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**A STUDY ON PERFORMANCE APPRAISAL OF
DAKSHIN HARYANA BIJLI VITRAN NIGAM
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A Study on Performance Appraisal of Dakshin Haryana Bijli Vitran Nigam Limited

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Abstract – Electricity is a critical input for all kinds of economic activities like industrial, agriculture, and commercial and has a vital role to play in economic development and wealth generation for a country. It is also used as a source of light, heat and air-conditioning and as the motive force in the modern household appliances, thereby dramatically improving the quality of life. Electricity also has an overall positive impact on education, health and the environment – in reducing both emission and the pressure on forests. Lighting alone could not provide an economical market for electricity because its use was confined to the hours of darkness. Successful commercial generation depended upon the development of other uses for electricity and particularly on electric traction. There are number of studies covering the working of the State Electricity Board's and their role in the economic development of an economy. Hence an attempt is made by the researcher to examine the performance of Dakshin Haryana Bijli Vitran Nigam Limited in the present paper.

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INTRODUCTION

Electricity is a critical input for all kinds of economic activities like industrial, agriculture, and commercial and has a vital role to play in economic development and wealth generation for a country. It is also used as a source of light, heat and air-conditioning and as the motive force in the modern household appliances, thereby dramatically improving the quality of life. Electricity also has an overall positive impact on education, health and the environment – in reducing both emission and the pressure on forests. Lighting alone could not provide an economical market for electricity because its use was confined to the hours of darkness. Successful commercial generation depended upon the development of other uses for electricity and particularly on electric traction. There are number of studies covering the working of the State Electricity Board's and their role in the economic development of an economy.

Amongst the factors responsible for the financial distress in the past are; average tariff below cost of supply, skewed tariff rates, low revenue share of different consumer categories, theft and high T&D losses. As a result of the skewed tariff pattern, contribution to revenue by different consumer categories became increasingly different from their share in consumption. Only the contribution of the domestic category was in accordance with its share in consumption: for 21% consumption it contributed about 22% to revenue in 1997-98. During the same

year share of agriculture in the total sales was 43%, because of its very low tariff, its contribution to the revenue of the utility remained insignificant at 14% of the total revenue. In contrast, industry's share in consumption was 22% while it contributed 44% of the revenue.

TABLE - 1

Productivity Performance (ATR) of DHBVNL from 2001 to 2010 (In ` crore)

Year	Net Income (`)	Total Assets (`)	ATO
2001	1575.87	1910.10	0.83
2002	1771.35	2032.17	0.87
2003	1948.09	2040.43	0.95
2004	2125.13	2553.42	0.83
2005	2288.07	2257.42	1.01
2006	2588.78	3116.15	0.83
2007	3082.32	2613.47	1.18
2008	3869.00	2879.46	1.34
2009	4634.29	5999.02	0.77
2010	5263.94	8314.68	0.63
Average	2914.68	3371.63	0.92

TABLE - 2 Behaviour of Net Income

Year	b ₀	b ₁	t-value	R ²	ACGR
2001-2010	-114.055	.059	16.044	0.972	14*

TABLE - 3 Behaviour of Total Assets

Year	b ₀	b ₁	t-value	R ²	ACGR
2001-2010	-117.564	0.060	4.641	0.741	14*

The productivity performance (ATO) of DHBVNL from 2001 to 2010 is shown by table – 1. The highest net income of the power corporation is ` 5263.64 crore whereas the lowest net income of the Nigam is ` 1575.87 crore. The net income of the Nigam is increasing from 2001 to 2010 continuously whereas fluctuating trend is observed in total assets of the firm. The average amount of total assets is more as compared to the average amount of net income (` 3371.63 crore > ` 2914.68 crore). The ATO (Assets Turnover Ratio) of the Nigam was 0.83, 0.87, 0.95 and 0.83 for 2001, 2002, 2003 and 2004 respectively. The ATO for 2009 and 2010 is 0.77 and 0.63 respectively which are less in comparison of overall average (industry ATO = 0.89). The highest ATO of the DHBVNL is 0.95 for 2003 and 0.63 is the lowest ATO for 2010. The average ATO of the power corporation is 0.92 which is more as compared to the ATO of 2001, 2002, 2004, 2006, 2009 and 2010. The overall average of four corporations is 0.89 which is less in comparison of DHBVN's ATO. Annual compound growth rate for net income and total assets is 14 per cent which is significant at one per cent level of significance.

Table – 4

Profitability Performance (NPR) of DHBVNL from 2001 to 2010 (In ` crore)

Year	Net Profit (`)	Net Income (`)	NPR
2001	-191.69	1575.87	-0.12
2002	-75.40	1771.35	-0.04
2003	21.32	1948.09	0.01
2004	43.14	2125.13	0.02
2005	-200.45	2288.07	-0.09
2006	18.87	2588.78	0.01
2007	-102.26	3082.32	-0.03
2008	-284.38	3869.00	-0.07
2009	-265.25	4634.29	-0.06
2010	-779.01	5263.94	-0.15
Average	-181.51	2914.68	-0.05

Table-5

Behaviour of Net Profit

Year	b ₀	b ₁	t-value	R ²	ACGR
2001-2010	125.285	0.062	0.808	0.75	15*

Table-6

Behaviour of Net Income

Year	b ₀	b ₁	t-value	R ²	ACGR
2001-2010	-114.055	.059	16.044	0.972	14*

The profitability performance of the DHBVNL is shown by table – 2. The net profit of the corporation for 2001 and 2002 is negative value (` 191.69 crore & ` 75.40). In 2003 and 2004, the Vidyut Nigam Ltd. earned ` 21.32 crore and ` 43.14 crore respectively. The highest loss of the Nigam is ` 779.01 (loss) for 2010 whereas ` 75.40 is the lowest loss for 2002. The average net profit (loss) of the Corporation is ` 181.51 crore which is loss. The highest net income of the Corporation is ` 5263.94 crore whereas the lowest income of the Nigam is ` 1575.87 crore. The fluctuating trend is observed in net income of the Nigam from 2001 to 2010. The average income of the DHBVNL is `

2914.68 crore which is more as compared to the net income of 2001 to 2010. The NPR for 2001, 2002, 2005, 2007 to 2010 is -0.12, -0.09, -0.03, -0.07, -0.06, and -0.15 respectively. The average NPR is -0.05 which is negative. Annual compound growth rate for net profit and net income are 15 and 14 per cent which is significant at one per cent level of significance.

Table – 7

Secured Borrowing Performance (SBP) of DHBVNL from 2001 to 2010 (In crore)

Year	Secured Loan (₹)	Total Assets (₹)	SBP
2001	16.26	1910.10	0.01
2002	65.98	2032.17	0.03
2003	106.59	2040.43	0.05
2004	54.56	2553.42	0.02
2005	92.16	2257.42	0.04
2006	154.79	3116.15	0.05
2007	256.26	2613.47	0.10
2008	506.14	2879.46	0.18
2009	931.64	5999.02	0.16
2010	2631.26	8314.68	0.32
Average	481.56	3371.63	0.10

SPSS caluations for One-Sample Test

Test Value = .15						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
SBP	-1.744	9	.115	-.05400	-.1240	.0160

The secured borrowing performance (SBP) of the corporation is shown by table - 3. The fluctuating trend is observed in secured loan of the Nigam from 2001 to 2010. The highest secured loan is ₹ 2631.26 crore whereas the lowest secured loan is ₹ 16.26 crore for 2001. The average amount of secured loan is ₹ 481.56 crore which is more as compared to the secured loan of 2001 to 2007. The fluctuating trend is observed in total assets of the Nigam from 2001 to 2010. The highest amount of total assets is ₹ 8314.68 crore whereas the lowest amount of total assets is 1910.10 crore for 2001. The average amount of total assets is 3371.63 crore which is eight times more as compared to the average amount (481.56 crore) of secured loan. The SBP of the Nigam For 2001 is 0.01 which is thirty

time less as compared to the SBP for 2010 (0.32). The highest secured borrowing performance of the Nigam is 0.32 whereas the lowest SBP is 0.01. The testing value for SBP of the corporation is $t = -1.744$ at $df = 9$ and not significant at 5 percent level of risk. Thus the secured borrowing performance of the Nigam is not significantly changed from 2001 to 2010.

Table - 4

Unsecured Borrowing Performance (USBP) of DHBVNL from 2001 to 2010 (In ` crore)

Year	U. Secured Loan (₹)	Total Assets (₹)	USB P
2001	210.21	1910.10	0.11
2002	373.26	2032.17	0.18
2003	396.83	2040.43	0.19
2004	453.04	2553.42	0.18
2005	367.56	2257.42	0.16
2006	375.00	3116.15	0.12
2007	631.30	2613.47	0.24
2008	806.47	2879.46	0.28
2009	1451.84	5999.02	0.24
2010	1226.09	8314.68	0.15
Average	629.16	3371.63	0.19

One-Sample Test

Test Value = .26						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
USBP	-4.342	9	.002	-.07500	-.1141	-.0359

The unsecured borrowing performance of the corporation is shown by table - 4 from 2001 to 2010. The fluctuating trend is observed in unsecured loan of the corporation from 2001 to 2010. The highest amount of unsecured loan is ₹ 1451.84 crore whereas the lowest amount of unsecured loan is ₹ 210.21 crore for 2001. The average amount of unsecured loan is ₹ 629.16 crore which is less as compared to the amount of 2007 (₹ 631.30 crore), 2008 (₹ 806.47 crore), 2009 (₹ 1451.84 crore) and 2010 (₹ 1226.09 crore). The fluctuating trend is observed in total assets of the Nigam from 2001 to 2010. The highest amount of total assets is 8314.68 crore whereas the

lowest amount of total assets is ₹ 1910.10 crore for 2001. The average amount of total assets is ₹ 3371.63 crore which is five times more as compared to the unsecured loan of the corporation. The highest USBP of the corporation is 0.28 for 2008 and the lowest USBP is 0.11 for 2001. The average USBP of the DHBVNL is 0.19 which is more as compared to the value of 2001 (0.11), 2002 (0.18), 2004 (0.18), 2005 (0.16), 2006 (0.12) and 2010 (0.15). The t value of the USBP $t = -4.342$ at $df = 9$ and significant at 1 percent level of risk. Thus the unsecured borrowing performance of the corporation is highly significantly changed from 2001 to 2010.

EXPENSES PERFORMANCE OF DHBVNL

Table – 5

Depreciation Performance (Dep. Ratio) of DHBVNL from 2001 to 2010 (In crore)

Year	Dep. (₹)	Gross Fixed Assets (₹)	Dep. Ratio
2001	54.03	788.12	0.07
2002	53.95	847.19	0.06
2003	59.17	910.28	0.07
2004	59.76	1007.07	0.06
2005	64.80	1116.96	0.06
2006	59.73	1205.89	0.05
2007	57.43	1445.54	0.04
2008	68.65	1892.68	0.04
2009	97.01	2292.37	0.04
2010	41.74	2735.76	0.02
Average	61.62	1424.19	0.05

One-Sample Test

Test Value = 0.06						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Dep. Ratio	-1.784	9	.108	-.00900	-.0204	.0024

Table - 5 shows the depreciation performance of DHBVNL from 2001 to 2010. The fluctuating trend is observed in depreciation performance of the Nigam from 2001 to 2010. The highest amount of depreciation of the corporation is ₹ 97.01 crore for 2009 whereas ₹ 41.74 crore is the lowest amount of depreciation of the power corporation. The average amount of depreciation for ten years is ₹ 61.62 crore which is more as compared to the depreciation amount

of 2010 (₹ 41.74 crore). The gross fixed assets for 2001 is ₹ 788.12 crore whereas ₹ 847.19 crore for 2002. The increasing trend is observed in gross fixed assets of the power corporation from 2001 to 2010. The highest amount of gross fixed assets of the corporation is ₹ 2735.76 crore whereas ₹ 788.12 crore is the lowest depreciation amount for 2001. The average gross fixed assets of the power corporation is ₹ 1424.19 crore which is less as compared to GFA (Gross Fixed Assets) of 2010 (₹ 2735.76 crore). The depreciation ratio for 2001, 2002, 2003 and 2004 is 0.07, 0.06, 0.07 and 0.06 respectively. The fluctuating trend is observed in depreciation ratio of corporation from 2001 to 2010. The average depreciation ratio of the corporation is 0.05 which is more as compared to the dep. ratio of 2010. The depreciation ratio is also tested through t-test (two-tailed) at 5 % level of risk. The t value is $t = -1.784$ which is negative value with $df = 9$ and not significant at 10 % level of risk. Thus there is no significant change registered in ten years of DHBVNL.

Table - 6

Repair and Maintenance Performance (R & M Ratio) of DHBVNL from 2001 to 2010 (In ₹ crore)

Year	Repair (R & M) (₹)	Gross Fixed Assets (₹)	R & M Ratio
2001	16.94	788.12	0.02
2002	12.15	847.19	0.01
2003	14.51	910.28	0.02
2004	17.41	1007.07	0.02
2005	21.06	1116.96	0.02
2006	28.28	1205.89	0.02
2007	48.74	1445.54	0.03
2008	34.99	1892.68	0.02
2009	33.38	2292.37	0.01
2010	39.71	2735.76	0.01
Average	26.71	1424.19	0.02

One-Sample Test

Test Value = 0.03						
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
RM	-6.000	9	.001	-.01200	-.0165	-.0075

The repair and maintenance performance of DHBVNL from 2001 to 2010 is shown by table - 6. The fluctuating trend is observed in repair and

maintenance of the power corporation from 2001 to 2010. The highest repair expenses of the firm is ` 48.74 crore whereas ` 12.15 crore is the lowest repair expenses of the corporation. The average amount of repair and maintenance of the DHBVNL is ` 26.71 crore which is less as compared to the repair amount of 2010 (` 39.71 crore). The gross fixed assets for 2001 is ` 788.12 crore whereas ` 847.19 crore for 2002. The increasing trend is observed in gross fixed assets of the power corporation from 2001 to 2010. The highest amount of gross fixed assets of the corporation is ` 2735.76 crore whereas ` 788.12 crore is the lowest depreciation amount for 2001. The average gross fixed assets of the power corporation is ` 1424.19 crore which is less as compared to GFA (Gross Fixed Assets) of 2010 (` 2735.76 crore). The R & M ratio for all the year under consideration is approximately 0.02. The average R & M ratio is 0.02 which is less as compared to the ratio of 2010. The highest R & M ratio is 0.03 for 2007 whereas 0.01 is the lowest ratio. The R & M ratio is tested through t test where t value is $t = -6.00$ at $df = 9$ and significant at 1 % level of risk. Thus, there is significant change is recorded in R & M ratio from 2001 to 2010.

Table - 7

Employee Expenses Performance (ECP) of DHBVNL from 2001 to 2010 (In ` crore)

Year	Employee Cost (EC) (`)	Net Income (`)	ECP
2001	163.26	1575.87	0.10
2002	159.06	1771.35	0.09
2003	175.66	1948.09	0.09
2004	178.59	2125.13	0.08
2005	298.91	2288.07	0.13
2006	189.89	2588.78	0.07
2007	230.45	3082.32	0.07
2008	246.01	3869.00	0.06
2009	490.27	4634.29	0.11
2010	892.62	5263.94	0.17
Average	302.47	2914.68	0.10

One-Sample Test

	Test Value = 0.08				
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference
					Lower Upper
ECP	1.628	9	.138	.01700	-.0066 .0406

The employee expenses performance (ECP) of DHBVNL is shown by table - 7 from 2001 to 2010. The employee expenses for 2010 is ` 892.62 crore whereas ` 302.47 crore is the average amount of employee expenses. The employee expenses for 2009 is also more as compared to the average amount of employee expenses. The fluctuating trend is observed in employee expenses from 2001 to 2010. The highest net income of the corporation is ` 5263.94 crore whereas the lowest income of the Nigam is ` 1575.87 crore. The fluctuating trend is observed in net income of the Nigam from 2001 to 2010. The average income of the DHBVNL is ` 2914.68 crore which is more as compared to the net income of 2001 to 2010. The average employee expenses of the corporation is 10% of their net income during the period under reference. The employee cost performance for 2001 is 0.10 whereas 0.09 is ECP for 2002. The highest ECP of the power corporation is 0.17 for 2010 whereas 0.06 is the lowest ECP of the DHBVNL. The ECP of the nigam is also tested through t test. The SPSS calculated value for two-tailed test is $t = 1.628$ at $df = 9$ which is not significant at 5 % level of risk.

Table - 8

Total Expenses Performance (ETR) of DHBVNL from 2001 to 2010 (In ` crore)

Year	Total Expenses (`)	Net Income (`)	ETR
2001	1767.57	1575.87	1.12
2002	1823.47	1771.35	1.03
2003	1895.00	1948.09	0.97
2004	2081.99	2125.13	0.98
2005	2488.52	2288.07	1.09
2006	2560.61	2588.78	0.99
2007	3181.76	3082.32	1.03
2008	4153.38	3869.00	1.07
2009	4899.54	4634.29	1.06
2010	5979.26	5263.94	1.14
Average	3083.11	2914.68	1.05

One-Sample Test

	Test Value = 0.96					
	t	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
ETR	4.760	9	.001	.08800	.0462	.1298

The total expenses performance of the power corporation is shown by table - 8. The increasing trend is recorded in total expenses from 2001 to 2010. The highest total expenses of the corporation is ` 5979.26 crore whereas the lowest total expenses of the corporation is ` 1767.57 crore for 2001. The average amount for total expenses of the Nigam is ` 3083.11 crore for the period under reference for the study. The highest net income of the corporation is ` 5263.94 crore whereas the lowest income of the Nigam is ` 1575.87 crore. The fluctuating trend is observed in net income of the Nigam from 2001 to 2010. The average income of the DHBVNL is ` 2914.68 crore which is more as compared to the net income of 2001 to 2010. The expenses turnover ratio (ETR) of the Nigam for 2001 is 1.12 whereas 1.03 is for 2002. The ETR for 2003, 2004 and 2006 is 0.97, 0.98 and 0.99 respectively which are less than one but near to one. All the other years the ETR is more than one which means that the expenses are more than its income which is not a good indication of the performance. Therefore the corporation earned loss in maximum year under consideration. The t value at two-tailed test is $t = 4.76$ at $df = 9$ which is also significant at 1 % level of risk as calculated through SPSS.

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