Receivable Management in Sugar Industry of Kumaon Region of Uttarakhand

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Abstract

Receivables balance as shown in the balance sheet of company relates to sales made on credit for which payment has not yet received. They arise from the sale of goods and services on credit basis. A sale on credit depends upon the nature of business. To increase the sales volume, generally the credit facility will be offered of the customers which result in investment in receivables maximizes return on capital employed. A firm grants trade credit to protect its sales from the competitors and to attract the potential customers to buy its products at favorable terms trade credit creates receivable or book debts which the firm is excepted to collect in the near future. Certainly for firms in the building construction business, managing accounts receivable is important because they make up over 30% of a typical firms assets. It is conclude that average collection period in days, weeks and months, percentage of debtors to current assets and relationship between receivables, sales and profitability registered a fluctuating trend during the period under study. Hence, its relationship cannot be judged. The sugar mills must review and recast its infrastructure as well as managerial practices not only in the field of finance but also in the production. Marketing human resource and should try to match the amount of working capital with the sales trends where there is a deficit of working capital, they should try to build an adequate amount of working capital, it should be invested either in trade securities or should be used to repay borrowings. Last but not least the management should try to adopt cost reduction techniques in their firms to get over this critical situation.

Introduction-

Receivables balance as shown in the balance sheet of company relates to sales made on credit for which payment has not yet received. They arise from the sale of goods and services on credit basis. A sale on credit depends upon the nature of business. To increase the sales volume, generally the credit facility will be offered of the customers which result in investment in receivables maximizes return on capital employed. The balance in receivables account is determined by the number of customers, lengths of credit, amount of credit allowed to each customer etc. To achieve growth in sales and to meet competition in the industry, a firm may resort to credit sales. A firm grants trade credit to protect its sales from the competitors and to attract the potential customers to buy its products at favorable terms trade credit creates receivable or book debts which the firm is excepted to collect in the near future. All firms by their very nature are involved in selling either goods or services although some of these sales will be for cash, a large portion will involve credit. Whenever a sale is made on credit, it increases the firms accounts receivable. Thus the importance of how a firm manages its account receivable depends on the degree too which the firm sells on credit. Certainly for firms in the building construction business, managing accounts receivable is important because they make up over 30% of a typical firms assets.

Objectives of the study:

The proposed study aims at evaluating the efficiency of sugar industry in the management of working capital. To find out the size of working capital in sugar industry of Kumaon region of Uttarakhand. The study aim at finding out the answer to the question whether the amount of working capital is adequate, excessive or insufficient.

RESEARCH METHODOLOGY:

Research Methodology is a way to systematically solve the problem. It is the conceptual structure within which research is conducted. The study is extremely based on secondary data collected from annual published financial statement and other documents. For analyzing this study ratio analysis has been done and for assessing the behavior of data statistical technique like ANOVA test have been used in the study. The researcher collected the data from five sugar mills of Uttarakhand at Kumaun region i.e, The Kisan Sahkari chini Mill Ltd. Gadarpur (KSCML-G) . The Bazpur Co-operative sugar factory Ltd (BCSFL) The Kisan Sahkari Chini Mill Ltd Nadehi (KSCML-N), The Kisan Sahkari Chini Mill Ltd. Sitarganj (KSCML-S) AND Kisan Sugar Company Ltd. (KSCS). The period of study is from 2006 to 2010. Hence the data were collected related to this period only.

Hypothesis:

On the basis of findings of the study the Null Hypothesis (Ho) i.e, there is no significant difference in various financial performance parameters between sugar industries has been rejected and alternative Hypothesis (H.) i.e, there is

significant difference has been accepted. To test the above hypothesis ANOVA test have been applied.

Discussion:

To analyze receivable management practices in sugar industry the following tools have been used-

(i)   Average Credit Period (in days) have been calculated as under and this has been presented in table no. 1.1

$$= \frac{Debtors}{sales} \times 365$$

Table No. 1.1

Years	KSC M L-G	BCSML-G	KSCML-N	KSCML-S	KSCL
2006	1.55	4.52	2.51	1.47	2.63
2007	2.01	5.08	3.18	2.21	0.28
2008	13.2	9.17	4.98	11.40	0.16
2009	1.21	3.99	3.10	2.84	0.94
2010	6.15	5.36	3.04	4.60	2.24
Total	24.12	28.12	16.81	22.50	6.25
Average	4.82	5.62	3.36	4.50	1.25

Source- Compiled from Annual Reports.

Unit wise Analysis

KSCML-G: Table 1.1 reveals that average collection period of this company has 1.55 in 2006, in 2007 it is slight increased to 2.01 in 2008 suddenly it is highly increased and lead to 13.2, but it in 2009 it decreased to 1.21 and in 2010 it again increased and reached 6.15.

BCSFL: The above table demonstrates that the average collection period 9.17 which cost highest in the year 2008 and 3.99 which was lowest in the year 2009. During the study period fluctuating situation can be seen.

KSCML-N: The average collection period was 2.51 in the year 2006, in 2007 and 2008 it increasing 3.18 and 4.98 respectively but in 2009 and 2010 it was declining i.e, 3.10 and 3.04 respectively.

KSCML-S: The average collection period 11.40 days which highest in the year 2008 and 2.21 which was lowest in the year 2007. During the study period it was continuously increasing except in the year 2009.

KSCL: The average collection period of this company was continuously declining except in the year 2009. In 2006 ACP 2.63 days which was highest and 0.16 which was lowest in the year 2008.

Average Collection Period (In Days)

(ONE WAY ANOVA TEST)

Null Hypothesis: There in no significant difference in average credit period (in days) of sugar mills under study.

Alternative Hypothesis: There in significant difference in average credit period (in days) ratio of sugar mills under study.

Level of Significance: 5 percent

Critical value: 3.01

Degree of Freedom : 16

AVERAGE CREDIT PERIOD (IN DAYS)

(One Way ANOVA)

Source of variance	Sum of squares	Degree/freedom	Mean square	F calculated value	F critical value
Year	105.376	4	26.34	2.11	3.01
Firm	57.567	4	14.39	1.15	3.01
Error	199.357	16	12.45		
Total		24			

Since the calculated value of F for year is less than the tabulated value of F, we accept the null hypothesis and conclude that there is no significant difference between them.

Average Credit Period (in weeks) have been calculated as under and this has been presented in table no. 1.2

Table No. 1.2

Years	KSCML-G	BCSFL	KSCML-N	KSCML-S	KSCL
2006	0.22	0.64	0.35	0.21	0.37
2007	0.28	0.72	0.45	0.31	0.04
2008	1.89	0.13	0.17	1.62	0.23
2009	0.17	0.56	0.44	0.40	0.13
2010	0.87	0.76	0.43	0.65	0.31
Total	3.43	2.81	2.38	3.19	1.08
Average	0.686	0.562	0.476	0.638	0.216

Source- Compiled from Annual Reports

Unit Wise Analysis-

KSCML-G: Table 1.2 reveals that average collection period showing a fluctuating trend, this has slight increased from 0.22 in 2006 to 1.89 in 2008, therefore reduced to 0.17 in 2009 and again increased to 0.87 in 2010.

BCSFL: Average collection period in 2006 showed 0.64 days. In 2007 it increased to 0.72 days but from 2008 it went to increasing trend i.e, 0.13, 0.56 and 0.76 respectively.

KSCML-N: Average collection period from 2006 to 2008 was continuously increasing i.e, 0.35, 0.45 and 0.71 respectively but in 2009 it was decreased to 0.44 and in 2010 it was slight increased and lead to 0.43.

KSCML-S: Average collection period of this company during this period was continuously increasing except in the year 2009 it was decreased to 0.40.

KSCL: Average collection period showing a fluctuating trend. This has slight a decreased from 0.37 days in 2006 to 0.04 days in 2007, thereafter increased to 0.23 days in 2008 but in 2009 it was decreased to 0.13 and again in 2010 it was increased to 0.31 days.

AVERAGE CREDIT PERIOD (IN WEEKS)
(ONE WAY ANOVA TEST)

Null Hypothesis: There is no significant difference in Average credit (in weeks) of sugar mills.

Alternative Hypothesis: There is significant difference in Average credit (in weeks) of sugar mills.

Level of Significance: 5 percent.

Critical value : 3.01

Degree of freedom : 16

AVERAGE CREDIT PERIOD (IN WEEKS)
(ONE WAY ANOVA TEST)
Table No. 1.3

Sum of variance	Sum of squares	Degree of freedom	Mean sum of squares	Calculated value of F	Tabulated value of F at 5%
Years	1.240	4	0.310	1.349	3.01
Firm	0.687	4	0.171	0.747	3.01
Error	3.676	16	0.229		
Total		24			

Since, the calculated value of F for year in less than the tabulated value of F, we accept the null hypothesis and conclude that there is no significant difference between them.

Average Credit Period (in months) have been calculated as under and this has been presented in table no. 1.4

$$= \frac{Debtors}{sales} \text{ x 12}$$

Table No.1.4

Years	KSCML-G	BCSFL	KSCML-N	KSCML-S	KSCL
2006	0.05	0.14	0.08	0.04	0.08
2007	0.06	0.16	0.10	0.07	0.009
2008	0.43	0.30	0.16	0.37	0.05
2009	0.03	0.13	0.10	0.09	0.03
2010	0.20	0.17	0.43	0.15	0.07
Total	0.77	0.90	0.87	0.72	0.239
Average	0.154	0.18	0.174	0.144	0.0478

Source- Compiled from Annual Reports

Unit Wise Analysis

KSCML-G: Table 1.4 demonstrate that this collection period was continuously increasing from 2006 to 2008 i.e, 0.05, 0.06 and 0.43 respectively but in 2009 it was decreased to 0.03 and in 2010 again it was to 0.02.

BCSFL: In this company average collection period was increasing from 2006 to 2008 i.e, 0.14, 0.16 and 0.30 respectively but 2009 it was decline to 0.13 and in 2010 it was slight increased and lead to 0.17.

KSCML-N: Average collection period showed a increasing trend from, 2006 to 2008 i.e, 0.08, 0.10 and 0.16 respectively thereafter it decreased to 0.10 and again in 2010 it increased to 0.43.

KSCML-S: Average collection period showed a increasing trend from 2006 to 2008 i.e., 0.04, 0.07 and 0.37 respectively but in 2009 it decreased to 0.09 thereafter again in 2010 it increased to 0.15.

KSCL: In 2006 and 2007 average collection period was slight increasing i.e, 0.08 and 0.09 respectively but in 2008 and 2009 it was declining to 0.05 and 0.03 respectively thereafter it increased to 0.07 in 2010.

AVERAGE CREDIT PERIOD (IN MONTHS)
(ONE WAY ANOVA TEST)

Null Hypothesis: There is no significant difference in average credit (in months) of sugar mills.

Alternative Hypothesis: There is significance difference in average credit (in months) of sugar mills.

Level of significance: 5 percent

Critical value: 3.01

Degree of freedom: 16

Percentage of Debtors to current Assets have been calculated as under and this has been presented in table no. 1.5

$$= \frac{Debtors}{current\ Assets} \times 100$$

Years	KSCML-G	BCSFL	KSCML-N	KSCML-S	KSCL
2006	0.45	1.49	0.66	0.47	0.67
2007	0.62	1.48	1.37	0.65	0.10
2008	1.896	1.44	0.68	2.13	0.20
2009	0.32	1.59	0.92	0.90	0.29
2010	2.49	3.53	1.35	1.86	0.77
Total	5.77	9.53	4.98	6.01	2.03
Average	1.154	1.906	0.996	1.202	0.406

Source- Compiled from annual reports.

Unit Wise Analysis

KSCML-G: The above table no. 1.5 reveals that from 2006 to 2008 it was increasing i.e, 0.45, 0.62

and 1.89 respectively, thereafter it decline to 0.32 in 2009 but in 2010 it was again increased to 2.49

BCSFL: This company showed a declining trend from 2006 to 2008 i.e, 1.48 and 1.48 respectively thereafter it went on increasing trend i.e, 4.59 and 3.53 respectively.

KSCML-N: This company showing a fluctuating trend, this has increased from 0.66 in 2006 to 1.37 in 2007, thereafter it decreased to 0.68 in 2008 but in 2009 and 2010 it went on increasing trend i.e, 0.92 and 1.35 respectively.

KSCML-S: In between 2006 to 2008 it showed a increasing trend i.e., 0.47, 0.65 and 2.13 respectively thereafter it decreased to 0.30 and in 2010 it again increased to 1.86 days.

KSCL: This has decreased from 0.67 in 2006 to 0.10 in 2007, thereafter it showed a increasing trend in 2009 and 2010 i.e, 0.90 and 1.86 respectively.

Percentage of Debtors to current Assets
(ONE WAY ANOVA TEST)

Null Hypothesis: There is no significant difference in percentage of debtors to current assets of sugar mills.

Alternative Hypothesis: There is significant difference in Percentage of debtors to current assets of sugar mills.

Level of significance: 5 percent

Critical value: 3.01

Degree of freedom: 16

Percentage of Debtors to current Assets
(ONE WAY ANOVA TEST)
Table No. 1.6

Sum of Variance	Sum of squares	Degree of freedom	Mean sum of squares	Calculated value of F	Tabulated value Fat 5%
Years	0.152	4	0.038	0.655	3.01
Firm	0.057	4	0.014	0.246	3.01
Error	0.931	16	0.058		
Total		24			

Since, the calculated value of F for year is less than the tabulated value of F, accept the null hypothesis and conclude that there is no significance difference between them.

Percentage of Debtors to Total Assets have been calculated as under and this has been presented in table No.

$$= \frac{Debtors}{Total\ Assets} \times 100$$

Table No. 1.7

Years	KSCML-G	BCSFL	KSCML-N	KSCML-S	KSCL
2006	0.18	1.19	0.52	0.16	0.49
2007	0.20	1.05	0.70	0.20	0.06
2008	0.71	0.98	0.36	0.67	0.13
2009	0.11	0.95	0.41	0.25	0.17
2010	0.71	1.49	0.04	0.48	0.48
Total	1.91	5.66	2.04	1.76	1.33
Average	0.382	1.132	0.408	0.352	0.266

Source- Compiled from Annual Reports

Unit Wise Analysis

KSCML-S: The above table no. 1.7 demonstrate that during the study period from 2006 to 2008 it showed a slight increasing trend but in 2009 it decreased to 0.11 and in 2010 again it increased to 0.71.

BCSFL: During the study period from 2006 to 2009 it showed a declining trend i.e., 1.19, 1.05, 0.98 and 0.95 respectively thereafter it increased to 1.49 days in 2010.

KSCML-N: This company showing a fluctuating trend during the study period from 0.52 in 2006 to 0.71 in 2007, thereafter 0.36 in 2008 to 0.41 in 2009 and in 2010 lead to 0.04 days.

KSCML-S: From 2006 to 2008 it went on increasing trend i.e, 0.16, 0.20 and 0.67 respectively but in

2009 it decreased to 0.25 days thereafter again it increased to 0.48 days in 2010.

KSCL: This has decreased from 0.49 in 2006 to 0.06 in 2007, thereafter it showed a increasing trend from 2008 to 2010, i.e, 0.13, 0.17 and 0.48 days respectively.

Percentage of Debtors to Total Assets
(ONE WAY ANOVA TEST)

Null Hypothesis: There is no significant difference in Percentage of debtors to current assets of sugar mills.

Alternative Hypothesis: There is no significant difference in Percentage of debtors to current assets of sugar mills.

Level of Significance: 5 percent

Critical value: 3.01

Degree of freedom: 16

Percentage of Debtors to Total Assets
(ONE WAY ANOVA TEST)
Table No.1.8

Sum of variance	Sum of squares	Degree of freedom	Mean sum of squares	Calculated value of F	Tabulated value of at 5%
Years	0.211	4	0.052	0.897	3.01
Firm	2.490	4	0.622	10.579	3.01
Error	0.941	16	0.058		
Total		24			

Since, the calculated value of F for year is less than the tabulated value of F, accept the null hypothesis and conclude that there is no significant difference between them.

Consolidated Ratios

To study the management of receivables at industry level, consolidated ratios for the whole industry are presented in table No, 1.9

Years	2006	2007	2008	2009	2010
Average collection period (days)	9.80	2.60	10.68	3.09	11.64
Average collection period (week)	1.39	0.35	1.52	0.44	1.65
Average collection period (months)	0.32	0.08	0.35	0.17	0.38
% of Debtors to current assets	2.81	0.83	1.56	0.98	4.93
% of Debtors to Total assets	2.01	0.52	0.79	0.43	1.88

Source- Compiled from annual reports.

Average collection period (in days): This table no. 1.9 showed 11.64 days which was highest in the year 2010 and 2.60 days which was lowest in year 2007. During the study period there was increasing and decreasing trend.

Average collection period (weeks): During the period it showed a fluctuating trend. This has decreased from 1.39 weeks in 2006 to 0.35 weeks to 2007, thereafter it has increased to 1.52 weeks in 2008 but in 2009 again it decreased to 0.44 weeks and increased to 1.65 weeks.

Average collection period (months): This showed a fluctuating trend during the study period. There was slight increase and decrease 0.38 months which was slight highest in the year 2010 and 0.08 months which was slight lowest in the year 2007.

Percentage of Debtors to current Assets: There was increasing and declining trend during the study period 4.93 showed a highest percentage in the year 2010 and 0.83% which was lowest in the year 2007.

Percentage of Debtors to Total Assets: This also showed an increasing and decreasing situation. This has decreased from 2.01 in the year 2006 to 0.52 in

2007 and 1.88% in the year 2008, 2009 and 2010 respectively.

PROFITABILITY

A firm investigates different possibilities and forecasts the effect of each possibility on its future profit. As the level of receivables increase, cost of financing them goes up. However, with an increase in receivables, there are also increase in sales, which may result in an increase in profit. The relation between cost and benefit in the maintenance of receivables has to properly trace. If, in the ultimate analysis, it is discovered, that the benefit is greater than the cost, the decision would certainly be in favor of maintaining receivables.

Data compiled from Annual Reports regarding receivables, sales and profitability again shown in the table No. 1.10

Relationship between Receivables and sales and Profitability

Table No. 1.10

Years	KSCML-G			BCSFL			KSCML-N			KSCML-S			KSCL		
	Receivables	Sale	Profitability	Receivables	Sales	Profitability	Receivables	Sales	Profitability	Receivables	Sales	Profitability	Receivables	Sales	Profitability
2006	0.15	36.14	-5.26	0.87	70.24	-3.22	0.37	54.93	-0.45	0.16	40.03	-8.09	0.50	70.03	-2.36
2007	0.19	35.49	-17.38	0.90	64.71	-18.03	0.49	57.03	-17.27	0.23	38.30	-17.56	0.06	82.51	
2008	0.90	24.76	-13.40	1.15	45.79	-1.10	0.37	27.70	-15.11	1.01	32.35	-22	0.19	42.85	
2009	0.14	45.11	0.67	0.82	75.82	-2.24	0.40	47.78	-5.84	0.37	48.16	-5.22	0.22	86.36	-0.02
2010	0.92	55.09	-14.19	1.07	73.34	-5.35	0.44	53.64	-7.24	0.75	59.80	-8.58	0.63	103.44	+4.15

Source- Compiled from Annual Reports

Unit Wise Analysis

KSCML-G: The above table No. 1.10 demonstrate that in 2007 receivables increased from 0.15 to 0.19 but sales decreased and loss also increased. In 2008 receivables again increased but sales decreased and in this year loss decreased. In 2009 receivables decreased but sales increased and in this year table showed profit. In 2010 receivables and sales both increased but there was loss.

BCSFL: In 2007 receivables increased from 2006 but sales decreased. and loss also increased. In 2008 there was decrease in receivables, sales and loss. In 2009 receivables decreased but sales increased and loss also increased. In 2010 receivables increased but sales decreased and loss also increased.

KSCML-N: In 2007 receivables and sales both increased but los also increased in this year. In 2008 receivables, sales and loss all went on decreasing trend. In 2009 receivables decreased in this year. In 2010 all three components went on increasing track.

KSCML-S: In 2007 receivables increased but sales decreased and loss also increased from 2006. In 2008 this table showed same condition as 2007. In 2009 receivables decreased but sales increased and loss also decreased thereafter all three components increased in the year 2010.

KSCL: In 2007 receivables decreased from 2006 but sales increased and there was no profit no loss (loss decreased). In 2008 and 2009 receivables and sales both increased and in 2008 table showed no profit no loss but in 2009 it showed loss after that receivables and sales both increased and table showed profit in the year 2010.

Conclusion and suggestions:-

On the basis of above data analysis, one can conclude that:-

The average of Average collection period of BCSFL was highest 5.62 during the study period and was lowest 1.25 in KSCL, generally shorter the average collection period, the better is the quality of debtors. Hence, it seems better among all firms.

ANOVA F-test indicates that the calculated value is smaller than F critical value null hypothesis is rejected. Hence, it is conclude that average collection period in days, weeks and months, percentage of debtors to current assets and relationship between receivables, sales and profitability registered a fluctuating trend during the period under study. Hence, its relationship cannot be judged.

Suggestions:

The sugar mills must review and recast its infrastructure as well as managerial practices not only in the field of finance but also in the production. Marketing human resource should try to match the amount of working capital with the sales trends where there is a deficit of working capital, they should try to build an adequate amount of working capital, it should be invested either in trade securities or should be used to repay borrowings. Last but not least the management should try to adopt cost reduction techniques in their firms to get over this critical situation.

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