



Financial Performance of Selected Companies in Indian Fast-Moving Consumer Goods Industry: A Data Envelopment Analysis (DEA)

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ABSTRACT

FMCG companies operate in a highly competitive and fast-changing environment. In order to stay ahead, they need to regularly renew their product portfolio to suit the ever-changing needs and preferences of their customers. In this challenging world economic scenario, the management of the company has to play a vital role in managing its finances. Keeping these changes in the business environment in India as a backdrop, the present paper makes an attempt to analyze the financial performance of MNCs in Indian FMCG industry during the post-liberalization era.

Introduction

The term 'FMCG' refers to the Fast Moving Consumer Goods, supplied in the retail market in accordance with the demand of consumers to meet up their basic necessities of life. India has always been a country with a big chunk of world population, be it the 1950's or at the twenty first century. In that sense, the FMCG market potential has always been very big in India. However, from 1950's to the 1980's investment in the FMCG industry was very limited due to low purchasing power and the government's priority of the small-scale sector. Hindustan Lever Limited (HLL) was probably the only MNC Company that stuck around and had its manufacturing base in India but later on the government's relaxation of norms encouraged more companies to enter the market and to go out for economies of scale in order to make FMCG products more affordable. By the turn of 20th century, Indian FMCG industries have changed significantly with the liberalization and growth of economy. Now, these FMCG companies



operate in a highly competitive and fast-changing environment. In order to stay ahead, they need to regularly renew their product portfolio to suit the ever changing needs and preferences of their customers. In this challenging world economic scenario, the management of the company has to play a vital role in managing its finances. Keeping these changes in the business environment in India as a backdrop, the present paper makes an attempt to analyze the financial performance of MNCs in Indian FMCG industry during the post-liberalization era.

Objectives of the Study

The study has the following objectives:

- i. To judge the liquidity of the selected multinational companies in the Indian FMCG industry during the post liberalization period.
- ii. To assess the profitability of the companies during the same period.
- iii. To measure the efficiency in managing current and non-current assets of the companies during the period under study.
- iv. To evaluate the overall financial performance of the companies under study by taking into consideration three important aspects of financial performance namely, liquidity, profitability and efficiency in asset management.
- v. To examine whether any uniformity among different aspects of financial performance of the companies exists.

Methodology of the Study

The study is based on fifteen companies which were selected from the top twenty companies in Indian FMCG industry belonging to “BT 500 India’s Most Valuable companies” (based on market capitalisation) published by the Business Today (<http://bt500.businessstoday.in>) in the year 2014. While making this selection purposive sampling procedure was adopted. The selected companies are listed in Appendix 2.1. The data for the period 2003-04 to 2017-18 used in the present study were collected from secondary sources, i.e. the Capitaline Corporate Database published by Capital Market Publishers (I) Ltd., Mumbai. Other secondary sources used in this study were CMIE reports, Books, magazines, journals, newspapers, published annual reports of the selected companies, research reports and internet sites. At the time of analysing the data simple mathematical tools like average, ratio, percentage etc.,



statistical tools like measures of central tendency, measures of dispersion etc., and statistical techniques like Kendall's correlation analysis, Data Envelopment Analysis (DEA) were used.

Empirical Results

Liquidity Analysis using Efficiency Scores (DEA)

In Table I an attempt was made to ascertain the liquidity position of the selected companies using data envelopment analysis (DEA) technique. In this analysis inventories, sundry debtors, loans and advances, cash and bank, and current liabilities were used as input variables. On the other hand, sales and operating profit were considered as output variables. The DEA model maximizes the output variables and minimizes the input variable to compare the relative performance of different companies. To benchmark companies, each of the companies was considered as a homogenous unit, and thus the DEA methodology was applied to assess a comparative performance of these companies. Using the DEA methodology, an efficiency score for each of the fifteen companies under study was ascertained on a scale of 1 to 100. Table I illustrates the efficiency scores [termed as Liquidity efficiency scores (LES), as the input variables were current assets and current liabilities] of the fifteen selected companies.

Table II depicts the rankings of the selected companies on the basis of average of LES and consistency of LES. It also reveals the ultimate LES ranks (based on the sum of ranks arrived by combining the former two ranks of the selected companies). Based on the average LES, ITC captured the highest rank, followed by Marico, Glaxo, Tata, Godfrey, Ruchi, Mondelez, HUL, Colgate, Nirma, Nestle, Dabur, Gujarat, Uflex, and Britannia respectively while in respect of the consistency aspect of LES, HUL secured the best rank followed by Colgate, Uflex, Tata, Godfrey, Gujarat, Mondelez, Marico, Britannia, Nirma, Dabur, Ruchi, Glaxo, ITC and Nestle respectively in that order. Finally on the basis of the combined score considering both the mean and consistency parameters, ITC captured the top most position and was followed by Marico, Glaxo, Tata, Godfrey, Ruchi, HUL, Colgate, Mondelez, Nirma, Uflex, Dabur, Gujarat, Nestle and Britannia respectively in that order.

Profitability Analysis using Efficiency Scores (DEA)

In Table III an attempt was made to ascertain the profitability position of the selected companies using DEA technique. In this analysis, direct expenses and indirect expenses were taken as the input variables while sales and operating profit were used as the output variables. Table III illustrates the efficiency scores [termed as Profitability Efficiency Scores (PES)] of the 15 companies.



Table IV depicts the rankings of the selected companies on the basis of average of PES, and consistency of PES. It also reveals the ultimate PES rank (based on the sum of ranks arrived by combining the former two ranks of the selected companies). Based on the average PES, ITC captured the highest rank, followed by Marico, Glaxo, Tata, Godfrey, Ruchi, Mondelez, HUL, Colgate, Nirma, Nestle, Dabur, Gujarat, Uflex, and Britannia respectively, while in respect of the consistency aspect of PES, HUL secured the highest rank followed by Colgate, Uflex, Tata, Godfrey, Gujarat, Mondelez, Marico, Britannia, Nirma, Dabur, Ruchi, Glaxo, ITC and Nestle respectively in that order. Finally on the basis of the combined score considering both the mean and consistency parameters, ITC captured the top most position and was followed by Marico, Glaxo, Tata, Godfrey, Ruchi, HUL, Colgate, Mondelez, Nirma, Uflex, Dabur, Gujarat, Nestle and Britannia respectively in that order.

Measurement of Efficiency of Asset Management using Efficiency Scores (DEA)

In Table V an attempt was made to measure the asset management efficiency of the selected companies precisely using DEA technique. In this analysis current assets and non-current assets were used as input variables while sales and operating profit were taken as output variables. Table V illustrates the efficiency scores [termed Asset efficiency scores (AES), as the input variables are current assets and non-current assets] of the 15 companies.

Table VI depicts the rankings of the selected companies on the basis of average of AES, and consistency of AES. It also reveals the Ultimate AES Rank (based on the sum of ranks as ascertained by combining the former two ranks of the selected companies). Based on the average AES, ITC captured the highest rank, followed by Marico, Glaxo, Tata, Godfrey, Ruchi, Mondelez, HUL, Colgate, Nirma, Nestle, Dabur, Gujarat, Uflex, and Britannia respectively, while in respect of the consistency aspect of AES, HUL secured the best rank followed by Colgate, Uflex, Tata, Godfrey, Gujarat, Mondelez, Marico, Britannia, Nirma, Dabur, Ruchi, Glaxo, ITC and Nestle respectively in that order. Finally on the basis of the combined score considering both the average and consistency parameters, ITC captured the top most position and was followed by Marico, Glaxo, Tata, Godfrey, Ruchi, HUL, Colgate, Mondelez, Nirma, Uflex, Dabur, Gujarat, Nestle and Britannia respectively in that order.

Measurement of Overall Financial Performance of the Selected Companies based on Data Envelopment Analysis

Considering the DEA based ultimate liquidity efficiency rank (as ascertained in Table II), DEA based ultimate profitability efficiency rank (as measured in Table IV) and DEA based ultimate asset efficiency



rank (as determined in Table VI), a composite score for each of the selected companies was computed in Table VII. On the basis of such composite scores assigned to the selected companies, the overall financial status of each of them was assessed more precisely. While ascertaining such composite scores a comprehensive test based on the sum of scores of separate individual ranking under the above mentioned three criteria was undertaken. Ultimate ranking was done on the principle that the lower the aggregate of ultimate liquidity efficiency rank (LER), ultimate profitability efficiency rank (PER) and ultimate asset efficiency rank (AER), the better is the financial performance. In this table, it was also attempted to examine whether there was any association among the ultimate ranks of liquidity, profitability and efficiency of the selected companies. This examination was carried out by using Kendall's coefficient of concordance (W). In order to test the significance of the value of W, Chi-square (Z^2) test was applied. Table VII shows that ITC which ranked first according to all the three criteria, such as ultimate LER, ultimate PER and ultimate AER had a combined score of 3 in the composite ranking. Similarly, Glaxo had a combined score of 12.5, HUL 14.5, both Marico and Mondelez 20, both Godfrey and Tata 20.5, Colgate 21, Nestle 24, Ruchi 27, Dabur 28, Gujarat 33.5, Uflex 34.5, Nirma 38 and Britannia 40. Based on the combined score considering both the average and consistency parameters of ultimate LER, ultimate PER and ultimate AER, ITC captured the top most position while Glaxo was placed in the second position and was followed by HUL, Marico, Mondelez, Godfrey, Tata, Colgate, Nestle, Ruchi, Dabur, Gujarat, Uflex, Nirma and Britannia respectively in that order.

Table VII also exhibits that the computed value of W was 0.016 which was not found to be statistically significant. It shows that no significant association among the ultimate LER, ultimate PER and ultimate AER was found. So, a lack of uniformity among the major financial aspects of the selected FMCG companies was observed during the period under study.

Concluding Remarks

- The net outcome derived from the analysis of overall financial performance of the selected companies considering the data envelopment analysis is that ITC and HUL proved themselves as the best performers in Indian FMCG industry in terms of overall financial performance during the study period. This was in tune with the reports published in Business Standard's website (www.business-standard.com) on 22nd of March, 2019 stating that ITC and HUL were the top two companies among the India's most-valued FMCG Companies in terms of market capitalisation.
- Although a positive relationship between turnover ratios and return is theoretically desirable, the results obtained from the panel data analysis made in this study failed to provide a strong evidence



of any relationship between them except in case of Inventory Turnover Ratio (ITR). It implies that only inventory management made significant contribution towards enhancing profitability in the selected FMCG companies during the study period.

- Another notable outcome of the panel data analysis is that there was a negative relationship between liquidity and profitability of the selected companies during the study period. The analysis of liquidity on the basis of the conventional ratios and DEA also provided similar evidence which confirms the above inference. This was also in confirmation with the results of the study conducted by Chavda (2017). It implies that the companies with too much liquidity had accumulated idle funds which not only gave zero returns but also negatively contributed to the profitability of the companies during the period under study.

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Appendix		
List of Companies under study		
SL.NO.	Company Full Name	Company Name as Abbreviated
1	Britannia Industries Ltd	Britannia
2	Colgate-Palmolive (India) Ltd	Colgate
3	Dabur India Ltd	Dabur
4	GlaxoSmithkline Consumer Healthcare Ltd	Glaxo
5	Godfrey Phillips India Ltd	Godfrey
6	Gujarat Ambuja Exports Ltd	Gujarat
7	Hindustan Unilever Ltd	HUL
8	ITC Ltd	ITC
9	Marico Ltd	Marico
10	Mondelez India Foods Pvt Ltd	Mondelez



11	Nestle India Ltd	Nestle
12	Nirma Ltd	Nirma
13	Ruchi Soya Industries Ltd	Ruchi
14	Tata Global Beverages Ltd	Tata
15	Uflex Ltd	Uflex



Table I Analysis of Liquidity Efficiency Score of the Selected Companies

COMPA	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20	M	
NY	17-	16-	15-	14-	13-	12-	11-	10-	09-	08-	07-	06-	05-	04-	03-	E	C.S
YEAR	18	17	16	15	14	13	12	11	10	09	08	07	06	05	04	A	.
Britannia	1.00	1.00	1.00	0.64	0.50	0.58	0.34	0.40	0.49	0.34	0.78	0.54	0.56	0.39	0.40	0.60	2.50
Colgate	0.77	0.96	1.00	0.87	0.91	0.78	1.00	1.00	0.98	0.75	0.64	0.83	0.39	0.51	0.43	0.79	3.76
Dabur	0.93	0.75	0.62	0.67	0.44	0.62	0.96	0.90	1.00	0.99	1.00	1.00	0.59	0.29	0.37	0.74	2.98
Glaxo	1.00	0.91	1.00	1.00	1.00	1.00	1.00	0.88	1.00	1.00	0.97	0.94	0.80	0.62	1.00	0.94	8.89
Godfrey	0.86	0.94	0.85	0.95	0.96	0.64	0.79	0.94	0.86	0.75	1.00	0.94	0.99	0.99	0.99	0.89	8.89
Gujarat	0.72	1.00	1.00	0.54	1.00	1.00	0.59	1.00	0.86	0.91	0.64	0.64	0.48	0.34	0.37	0.74	3.02
HUL	1.00	0.98	1.00	0.88	0.70	0.81	0.94	1.00	1.00	0.76	0.60	0.43	0.60	0.66	0.70	0.80	4.31
ITC	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.89	1.00	0.87	0.77	1.00	1.00	1.00	1.00	0.97	14.29
Marico	0.86	0.93	0.76	0.93	1.00	1.00	1.00	1.00	1.00	1.00	0.97	0.89	0.95	0.86	1.00	0.94	12.92
Mondelez	0.13	0.81	0.78	0.93	0.88	1.00	1.00	1.00	0.89	0.64	0.48	0.64	1.00	1.00	1.00	0.81	3.24
Nestle	0.19	0.25	0.29	0.39	0.50	0.96	1.00	1.00	1.00	0.83	1.00	1.00	1.00	0.96	0.90	0.75	2.33
Nirma	0.67	0.75	1.00	0.67	0.25	0.68	0.64	0.47	0.54	1.00	1.00	1.00	0.74	1.00	1.00	0.76	3.24
Dr. Deep Banerje Ruchi	0.68	0.74	0.66	0.75	0.65	0.95	0.87	1.00	0.92	1.00	0.61	0.75	0.97	1.00	1.00	0.84	5.61
Tata	1.00	1.00	0.80	0.70	0.80	1.00	0.80	1.00	1.00	1.00	1.00	0.70	0.80	0.60	0.90	0.90	8.90



	0	0	8	9	7	0	6	0	0	0	0	9	7	8	8	2	2
Uflex	0.6	0.6	0.5	0.7	0.8	1.0	0.8	0.5	0.4	0.4	0.6	0.5	0.4	0.6	0.3	0.6	3.6
	8	7	1	7	0	0	1	4	2	8	2	3	8	1	8	2	7

Source: Compiled and computed from Capitaline Corporate Database, Capital Market Publishers (India) Ltd., Mumbai

Table II Computation of Ultimate Liquidity Rank Considering Both the mean and Consistency Parameters of Liquidity Efficiency Score of the Selected Companies

COMPANY/YEAR	MEAN	Rank	C.S.	Rank	Sum of Ranks	Ultimate Rank
Britannia	0.60	15.00	2.50	14	29.00	15
Colgate	0.79	9.00	3.76	8	17.00	8
Dabur	0.74	12.00	2.98	13	25.00	12
Glaxo	0.94	3.00	8.89	4	7.00	3
Godfrey	0.89	5.00	8.89	5	10.00	5
Gujarat	0.74	13.00	3.02	12	25.00	12
HUL	0.80	8.00	4.31	7	15.00	7
ITC	0.97	1.00	14.29	1	2.00	1
Marico	0.94	2.00	12.92	2	4.00	2
Mondelez	0.81	7.00	3.24	10	17.00	8
Nestle	0.75	11.00	2.33	15	26.00	14
Nirma	0.76	10.00	3.24	11	21.00	10
Ruchi	0.84	6.00	5.61	6	12.00	6
Tata	0.92	4.00	8.92	3	7.00	3
Uflex	0.62	14.00	3.67	9	23.00	11

Table III Analysis of Profitability Efficiency Score of the Selected Companies

COMPANY	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001
	201	201	20	20	20	20	20	20	20	20	20	200	20	200	M		
	7-	6-	15-	14-	13-	12-	1-	-	09-	08-	07-	06-	5-	-	3-	A	C.
	18	17	16	15	14	13	12	11	10	09	08	07	06	05	04	N	S.



YEAR																	
Britannia	0.76	0.66	0.45	0.34	0.30	0.30	0.21	0.41	0.49	0.30	0.63	0.75	0.68	0.67	1.00	0.53	2.36
Colgate	0.85	0.80	0.78	0.84	0.86	0.91	1.00	0.76	0.74	0.56	0.69	0.74	0.65	0.61	0.41	0.75	5.02
Dabur	1.00	0.83	0.83	0.82	0.75	0.90	0.88	0.84	0.85	0.85	0.77	0.64	0.53	0.48	0.44	0.46	4.61
Glaxo	0.96	0.79	0.81	0.79	0.77	0.76	0.74	0.74	0.82	0.76	0.74	0.66	0.66	0.80	1.00	0.79	8.34
Godfrey	0.69	0.70	0.75	0.88	0.86	0.66	0.79	1.00	0.98	0.73	0.82	0.65	0.55	0.83	0.71	0.77	6.27
Gujarat	0.79	0.72	0.75	0.58	0.85	0.97	0.71	1.00	0.81	0.69	0.64	0.66	0.66	0.48	0.60	0.62	5.08
HUL	0.82	0.89	0.79	0.84	0.69	0.64	0.69	0.62	0.73	0.76	0.64	0.69	0.97	1.00	0.80	0.77	6.53
ITC	1.00	0.91	0.91	0.83	0.83	0.79	0.79	0.70	0.74	0.72	0.75	0.97	0.85	0.88	0.89	0.84	9.33
Marico	0.99	0.76	1.00	0.80	0.69	0.81	0.76	0.48	0.59	0.65	0.63	0.42	0.39	0.48	0.48	0.46	3.42
Mondelez	0.24	0.72	0.53	0.64	0.59	0.74	0.74	0.67	0.69	0.64	0.62	0.72	1.00	0.99	0.97	0.70	3.63
Nestle	0.56	0.90	1.00	0.90	0.80	0.80	0.86	0.00	0.80	0.80	0.90	0.80	0.90	0.70	0.70	0.00	7.90



		3	0	7	8	6		85	2	1	1	3	0	9	0	8	0
																5	0
Nirma	0.39	0.47	0.50	0.37	0.36	0.50	0.33	0.49	0.29	0.73	0.82	1.00	0.66	0.75	0.64	0.55	2.69
Ruchi	0.57	0.71	0.83	0.77	0.87	0.89	0.76	1.00	0.92	0.84	0.70	0.63	0.56	0.64	0.55	0.55	5.33
Tata	0.32	0.55	0.36	0.46	0.35	0.76	0.53	1.00	0.97	0.69	0.53	0.50	0.47	0.44	0.55	0.56	2.73
Uflex	0.46	0.40	0.46	0.50	0.49	1.00	0.65	0.63	0.52	0.46	0.40	0.44	0.75	0.72	0.71	0.57	3.42

Source: Compiled and computed from Capitaline Corporate Database, Capital Market Publishers (India) Ltd., Mumbai

Table IV Computation of Ultimate Profitability Rank Considering Both the mean and Consistency of Profitability Efficiency Score of the Selected Companies

COMPANY	MEAN	Rank	C.S.	Rank	Sum of Ranks	Ultimate Rank
Britannia	0.53	15.00	2.36	15	30.00	15
Colgate	0.75	8.00	5.02	8	16.00	8.5
Dabur	0.76	6.00	4.61	9	15.00	7
Glaxo	0.79	3.00	8.34	2	5.00	3
Godfrey	0.77	4.00	6.27	5	9.00	4.5
Gujarat	0.72	9.00	5.08	7	16.00	8.5
HUL	0.77	5.00	6.53	4	9.00	4.5
ITC	0.84	2.00	9.33	1	3.00	1
Marico	0.66	11.00	3.42	12	23.00	11.5
Mondelez	0.70	10.00	3.63	10	20.00	10
Nestle	0.85	1.00	7.90	3	4.00	2



Nirma	0.55	14.00	2.69	14	28.00	14
Ruchi	0.75	7.00	5.33	6	13.00	6
Tata	0.56	13.00	2.73	13	26.00	13
Uflex	0.57	12.00	3.42	11	23.00	11.5

Source: Compiled and computed from Capitaline Corporate Database, Capital Market Publishers (India) Ltd., Mumbai

Table V Analysis of Asset Efficiency Scores of the Selected Companies

COMPANY	YEAR															M.E.A.N	C.S.
	2018	2017	2016	2015	2014	2013	2012	2011	2010	2009	2008	2007	2006	2005	2004		
Britannia	0.90	1.00	1.00	1.00	0.98	1.00	0.90	1.00	0.90	0.82	1.00	1.00	1.00	1.00	0.73	0.95	1.15
Colgate	1.00	0.95	0.96	1.00	0.97	1.00	1.00	1.00	0.78	0.74	0.69	1.00	1.00	1.00	1.00	0.94	0.81
Dabur	1.00	1.00	0.99	0.94	0.91	1.00	0.89	1.00	1.00	1.00	1.00	0.93	0.98	0.93	0.81	0.96	0.92
Glaxo	0.66	0.79	1.00	1.00	1.00	1.00	1.00	1.00	0.95	1.00	0.93	0.82	0.78	1.00	1.00	0.93	0.86
Godfrey	1.00	0.93	0.94	0.71	0.74	0.98	0.77	0.81	0.81	0.66	0.69	1.00	1.00	0.91	1.00	0.86	0.88
Gujarat	0.50	0.70	0.80	0.80	0.70	0.80	0.90	1.00	0.90	1.00	1.00	1.00	1.00	0.80	0.60	0.80	0.60



	6	8	3	8	8	4	4	0	6	0	0	0	0	5	8	7	5
																	5
HUL	0.9	1.0	1.0	1.0	0.9	0.9	1.0	1.0	1.0	0.9	0.9	0.8	1.0	0.9	1.0	0.9	1
	4	0	0	0	1	8	0	0	0	9	2	2	0	5	0	7	8.
																	3
ITC	0.9	1.0	1.0	1.0	1.0	0.9	0.8	1.0	0.9	1.0	1.0	1.0	0.9	1.0	1.0	0.9	2
	5	0	0	0	0	7	6	0	8	0	0	0	3	0	0	8	5.
																	1
Marico	0.8	1.0	0.9	0.6	0.8	0.7	0.9	1.0	1.0	1.0	0.4	0.9	1.0	0.8	1.0	0.8	5.
	1	0	9	1	6	5	4	0	0	0	7	4	0	7	0	8	4
																	5
Mondelez	1.0	0.7	1.0	1.0	0.9	0.8	1.0	0.9	1.0	0.9	0.9	0.9	1.0	1.0	1.0	0.9	1
	0	5	0	0	1	6	0	7	0	4	3	0	0	0	0	5	3.
																	1
Nestle	0.5	0.5	0.4	0.4	0.8	1.0	1.0	1.0	1.0	0.9	0.9	1.0	1.0	1.0	1.0	0.8	3.
	0	5	7	6	1	0	0	0	0	4	6	0	0	0	0	5	7
																	4
Nirma	0.7	0.8	0.7	1.0	0.8	0.7	0.7	1.0	0.9	0.9	0.9	1.0	0.9	1.0	1.0	0.9	7.
	2	5	5	0	0	5	2	0	9	9	9	0	5	0	0	0	5
																	5
Ruchi	0.6	0.4	0.5	0.6	0.4	0.3	0.7	0.6	0.8	1.0	0.9	0.8	1.0	1.0	1.0	0.7	3.
	2	8	6	8	9	9	1	8	3	0	0	6	0	0	0	5	5
																	2
Tata	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	0.9	1.0	0.9	0.7	1.0	0.9	1
	0	0	0	0	0	0	0	0	0	0	8	0	8	8	0	8	7.
																	4
Uflex	1.0	1.0	0.9	1.0	1.0	1.0	1.0	0.7	0.5	0.6	0.8	0.8	1.0	1.0	0.9	0.9	6.
	0	0	6	0	0	0	0	4	5	7	3	5	0	0	9	1	2



Source: Compiled and computed from Capitaline Corporate Database, Capital Market Publishers (India) Ltd., Mumbai

Table VI Computation of Ultimate Asset Efficiency Rank Considering Both the Average and Consistency of the Asset Efficiency Score of the Selected Companies

COMPANY	MEAN	Rank	C.S.	Rank	Sum of Ranks	Ultimate Rank
Britannia	0.95	6.00	11.51	6	12.00	6
Colgate	0.94	7.00	8.61	7	14.00	7
Dabur	0.96	4.00	17.22	4	8.00	4
Glaxo	0.93	8.00	8.36	8	16.00	8
Godfrey	0.86	13.00	6.86	10	23.00	11
Gujarat	0.87	12.00	6.55	11	23.00	11
HUL	0.97	3.00	18.37	2	5.00	3
ITC	0.98	2.00	25.11	1	3.00	1
Marico	0.88	11.00	5.45	13	24.00	13
Mondelez	0.95	5.00	13.16	5	10.00	5
Nestle	0.85	14.00	3.74	14	28.00	14
Nirma	0.90	10.00	7.55	9	19.00	9
Ruchi	0.75	15.00	3.52	15	30.00	15
Tata	0.98	1.00	17.46	3	4.00	2
Uflex	0.91	9.00	6.24	12	21.00	10

Source: Compiled and computed from Capitaline Corporate Database, Capital Market Publishers (India) Ltd., Mumbai



Table VII Statement of Ranking of Different Measures of Overall Financial Performance of the Companies under Study (DEA)

COMPAN Y	Measures of Overall Financial Performance				ULTIMATE RANK
	ULTIMATE LER	ULTIMATE PER	ULTIMATE AER	SUM OF RANKS	
Britannia	15	15.0	10	40.0	15
Colgate	8	9	5	21.0	8
Dabur	12	7	9.0	28.0	11
Glaxo	3	3	6.5	12.5	2
Godfrey	5	5	11.0	20.5	6.5
Gujarat	12	8.5	13.0	33.5	12
HUL	7.0	5	3	14.5	3
ITC	1	1	1.0	3.0	1
Marico	2	12	7	20.0	4.5
Mondelez	8	10	2.0	20.0	4.5
Nestle	14	2	8	24.0	9
Nirma	10.0	14	14.0	38.0	14
Ruchi	6	6	15.0	27.0	10
Tata	3	13	5	20.5	6.5
Uflex	11	12	12	34.5	13

Kendall's coefficient of concordance among three sets of measures of financial performance on the basis of their averages (W) is 0.016 and Chi-square (Z²) value of W is 0.480 being statistically insignificant.

Source: Compiled and computed from Capitaline Corporate Database, Capital Market Publishers (India) Ltd., Mumbai