

CHAPTER 7:

COST STRATEGIES ADOPTED BY THE FIRMS

7.1 Introduction: In the previous chapter, we have examined cost efficiency and got the cost efficient companies from the selected Industries by applying DEA models and DEA Slack Base Model during the study periods from March 2003 to March 2014. We have also got overviews of cost efficiency of the companies. Now, we have analyzed the cost strategies they have followed by applying the modified DuPont model. This chapter presents the analysis of objective number four of the study, i.e. to analyze the cost strategies adopted by the companies. In our study panel data set has covered 12 years, i.e. in pre-recession periods (from March 2003 to March 2008) and post-recession periods (from March 2009 to March 2014).

7.2 Objective: To analyze the cost strategies adopted by the firms during the study periods.

7.3 Methodology Applied: Since the present study is based on secondary data, the only reliable source for identifying the cost structure strategies adopted by the companies is the published Annual Reports. However, none of the selected companies has mentioned anything about the cost strategies adopted during the study periods. Hence, the present study relay on modified DuPont model based indicators in order to identify the strategies adopted by the companies during the study periods. We have already discussed details about methodology in *Chapter 3- Research Methodology*.

7.4 Analysis and Interpretation: In order to study the strategies adopted by the firms across the selected industries we have followed modified DuPont model and we have observed the change of others components during the study periods. Here, we have calculated industry average of the selected variables by taking the average financials data of selected sample companies' from the respective industry. These industry averages have set the benchmark of that industry.

7.4.1 IT-Software Industry

In Software Industry we have applied modified DuPont model of selecting 21 companies during pre-recession (2003-08) and post-recession (2009-14) periods. Table below give us the details-

TABLE 7.1: MODIFIED DUPONT MODEL ANALYSIS OF IT-SOFTWARE INDUSTRY DURING PRE (2003-08) AND POST-RECESSION (2009-14) PERIODS.

Co_Name	Year End	ROE (%)	AT	RONOA%	OPM (%)	APATM (%)	ROA%	Average MS %
3i Infotech	Pre *	11.385	0.57	18.56	24.26	11.66	5.19	0.50
	Post *	8.775	1.18	57.72	40.44	-36.17	-3.13	0.21
Cyient	Pre	16.42	3.01	79.32	27.85	15.29	14.04	0.38
	Post	15.90	2.98	87.53	29.01	18.33	14.40	0.34
eClerx Services	Pre	234.94	8.86	181.90	36.98	32.57	208.04	0.08
	Post	47.385	10.02	403.61	39.99	31.48	42.01	0.17
Financial Tech.	Pre	25.48	2.28	167.71	65.65	52.83	23.23	0.09
	Post	9.1583	1.14	78.80	72.13	50.43	8.72	0.16
Firstsour. Solu.	Pre	-2.315	3.18	56.28	12.21	0.23	1.84	0.40
	Post	6.7533	6.28	167.64	28.73	8.98	4.32	0.31
HCL Tech.	Pre	19.09	4.95	176.48	36.34	29.88	18.96	2.81
	Post	28.84	5.34	160.45	30.03	21.03	23.14	2.88
Hexaware Tech.	Pre	15.915	3.27	86.22	24.92	17.67	12.14	0.47
	Post	20.573	3.34	101.70	30.44	23.68	20.72	0.27
Infosys	Pre	40.39	5.80	208.06	35.93	27.41	35.03	14.34
	Post	29.84	6.80	253.10	37.31	26.07	27.16	12.35
KPIT Tech.	Pre	26.778	4.50	73.06	16.75	11.62	15.57	0.37
	Post	19.033	3.92	90.86	24.48	14.35	12.87	0.27
Lycos Internet	Pre	15.217	3.07	61.69	21.36	10.50	9.06	0.04
	Post	14.025	10.40	147.84	14.15	6.04	7.36	0.16
Mindtree	Pre	28.12	7.13	102.85	13.80	6.89	11.51	0.53
	Post	23.99	6.44	121.83	18.23	11.44	21.00	0.75
Oracle Fin.Serv.	Pre	19.90	10.32	329.96	30.81	24.15	17.36	1.91
	Post	17.65	8.65	394.31	46.29	34.78	16.51	1.11
Persistent Sys.	Pre	30.56	1.85	60.06	32.94	23.13	23.46	0.28
	Post	19.57	3.14	92.04	28.86	18.76	17.53	0.32
Polaris Consulta	Pre	11.288	3.91	58.61	15.49	8.29	10.22	1.30
	Post	16.797	6.44	92.18	14.30	9.84	15.06	0.64
Rolta India	Pre	18.555	1.32	72.42	54.00	29.83	13.23	0.89
	Post	21.81	0.49	31.04	64.36	31.03	7.06	0.53
Tata Elxsi	Pre	48.042	0.65	11.75	19.38	13.47	41.31	0.40
	Post	26.698	0.17	2.46	16.11	9.30	21.26	0.21
TCS	Pre	46.96	4.36	127.64	19.64	16.12	32.49	15.90
	Post	44.06	4.17	132.94	32.56	25.83	38.80	15.18
Tech Mahindra	Pre	46.02	7.79	194.71	24.79	18.54	25.02	2.43
	Post	31.86	3.34	70.61	22.16	15.06	20.92	2.76
Vakrangee	Pre	11.77	1.02	29.67	28.35	14.01	9.49	0.11
	Post	18.88	2.16	53.28	24.25	8.52	8.58	0.41
Wipro	Pre	31.88	7.54	190.38	25.26	19.33	26.71	15.27
	Post	25.55	7.27	179.58	24.54	17.37	18.66	12.27
Zensar Tech.	Pre	17.625	3.40	63.03	18.09	10.72	18.23	0.35
	Post	27.768	7.01	172.13	23.56	15.78	24.95	0.27
Industry Average**	Pre	34	4.23	111.92	27.85	18.77	17.15	
	Post	22.62	4.79	137.7	31.52	17.23	7.77	

Source: Compiled and calculated by the researcher

PBDIT=Profit before depreciation interest tax; AT =Asset Turnover; OPM=Operating Profit Margin; APATM (%)=Adjusted Profit After Tax margin; ROA= Return on Assets; MS= Market Share; RONO A = OPM x AT; ROA=RNP/Total Assets; Average Market Share (MS)%= (Co's Turnover/ Industry aggregate turnover) X 100.

* Recession **Industry average based on 21 companies during the pre and post recession periods.

It is seen from the above table 7.1, that TCS is the market leader in post-recession periods but unable to improve their average market share during post-recession

periods, i.e. from 15.90% to 15.18%. OPM mean of TCS increasing from 19.64% to 32.56% and APATM mean increasing from 16.12% to 25.83% respectively. Market share of Infosys decline during post-recession periods, i.e. from 14.34 % to 12.35; followed by Wipro (from 15.27 to 12.27%), HCL Tech. (from 2.81 to 2.88%), Tech Mahindra (from 2.43% to 2.76%), Oracle Fin.Serv. (from 1.91 to 1.11%) during post-recession periods. Oracle Fin.Serv.is enjoying high OPM mean in post-recession periods, i.e. 46.29% and 30.81% in pre recession periods, but their market share is very low (1.11 %) in post-recession periods. Higher asset turnover ratio, the better the company is performing, since higher ratios, imply that the company is generating more revenue per rupee of assets. AT ratio of Oracle Fin.Serv.is the highest among selected companies, i.e. 10.3 % in pre-recession periods against 8.65% in post-recession periods. AT ratio of TCS (4.17%), Wipro (7.27%) and Infosys (6.8%) in post-recession periods. ROE of TCS is very high in the entire study periods, i.e. 46.96% & 44.06% respectively in pre & post-recession periods. Most of the leading companies ROE erode in post-recession periods except HCL Technologies from 19.09% to 28.84%, and Vakrangee from 11.77% to 18.88%. ROA also are in decreasing mode in post-recession periods, except TCS (39%) and HCL Technologies (23%) against 32% & 19% respectively in pre-recession periods.

Many researchers (Selling and Stickney, 1989; Palepu and Healy, 2008; Soliman, 2008; Little et al., 2009; and Philip et al., 2011) have empirically employed the modified DuPont model to analyze the strategy adopted by firms during a period. According to the above mentioned researchers, a firm can be successful with either a *cost leadership strategy* through generating asset turnover (high asset turnover and low OPM) or a *differentiation strategy* by generating profit margins (low asset turnover and high OPM) or follow *hybrids or mixed strategies* (both OPM & AT is high). In order to apply the modified DuPont model following the extant literature, the industry average of all the indicators have been taken as benchmark.

The industry average of all the indicators during pre and post recession periods are shown in the following table:

TABLE 7.2: IT-SOFTWARE INDUSTRY AVERAGE OF DIFFERENT INDICATORS

Indicators	Pre-Recession period	Post-Recession period
Asset turnover (AT)	4.23	4.79
Operating Profit Margin (OPM)%	27.85	31.52
Return on Net Operating Assets (RONOA)%	111.92	137.7
Return on assets (ROA)%	17.15	7.77
Adjusted Profit After Tax margin (APATM)%	18.77	17.23

Source: Compiled and calculated by the researcher

Based on the industry average, we have segregate the top companies are as follows-

Companies with high AT ratio and low OPM in pre-recession period are Wipro (AT= 7.54, OPM=25.26 %, RONOA=190.38, ROA= 26.71%, Avg.MS= 15.27%), TCS (AT= 4.36, OPM= 19.64%, RONOA= 190.38, ROA= 32.49%, Avg.MS= 15.90%) and Tech Mahindra (AT= 7.79, OPM=24.79 %, RONOA=194.71, ROA= 25.02%, Avg.MS= 2.43%). According to the general interpretation, these companies have followed *cost leadership strategy* in pre-recession period (Selling and Stickney, 1989; Palepu and Healy,2008; Soliman,2008; Little et al., 2009; and Philip et al., 2011).

Companies with high AT ratio and high OPM in pre-recession period are; Infosys (AT=5.80, OPM=35.93 %, RONOA=208.6, ROA=35.03%, Avg.MS= 14.34%), HCL Tech. (AT= 4.95, OPM=36.34 %, RONOA=176.48, ROA= 18.96%, Avg.MS= 2.81%) and Oracle Fin.Serv. (AT= 10.32, OPM=30.81%, RONOA=329.96, ROA= 17.36%, Avg.MS= 1.91%). Thus, the above companies have followed *hybrids strategy* in pre-recession periods.

Again, Companies with high AT ratio and low OPM in post-recession period are Wipro (AT=7.27, OPM= 24.54%, RONOA=179.58, ROA= 18.66%, Avg.MS= 12.27 %) and HCL Tech. (AT= 5.34, OPM=30.03%, RONOA=160.45, ROA= 23.14%, Avg.MS= 2.88%), and they have followed *cost leadership strategy* in post-recession periods.

On the other hand, Companies with low AT ratio and high OPM in post recession period is TCS (AT= 4.17,OPM=32.56%,RONOA=132.94, ROA=38.80%, Avg.MS= 15.18%), which has followed *differentiation strategy* in post-recession periods.

Lastly, Companies with high AT ratio and high OPM in post recession period are; Infosys (AT=6.80, OPM=37.31%, RONOA=253.10, ROA=27.16%, Avg.MS= 12.35%) and Oracle Fin. Serv. (AT= 8.65, OPM=46.29%, RONOA=, ROA= 16.51%, Avg.MS= 1.11%). Thus, the companies have followed *hybrids strategy* in post recession period.

7.4.2 Banking Industry

For the banking industry, required parameters for modified DuPont model are calculated in table 7.3.

TABLE 7.3: MODIFIED DUPONT MODEL ANALYSIS OF BANKING INDUSTRY DURING PRE (2003-08) AND POST (2009-14) RECESSION PERIODS.

Co_Name	Year End	OPM(%)	AT	RONOA%	ROE(%)	Market Share %
Allahabad Bank	Pre *	65.31	0.21	13.59	28.83	1.87
	Post *	70.26	0.26	18.3	17.34	2.08
Andhra Bank	Pre	63.43	0.23	14.52	27.38	1.39
	Post	71.66	0.33	23.68	18.11	1.55
Axis Bank	Pre	64.84	0.17	10.71	21.34	1.45
	Post	63.89	0.23	14.59	18.98	3.07
Bank of Baroda	Pre	59.75	0.2	12.35	15.17	3.81
	Post	71.42	0.3	21.41	19.33	4.18
Bank of India	Pre	62.66	0.23	14.6	21.49	3.74
	Post	70.12	0.29	20.64	16.63	4.15
Canara Bank	Pre	65.58	0.22	14.77	22.56	4.52
	Post	75.95	0.28	21.16	19.4	4.39
Central Bank of India	Pre	59.89	0.19	11.59	17.61	2.92
	Post	71.23	0.27	18.93	12.27	2.78
Corporation Bank	Pre	63.14	0.22	14.08	16.58	1.39
	Post	75.46	0.24	18.32	17.46	1.80
HDFC Bank	Pre	54.32	0.17	8.91	18.76	2.18
	Post	58.3	0.29	16.85	18.35	4.14
ICICI Bank	Pre	68.42	0.21	14.75	16.67	7.29
	Post	68.62	0.23	15.54	10.63	5.61
IDBI Bank	Pre	86.34	0.26	22.42	8.14	2.94
	Post	78.95	0.24	18.99	11.67	3.27
Indian Bank	Pre	60.69	0.18	10.98	13.98	1.70
	Post	69.82	0.29	20.19	19.66	1.76
Indian Overseas Bank	Pre	63.45	0.22	13.87	30.65	2.37
	Post	69.99	0.29	20.39	11.93	2.49
IndusInd Bank Ltd	Pre	68.76	0.24	16.64	17.54	0.60
	Post	68.2	0.3	20.76	17.77	0.75
Kotak Mahindra Bank Ltd	Pre	49.78	0.21	10.34	12.03	0.38
	Post	59.54	0.28	16.91	13.19	0.87
Oriental Bank of Commerce	Pre	66.72	0.23	15.44	20.59	2.14
	Post	74.11	0.28	21.07	13.26	2.27
Punjab Natl. Bank	Pre	58.76	0.21	12.75	21.63	4.87
	Post	66.97	0.29	19.37	20.76	5.09
St Bk of India	Pre	61.14	0.2	12.45	17.91	18.13
	Post	63.95	0.29	18.5	14.28	15.70
Syndicate Bank	Pre	62.01	0.21	13.56	29.27	2.20
	Post	72.14	0.33	23.75	18.86	2.24
UCO Bank	Pre	64.94	0.21	14.01	18.39	2.07
	Post	73.63	0.27	20.11	19.38	2.13
Union Bank (I)	Pre	65.39	0.22	14.71	25.04	2.95
	Post	70.75	0.28	20	19.06	3.13
Industry Average**	Pre	63.59	0.21	13.67	20.07	
	Post	69.76	0.28	19.5	16.59	

Source: Compiled and calculated by the researcher

Notes: AT(Asset Turnover)=(Interest Earned/Net Assets), OPM=Operating Profit Margin, MS=Market Share; AT (Asset Turnover) = (Sales / Net Operating Assets); RONO A =Return on net operating assets; Average Market Share (MS)%= (Co's Turnover/ Industry aggregate turnover) X 100.

* Recession **Industry average based on 21 companies during the pre and post recession periods.

It is seen from the above *table 7.3* that, State Bank of India is the market leader among the PSU banks in pre and post recession periods although the average market share has decreased from 18.13% in pre recession period to 15.71% in post recession period. Among private sector banks, ICICI Bank is the leader during the entire study periods but the Avg. MS of the bank has come down from 7.29% in pre recession to 5.62% in post recession periods. On the other hand, most of the selected banks were able to improve their market share during post-recession periods. Particularly Axis Bank has achieved high growth of their market share, i.e. from 1.45% to 3.08% during the said periods.

Now in order to find out the cost strategies adopted by the banks, first we have computed the average of all the indicators during pre recession and post recession period. Considering industry averages as benchmark for the respective indicators, bank specific decision on cost strategies has been ascertained. The industry average values of all the indicators are given in the following *table 7.4*.

TABLE 7.4: BANKING INDUSTRY AVERAGE OF DIFFERENT INDICATORS

Indicators	Pre-Recession period	Post-Recession period
Asset turnover (AT)	0.21	0.28
Operating Profit Margin (OPM)%	63.59	69.76
Return on Net Operating Assets (RONOA)%	13.67	19.50
Return on equity (ROE)%	20.07	16.59

Source: Complied and calculated by the researcher

Based on the industry average, we have segregate the top companies are as follows-

Companies with high AT ratio and low OPM in pre recession period are Bank of India (AT=0.23,OPM=62.66%, RONOA=14.6, ROE=21.49, Avg.MS=3.74%), Corporation Bank (AT=0.22, OPM=63.14%, RONOA=14.08, ROE=16.58, Avg.MS=1.39%), and Indian Overseas Bank (AT=0.22, OPM=63.45%, RONOA =13.87, ROE=30.65, Avg.MS=2.37%), Thus, the above companies have followed *cost leadership strategy* in pre recession periods.

Companies with low AT ratio and high OPM in pre recession period; Axis Bank (AT=0.17, OPM=64.84%, RONO=10.71, ROE=21.34, Avg.MS=1.45%). So, they have followed *differentiation strategy* in pre recession periods.

Companies with high AT ratio and high OPM in pre recession period are-Canara Bank (AT=0.22, OPM=65.58%, RONO=14.77, ROE=22.56, Avg.MS=4.52%) and Union Bank (I) (AT=0.22, OPM=65.39%, RONO=14.71, ROE=25.04, Avg.MS=2.95%), they have followed *hybrids strategy* in pre recession periods.

Again, Companies with high AT ratio and low OPM in post recession period are-IndusInd Bank (AT=0.3, OPM=68.2%, RONO=20.76, ROE=17.77, Avg.MS =0.75%), HDFC Bank(AT=0.29, OPM=58.3%, RONO=16.85, ROE=18.35, Avg.MS=4.14%), and St Bank of India (AT=0.29, OPM=63.95%, RONO=18.5, ROE=14.28, Avg.MS=15.7%). Thus, the companies have followed *cost leadership strategy* in post recession periods.

On the other hand, Companies with low AT ratio and high OPM in post recession period are Allahabad Bank (AT=0.26, OPM=70.26%, RONO=18.3, ROE=17.34, Avg.MS=2.08%), Corporation Bank (AT=0.24, OPM=75.46%, RONO=18.32, ROE=17.46, Avg.MS =1.8%) and IDBI Bank (AT=0.24, OPM=78.95%, RONO=18.99, ROE=1.67, Avg.MS=3.27%,). Hence, the companies have followed *differentiation strategy* in post-recession periods.

Lastly, Companies with high AT ratio and high OPM in post-recession period; Andhra Bank (AT=0.33, OPM=71.66%, RONO=23.68, ROE=18.11, Avg.MS =1.55%), Syndicate Bank(AT=0.33, OPM=72.14%, RONO=23.75, ROE=18.86, Avg.MS=2.24%,), Bank of Baroda(AT=0.3, OPM=71.42%, RONO=21.41, ROE=19.33, Avg.MS =4.18%), Bank of India(AT=0.29, OPM= 70.12%, RONO=20.64, ROE=16.63, Avg.MS=4.15%) and Indian Overseas Bank (AT=0.29, OPM=69.99%, RONO=20.39, ROE=11.93, Avg.MS=2.49%). Thus, the companies have followed *hybrids strategy* in post-recession periods.

7.4.3 Finance Industry

For the finance industry, required parameters for modified DuPont model are calculated in table 7.5, during pre-recession (2003-08) and post-recession (2009-14) periods.

TABLE 7.5: MODIFIED DUPONT MODEL ANALYSIS OF FINANCE INDUSTRY DURING PRE (2003-08) AND POST (2009-14) RECESSION PERIODS.

Co_Name	Year End	ROE (%)	AT	RONOA	OPM (%)	APATM (%)	ROA	Avg. Market Share %
Bajaj Fin.	Pre *	11.93	0.19	10.41	53.49	19.35	3.90%	0.18
	Post *	16.05	0.20	10.35	54.38	14.73	2.70%	0.56
Bajaj Holdings	Pre	18.54	7.30	123.06	32.82	24.51	14.64%	4.24
	Post	15.19	4.52	447.07	100.24	92.64	14.21%	0.22
Capri Global	Pre	4.11	0.07	1.01	21.95	10.48	0.79%	0.00
	Post	34.62	0.95	20.17	38.03	24.65	22.53%	0.21
Cholaman.Inv. &Fn	Pre	12.98	0.15	9.73	64.87	11.94	1.65%	0.27
	Post	11.51	0.25	16.00	64.88	7.39	1.08%	0.52
Edelweiss.Fin	Pre	11.85	0.55	25.85	47.65	27.08	8.55%	0.04
	Post	3.92	0.22	14.69	69.26	23.01	1.86%	0.08
GRUH Finance	Pre	22.81	0.11	9.60	85.43	18.21	1.95%	0.09
	Post	30.67	0.39	36.22	91.80	21.90	2.57%	0.14
H D F C	Pre	27.17	0.10	9.83	94.30	26.57	2.63%	3.40
	Post	20.88	0.12	11.49	96.89	23.70	2.53%	4.86
I D F C	Pre	15.81	0.12	10.32	88.04	35.78	3.53%	0.85
	Post	13.83	0.14	12.40	91.41	24.58	2.66%	1.66
IFCI	Pre	2.75	0.15	4.43	14.68	-47.42	-2.37%	1.13
	Post	17.20	0.16	14.30	88.07	23.50	2.93%	0.71
LIC Housing Fin.	Pre	18.79	0.10	8.60	86.64	16.25	1.61%	1.00
	Post	21.61	0.10	9.53	94.31	16.59	1.65%	1.68
Magma Fincorp	Pre	20.01	0.29	16.40	56.17	14.27	3.37%	0.14
	Post	13.29	0.30	19.48	65.63	8.37	1.42%	0.32
Manappuram Fin.	Pre	35.70	0.25	16.53	67.25	19.00	4.92%	0.02
	Post	21.27	0.22	14.53	66.63	18.23	3.76%	0.42
Power Fin.Corp.	Pre	15.55	0.11	10.71	97.85	34.41	3.89%	2.62
	Post	17.92	0.10	10.14	97.85	25.23	2.61%	3.71
Reliance Capital	Pre	12.48	0.31	28.97	92.29	48.00	6.60%	0.59
	Post	6.41	0.33	23.88	73.58	16.40	2.07%	0.91
ReligareEnterp.	Pre	1.73	0.00	0.00	69.64	21.78	-1.28%	0.01
	Post	0.37	0.53	-82.97	-11.09	-52.88	-6.20%	0.03
Rural Elec.Corp.	Pre	19.05	0.10	9.76	96.53	28.10	2.79%	1.83
	Post	22.62	0.59	57.19	97.38	28.02	2.91%	2.96
Shri.City Union.	Pre	29.67	0.22	15.85	69.84	13.36	2.84%	0.19
	Post	22.03	0.22	15.19	70.43	15.94	2.95%	0.56
Shriram Trans.	Pre	29.97	0.20	14.93	73.06	14.50	2.84%	0.70
	Post	24.36	0.36	27.03	76.51	19.44	3.50%	1.71
SREI Infra. Fin.	Pre	16.35	0.17	14.06	81.44	18.89	2.95%	0.18
	Post	6.44	0.19	16.25	87.75	11.84	1.38%	0.29
Sundaram Finance	Pre	15.15	0.15	11.83	79.42	16.65	2.17%	0.45
	Post	19.19	0.22	17.80	81.63	18.38	2.69%	0.50
Tata Inv.Corp.	Pre	23.65	1.65	158.49	95.71	89.60	21.32%	0.10
	Post	12.58	2.05	191.09	94.13	81.98	10.60%	0.07
Industry Average**	Pre	17.43	0.59	24.3	69.95	21.97	4.00%	
	Post	16.76	0.58	42.94	75.7	22.08	4.00%	

Source: Compiled and calculated by the researcher

Notes: AT =Asset Turnover; OPM=Operating Profit Margin; APATM (%)=Adjusted Profit After Tax margin; ROA= Return on Assets; RNP= Reported Net Profit; MS= Market Share; RONOA = OPM x AT; ROA=RNP/Total Assets; Average Market Share (MS)%= (Co's Turnover/ Industry aggregate turnover) X 100. * Recession **Industry average based on 21 companies during the pre and post recession periods.

We have seen from the above *table 7.5*; that Bajaj Holdings (avg. market share 4.24%) is the market leader in the pre-recession periods and in post-recession periods HDFC is the market leader. The average market share of HDFC is increasing during post-recession periods, i.e. from 3.40% to 4.86%. Other selected companies are able to improve their market share during post-recession periods except IFCI, Bajaj Holdings and Tata Inv.Corpn.

Many researchers (Selling and Stickney, 1989; Palepu and Healy, 2008; Soliman, 2008; Little et al., 2009; and Philip et al., 2011) have empirically employed the modified DuPont model to analyze the strategy adopted by firms during a period. According to the above mentioned researchers, a firm can be successful with either a *cost leadership strategy* through generating asset turnover (high asset turnover and low OPM) or a *differentiation strategy* by generating profit margins (low asset turnover and high OPM) or follow *hybrids or mixed strategies* (both OPM & AT is high). In order to apply the modified DuPont model following the extant literature, the industry average of all the indicators have been taken as benchmark.

The industry average of all the indicators during pre and post recession periods are shown in the following *table 7.6*:

TABLE 7.6: FINANCE INDUSTRY AVERAGE OF DIFFERENT INDICATORS

Indicators	Pre-Recession period	Post-Recession period
Asset Turnover (AT)	0.59	0.58
Operating Profit Margin (OPM)%	69.95	75.7
Return on Net Operating Assets (RONOA)%	24.3	42.94
Return on Assets (ROA)%	4	4
Adjusted Profit After Tax margin (APATM)%	21.97	22.08

Source: Compiled and calculated by the researcher

Based on the industry average, we have segregated the top companies as follows-

Companies with high AT ratio and low OPM in pre recession period is Bajaj Holdings (AT= 7.30, OPM=32.82 %, RONOA =123.06, ROA= 15%, Avg.MS=

4.24%, APATM (%) =24.51), according to the general interpretation, this company have followed *cost leadership strategy* in pre recession period (Selling and Stickney, 1989; Palepu and Healy, 2008; Soliman, 2008; Little et al., 2009; and Philip et al., 2011).

Companies with low AT ratio and high OPM in pre recession period and mainly with comparatively high market share are; HDFC (AT= 0.10, OPM=94.30%, RONOA =9.83, ROA= 26.57%, Avg.MS= 3.4%, APATM % =26.57), Power Fin.Corpn. (AT=0.11, OPM=97.85%, RONOA =10.71, ROA=4 %, Avg.MS= 2.62%, APATM % =34.41), Rural Elec.Corpn. (AT=19.05, OPM=96.53%, RONOA =9.76, ROA= 3%, Avg.MS=1.83 %, APATM % =28.1) and LIC Housing Fin. (AT=0.1, OPM=86.64%, RONOA =8.6, ROA=2 %, Avg.MS= 1%, APATM % =16.25). Thus, the above companies have followed *differentiation strategy* in pre recession periods.

Company with high AT ratio and high OPM in pre recession period is Tata Inv.Corpn. (AT=1.65, OPM=69.95%, RONOA =158.49, ROA=21 %, Avg.MS= 1%, APATM (%) =89.6), which has followed *hybrids strategy* in pre recession periods.

Again, with high AT ratio and low OPM in post recession period Capri Global (AT=0.95, OPM=38.03%, RONOA =20.17, ROA=23%, Avg.MS=0.21%, APATM (%) =24.65) has followed *cost leadership strategy* in post recession periods.

On the other hand, companies with low AT ratio and high OPM in post recession period; HDFC (AT=0.12, OPM=96.89%, RONOA =11.49, ROA=3%, Avg.MS=4.86%, APATM =23.7%), Power Fin. Corpn. (AT=0.1, OPM=97.85%, RONOA=10.14, ROA=3%, Avg.MS=3.71%, APATM =25.23%), LIC Housing Fin. (AT=0.1, OPM=94.31%, RONOA =9.53, ROA=2%, Avg.MS=1.68%, APATM =16.59%), I D F C (AT=0.14, OPM=91.41%, RONOA =12.4, ROA=3%, Avg.MS=1.66%, APATM=24.58%) and Shriram Trans. (AT=0.36, OPM=76.51%, RONOA =27.03, ROA=3%, Avg.MS=1.71%, APATM =19.44%). Thus, the companies have followed *differentiation strategy* in post recession periods.

Lastly, with high AT ratio and high OPM, Rural Elec.Corpn. (AT=0.59, OPM=97.38%, RONOA =57.19, ROA=3%, Avg.MS=2.96%, APATM =28.02%) is mainly followed hybrids strategy in post recession periods.

7.4.4 Refineries Industry

For the Refineries industry, required parameters for modified DuPont model are calculated in table 7.7, during pre-recession (2003-08) and post-recession (2009-14) periods.

TABLE 7.7: MODIFIED DUPONT MODEL ANALYSIS OF REFINERIES INDUSTRY DURING PRE (2003-08) AND POST (2009-14) RECESSION PERIODS.

Co_Name	Year End	ROE (%)	AT	RONOA	OPM (%)	APATM (%)	ROA	Avg. MS %
Reliance Inds.	Pre *	20.13	1.45	26.46	18.19	9.83	12	16.13
	Post *	13.46	1.73	21.97	13.64	7.24	8.26	22.72
B P C L	Pre	18.86	4.7	19.16	4.04	1.76	10	14.85
	Post	13.39	5.91	18.81	3.18	0.99	5	15.88
H P C L	Pre	16.85	4.67	17.64	3.82	1.89	11	14.87
	Post	9.53	4.55	13.07	2.92	0.73	3	13.91
C P C L	Pre	28.1	3.1	19.47	6.55	3.1	12	3.58
	Post	3.69	3.98	4.36	1.21	-0.31	-3	3.44
M R P L	Pre	24.45	2.97	18.76	6.53	1.58	9	4.14
	Post	13.13	4.52	17.82	3.75	1.62	9	4.36
I O C L	Pre	24.09	3.42	22.1	6.54	3.51	13	35.21
	Post	13.39	3.7	16.57	4.56	1.89	5	32.67
Essar Oil	Pre	-0.79	1.05	1.47	2.37	-4.58	.20	0.11
	Post	2.45	2.52	10.19	4.01	-0.19	-1	5.3
Industry Average**	Pre	13.169	2.136	12.506	4.804	1.709	6.7	
	Post	6.904	2.691	10.279	3.327	1.197	2.6	

Source: Compiled and calculated by the researcher

Notes: AT = Asset Turnover; OPM = Operating Profit Margin; APATM (%) = Adjusted Profit After Tax margin; ROA = Return on Assets; RNP = Reported Net Profit; MS = Market Share; AT (Asset Turnover) = (Sales / Net Operating Assets); RONOA = OPM x AT; ROA = RNP/Total Assets; Average Market Share (MS)% = (Co's Turnover / Industry aggregate turnover) X 100.

* Recession ** Industry average based on 7 companies during the pre and post recession periods. We have already described about selection of companies in Chapter-3.

In the above table 7.7; we have seen that IOCL is the market leader but their market share slightly decreasing in post-recession periods, i.e. from 35.21% to 32.67%. Market share of Reliance Inds. is increasing during post-recession periods, i.e. from 16.13% to 22.72%. BPCL and HPCL able to maintain double-digit market share, but slightly down on post-recession periods, i.e. from 14.85% to 15.88% and from 14.87% to 13.91% respectively. OPM & APATM mean of Reliance Inds. is highest among the selected companies but decreasing in post-

recession periods, i.e. from 18.19% to 13.64% and from 9.83% to 7.24% respectively. Average market share of Essar Oil in pre recession was only 0.11 % but they manage to improve market share to 5.3% in post-recession periods. AT ratio of BPCL is the highest among selected companies i.e. 5.9 % in pre recession periods against 4.7% in post-recession periods. AT ratio are for IOCL (3.4% & 3.7%), Reliance Inds. (1.5% & 1.7%), BPCL (4.7% & 5.9%), HPCL (4.7% & 4.6%), Essar Oil (1.1% & 2.5%) during pre & post-recession periods. ROA also are in decreasing mode in post-recession periods, except MRPL, i.e. 9 % in the entire study periods.

In order to find out the cost strategies adopted by the companies, first we have computed the average of all the indicators during pre-recession and post-recession period. Considering industry averages as benchmark for the respective indicators, company specific decision on cost strategies has been ascertained. The industry average values of all the indicators are given in the following *table 7.8*.

TABLE 7.8: REFINERIES INDUSTRY AVERAGE OF DIFFERENT INDICATORS

Indicators	Pre-Recession period	Post-Recession period
Asset turnover (AT)	2.14	2.69
Operating Profit Margin (OPM)%	4.80	3.33
Return on Net Operating Assets (RONOA)%	12.51	10.28
Return on assets (ROA)%	6.7	2.6
Adjusted Profit After Tax margin (APATM)%	1.70	1.19

Source: Compiled and calculated by the researcher

Based on the industry average, we have segregate the top companies are as follows-

Company with high AT ratio and low OPM in pre recession period is B P C L (AT=4.7, OPM= 4.04%, RONOA =19.16, ROA=10 %, Avg.MS= 14.85%, APATM (%) =1.76), which has followed *cost leadership strategy* in pre recession periods.

With low AT ratio and high OPM in pre recession period Reliance Inds. (AT=1.45, OPM= 18.19%, RONO A =26.46, ROA= 12%, Avg.MS= 16.13%, APATM (%) =9.83) has followed *differentiation strategy* in pre recession periods.

On the other hand, companies with high AT ratio and high OPM; IOCL (AT=3.42, OPM=6.54%, RONO A=22.1,ROA=13%, Avg.MS= 35.21%, APATM(%)=3.51), CPCL (AT=3.1,OPM= 6.55%,RONO A =19.47, ROA=12%, Avg.MS=3.58 %, APATM (%) =3.1) and MRPL (AT=2.97, OPM=6.53%, RONO A =18.76, ROA=9 %, Avg.MS= 4.14%, APATM(%)=1.58), and they have followed *hybrids strategy* in pre recession periods.

Again, companies with high AT ratio and low OPM in post recession period; CPCL (AT=3.98, OPM=1.21%, RONO A=4.36, ROA=-3%, Avg.MS=3.44%, APATM (%)=-0.31), HPCL (AT=4.55), OPM=2.92%, RONO A=13.07,ROA=3%, Avg.MS =13.91%, APATM(%)=0.73) and BPCL (AT=5.91, OPM=3.18%, RONO A =18.81, ROA=5%, Avg.MS=15.88%, APATM (%)=0.99) and they have followed *cost leadership strategy* in post recession periods.

With low AT ratio and high OPM in post recession period; Reliance Inds. (AT=1.73, OPM=13.64%, RONO A =21.97, ROA=8%, Avg.MS=22.72%, APATM =7.24%). Thus, the companies have followed *differentiation strategy* in post recession periods.

Lastly, with high AT ratio and high OPM in post recession period is IOCL (AT=3.72, OPM=4.56%, RONO A=16.57, ROA=5%, Avg.MS=32.67%, APATM=1.89%), which have followed *hybrids strategy* in post recession periods.

7.4.5 Power Generation & Distributions Industry

We have analyzed DuPont model during pre-recession (2003-08) and post-recession (2009-14) periods.

TABLE 7.9: MODIFIED DUPONT MODEL ANALYSIS OF POWER INDUSTRY DURING PRE (2003-08) AND POST (2009-14) RECESSION PERIODS.

Co_Name	Year End	ROE (%)	AT	RONOA	OPM (%)	APATM (%)	ROA%	Market Share
BF Utilities	Pre *	-0.06	0.16	14.29	109.20	-14.07	0.48	0.01%
	Post *	3.43	0.32	19.79	58.46	5.17	1.43	0.01%
CESC	Pre	11.09	0.54	15.96	29.75	7.08	3	2.41%
	Post	12.06	0.58	16.37	28.24	12.14	5	1.31%
Energy Devl.Co.	Pre	13.02	0.25	13.21	64.61	24.34	8	0.02%
	Post	5.99	0.56	16.08	28.17	11.22	5	0.02%
GujInds. Power	Pre	13.53	0.76	31.83	43.01	12.40	6	0.82%
	Post	10.03	0.84	23.80	30.42	11.56	6	0.38%
India Power Corp	Pre	3.44	2.80	7.65	2.71	0.46	2	0.27%
	Post	6.63	2.31	16.43	7.55	2.65	4	0.15%
Indowind Energy	Pre	10.06	0.73	31.19	51.63	23.18	6	0.02%
	Post	3.82	0.28	11.72	49.14	11.97	1	0.01%
JSW Energy	Pre	28.23	0.99	58.00	51.94	27.48	15	0.66%
	Post	18.09	1.14	51.88	42.22	22.10	8	1.17%
Lanco Infratech	Pre	12.44	4.85	79.16	15.09	8.28	8	0.34%
	Post	2.74	8.12	106.07	9.89	-3.63	2	1.64%
Monnet Inter	Pre	8.02	0.28	-0.08	10.87	-3.99	3	0.01%
	Post	0.00	0.23	-8.29	-886.19	-1350.28	NA	0.00%
Neyveli Lignite	Pre	13.78	0.65	43.76	67.48	35.61	11	2.67%
	Post	12.32	0.78	40.52	52.31	29.82	8	1.43%
NHPC Ltd	Pre	5.67	0.16	14.73	90.17	45.83	3	1.51%
	Post	8.28	0.26	22.09	85.96	42.40	5	1.39%
NTPC	Pre	14.02	1.12	46.47	41.88	22.13	9	24.06%
	Post	14.36	1.24	37.79	30.42	17.25	8	17.44%
Potis Power	Pre	7.38	0.01	-3.09	-216.74	-1626.47	NA	0.00%
	Post	35.89	0.21	4.48	-71.03	-140.13	NA	0.00%
Power Grid Corpn	Pre	10.39	0.16	14.97	94.36	32.66	4	2.77%
	Post	14.29	0.21	18.64	88.82	30.87	4	2.89%
Reliance Infra.	Pre	9.61	1.72	40.29	23.98	12.31	4	4.28%
	Post	8.45	2.30	43.64	19.19	10.96	4	3.70%
T C P	Pre	23.85	2.01	55.04	27.00	12.56	12	0.19%
	Post	11.14	2.46	48.25	20.41	9.21	7	0.09%
Tata Power Co.	Pre	9.82	1.50	37.49	25.59	11.50	7	4.44%
	Post	8.80	1.21	34.98	29.20	11.89	5	2.50%
Industry Average**	Pre	11.43	1.10	29.46	31.32	16.22	6.08	
	Post	10.37	1.36	29.66	34.14	13.48	4.43	

Source: Compiled and calculated by the researcher

PBDIT=Profit before depreciation interest tax; AT=Asset Turnover; OPM=Operating Profit Margin; APATM (%)=Adjusted Profit After Tax margin; ROA=Return on Assets; MS= Market Share; RONOA=OPM x AT; ROA=RNP/Total Assets; Average Market Share (MS)%= (Co's Turnover/ Industry aggregate turnover) X 100.

* Recession **Industry average based on 17 companies during the pre and post recession periods.

In the above table 7.9; we have seen that NTPC is the market leader, but its market share is decreasing in post-recession periods, i.e. from 24.06% to 17.44%. Market share of Lanco Infratech and JSW Energy are increasing during post-recession

periods, i.e. from 0.34% to 1.67% and from 0.66% to 1.22% respectively. Except this two companies, others companies are in decreasing mode. OPM mean also decreasing during post-recession periods for Power Grid Corpn, i.e. from 94.36% to 88.82%, NHPC from 90.17% to 85.96%, Neyveli Lignite from 67.48% to 52.31%, JSW Energy from 51.94% to 42.22% respectively. AT ratio of most of the selected firms are less than 2; Power Grid Corpn(0.2& 0.2) is the lowest among selected companies others like ; NHPC (0.2 & 0.3); CESC (0.5 & 0.6), NTPC (1.1 & 1.2), Neyveli Lignite (0.7 & 0.8), GujInds. Power (0.8 & 0.8), JSW Energy (1 & 1.1) and Tata Power Co. (1.5 & 1.2) in pre & post-recession periods. Two companies are in high AT ratio; Reliance Infra. (1.7 & 2.3) and Lanco Infratech (4.9 & 8.1). ROE of JSW Energy is very high in pre-recession periods, i.e. 28.2% & 18.1% in post-recession periods followed by NTPC i.e. from 14% o 14.4% and Power Grid Corpn. i.e. from 10.4% to 14.3%. Almost all the selected companies ROA are decreasing in post-recession periods except CESC, NHPC Ltd from 3% to 5% both the companies.

In order to find out the cost strategies adopted by the companies, first we have computed the average of all the indicators during pre-recession and post-recession period. Considering industry averages as benchmark for the respective indicators, company specific decision on cost strategies has been ascertained. The industry average values of all the indicators are given in the following *table (7.10)*.

TABLE 7.10: POWER GENERATION & DISTRIBUTIONS INDUSTRY AVERAGE OF DIFFERENT INDICATORS

Indicators	Pre-Recession period	Post-Recession period
Asset Turnover (AT)	1.1	1.36
Operating Profit Margin (OPM)%	31.32	34.14
Return on Net Operating Assets (RONOA)%	29.46	29.66
Return on assets (ROA)%	6.08	4.43
Adjusted Profit After Tax margin (APATM)%	16.22	13.48

Source: Compiled and calculated by the researcher

Based on the industry average, we have segregate the top companies are as follows-

Companies with high AT ratio and low OPM in pre recession period are; Tata Power Co. (AT=1.5, OPM=25.59%, RONOA =37.49, ROA=7%, Avg.MS =

4.44%, APATM =11.50%) and Reliance Infra. (AT=1.72, OPM=23.98%, RONOA =40.29, ROA=5%, Avg.MS =4.28%, APATM =12.31%), and they have followed *cost leadership strategy* in pre recession periods.

On the other hand, companies with low AT ratio and high OPM in pre recession period; Power Grid Corpn (AT=0.16, OPM=94.36%, RONOA =14.97, ROA=4%, Avg.MS =2.77%, APATM =32.66%) and Neyveli Lignite (AT=0.65, OPM=67.48%, RONOA =43.76, ROA=11, Avg.MS=2.67%, APATM (%) =35.61). Thus, the above companies *differentiation strategy* in pre recession periods.

Company with high AT ratio and high OPM in pre recession period is NTPC (AT=1.12, OPM=41.88%, RONOA =46.47, ROA=9%, Avg.MS=24.06%, APATM (%) =22.13), which has followed *hybrids strategy* in pre recession periods.

On the other hand, companies with high AT ratio and low OPM in post recession period are Reliance Infra. (AT=2.3, OPM=19.19%, RONOA =43.64, ROA=5%, Avg.MS =3.70%, APATM =10.96%) and Lanco Infratech (AT=2.74, OPM=9.89%, RONOA =106.67, ROA=2%, Avg.MS =1.64%, APATM = -3.63%). Thus, the above companies have followed *cost leadership strategy* in post recession periods.

With low AT ratio and high OPM in post recession period, Power Grid Corpn (AT=.21, OPM=88.82%, RONOA =18.64, ROA=4%, Avg. MS=2.89%, APATM =30.87%) has followed *differentiation strategy* in post recession periods.

Lastly, two leading companies (NTPC and Tata Power Co.) are *stuck in the middle*, as their AT ratio and OPM are below the industry average and their market share fall drastically in post recession periods, i.e. NTPC (AT=1.24, OPM=30.42%, RONOA =37.79, ROA=8%, Avg. MS=17.44%, APATM =17.25%) and Tata Power Co. (AT=1.21, OPM=29.2%, RONOA =34.98, ROA=5%, Avg. MS=2.50%, APATM =11.89%).

7.4.6 Steel Industry

In Steel industry we have applied modified DuPont model of selecting 21 companies during pre-recession (2003-08) and post-recession (2009-14) periods.

Table below give us the details-

TABLE 7.11: MODIFIED DUPONT MODEL ANALYSIS OF STEEL INDUSTRY DURING PRE (2003-08) AND POST (2009-14) RECESSION PERIODS.

Co_Name		ROE (%)	AT	RONOA	OPM (%)	APATM (%)	ROA	Average MS %
APL Apollo Tubes	Pre*	22.77	4.56	25.15	4.59	1.74	5.9	0.15
	Post*	9.25	6.88	43.47	6.73	2.41	4.59	0.42
Bhushan Steel	Pre	21.66	2.47	39.08	15.87	6.15	5.97	2.73
	Post	16.36	1.35	32.83	25.91	8.83	3.29	3.54
Godawari Power & Ispat	Pre	29.23	1.7	26.88	15.11	8.3	11.39	0.29
	Post	13.03	2.1	27.79	13.91	5.19	5.86	0.6
Jindal Saw Ltd	Pre	19.42	4.35	61.28	15.31	6.03	11.3	2.14
	Post	11.38	2.87	44.37	15.24	6.8	6.95	2.39
Jindal Stain.	Pre	31.38	1.93	32.01	16.64	6.01	8.08	3.49
	Post	-0.44	1.34	15.26	10.9	-0.72	-3.45	3.47
Jindal Steel	Pre	38.87	1.09	40.32	37.16	19.91	14.16	2.61
	Pos	21.71	1.16	36.53	31.48	14.84	8.42	4.99
JSW Steel	Pre	22.26	0.93	27.09	28.57	9.99	8.99	6.32
	Post	13.64	1.25	24.26	19.55	6.63	5.11	12.18
Maharashtra Seamless	Pre	31.34	4.41	90.71	20.39	12.61	19.59	0.94
	Post	14	2.53	48.17	18.15	11.56	10.53	0.82
Monnet Ispat & Energy	Pre	30.03	1.27	31.37	25.61	14.27	9.36	0.56
	Post	12.76	1.33	34.91	25.58	12.43	5.13	0.82
Mukand Ltd	Pre	11.57	2.24	32.78	14.61	-0.34	2.76	1.6
	Post	-1.17	1.1	8.31	7.61	-2.52	-1.37	1.06
Prakash Industries	Pre	22.8	1.61	43.78	23.9	12.48	23.49	0.98
	Post	16.99	1.61	26.56	16.51	10.98	10.45	0.91
PSL	Pre	18.49	4.43	52.26	12.24	3.41	5.68	1.24
	Post	6.86	3.05	35.05	6.37	-12.64	-0.49	1.06
Ratnamani Metals & Tubes	Pre	34.18	2.32	36.92	15.63	6.98	14.53	0.32
	Post	23.32	2.89	52.69	18.27	9.12	14.45	0.47
SAIL	Pre	44.85	2.64	67.69	23.93	12.29	23.37	31.83
	Post	13.19	3.04	55.28	17.32	8.88	8.58	20.77
Sarda Energy & Minerals	Pre	28.71	2.08	32.78	14.85	8.38	17.92	0.25
	Post	13.84	1.76	34.07	19.52	8.49	6.91	0.46
Surya Roshni	Pre	9.54	3.7	25.89	7.19	1.26	2.94	1.11
	Post	13.33	3.63	25.63	7.13	2.05	3.94	1.02
Tata Steel	Pre	40.64	2.02	71.42	34.23	18.58	21.32	15.96
	Post	14.4	2.36	80.79	33.59	16.89	7.74	14.51
Usha Martin	Pre	10.01	1.42	27.72	19.84	4.14	4.16	1.25
	Post	4.58	1.11	19.6	17.72	2.25	1.95	1.17
Uttam Galva	Pre	28	2.89	31.18	10.92	3.77	6.58	1.88
	Post	8.1	2.19	20.01	9.28	1.45	2.52	2.24
Uttam Value Steels	Pre	-28.48	1.28	6.42	4.9	-9.09	-3.75	1.4
	Post	-0.09	3.82	11.84	2.78	-2.84	-14.18	1.89
Welspun Corp	Pre	21.32	2.59	35.05	13.73	4.83	7.73	1.55
	Post	8.74	2.33	26.6	10.94	2.87	4.17	2.69
Industry Average**	Pre	23.27	2.47	39.89	17.87	7.22	10.55	
	Post	11.13	2.37	33.52	15.93	5.38	4.34	

Source: Compiled and calculated by the researcher

PBDIT=Profit before depreciation interest tax; AT=Asset Turnover; OPM=Operating Profit Margin; APATM (%)=Adjusted Profit After Tax margin; ROA=Return on Assets; MS= Market Share; RONOA=OPM x AT; ROA=RNP/Total Assets; Average Market Share (MS)%=(Co's Turnover/ Industry aggregate turnover) X 100.

* Recession **Industry average based on 21 companies during the pre and post recession periods.

In the above *table 7.11*, we have seen that SAIL is the market leader, but their market share decreasing in post recession periods, i.e. from 31.83% to 20.77%. Market share of JSW Steel increasing during post-recession periods, i.e. from 6.32% to 12.18%. Tata Steel (15.96%) able to maintain double digit market share, but slightly down on post-recession periods (14.51%). OPM and APATM mean of Jindal Steel is the highest among the selected companies, but decreasing in post-recession periods, i.e. from 37.16% to 31.48% and from 19.91% to 14.84% respectively. However, in post-recession period, OPM and APATM mean of Tata Steel is highest, i.e. 33.59 % and 16.89% respectively. AT ratio of Jindal Saw is the highest among the top companies, i.e. 4.35 % in pre-recession periods and AT ratio of SAIL is 3.04% in post-recession periods.

In case of JSW Steel, able to increase market share successful in post-recession periods, AT was 0.93%, OPM was 28.57 % and RONOA was 27.09% in pre recession periods against 1.25% (AT), 19.55% (OPM) and 24.26% (RONOA).

Now in order to find out the cost strategies adopted by the companies, first we have computed the average of all the indicators during pre-recession and post-recession period. Considering industry averages as benchmark for the respective indicators, company specific decision on cost strategies has been ascertained. The industry average values of all the indicators are given in the following *table 7.12*.

TABLE 7.12: STEEL INDUSTRY AVERAGE OF DIFFERENT INDICATORS

Indicators	Pre-Recession period	Post-Recession period
Asset turnover (AT)	2.47	2.37
Operating Profit Margin (OPM)%	17.87	15.93
Return on Net Operating Assets (RONOA)%	39.89	33.52
Return on assets (ROA)%	10.55	4.34
Adjusted Profit After Tax margin (APATM)%	7.22	5.38

Source: Compiled and calculated by the researcher

Based on the industry average, we have segregate the top companies are as follows-

Companies with high AT ratio and low OPM in pre recession period are Jindal Saw (AT=4.35, OPM=15.31%, RONOA=61.28, ROA=11.30%, Avg.MS =2.14%,

APATM =6.03%) and Uttam Galva (AT=2.89, OPM=10.92%, RONOA =31.18, ROA=6.58%, Avg. MS=1.88%, APATM =3.77%). According to the general interpretation, these companies have followed *cost leadership strategy* in pre recession period (Selling and Stickney, 1989; Palepu and Healy, 2008; Soliman,2008; Little et al., 2009; and Philip et al., 2011).

Companies with low AT ratio and high OPM in pre recession period are Tata Steel (AT=2.02, OPM=34.23%, RONOA =71.42, ROA=21.32%, Avg. MS=15.96%, APATM =18.58%), Jindal Steel (AT=1.09, OPM=37.16%, RONOA =40.32, ROA=14.16%, Avg. MS=2.61%, APATM =19.91%) and JSW Steel (AT=0.93, OPM=28.57%, RONOA =27.09, ROA=8.99%, Avg. MS=6.32%, APATM =9.99%). Thus, the above companies they have followed *differentiation strategy* in pre recession periods.

Again, with high AT ratio and high OPM in pre recession period; SAIL (AT=2.64, OPM=23.93%, RONOA =67.69, ROA=23.37, Avg.MS=31.83%, APATM (%) =12.29), which has followed *hybrids strategy* in pre recession periods.

On the other hand, companies with high AT ratio and low OPM in post recession period; Jindal Saw (AT=2.87, OPM=15.24%, RONOA =44.37, ROA=6.95%, Avg.MS =2.39%, APATM =6.8%) and Uttam Value Steels (AT=3.82, OPM=2.87%, RONOA =11.84, ROA=-14.18%, Avg.MS=1.89%, APATM = -2.84%), and they have followed *cost leadership strategy* in post recession periods.

Again, Companies with low AT ratio and high OPM in post recession period are Tata Steel (AT=2.36, OPM=33.59%, RONOA =80.79, ROA=7.74%, Avg. MS=14.51%, APATM =16.89%), Bhushan Steel (AT=1.35, OPM=25.91%, RONOA =32.83, ROA=3.29%, Avg.MS =3.54%, APATM =8.83%), JSW Steel (AT=1.25, OPM=19.55%, RONOA =24.26, ROA=5.11%, Avg.MS =12.18%, APATM =6.63%) and Jindal Steel (AT=1.16, OPM=31.48%, RONOA =36.53, ROA=8.42%, Avg. MS=4.99%, APATM =14.84%). Thus, the above companies have followed *differentiation strategy* in post recession periods.

Lastly, companies with high AT ratio and high OPM, i.e. SAIL (AT=3.04, OPM=17.32%, RONOA =55.28, ROA=8.58%, Avg. MS=20.77%, APATM =8.88 %), which has followed *hybrids strategy* in post-recession periods.

7.5 Summary: In this chapter we got an idea about the cost strategy adapted by the selected companies from six Industries during the pre-recession periods and post-recession periods. We also got overviews of three strategies, mainly *cost leadership strategy*, *differentiation strategy* and *hybrid strategy* along with firm performance, which help us to measure the effectiveness of that strategy during the pre and post recession periods.