Analysis of Profitability of the Cooperative Sugar Factories in South Gujarat for the period 2009-10 to 2013-14

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Abstract:
The profitability aspect of cooperative sugar factories of South Gujarat has been analyzed in this paper. For this purpose different profitability ratios like Gross Profit Margin Ratio (GPMR), Net profit Margin Ratio (NPMR), Operating Ratio (OR), Return on Net worth Ratio (RNWR), Return on Capital Employed Ratio(RCER) and Operating Profit Margin Ratio (OPMR) have been calculated from the annual reports of the companies. The paper is based on secondary data collected from different online sources annual reports of the factories mentioned in references. To test the hypothesis ANOVA tests have been applied.

Keywords: *Gross Profit Margin Ratio (GPMR), Net Profit Margin Ratio (NPMR), Operating Ratio (OR), Return on Net worth Ratio (RNWR), And Return on Capital Employed Ratio(RCER)*

1. Introduction
Measurement of profitability is of great importance to a Sugar industry because it enables the management to ascertain the exact standing of sugar factory comparison to other sugar factory in the same locality, district or region. It also helps them to take important decision regarding expansion of area of operation, adoption of modern technology, rising of additional funds, changes in financial policies act. The ratio analysis can make comparison between different size firms much more meaningful. The ratio is the most important measure of profitability of any organization. It provides an idea about the efficiency of a management in allocating its resources and earning returns thereby. In the word of **Murthy** “The most important measure of profitability of enterprise is ratio.”

2. Objective
The objective of this paper to analyze the profitability of cooperative sugar manufacturing units of South Gujarat from 2009-10 to 2013-14.

3. Methodology
The paper is based on secondary data collected from different online sources and annual reports of the factories mentioned in references. We have selected 11 cooperative sugar factories of South Gujarat. The period of the study is five years from 2009-10 to 20012-13.

4. List of the factories under the study
1. Shree Khedut Sahakari Khand Udyog Mandali Ltd., Bardoli
2. Shree Chalthan Vibhag Khand Udyog Sahakari Mandali Ltd., Chalthan
3. Sahkari Khand Udyog Mandali Limited, Gandevi
4. Shree Madhi Vibhag Khand Udyog Sahakari Mandli Ltd., Madhi
5. Shree Mahuva Pradesh Sahakari Khand Udyag Mandli Ltd., Bamania, Mahuva
6. Shree Maroli Vibhag Khand Udyag Sahakari Mandli Ltd., Maroli
7. Shree Khedut Sahakari Khand Udyag Mandli Ltd., Pandvai

8. Shree Sayan Vibhag Sahakari Khand Udyag Mandli Ltd., Sayan
9. Shree Valsad Sahkari Khand Udyag Mandli Ltd., Valsad
10. Shree Ganesh Sahakari Khand Udyag Mandli Ltd., Vataria
11. Shree Kamrej Vibhag Sahakari Khand Udyag Mandli Ltd., Navi Pardi

Table No 1 Gross Profit Margin Ratios

No	District	COSFs	2009-10	2010-11	2011-12	2012-13	2013-14	Average
1	Surat	Bardoli	2.34	2.08	2.50	2.40	3.46	2.56
2		Chalthan	2.03	1.41	-0.87	2.42	1.03	1.20
3		Gandevi	1.95	4.40	4.88	4.33	2.12	3.54
4		Kamrej	3.20	5.44	4.07	6.44	5.13	4.86
5		Madhi	3.43	5.22	1.56	5.38	6.60	4.44
6		Mahuva	5.27	5.09	3.11	6.20	7.84	5.50
7		Sayan	2.32	1.33	2.04	3.22	2.67	2.32
8	Valsad	Maroli	1.75	8.79	7.06	2.47	-3.74	3.27
9		Valsad	4.96	13.55	7.38	7.18	12.39	9.09
10	Bharuch	Pandvai	3.08	4.57	4.63	5.10	2.76	4.03
11		Vataria	6.85	8.86	5.86	5.78	5.54	6.58
	Average		3.38	5.52	3.84	4.63	4.16	

(Source: Computed from the Published Annual Reports of the COSFs)

From the above table no 1 it is found that the Average Gross Profit margin was 3.38% during 2009-10. It increased to 5.52% in 2010-11. Again Gross Profit margin decreased to 3.84% during 2011-12. It further increased to 4.63% during 2012-13 but again it decreased to 4.16% in 2013-14. So it can be concluded that the Gross Profit Margin had fluctuating trend during the period of the study.

Table no 2 Net Profit Margin Ratios

No	District	COSFs	2009-10	2010-11	2011-12	2012-13	2013-14	Average
1	Surat	Bardoli	0.07	0.01	0.16	0.09	0.06	0.08
2		Chalthan	0.01	0.01	0.01	0.01	0.01	0.01
3		Gandevi	0.01	0.06	0.02	0.02	0.02	0.02
4		Kamrej	0.01	0.01	0.00	0.00	0.00	0.00
5		Madhi	0.04	0.17	0.04	0.02	0.01	0.06
6		Mahuva	0.01	0.01	0.01	0.01	0.01	0.01
7		Sayan	0.00	0.00	0.00	0.01	0.01	0.00
8	Valsad	Maroli	-6.47	-2.63	0.15	-2.94	-9.78	-4.34
9		Valsad	-3.34	1.37	0.18	-0.59	-0.59	-0.60
10	Bharuch	Pandvai	0.15	0.54	0.30	0.46	0.41	0.37
11		Vataria	0.01	0.02	0.01	0.01	0.01	0.01
	Average		-0.86	-0.04	0.08	-0.27	-0.90	

(Source: Computed from the Published Annual Reports of the COSFs)

From the table no 2 it is found that the average Net Profit Margin Ratio was not good as it was negative during 4 out of 5 years under the study. It was positive during 2011-12 i.e. 0.08% which cannot be considered good for the companies under the study. The Net profit margin was -0.86% during 2009-10 and -0.04 during 2010-11. It was -0.27% during 2012-13 and -0.90 during 2013-14.

Table no 3 Operating Ratios

No	District	COSFs	2009-10	2010-11	2011-12	2012-13	2013-14	Average
1	Surat	Bardoli	99.10	99.64	99.09	99.31	98.51	99.13
2		Chalthan	99.27	100.07	103.11	100.90	101.50	100.97
3		Gandevi	99.58	96.80	96.38	96.88	99.06	97.74
4		Kamrej	98.02	96.32	97.44	95.64	96.74	96.83
5		Madhi	98.28	96.71	100.34	96.77	95.51	97.52
6		Mahuva	99.08	99.41	100.92	99.50	96.69	99.12
7		Sayan	98.92	100.32	99.57	98.72	99.08	99.32
8	Valsad	Maroli	99.93	93.32	94.47	98.85	105.25	98.37
9		Valsad	97.73	89.82	94.66	96.01	91.04	93.85
10	Bharuch	Pandvai	98.95	97.36	96.59	96.38	96.65	97.18
11		Vataria	97.28	95.31	98.12	97.95	99.08	97.55
	Average		98.74	96.83	98.24	97.90	98.10	

(Source: Computed from the Published Annual Reports of the COSFs)

From the table no 3 it can be seen that operating ratio was 98.74 in 2009-10. It decreased to 96.83 during 2010-11. It can be seen that the Operating Ratio increased to 98.24 in 2011-12 but again decreased to 97.90 in 2012-13. It increased to 98.1 in 2013-14. It can be seen that there was fluctuating trend in operating ratio during the period under study.

Table no 4 Return on Net worth Ratio

No	District	COSFs	2009-10	2010-11	2011-12	2012-13	2013-14	Average
1	Surat	Bardoli	0.39	0.04	0.92	0.48	0.29	0.42
2		Chalthan	0.06	0.04	0.05	0.04	0.06	0.05
3		Gandevi	0.04	0.40	0.09	0.09	0.10	0.14
4		Kamrej	0.03	0.03	0.01	0.00	0.00	0.01
5		Madhi	0.23	0.73	0.19	0.07	0.04	0.25
6		Mahuva	0.04	0.05	0.02	0.03	0.01	0.03
7		Sayan	0.01	0.01	0.01	0.03	0.03	0.02
8	Valsad	Maroli	11.66	27.19	8.23	-69.73	-679.01	-140.33
9		Valsad	-11.84	3.66	0.89	-2.17	-1.89	-2.27
10	Bharuch	Pandvai	0.63	1.82	1.29	1.80	1.47	1.40
11		Vataria	0.04	0.08	0.04	0.04	0.04	0.05
	Average		0.12	3.09	1.07	-6.30	-61.72	

(Source: Computed from the Published Annual Reports of the COSFs)

From the table no 4 it can be seen that except the factory in Maroli and Valsad the other factories have maintained positive performance. The Return on net worth was -6.30 and -61.72 during 2012-13 and 2013-14 respectively. It is due to highly negative performance of the Maroli and Valsad units during those two years.

Table no 5 Return on capital employed

No	District	COSFs	2009-10	2010-11	2011-12	2012-13	2013-14	Average
1	Surat	Bardoli	1.30	1.38	1.46	1.07	1.34	1.31
2		Chalthan	1.00	2.04	1.92	1.36	1.47	1.56
3		Gandevi	1.47	2.39	2.12	1.78	1.73	1.90
4		Kamrej	1.61	1.82	2.54	2.31	3.05	2.27
5		Madhi	1.66	2.51	2.23	1.85	7.13	3.08

6		Mahuva	0.81	1.17	1.46	1.36	3.18	1.60
7		Sayan	1.65	2.14	2.53	1.87	1.97	2.03
8	Valsad	Maroli	0.63	2.41	3.39	0.85	-3.11	0.83
9		Valsad	0.93	3.32	3.98	2.68	4.40	3.06
10	Bharuch	Pandvai	1.74	2.02	2.90	2.86	3.01	2.51
11		Vataria	1.98	3.68	3.17	2.99	3.88	3.14
	Average		1.34	2.26	2.52	1.91	2.55	

(Source: Computed from the Published Annual Reports of the COSFs)

From the table no 5 it can be seen that return on capital employed during 1.34 during 2009-10. It increased to 2.26 during 2010-11. It was 2.52 in 2011-12 and 1.91 in 2012-13. It was 2.55 in 2013-14. So it can be concluded that there was fluctuating trend as far as return on capital employed is concerned. Further the following hypotheses were tested using one way ANOVA tests.

5. Null hypotheses

1.H0: There is significant no difference within Gross profit margin ratio of the various Districts.
2.H0: There is significant no difference within Net profit margin ratio of the various Districts.
3.H0: There is significant no difference within Operating margin ratio of the various Districts.
4.H0: There is significant no difference within Return on net worth ratio of the various Districts.
5.H0: There is significant no difference within return on capital employed ratio of the various Districts.

6. Alternative Hypotheses

1.H1: There is significant difference within Gross profit margin ratio of the various Districts.
2.H1: There is significant difference within Net profit margin ratio of the various Districts.
3.H1: There is significant difference within Operating margin ratio of the various Districts.
4.H1: There is significant difference within Return on net worth ratio of the various Districts.
5.H1: There is significant difference within return on capital employed ratio of the various Districts.

Table no 6 Summary of ANOVA tests:

Sr No	Name of the Ratios	Degrees of Freedom	Calculated F	P Values
1	Gross Profit Margin	10	1.588	0.262
2	Net Profit Margin	10	5.948	0.094
3	Operating Ratio	10	2.007	0.197
4	Return On Net Worth	10	3.517	0.080
5	Return on Capital Employed	10	1.029	0.400

6. Interpretation

1. From the above table it can be seen that p value for Gross Profit Margin ratio is 0.262 which is greater than 0.05 so null hypothesis will be accepted i.e There is significant no difference within Gross profit margin ratio of the various Districts.
2. It is found that that p value for Net Profit Margin ratio is 0.094 which is greater than 0.05 so null hypothesis will be accepted i.e There is significant no difference within Net profit margin ratio of the various Districts.
3. The p value for Operating Margin ratio is 0.197 which is greater than 0.05 so null hypothesis will be accepted i.e There is significant no difference within Operating margin ratio of the various Districts.
4. The p value for Return on net worth is 0.080 which is greater than 0.05 so null hypothesis will be accepted i.e There is significant no difference within return on net worth of the various Districts. that p value for Return on capital employed ratio is 0.400 which is greater than 0.05 so null

hypothesis will be accepted i.e There is significant no difference within Return on capital employed ratio of the various Districts.

8. Conclusion

The sugar units of the South Gujarat is going through a bad stage as far as the period under the study is concerned. It can be concluded that cooperative sugar units of South Gujarat are functioning at low profitability margin. A considerable profitability is required to run the cooperative factories, but from our analysis it can be seen that the units are not able to maintain the profitability at required level. The reason behind this is high cost of production and borrowed capital. The inefficiency of management to tackle this can be one of the reasons for this low profitability during the period under the study.

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