.5	3713.1
ROA	17.4	15.4	13.9	6.9	8.3	7.6	9.0	7.6	4.6	3.4

Source: Annual Reports of Kristna Engineering Works from 2006-07 to 2015-2016.

Calculated value of Chi-Square for ROA = 20.6. Calculated value is greater than critical Value at 5% level of Significance i.e.,  $20.6 > 16.919$ . Hence,  $H_{04}$  is rejected.

**Return on Capital Employed (ROCE)**

Return on capital employed has varied between 12.4 and 29.5 during the period of study. It is found in the significance test that Return on capital employed is uniform during the period of study. Return on Capital Employed is less than 20 during 2010, 2011, 2012, 2015 and 2016, which indicates that there is need for better profitability management in the enterprise.

**Table-5: Return on Capital Employed (ROCE)**

(Figures in Lakhs)

Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
EBIT	349.4	484.6	545.4	332.6	442.7	492.1	624.6	624.9	527.6	461.4
Average Total Capital	1443.7	1643.3	1907.4	1733.6	2292.4	2604.6	2953.6	3083.3	3767.5	3713.1
ROCE	24.2	29.5	28.6	19.2	19.3	18.9	21.1	20.3	14.0	12.4

Source: Annual Reports of Kristna Engineering Works from 2006-07 to 2015-2016.

Calculated value of Chi-Square for ROCE = 13.2. Calculated value is less than critical Value at 5% level of Significance i.e.,  $13.2 < 16.919$ . Hence,  $H_{05}$  is accepted.

**Return on Share Holders' Equity (ROSE)**

Return on Shareholders' Equity has varied between 9.3 and 53.0 during the period of study. Return on Shareholders' Equity is greater than 10 during all the years except during 2016, which is good for owners. Return on Shareholders' Equity is not uniform during the period of study.

**Table-6: Return on Share Holders' Equity (ROSE)**

(Figures in Lakhs)

Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Net Profit	250.8	252.6	264.3	120.1	189.5	198.2	266.4	233.1	171.8	125.7
Average Share Holders' Equity	473.4	701.7	912.7	818.2	940.2	983.6	1180.5	1242.3	1354	1356.8
ROSE	53.0	36.0	29.0	14.7	20.2	20.2	22.6	18.8	12.7	9.3

Source: Annual Reports of Kristna Engineering Works from 2006-07 to 2015-2016.

Calculated value of Chi-Square for ROSE = 63.3. Calculated value is greater than critical Value at 5% level of Significance i.e.,  $63.3 > 16.919$ . Hence,  $H_{06}$  is rejected.

**VIII. Profitability Analysis with Profitability Ratios Related to Expenses**

These ratios are based on the assumption that Enterprise should reduce its expenses in relation to sales.

**Cost of Goods Sold Ratio**

Cost of Goods Sold Ratio has varied between 73.3 and 77.6 during the period of study. Cost of Goods Sold Ratio is slightly high during the period of study. Management should make efforts to reduce cost of production. It is found in the significance test that Cost of Goods Sold Ratio is uniform during the period of study.

**Table-7: Cost of Goods Sold Ratio**

(Figures in Lakhs)

Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Cost of Goods sold	1826.6	2138.4	2423.1	1810.4	2874.9	3114.2	3189.5	3092.3	3232.8	3196.9
Sales	2462.8	2870.8	3306.6	2442.8	3731.4	4039.2	4274.0	4123.7	4360.0	4118.1
Ratio	74.2	74.5	73.3	74.1	77.0	77.1	74.6	75.0	74.1	77.6

Source: Annual Reports of Kristna Engineering Works from 2006-07 to 2015-2016.

Calculated value of Chi-Square for Cost of Goods sold Ratio = 0.3. Calculated value is less than critical Value at 5% level of Significance i.e.,  $0.3 < 16.919$ . Hence,  $H_{07}$  is accepted.

### Operating Expenses Ratio

Operating Expenses Ratio has varied between 3.4 and 7.7 during the period of study. Operating Expenses Ratio is low in the enterprise during the period of study. Management is making good efforts to reduce operating expenses. It is found in the significance test that Operating Expenses Ratio is uniform during the period of study.

**Table-8: Operating Expenses Ratio**

(Figures in Lakhs)

Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Operating Expenses	160.2	96.5	166.7	164.9	245	264.5	274.2	203.8	336.8	196.6
Sales	2462.8	2870.8	3306.6	2442.8	3731.4	4039.2	4274.0	4123.7	4360.0	4118.1
Ratio	6.5	3.4	5.0	6.8	6.6	6.5	6.4	4.9	7.7	4.8

Source: Annual Reports of Kristna Engineering Works from 2006-07 to 2015-2016.

Calculated value of Chi-Square for Operating Expenses Ratio = 2.5. Calculated value is less than critical Value at 5% level of Significance i.e.,  $2.5 < 16.919$ . Hence,  $H_{08}$  is accepted.

### Administrative Expenses Ratio

Administrative Expenses Ratio has varied between 2.7 and 6.6 during the period of study. Administrative Expenses Ratio is low in the company during the period of study. Management is making good efforts to reduce Administrative expenses. It is found in the significance test that Administrative Expenses Ratio is uniform during the period of study.

**Table-9: Administrative Expenses Ratio**

(Figures in Lakhs)

Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Administrative Expenses	146.3	76.8	137.6	139.1	205.7	212.2	225.7	165.5	287.6	129.7
Sales	2462.8	2870.8	3306.6	2442.8	3731.4	4039.2	4274.0	4123.7	4360.0	4118.1
Ratio	5.9	2.7	4.2	5.7	5.5	5.3	5.3	4.0	6.6	3.1

Source: Annual Reports of Kristna Engineering Works from 2006-07 to 2015-2016.

Calculated value of Chi-Square for Administrative Expensive Ratio = 3.0. Calculated value is less than critical Value at 5% level of Significance i.e.,  $3.0 < 16.919$ . Hence,  $H_{09}$  is accepted.

### Selling Expenses Ratio

Selling Expenses Ratio has varied between 0.6 and 1.6 during the period of study. A low Selling Expenses Ratio is indicating that management is making good efforts in reducing Selling expenses. It is found in the significance test that Selling Expenses Ratio is uniform during the period of study.

**Table-10: Selling Expenses Ratio**

(Figures in Lakhs)

Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Selling Expenses	13.9	19.7	29.1	25.8	39.3	52.3	48.5	38.3	49.2	66.9
Sales	2462.8	2870.8	3306.6	2442.8	3731.4	4039.2	4274.0	4123.7	4360.0	4118.1
Ratio	0.6	0.7	0.9	1.1	1.1	1.3	1.1	0.9	1.1	1.6

Source: Annual Reports of Kristna Engineering Works from 2006-07 to 2015-2016.

Calculated value of Chi-Square for Selling Expenses Ratio = 0.7. Calculated value is less than critical Value at 5% level of Significance i.e.,  $0.7 < 16.919$ . Hence,  $H_{10}$  is accepted.

### Financial Expenses Ratio

Financial Expenses Ratio has varied between 2.8 and 7.1 during the period of study. Financial Expenses Ratio is low during the period of study. Management is making good efforts for reducing financial expenses. It is found in the significance test that Financial Expenses Ratio is uniform during the period of study.

**Table-11: Financial Expenses Ratio**

(Figures in Lakhs)

Years	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Financial Expenses	68.0	96.5	141.4	142.2	181.7	210.7	240.6	268.3	267.5	290.6
Sales	2462.8	2870.8	3306.6	2442.8	3731.4	4039.2	4274.0	4123.7	4360.0	4118.1
Ratio	2.8	3.4	4.3	5.8	4.9	5.2	5.6	6.5	6.1	7.1

Source: Annual Reports of Kristna Engineering Works from 2006-07 to 2015-2016.

Calculated value of Chi-Square for Financial Expenses Ratio = 3.2. Calculated value is less than critical Value at 5% level of Significance i.e.,  $3.2 < 16.919$ . Hence,  $H_{11}$  is accepted.

## IX. Conclusion

Gross Profit Margin, Operating Profit Margin, Net Profit Margin, Return on Capital Employed Ratio, Cost of Goods sold Ratio, Operating Expenses Ratio, Administrative Expenses Ratio, Selling Expenses Ratio and Financial Expenses Ratio are uniform during the period of study. Return on Assets Ratio and Return on Share holder's Equity Ratio are not uniform during the period of study. Gross Profit Margin, Operating Profit Margin and Net Profit Margin are low during the study period. This was due to high cost of production. Management should make efforts to reduce cost of production. Return on Assets Ratio is less than 10 during last seven years of the study and Return on Capital Employed is less than 20 during 2010, 2011, 2012, 2015 and 2016, which indicate that there is need for better profitability management in the company. Return on Shareholders' Equity is greater than 10 during all the years except during 2016, which is good for owners. Management is making good efforts in reducing Administrative expenses, selling expenses and financial expenses.

## References

1. Gangadhar, "Cement Industry-Some aspects of Profitability", *The Management Accountant*, Vol.4, No.2, 1982.
2. Vishnu Kanta Purohit, "Profitability in Corporate Sector", *ArthaVijnana*, Vol.24, No.1, 1982, pp.50-66.
3. H S SindhuRani, "Factors affecting profitability in Indian Textile Industry", *The Indian Economic Journal*, Vol.1, No.3, 1998, pp.137-143.
4. Mohammed RafiqulIslam, "Profitability of Fertilizer Industry in Bangladesh", *The Management Accountant*, 2000, pp.338-345.
5. Manor Selvi and Vijayakumar, "Structure of Profits Rates In Indian Automobile Industries-A Comparison", *The Management Accountant*, Vol.42, No.10, 2007, pp.784-789.
6. A.Hyz and G.Gikas, "Profitability Analysis of SME sector in Poland", *Alpapha Ekohomika*, T.5, No.3-4, 2012, pp-26-33.
7. Oni Timothy Olukunle, "Profitability Analysis of Small Scale Fishery Enterprise in Nigeria", *Journal of Agricultural Science*, Vol. 9, No. 3, 2017, pp-107-116
8. Dr. Venkateswararao.Podile, "MSME Policy of Andhra Pradesh – A fillip to MSME sector", *International Journal of Business and Administration Review*, Vol.3, Issue.18, 2017, pp.67-69.
9. Dr. Venkateswararao.Podile, Surya Chandrarao.D and HemaVenkata Siva Sree.Ch, "Working capital Management in P.L.Plant Pvt Ltd", *IOSR Journal of Business Management*, Vol.19, Issue No.4, 2017, pp.61-65.
10. Dr. Venkateswararao.Podile, Surya Chandrarao.D and HemaVenkata Siva Sree.Ch, "Vigorous attempts to boost and buoying up MSMEs in India", *IOSR Journal of Business Management*, Vol.19, Issue No.5, 2017, pp.24-28.
11. Venkateswararao.P, and HemaVenkata Siva Sree.Ch, "Working capital Management in Sri Rama Chandra Paper Boards Ltd", *International Journal of Research in Management, Economics and Commerce*, Vol.8, Issue.2, 2018, pp.54-59.
12. Dr. Venkateswararao.Podile, "Working capital Management in Tulasi seeds Pvt.Ltd- A case study in Andhra Pradesh", *International Journal of Research in Management, Economics and Commerce*, Vol.8, Issue.2, 2018, pp.262-266.
13. Dr. Venkateswararao.Podile, and Hema Venkata Siva Sree.Ch, "Working capital Management in Sri Nagavalli solvent oils Pvt. Ltd", *IOSR Journal of Business Management*, Vol.20, Issue.2, 2018, pp.79-84.
14. Dr. Venkateswararao.Podile, and Hema Venkata Siva Sree.Ch, "Working capital Management in Naga Hanuman Solvent Oils Private Limited- A case study of Andhra Pradesh", *International Journal of Research in Management, Economics and Commerce*, Vol.8, Issue.3, 2018, pp.114-119.
15. Dr. Venkateswararao.Podile, "Working capital Management in Cuddapah Spinning Mills Ltd- A case study in Andhra Pradesh", *International Journal of Research in Engineering, IT and Social Sciences*, Vol.8, Issue.3, 2018, pp.1-5.
16. Dr. Venkateswararao.Podile, and Hema Venkata Siva Sree.Ch, "Working capital Management in Kristna Engineering Works - A case study in Andhra Pradesh", *International Journal of Research in Engineering, IT and Social Sciences*, Vol.8, Issue.3, 2018, pp.61-66.
17. Dr. Venkateswararao.Podile, and Hema Venkata Siva Sree.Ch, "Working capital Management in small enterprise- A case study in Radhika Vegetables Oils Pvt. Ltd", *IOSR Journal of Business Management*, Vol.20, Issue.3, 2018, pp.69-74.
18. Dr. Venkateswararao.Podile, and Hema Venkata Siva Sree.Ch, "Working capital Management in Power Plant Engineering Works- A case study of Andhra Pradesh", *International Journal of Exclusive Management Research*, Vol.8, Issue.4, 2018, pp.1-7.
19. Dr. Venkateswararao.Podile, Hema Venkata Siva Sree.Ch, and N.Janardhanarao "Working capital Management in a Micro Enterprise- A case study of Nagas Elastomer Works", *International Journal of Scientific Research and Review*, Vol.7, Issue.7, 2018, pp.275-282.
20. Dr. Venkateswararao.Podile, Dr. Hema Venkata Siva Sree.Ch, and Gaddam. Sravan Kumar, "Working capital Management in M.G.Metallic Springs Pvt. Ltd. - A case study in Andhra Pradesh", *International Journal of Research in Engineering, IT and Social Sciences*, Vol.8, Issue.7, 2018, pp.108-113.
21. Dr. Venkateswararao.Podile, Dr. K. Sudha Rani and Dr. Hema Venkata Siva Sree.Ch "Working capital Management in a Micro Enterprise - A case study of Sri Srinivasa Spun Pipes Company", *Asian Journal of Multidimensional Research*, Vol.7, Issue.7, 2018, pp.185-194.



22. Dr. Venkateswararao.Podile, Dr. Hema Venkata Siva Sree.Ch and Gaddam. Sravan Kumar , “Working capital Management in a Small Enterprise- A case study of Raghunath Dye Chem Pvt. Ltd. ”, *International Journal of Management, IT & Engineering*, Vol.8, Issue.8, 2018, pp.331-337.
23. Dr. Venkateswararao.Podile, Dr. K. Sudha Rani and Dr. Hema Venkata Siva Sree.Ch “Working capital Management in Maitreya Electricals Pvt. Ltd.- A case study of Andhra Pradesh”, *ZENITH International Journal of Multidisciplinary Research*, Vol.8, Issue.8,2018, pp.296-304.
24. Dr. Venkateswararao.Podile, Dr. K. Sudha Rani and Dr. Hema Venkata Siva Sree.Ch “Working capital Management in a Micro Enterprise - A case study of Laxmi Vinay Poly Print Packs Pvt. Ltd.”, *International Journal of Research in Engineering, IT and Social Sciences*, Vol.8, Issue.8, 2018, pp.1 -6.
25. Dr. Venkateswararao.Podile and Dr. Hema Venkata Siva Sree.Ch, “Capital Structure Analysis of a Small Enterprise - A Case Study of M. G. Metallic Springs Pvt. Ltd.”, *International Journal of Research in Engineering, IT and Social Sciences*, Vol.8, Issue.8, 2018, pp.149-154.
26. Dr. Venkateswararao.Podile, Fr. Kataru.Anil Kumar and Hema Venkata Siva Sree.Ch, “Capital Structure Analysis of a Small Enterprise - A Case Study of Naga Hanuman Solvent Oils Private Limited”, *International Journal of Scientific Research and Review*, Vol.7, Issue.8, 2018, pp.548-555.
27. Dr. Venkateswararao.Podile, Fr. Kataru Anil Kumar and Dr. Hema Venkata Siva Sree.Ch “Capital Structure Analysis of A Small Enterprise - A Case Study Of Raghunath Dye Chem Pvt. Ltd.”, *Asian Journal of Multidimensional Research*, Vol.7, Issue.8, 2018, pp.281-292.
28. Dr. Venkateswararao.Podile, Fr. Kataru.Anil Kumar and Dr. Hema Venkata Siva Sree.Ch, “Capital Structure Analysis of a Micro and Proprietary Enterprise - A Case Study of Nagas Elastomer Works ”, *International Journal of Research in Engineering, IT and Social Sciences*, Vol.8, Issue.8, 2018, pp.269-275.
29. Dr. Venkateswararao.Podile, Fr. Kataru.Anil Kumar and Dr. Hema Venkata Siva Sree.Ch, “Capital Structure Analysis of a Large Enterprise - A Case Study of Tulasi Seeds Pvt. Ltd. ”, *Journal of Emerging Technologies and Innovative Research*, Vol.5, Issue.8, 2018, pp.973-979.
30. Dr. Venkateswararao.Podile, Fr. K. Anil Kumar and Dr. Ch. Hema Venkata Siva Sree, “Capital Structure Analysis of a Small Enterprise – A case study of Maitreya Electricals Private Limited”, *RESEARCH REVIEW International Journal of Multidisciplinary*, Vol.3, Issue.9, 2018,pp.179–185. <http://doi.org/10.5281/zenodo.1412759>.
31. Dr. Venkateswararao.Podile, Fr. Kataru Anil Kumar and Dr. Chinta. Hema Venkata Siva Sree, “Capital Structure Analysis of a Micro and Partnership Enterprise- A case study of Bharat Cashew Manufacturing Company”, *International Journal of Scientific Research and Review*, Vol.7, Issue.9, 2018, pp.26-33.
32. Dr. Venkateswararao.Podile, Fr. Kataru Anil Kumar and Dr. Chinta. Hema Venkata Siva Sree, “Capital Structure Analysis of a Small Enterprise- A case study of Sri Rama Chandra Paper Boards Limited”, *International Journal Research and Analytical Reviews (IJRAR)*, Vol.5, Issue.3, 2018, pp.1-7.
33. Dr. Venkateswararao.Podile, Fr. Kataru Anil Kumar and Dr. Chinta. Hema Venkata Siva Sree, “Capital Structure Analysis of a Small Enterprise - A Case Study of Power Oxides Private Limited”, *International Journal of Research in Engineering, IT and Social Sciences*, Vol.8, Issue.9, 2018, pp.23-29.
34. Dr. Venkateswararao.Podile, Fr. Kataru Anil Kumar and Dr. Chinta. Hema Venkata Siva Sree, “Capital Structure Analysis of a Micro Enterprise – A Case Study of Laxmi Vinay Poly Print Packs Private Limited”, *Journal of Emerging Technologies and Innovative Research*, Vol.5, Issue.9, 2018, pp.457-463.
35. Dr. Venkateswararao.Podile, Hema Venkata Siva Sree.Ch. and N.Janardhanarao, “Working capital Management in a Small Enterprise- A case study of Power Oxides Pvt. Ltd”, *International Journal of Scientific Research and Reviews*, Vol.7, Issue.3, 2018, pp.607-617.
36. Dr. Venkateswararao.Podile, Fr. Kataru Anil Kumar and Dr. Chinta. Hema Venkata Siva Sree, “Capital Structure Analysis of A Small Enterprise - A Case Study of Radhika Vegetable Oils Private Limited”, *Asian Journal of Multidimensional Research*, Vol.7, Issue.9, 2018, pp.198-209.
37. Dr. Venkateswararao.Podile, Fr. Kataru Anil Kumar and Dr. Hema Venkata Siva Sree.Ch., “Capital Structure Analysis of A Small Enterprise - A Case Study of Sri Nagavalli Solvent Oils Private Limited”, *ZENITH International Journal of Multidisciplinary Research*, Vol.8, Issue.10, 2018, pp.27-36.
38. Dr. Venkateswararao.Podile and Dr. Hema Venkata Siva Sree.Ch., “Capital Structure Analysis of A Small Enterprise - A Case Study of P.L.Plast Private Limited”, *International Journal of Management, IT & Engineering*, Vol.8, Issue.10, 2018, pp.183-198.
39. Dr. Venkateswararao.Podile, “Capital Structure Analysis of a Micro and Partnership Enterprise – A case study of Power Plant Engineering Works”, *RESEARCH REVIEW International Journal of Multidisciplinary*, Vol.3, Issue.9, 2018, pp. 376–382. <https://doi.org/10.5281/zenodo.1421852>
40. Dr. Venkateswararao.Podile, “Profitability Analysis of a Micro and Partnership Enterprise - A Case Study of Bharat Cashew Manufacturing Company”, *International Journal of Research in Engineering, IT and Social Sciences*, Vol.8, Issue.10, 2018, pp.96-102.
41. Dr. Venkateswararao.Podile, “Profitability Analysis of a Small Enterprise- A case study of Sri Ramachandra Paper Boards Private Limited”, *International Journal of Scientific Research and Review*, Vol.7, Issue.10, 2018, pp.582-589.
42. Dr. Venkateswararao.Podile, “Profitability Analysis of a Large Enterprise – A case study of Tulasi Seeds Private Limited”, *RESEARCH REVIEW International Journal of Multidisciplinary*, Vol.3, Issue.10, 2018, pp. 468–474. <https://doi.org/10.5281/zenodo.1467838>

43. Dr. Venkateswararao.Podile, “Profitability Analysis of a Micro and Partnership Enterprise - A Case Study of Power Plant Engineering Works”, *Journal of Emerging Technologies and Innovative Research*, Vol.5, Issue.10, 2018, pp.180-186.
44. Dr. Venkateswararao.Podile, Dr. R.Padmavathy and Dr. Hema Venkata Siva Sree.Ch., “Profitability Analysis of a Small Enterprise - A Case Study of Maitreya Electricals Private Limited”, *International Journal of Research in Engineering, IT and Social Sciences*, Vol.8, Issue.10, 2018, pp.177-183.
45. Dr. Venkateswararao.Podile, Dr. R.Padmavathy and Dr. Hema Venkata Siva Sree.Ch., “Profitability Analysis of a Micro Enterprise- A case study of P.L.Plast Private Limited”, *International Journal of Scientific Research and Review*, Vol.7, Issue.10, 2018, pp.788-795.
46. Dr. Venkateswararao.Podile, Dr. R.Padmavathy and Dr. Hema Venkata Siva Sree.Ch., “Profitability Analysis of a Small Enterprise- A case study of M.G.Metallic Springs Private Limited”, *International Journal Research and Analytical Reviews (IJRAR)*, Vol.5, Issue.4, 2018, pp.849-855.
47. Dr. Venkateswararao.Podile, “Profitability Analysis of a Small Enterprise - A Case Study of Power Oxides Private Limited”, *Asian Journal of Multidimensional Research*, Vol.7, Issue.10, 2018, pp.178-188.
48. Dr. Venkateswararao.Podile, “Profitability Analysis of A Micro Enterprise - A Case Study of Laxmi Vinay Poly Print Packs Private Limited”, *ZENITH International Journal of Multidisciplinary Research*, Vol.8, Issue.11, 2018, pp.252-263.
49. Dr. Venkateswararao.Podile, “Profitability Analysis of a Micro and Proprietary Enterprise - A Case Study of Sri Srinivasa Spun Pipes Company”, *International Journal of Research in Engineering, IT and Social Sciences*, Vol.8, Issue.11, 2018, pp.13-19.

