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An Empirical Study on Mergers: A Du Pont Analysis

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Abstract - The present paper uses du pont analysis on cash flow to understand the reason behind increase or decrease in the profitability of the firms. Paired sample t test id used. Sample comprises of 11 firms from Indian food industry that had merged during the period. The result of the study reveals that the profitability of the firms had decreased after the merger. Also total asset turnover had not increased for a single firm in the study. Operating cash flow on sales had increased for most of the firms.

Keywords – du point analysis, merger, asset.

I. INTRODUCTION

Indian firms are increasingly choosing mergers and acquisition strategy. Gupta and Banerjee (2017) say mergers and acquisition could either maximize shareholders profit or change in the financial restructure of the firms. Saboo and Gopi (2009) In India the firms choose mergers and acquisitions because of cut throat competition by the firms outside the India. Kumar and Bansal (2008) also says competiton in the business world in India is the reason for the firms to choose mergers and acquisition.

Paper deals only with merger not acquisitions. Merger is divided into three Horizontal, vertical and conglomerate merger (Manu Sharma P.18,19,20)

II. LITERATURE REVIEW

Mergers and acquisition ongoing debate is whether the operating performance is improved or decreased after the mergers and acquisitions. Previous researcher had different opinion on the post performance of the firms after the mergers and acquisitions.

Rani et al (2013) had studied the post merging performance of Indian firms using DU Pont analysis on cash flow. Sample consists of 383 companies which had executed mergers and acquisition during the period January 2003 to December 2003. Du pont analysis and paired sample t test is used for a period of 5 years before and 5 years after the merger. Study showed that mergers and acquisition improves the operating performance of the firm.

Lakhawani , Tiwari and Jauhari (2017) investigated the impact of mergers and acquisition on the financial performance of the firms using DUPont. Sample consists of 24 firms which had merged or acquired with other firms during the period 2006. ARIMA model is applied.Result revealed that total asset turn over showed the highest improvement and then Return on asset followed by net profit margin.

Sinha et al (2010) examined the financial impact of mergers and acquisitions in India. Ratio analysis and Wilcoxon signed rank test is used. Financial performances of the firms have increased after the merger and acquisition deal.

However certain researchers had strongly argued that mergers and acquisitions failed to improve the operating performance of the firms.

Gupta and Banerjee (2017) conducted an empirical study to understand the impact of mergers and acquisitions on the financial performance of the firms in India. Sample consists of 7 firms that had merged or acquired during the period 2001 – 2015. Ratio analysis and paired sample t test is employed. Profit of the firms had decreased after the mergers and acquisitions.

Verma and Sharma (2014) analysed the long term operating performance of Indian firms after the mergers and acquisitions. sample is constructed using 59 firms which had merged or acquired during the period 2001 to 2008. Ratio analysis, OLS regression and augmented dickey fuller test is applied. Study showed that the mergers and acquisitions are not able to increase the operating performance of the firms.

Kumar (2009) examined whether the financial performance of firma had increased after the mergers and acquisitions. Sample is made up by using 30 firms which had merged or acquired other firms during the period 1999 to 2002. Pre 3 years and post 3 years is taken. Ratio analysis and paired sample t test is used. Result revealed that the post merger financial performance of the firms had decreased compare to the pre merger financial performance of the firms.

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Kumar and Bansal (2008) researched the operating performance of firms after the mergers and acquisition deal. 74 firms which had merged or acquires during the period 2003 is chosen. Ratio analysis, correlation and chi square is applied for 3 years before and 3 years after the deal. Overall financial performance has improved after the deal but debt of the firms had also increased after the deal.

Objective of the study

- To understand the reason behind the increase or decrease in the acquiring firms after the merger
- To Know whether financial gain is achieved after the merger for the acquiring firms

H_0 There is no significant impact on the Operating cash flow based on asset of acquirer before and after the merger

H_0 There is no significant impact on the Operating cash flow based on sales of acquirer before and after the merger

H_0 There is no significant impact on the total asset turnover of acquirer before and after the merger

Table 1 : Distribution of Sample

Year	*Acquirer*	*Target*	*Deal Type*
20-Dec-06	A D F Foods Ltd.	Lustre Investment Pvt. Ltd	Merger
27-Jun-07	Bannari Amman Sugars Ltd.	Maheswara Sugars Ltd	Merger
28-Feb-06	Chordia Food Products Ltd.	Chordia Food-Park & Properties Ltd	Merger
7-Sep-06	Dhampur Sugar Mills Ltd.	D S M Hi-Tech Products Ltd	Merger
10-Jun-13	E I D-Parry (India) Ltd.	Sadashiva Sugars Ltd	Merger
30-Oct-06	Jeypore Sugar Co. Ltd.	Sri Rama Distilleries Ltd	Merger
3-Sep-09	Joonktollee Tea & Inds. Ltd.	Jamirah Tea Co. Ltd	Merger
22-Feb-07	K L R F Ltd.	Eltex Super Castings Ltd	Merger
11-Jan-07	Mawana Sugars Ltd.	Mawana Sugars Ltd	Merger
19-Oct-06	Modi Naturals Ltd.	J P Management Systems Pvt. Ltd	Merger
12-Nov-13	Tata Global Beverages Ltd.	Mount Everest Mineral Water Ltd	Merger

Data for the table is collected from the prowess IQ and capitaline

III. METHODOLOGY

For the study secondary data is collected. Exploratory research had applied. Purposive sampling is used in the study.

Present study is conducted by selecting 11 Indian acquirers that had merged during the period 2005 to 2016 in the food industry. Only 9 years data is considered for the study excluding the base year that is the event year. Ratio analysis and paired sample t test is employed. Data is collected from Capitaline and CMIE Prowess IQ

The study measures the performance in terms of operating cash flow. DU PONT Analysis is used to understand whether ***the "improvement is due to the improvement in profit margin per rupee of sales or by generating more sales revenue per rupee of investment" (Rani et al, 2013, p.69***)

"***The operating cash flow based on sales indicates the operating cash flow obtained through each unit of sales. Total assets turnover depicts the efficiency with which the firm uses its assets to generate sales***" (Rani et al (2013)

Operating cash flow on asset is a combination of operating cash flow on sales and asset turnover ratio ***(****Rani et al, 2013,*)

Table : 2 OCFRA

		Pre mean	Post Mean	T Value (post – pre)	Significance	Correlation
-4 ,+4	A D F Foods Ltd.	.09	.13	1.14	.318	.215
-4,+4	Bannari Amman Sugars Ltd.	.12	.07	-.54	.613	-.533
-4,+4	Chordia Food Products Ltd.	.07	.09	.57	.598	.841
-4,+4	Dhampur Sugar Mills Ltd.	.08	.06	-.23	.827	.258
-4,+4	E I D-Parry (India) Ltd.	.09	.04	-1.00	.373	.264
-4,+4	Jeypore Sugar Co. Ltd.	.14	.03	-2.64	.057	-.053
-4,+4	Joonktollee Tea & Inds. Ltd.	.05	.06	.26	.808	.925

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-4,+4	K L R F Ltd.	.12	.04	-1.13	.321	.268
-4,+4	Mawana Sugars Ltd.	.04	-.00	-2.79	.049	.049
-4,+4	Modi Naturals Ltd.	.04	.02	-.24	.819	.819
-4,+4	Tata Global Beverages Ltd.	.06	.02	-2.31	.082	.082

Table 2 shows the operating cash flow on asset before and after merger. Post mean shows the improvement in the operating cash flow on asset compare to the previous year. Post mean had improved for ADF Foods Ltd and Chordia Food products Ltd. For all other nine firms the operating cash flow on asset had decreased.

Null hypothesis is not rejected for the operating cash flow on asset. There is no significant difference between the operating cash flow on asset before and after the merger.

Operating cash flow on sales and total asset turnover ratio is employed to identify whether the operating cash flow had shown a negative trend due to the decrease in profit margin per rupee of sales or 'not because generating net sales revenue per rupee of investment'.

OCFRA =

OPERATING CASHFLOW/TOTAL ASSET

Or

OPERATING CASHFLOW /NET ASSET **X** NET SALES/TOTAL ASSET

Where

OCFRS = OPERATING CASHFLOW/NETSALES

TATR=NETSALES/TOTAL ASSET

So **OCFRA = OCFRS X TATR (Rani et al , 2013, p.70)**

Table 3 :OCFRS

		Pre mean	Post Mean	T Value (post – pre)	Significance	Correlation
-4 ,+4	A D F Foods Ltd.	.07	.15	2.23	.089	.997
-4,+4	Bannari Amman Sugars Ltd.	.16	.08	-.57	.593	.259
-4,+4	Chordia Food Products Ltd.	.08	.08	.15	.881	.878
-4,+4	Dhampur Sugar Mills Ltd.	.08	.08	.01	.991	.442
-4,+4	E I D-Parry (India) Ltd.	.09	.07	-.27	.794	.254
-4,+4	Jeypore Sugar Co. Ltd.	.22	.15	-1.13	.318	.326
-4,+4	Joonktollee Tea & Inds. Ltd.	.07	.15	.97	.384	-.736
-4,+4	K L R F Ltd.	.06	.02	-.90	.416	-.651
-4,+4	Mawana Sugars Ltd.	.04	.00	-2.18	.095	.592
-4,+4	Modi Naturals Ltd.	.01	.00	-.35	.742	-.053
-4,+4	Tata Global Beverages Ltd.	.12	.12	-2.11	.102	.238

Table 3 shows Operating cash flow on sales for pre and post merger period. Operating cash flow on sales has improved for 5 firms that is for ADS Foods Ltd, Jeypore Sugars Co Ltd, Joonktolle tea and Inds Ltd and Tata Global Beverage Ltd. However for Chorida Food Products Ltd and Dharmpur Sugar Ltd there is no change for the operating cash flow on sales. But in the present study for four firms the operating cash flow on sales have decreased.

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Null Hypothesis is not rejected for the operating cash flow on sales. There is no significant difference between the pre and post operating cash flow on asset.

Table 4 : TATR

		Pre mean	Post Mean	T Value (post – pre)	Significance	Correlation
-4 ,+4	A D F Foods Ltd.	1.16	.86	-4.25	.013	.666
-4,+4	Bannari Amman Sugars Ltd.	29.50	12.66	-.85	.695	.008
-4,+4	Chordia Food Products Ltd.	29.50	12.66	-4.21	.695	.724
-4,+4	Dhampur Sugar Mills Ltd.	.79	.73	-.25	.814	.160
-4,+4	E I D-Parry (India) Ltd.	1.02	.52	-2.93	.043	-.869
-4,+4	Jeypore Sugar Co. Ltd.	.65	.41	-2.87	.045	-.571
-4,+4	Joonktollee Tea & Inds. Ltd.	.74	.48	-3.11	.036	.766
-4,+4	K L R F Ltd.	1.98	1.60	-3.41	.027	.038
-4,+4	Mawana Sugars Ltd.	.95	.95	.00	.994	-.337
-4,+4	Modi Naturals Ltd.	4.09	2.87	-5.47	.005	.712
-4,+4	Tata Global Beverages Ltd.	.57	.40	-3.06	.037	.038

Table 4 shows that Total Asset Turnover ratio has decreased for ten companies except for Mawane Sugars Ltd. For Mawane Sugar Ltd the total asset turnover ratio has not shown any difference. However the performance of the total asset turnover ratio of the Indian acquiring firms after the merger is not satisfactory.

Null hypothesis is not accepted for the total asset turnover. There is a significant difference between the pre and post total asset turnover of the acquiring firms.

IV. MAJOR FINDINGS

- The study shows that the decrease in operating cash flow on asset is mainly because the company is not using the total asset efficiently in order to generate sales. Operating cash received on each unit of sales are better than total asset turnover ratio.
- Financial gain is not created for the Indian acquiring firms after the merger

V. CONCLUSION

Present Study shows that for food industry in India the profitability have decreased after the merger. However the cause of this reduction is mainly because of the total asset of the firm is not properly utilized. Indian firms should use the asset very efficiently. But then many Indian studies had argued the mergers and acquisitions increase the profit however the decrease is mainly because of not utilizing the asset properly but then even operating cash flow on sales also did not show a very big change so Indian firms are not able to create financial gain after the mergers and acquisitions. Mergers and acquisition itself would have been to face the increasing competition in the Indian business houses so in this situation even though the firms do not create financial gain they may prefer to merge. Operating profit is not improved but to survive the merger would be very necessary for the firms but then if wealth is not created then may be the empire building motive also could be the reason. Raj Kumar (2009) also inferred in his study that empire building motive reduced the post merges profit of the firms. However the present paper only deals whether financial synergy is created the future researchers could investigate more on the motives of the merger in India. Raj Kumar (2009) further pointed out other reason for the decrease in firm performance after that is when firm become bigger the managers may feel it difficult to manage the firm so not always the big is better. Sometimes Hubris (Rolls 1986) that is even when the takeover will not be able to produce any gain the acquirer since they had mistakenly estimated the value of target acquirer will acquire the target. Hubris (Rolls 1986) also would be the reason for the decreased operating profit.

In the present study possible reason for the decrease in operating profit in Indian food industry would be because the Acquirer had acquired not to create the financial gain but to offset the increased competition because previous researchers Saboo and Gopi (2009), Kumar and Bansal

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(2008) also says in India competition forces the firm to merge or acquire with other firms.

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