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Amity Management Analyst

Amity House, E-25, Defence Colony, New Delhi-110024
Tel: 91-11-41888000 Fax: +91-11-24339400
Email: sales@aup.amity.edu, web: www.amity.edu/aup

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From the Desk of Editor-in-Chief

It has been rightly stated that leadership is like gravity. You know it's there, you know it exists, but how do you define it? Anyway, it is felt that leadership is the ability to influence the thoughts and actions of people around you. And leaders carry out this process by applying their leadership attributes, such as beliefs, values, ethics, character, knowledge, and skills. However, it should also not be forgotten that leadership is a function not only of the leader but also of followers and situations. Of course, effective leaders are a rare commodity.

Feidler has distinguished between two types of leaders- those who are psychologically close and those who are psychologically distant. Psychologically close leaders prefer informal relationships, are sometimes over-concerned with human relations, and favour informal rather than formal contacts. This is sometimes called "relationship oriented". On the other hand, psychologically distant leaders tend to be reserved in their personal relationship even though they often have good interpersonal skills. This approach is sometimes called "task-oriented". But a great leadership is about human experience not processes. To be a great leader needs both compassion and passion.

Leadership consists of behaviours. These are tangible, observable, and, to some extent, measurable things which one does and/ or which one can learn to do given reasonable motivation and arrange intelligence. Leaders choose to behave, and making effective choices leadership behaviours requires: self- awareness, emotional maturity and other things like desire to lead, understanding of leadership, intellectual groups of situations, etc.

A great leader should have the skills not only of choosing what to do while working with one individual on specific task but also of choosing what to do when working with groups/ teams or the entire organization.

Effective leaders provide adequate resources and conducive working conditions to their followers. They do not use equal treatment to unequals. They rather use different strokes for different folks. They follow a balanced approach between the concern for people and concern for task. In short, effective leaders lead from both heart and head. Effective leaders not only inspire but also manage well.

Prof (Dr) R C Sharma
Editor-in-Chief
Amity Management Analyst

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An In-depth study of International Brand Failures in India - A Tale of Graveyard

Sharif S Memon* Shweta Mishra**

Indian Market appears to be magnet for the Foreign Brands which come under its force to the nation in order to build their international relations with the Indian "public". They usually have notion as to which they consider this populated country as best market for their products but the ground reality is different for scenario which councils them to reconsider their thinking and give new colours to their ideas and strategies. Indian Market has found tremendous changes in the shelf of malls or consumption basket due to International products/brands penetrating in the Indian market but parallel to this international brand have suffered double due to wrong segmentation, positioning and further strategies adopted by them. We have hereby made an attempt to paint the picture of international brands which failed miserably to capture the Indian minds and find all expected reasons supporting their death in Indian Market. Best possible attempts have been made to foresee all the dimension of situations which had been built by the failed international brand in India.

Introduction

Every single syndicate opens ocular in the competitive/combative world with pandemonium of notions in mind and vision to be accustomed by every sole on the crust. Globalization has irrefutably manifested to be core reason for modeling nightmare into pace of verity. The protracted litany of companies, who have proved to be the crowned head of market in world with different smack, different enunciation, behaviors and stipulation. They spur on selling their brands by fabrication of trust and loyalty in other nations and across the seven seas. Advertising, media and branding has proved them to be piece slice for frequenter. But success itself is a story and not single kinetic of time.

Dimenson of Brand Failure

Brand Failure - a term which every brand manager fears from, a term which repeatedly comes in dreams of brand managers and all the people related to the same. We consider those brands as failure which have repeatedly made variations in their product after not getting absorbed in the market or extended the product width and line in any of the ways to make a mark in market. Positing the product in the shelf of international malls is not all the success story. "Getting Global" is just a twinkling star for any company in the success tale but many a times it proves to be a black hole and finally swivels to be failure impetus. Hardly anyone would disagree with the statement that "list of brand failures in India is almost double to that of successful." Kellogg's, Tang and Lipton are benevolent paradigm for above statement. The lack of punch line, inefficient strategy and misinterpretation of requirement leads to failure of great market players or kings of foreign market players in India. Foreign products are diminishing as smoke or evaporating from Indian markets. World of FMCG in India is no more fast moving for International Brands.

Literature Review

The research in the International Brand Failures in India especially for FMCG sector is scattered. There is available material on Brand Failures and strategies. But most of the work is centered at the failures and focused on certain theories applicability. There is potential gap existing between the researches done. There is always a hindsight reason for the failure but research work of advanced level is not executed due to stagnancy of the Industry, so far it is concluded that, expanding a brand into new market isn't just translating the tagline, the best way is to study the local tastes carefully (Niti Bhan & Brad Nemer). More magnified literature outcome was published in the Harvard Magazine (November issue, 2005) that, the truth is the cultural expectations, not merely languages are too often mismatched.

*Faculty, N. R. Institute of Business Management (NRIBM) (PG Center of Gujarat University's MBA Program) Gujarat Law Society Campus, Ahmedabad
**Post Graduate Scholar, N. R. Institute of Business Management (NRIBM) (PG Center of Gujarat University's MBA Program) Gujarat Law Society Campus, Ahmedabad

However, the FMCG examples here were restricted to only Kellogg's and some to Tang. Moreover, Rowan in Future of Choice has comment that, large companies see their response to brand failures as a chance to demonstrate a company's regard for its customers. Today, many big global companies cling so tightly to their brands as they globalize that they forget what the brand stands at its first place. Although, the best brands are confident enough to adapt without compromising their core strengths, but when faced with new technology or with new market, they translate the value proposition into meaningful ways that are consistent with both their heritage and potential (Vikram Bakshi) they failed to create such image in the customers' mind. In addition, International Brands are not able to target the lower hierarchy. Thus this has prompted the researchers to explore reasons of the select International Brands those have miserably failed in India although being the frontrunners in the International Markets.

Objective of The Study

Dyadic objectives of the study are :

- To find the in abeyance factors that sway the consumers wits.
- Identification of the facet/strand for the International brand collapse in India.

Criteria for Brand Selection

The scrutiny was basically to strive the factors which influence the mental state of the customers while purchasing any product or stirring at rack of products in the international malls or at any shopping centre. Moreover, international brands to be surveyed were decided out of 12 brands which authors themselves have found out. These brands which were selected were all consumables and so probability of their brand recall is high compared to others. Other brands, which were included along with these 10 brands were Digestive Biscuits, Pasta Treat. To portray the dependence of price, packaging, quality, advertisement, taste and supplementary factors to the purchasing pattern of international brands in India.

In order to unfold or to paint the picture, focused interviews were done along with questionnaire which was tested on couple of brand managers for pilot feedback. The sample was than selected in order to narrate the non-fictitious/palpable story of brand failures in India. Almost 25 brand managers were interviewed for the same. The sample size aroused as or due to the limitation of the research.

Sample Affiliation

These brand managers were interviewed at a conference, where they were asked questions related to the topic and questionnaire was filled up. These managers belonged to some of the companies like Vagh Bakri Tea, 502 Pataka Tea, Ghadi Detergent powder, Amar Toothpaste and many more in same lines i.e., they are drawn from the world of FMCG. Some of the brand managers had dealt with the brands in past on which the research is carried out in this research paper.

Sample Geography

Sample consisted of respondents which belonged to different brands, levels, different locations and variety of experience in the international market. Samples were first briefed about the brand by introduction and many a times, advertisements were also arrayed along with it. Interrogation was done in order to obtain the tangible picture of the scenario of the reason. Structured interviews were recorded and survey was done. Questionnaire was used as tool for the survey. Multi-stage sampling was applied.

Tools for Data Analysis

Chi-Square, Correlation and factor analysis were applied to delineate between the lines/ratiocinate/ conjecture. Computer software of Statistical Package for Social Science (Version 10.0) was used to anatomize the data.

Research Design

Study was basically explorative at initial terms but it swiveled into descriptive study. On initial grounds, the research was unstructured and sample was small. Qualitative research was done using this sample. But the aftermath from explorative research were cognitive and further research winded to descriptive research. Here in-depth and structure observations were taken. Secondary data from internet and books were collected to build archetype. Serious efforts were put to truncate/axe response error and non-response error.

FACTOR ANALYSIS

Total Variance Explained

		Initial Eigen values		Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings			
		Total	% of Variance	Cumula -tive %	Total	% of Variance	Cumula tive %	Total	% of Variance	Cumula -tive %
Com-ponent	1	1.644	41.108	41.108	1.644	41.108	41.108	1.418	35.447	35.447
	2	1.293	32.316	73.425	1.293	32.316	73.425	1.310	32.759	68.206
	3	1.063	26.575	100.000	1.063	26.575	100.000	1.272	31.794	100.000
	4	1.123E-16	2.808E-15	100.000						

Extraction Method: Principal Component Analysis.

Component Matrix(a)

	Component		
	1	2	3
BRANDNAM	-.984	5.419E-02	-.170
PROMOTIO	.346	.737	.581
PRICE	.308	-.859	.408
QUALITY	.679	9.371E-02	-.728

Extraction Method: Principal Component Analysis.

a. 3 components extracted.

Rotated Component Matrix(a)

	Component		
	1	2	3
BRANDNAM	.658	-.555	-.509
PROMOTIO	-4.181E-02	-.139	.989
PRICE	-7.154E-02	.985	-.157
QUALITY	.989	-.114	-9.453E-02

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

a Rotation converged in 7 iterations

Component Transformation Matrix

		1	2	3
Component	1	.780	.440	.444
	2	.068	-.766	.640
	3	-.622	.469	.627

Extraction Method: Principal Component Analysis.

Rotation Method: Varimax with Kaiser Normalization.

Extraction communality value

Promotion

(.386^2) + (.737^2) + (.581^2) = 1.000446

Price :

(.308^2) + (.859^2) + (.408^2) = .999209

In all the cases for the rotated component we find that one of the components is high whereas others are low compared to first one. Moreover, Promotion and Price influences that mind of the people most when they move towards the International brand products. Next coming element is none other than the brand name and further accompanied by quality of the product.

KELLOGG'S STORY

Paired Samples Test									
	Paired Differences						t	df	sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
Pair 1	PRICE-TASTE	.3600	1.7049	.3410	-1.0637	.3437	-1.056	24	.002
Pair 2	PRICE-FLAVOUR	-1.2800	1.7682	.3536	-2.0099	-.5501	-3.619	24	.001
Pair 3	PRICE-INTBRAND	-2.2800	1.1733	.2347	-2.7643	-1.7957	-9.716	24	.000
Pair 4	PRICE-DIETHBT	.7200	1.4583	.2917	.1180	1.3220	2.469	24	.021
Pair 5	TASTE-FLAVOUR	.9200	1.2557	.2511	-1.4383	-.4017	-3.663	24	.001
Pair 6	TASTE-INTBRAND	-1.9200	1.6052	.3210	-2.5826	-1.2574	-5.981	24	.000
Pair 7	TASTE-DIETHBT	1.0800	1.8912	.3782	.2993	1.8607	2.855	24	.009
Pair 8	INTBRAND-DIETHBT	3.0000	1.2910	.2582	2.4671	3.5329	11.619	24	.000

Here, the significance level is .01 as it is two tailed test. Since, most of the above pairs lie in the acceptance region, whereas pairs like price and taste, price and international brands also get accepted and taste and international brand have least rejection degree. So we can depict that price, taste and diet habit should be balanced by Kellogg's in order to draw success story in Indian Market. Friction between the elements should be made reduced in order to ascend the sales.

HEINZ PLOT

One-Sample Test						
	Test Value					
	T	df	Sig. (2-tailed) Difference	Mean the Difference	95% Confidence Interval of	
					Lower	Upper
THICKNES	16.164	25	.007	4.65	4.06	5.25
PRICE	20.885	25	.0062	5.58	5.03	6.13
BRAND	13.875	25	.008	4.81	4.09	5.52
TASTE	23.670	25	.0024	5.77	5.27	6.27

From above analysis by t-test, since this two tailed analysis and significance level is .01, we have positive dependence of price and taste on minds of the people So, we can mark that taste and price has most impact on the mind of the people and that persuade them to purchase any national brand with better taste and low price. Heinz should try to coerce on taste of their product line especially in Indian Markets to flag their company in India.

TRAY OF LIPTON TEA

Crosstab

			ADVMNTS						Total
			1	2	4	5	6	7	
TASTE	1	Count	0	0	1	3	6	5	15
		Expected Count	2.5	.6	1.3	3.1	3.8	3.8	15.0
	2	Count	2	0	1	1	0	0	4
		Expected Count	.7	.2	.3	.8	1.0	1.0	4.0
	3	Count	1	0	0	0	0	1	2
		Expected Count	.3	.1	.2	.4	.5	.5	2.0
	4	Count	0	1	0	0	0	0	1
		Expected Count	.2	.0	.1	.2	.3	.3	1.0
	5	Count	1	0	0	0	0	0	1
		Expected Count	.2	.0	.1	.2	.3	.3	1.0
	6	Count	0	0	0	1	0	0	1
		Expected Count	.2	.0	.1	.2	.3	.3	1.0
Total		Count	4	1	2	5	6	6	24
		Expected Count	4.0	1.0	2.0	5.0	6.0	6.0	24.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	45.947(a)	25	.007
Continuity Correction			
Likelihood Ratio	31.442	25	.175
Linear-by-Linear Association	6.111	1	.013
N of Valid Cases	24		

a 36 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

Symmetric Measures

		Value	Asymp. Std. Error(a)	Approx. T(b)	Approx. Sig.
Interval by Interval	Pearson'sR	.515	.162	-2.821	.010(c)
Ordinal by Ordinal	Spearman Correlation	.593	.155	-3.455	.002(c)
N of Valid Cases	24				

a Not assuming the null hypothesis.
b Using the asymptotic standard error assuming the null hypothesis.
c Based on normal approximation.

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		Expected Count	2.5	.6	1.3	3.1	3.8	3.8	15.0
	2	Count	2	0	1	1	0	0	4
		Expected Count	.7	.2	.3	.8	1.0	1.0	4.0
	3	Count	1	0	0	0	0	1	2
		Expected Count	.3	.1	.2	.4	.5	.5	2.0
	4	Count	0	1	0	0	0	0	1
		Expected Count	.2	.0	.1	.2	.3	.3	1.0
	5	Count	1	0	0	0	0	0	1
		Expected Count	.2	.0	.1	.2	.3	.3	1.0
	6	Count	0	0	0	1	0	0	1
		Expected Count	.2	.0	.1	.2	.3	.3	1.0
Total		Count	4	1	2	5	6	6	24
		Expected Count	4.0	1.0	2.0	5.0	6.0	6.0	24.0

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Interval by Interval	Pear-son'sR	.515	.162	-2.821	.010(c)
Ordinal by Ordinal	Spear-man Corre-lation	.593	.155	-3.455	.002(c)
N of Valid Cases	24				

a Not assuming the null hypothesis.
b Using the asymptotic standard error assuming the null hypothesis.
c Based on normal approximation.

There is positive relation between the two variables - taste and advertisements. Company should prefer to balance both in order to get better sales. Moreover, significance level of both interval by interval and ordinal by ordinal by correlation exists in acceptance region as both are below or equal to .010. Since R is positive in both the terms we have that both are positively correlated to each other and to the sales of the Lipton tea.

Crosstab

			COMPQLTY					Total
			2	3	4	6	7	
TASTE	1	Count	1	6	3	3	2	15
		Expected Count	1.3	3.8	2.5	2.5	5.0	15.0
	2	Count	0	0	1	1	2	4
		Expected Count	.3	1.0	.7	.7	1.3	4.0
	3	Count	1	0	0	0	1	2
		Expected Count	.2	.5	.3	.3	.7	2.0
	4	Count	0	0	0	0	1	1
		Expected Count	.1	.3	.2	.2	.3	1.0
	5	Count	0	0	0	0	1	1
		Expected Count	.1	.3	.2	.2	.3	1.0
	6	Count	0	0	0	0	1	1
		Expected Count	.1	.3	.2	.2	.3	1.0
Total		Count	2	6	4	4	8	24
		Expected Count	2.0	6.0	4.0	4.0	8.0	24.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.900(a)	20	.659
Continuity Correction			
Likelihood Ratio	17.946	20	.591
Linear-by-Linear Association	4.746	1	.029
N of Valid Cases	24		

Symmetric Measures

		Value	Asymp. Std. Error(a)	Approx. T(b)	Approx. Sig.
Interval by Interval	Pearson'sr	.454	.141	2.392	.026(c)
Ordinal by Ordinal	Spearman Correlation	.491	.193	2.644	.015(c)
N of Valid Cases	24				

a Not assuming the null hypothesis.
b Using the asymptotic standard error assuming the null hypothesis.
c Based on normal approximation.

The positive relation between both the terms - competitors' quality and taste of Lipton tea. Competitors of Lipton tea in India are Tata Tea, Brooke Bond and some of the regional tea companies as Vaghe Bakri in Gujarat. Lipton Tea has ice tea flavor also and lemon tea in their basket. But due to strong competition in the market, Lipton tea has been lagged behind by Tata tea and others. Thus taste or some other variants can also add to the increasing graph of Lipton tea in India.

Crosstab

			ADVMNTS						Total
			1	2	4	5	6	7	
PRMTION	1	Count	0	1	0	0	0	0	1
		Expected Count	.2	.0	.1	.2	.3	.3	1.0
	2	Count	1	0	0	2	0	0	3
		Expected Count	.5	.1	.3	.6	.8	.8	3.0
	3	Count	2	0	0	2	1	0	5
		Expected Count	.8	.2	.4	1.0	1.3	1.3	5.0
	4	Count	0	0	0	0	1	1	2
		Expected Count	.3	.1	.2	.4	.5	.5	2.0
	5	Count	1	0	1	0	2	1	5
		Expected Count	.8	.2	.4	1.0	1.3	1.3	5.0
	6	Count	0	0	1	1	0	4	6
		Expected Count	1.0	.3	.5	1.3	1.5	1.5	6.0
	7	Count	0	0	0	0	2	0	2
		Expected Count	.3	.1	.2	.4	.5	.5	2.0
Total		Count	4	1	2	5	6	6	24
		Expected Count	4.0	1.0	2.0	5.0	6.0	6.0	24.0

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	50.907(a)	30	.010
Continuity Correction			
Likelihood Ratio	38.714	30	.132
Linear-by-Linear Association	6.147	1	.013
N of Valid Cases	24		

a 42 cells (100.0%) have expected count less than 5. The minimum expected count is .04.

Symmetric Measures

		Value	Asymp. Std. Error(a)	Approx. T(b)	Approx. Sig.
Interval by Interval	Pearson'sR	.517	.124	2.833	.010(c)
Ordinal by Ordinal	Spearman Correlation	.528	.122	2.913	.008(c)
N of Valid Cases	24				

a Not assuming the null hypothesis.
b Using the asymptotic standard error assuming the null hypothesis.
c Based on normal approximation.

Advertisement and Promotional Schemes are also correlated. This may be the possible reason for the failure of product in India. Since the significance level lies below hypothesized significance level, one can easily accept the null hypothesis for the same. Value of R for Pearson and Spearson method is .517 and .528 which is obtained by cross tabulation and correlation analysis. For bye, company needs to

emphasize on the promotional schemes. International Brands before tramping in Indian Markets should bring out some of the promotional schemes and bring out good advertising concepts to mark up the image of the Brand in the minds of the people. Proper mixture of promotional schemes, advertisements and taste with price will prove to be springy Gait in Indian Markets.

CHING'S

Friedman Test

Ranks	
	Mean Rank
NOADS	1.83
NONIND	3.04
TASTE	2.25
HPRICE	2.88

Test Statistics(a)

N	24
Chi-Square	13.550
df	3
Asymp. Sig.	.004
a Friedman Test	

Mean Ranking uncircuitously divulge the impact of "Advertisements" on the psyche of the customers. No advertisements banners or no audio-visuals on televisions steer the low sales or negative embrace of the product. On survey ranking, most of the time this options is ranked as 1 or 2. . This is the reason why the mean ranking turns to 1.83. Second on the list is Taste. This framework is nearly equivalent to high price of the product. Hakka Noodles are of high levy. Competitors although some being not branded one are able to have good sales. But a high price is one of the important as noodles give the same taste. Taste in regard to the sauces available in Chinese taste have low acceptance. Non Indianised product was least preferable reason for failure of the product according to the experts.

PRINGLES

Null Hypothesis : Dependence of the factors for the sales

Alternative Hypothesis : Independence of the factors for the sales of product.

Ranks	
	Mean Rank
PRICE	2.22
SHAPE	5.94
TASTE	3.82
PACKGNG	5.70
ADS	2.72
PROMSCH	4.08
AVAILBLT	3.52

a Kendall's Coefficient of Concordance

Kendall's W Test

Test Statistics	
N	25
Kendall's W(a)	.420
Chi-Square	62.972
df	6
Asymp. Sig.	.000

Now, from the table we have value of Chi-Square as 42.980. thus the tabulated value of the chi-square is less than the calculated value. Thus this supports the null hypothesis of dependence of the factors on the sales as such we can infer that W is significant at 0 % level. Price and advertisement can be considered to be the most important reasons for the death of the most successful brand of the world in India. Moreover, there are also competitors like Lays with different packaging. So, we can consider that Pringles with less quantity and weight can be tried in order to position among the brands which have good story of success in India.

HAPPY DENT

Kendall's W Test

Ranks	
	Mean Rank
PACKAGIN	1.98
TASTE	3.36
INTAD	3.64
PUNCHLIN	3.72
BDEPWID	2.30

Test Statistics	
N	25
Kendall's W(a)	.259
Chi-Square	25.932
Df	4
Asymp. Sig.	.000

a Kendall's Coefficient of Concordance

Kendall's N test is non parametric measure of relationship. It is used for determining the degree of association among several (k) sets of ranking of N objects or individuals. Kendall's coefficient of concordance (W) is considered an appropriate measure of studying the degree of association among three or more sets or rankings.

Here calculated chi-square value is 25.932 whereas tabulated value of Chi-Square is 13.277 and this considerably low than the calculated value.

This does not support the null hypothesis of independence and as such we infer that W is significant as 0.00% level.

Thus, packaging, taste advertisements and no punch line as well as no brand depth and width are all possible reason for the failure of Happy Dent in India. Here, international ad, taste and no punch line has highest mean ranking with packaging as lowest mean rank.

TOBLERONE

Study is done in order to find the dependence of the shape, price, strategy, availability, advertisements, promotional schemes & brand ambassador with the sales of the ToblerOne in India. Moreover, we would also find the rank where most important part is discovered for the possible reason for the failure of the product.

Descriptive Statistics					
	N	Mean	Std. Devi-ation	Mini-mum	Maxi-mum
SHAPE	24	6.21	1.14	4	7
PRICE	24	3.00	2.09	1	7
STRATEGY	24	3.71	1.97	1	6
AVAILABL	24	3.83	1.79	1	7
ADVERTSM	24	3.04	1.49	1	6
PROMSCH	24	4.54	1.79	1	7
BAMBSDOR	24	3.67	1.86	1	7

Kendall's W Test

Ranks	
	Mean Rank
SHAPE	6.21
PRICE	3.00
STRATEGY	3.71
AVAILABL	3.83
ADVERTSM	3.04
PROMSCH	4.54
BAMBSDOR	3.67

a Kendall's Coefficient of Concordance

Test Statistics	
N	24
Kendall's W(a)	.261
Chi-Square	37.607
Df	6
Asymp. Sig.	.000

PILLSBURY ATTA

Descriptive Statistics								
	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
ROUTE	24	1.7083	1.0417	1.00	4.00	1.0000	1.0000	2.7500
THICKNES	24	3.2917	1.0417	1.00	4.00	3.0000	4.0000	4.0000
FORTIFIE	24	2.8333	.7614	2.00	4.00	2.0000	3.0000	3.0000
PRICE	24	2.1667	.9631	1.00	4.00	1.2500	2.0000	3.0000

Kendall's W Test

Ranks	
	Mean Rank
ROUTE	1.71
THICKNES	3.29
FORTIFIE	2.83
PRICE	2.17

Test Statistics	
N	24
Kendall's W(a)	.295
Chi-Square	21.250
Df	3
Asymp. Sig.	.000

a Kendall's Coefficient of Concordance

Here, we have the calculated value of chi-square as 37.607 where as tabulated value is nearly 16.812. So, as the basis of less than relation we reject null hypothesis of independence and alternative hypothesis gets accepted. Hence we can interpret that all factors are dependent factors for the sales of Pringles. Moreover, price and advertisement have lowest mean ranking. High prices and no advertisement are possible reasons for the low acceptance of the product. There is minimum deviation over the shape which again fixes its rank in the dependent relationship. Kendall's coefficient of concordance is .261.

Here, first rank goes to the unconventional route as the 75th percentile is lowest among all the four possible reasons. Moreover, we find tie for the same position if we look at 75th percentile for second position. But since the 25th percentile and median value of price is low than the fortified, price is ranked for the second possible reason for the failure and then accompanied by fortified and thickness of the atta.

Chi-Square is used for the dependence of the factors. Kendall's coefficient of concordance is 21.250.

TANG

Descriptive Statistics								
	N	Mean	Std. Deviation	Minimum	Maximum	Percentiles		
						25th	50th (Median)	75th
STRATEGY	24	4.50	1.41	2	6	4.00	4.00	6.00
PRICE	24	2.75	1.33	1	5	2.00	3.00	4.00
FLAVORS	24	4.17	1.46	1	6	3.00	5.00	5.00
ADVERTSM	24	3.17	1.46	1	5	2.00	3.00	5.00
BRANDNME	24	4.63	1.58	1	6	3.25	5.00	6.00
STGCOMPE	24	1.79	1.06	1	4	1.00	1.00	3.00

Kendall's W Test

Ranks	
	Mean Rank
STRATEGY	4.50
PRICE	2.75
FLAVORS	4.17
ADVERTSM	3.17
BRANDNME	4.63
STGCOMPE	1.79

Test Statistics	
N	24
Kendall's W(a)	.360
Chi-Square	43.214
Df	5
Asymp. Sig.	.000

a Kendall's Coefficient of Concordance

Here, we have proved the dependence of the factors as the possible reason for the failure of Tang in India. Thus, we know that as the tabulated value of the chi-square is low (15.086) which is far low than the calculated value of chi-square (43.214). So we reject null hypothesis and accept the alternative hypothesis.

Strong competition ranks one for the realms of failure. Second on the possibility is price. Price of Tang is further accompanied by advertisements. The advertisements of Tang were viable impetus for the failure on ground levels. These are accompanied by flavor, strategy and lastly brand name as inducement for the misfire of Tang in India.

BASKIN ROBINSON

Test Statistics	
N	25
Kendall's W(a)	.682
Chi-Square	85.229
Df	5
Asymp. Sig.	.000

a Kendall's Coefficient of Concordance

Kendall's W Test

Ranks

	Mean Rank
PRICE	1.36
TASTE	3.08
AVAILBLT	2.32
SUGARLVL	4.44
PACKGNG	4.20
FLAVOURS	5.60

Here, value of Kendall's coefficient of concordance is .682 with N= 25 and degree of freedom as 5. If we find the tabulated value of chi-square we get 15.086 which is far low than the calculated value of chi-square. Thus we can reject the null hypothesis which states for the independence of the factors. We accept alternative hypothesis and conclude that there is dependence of the factors.

Moreover, first possible reason is found to be price, as Baskin Robinson is highly priced compared to the national players Amul and Vadilal. Moreover, second ranking goes to the availability of the ice-cream and there is mixed consensus for sugar level and packaging of the ice-cream.

Here, we have fractionated six main elements which may impact you while purchasing products in FMCG sector. First on rung on the ladder is price where 75th percentile value is 2.25(minimum)

Second on the gradation is availability of product where 3.71 is 75th percentile and std error is .20 Third is distribution channel with 75th percentile as 4.64

Fourth is promotional scheme, fifth on ladder is basic diet and last on track is trust relationship build by the brands in India.

WHAT SWAY YOU NOT TO SNAP UP FOREIGN BRANDED WARES IN INDIA ESPECIALLY IN FMCG SECTOR

Statistics

		TRUST	PRICE	DISTCHL	AVAILABL	DIET	PROMSCH
N	Valid	22	23	23	23	23	23
	Missing	3	2	2	2	2	2
Mean		4.55	1.74	3.26	2.96	3.91	4.39
Std. Error of Mean		.39	.25	.34	.20	.33	.26
Median		5.20(a)	1.47(a)	3.13(a)	2.82(a)	4.10(a)	4.38(a)
Std. Deviation		1.82	1.18	1.63	.98	1.59	1.23
Variance		3.31	1.38	2.66	.95	2.54	1.52
Skewness		-1.021	1.659	.159	.735	-.362	-.204
Std. Error of Skewness		.491	.481	.481	.481	.481	.481
Percentiles	25	3.22(b)	.(c,b)	1.94(b)	2.15(b)	2.64(b)	3.46(b)
	50	5.20	1.47	3.13	2.82	4.10	4.38
	75	5.93	2.25	4.64	3.71	5.25	5.39

a Calculated from grouped data.
b Percentiles are calculated from grouped data.
c The lower bound of the first interval or the upper bound of the last interval is not known. Some percentiles are undefined.

Conclusion

In today's all-inclusive world market, customers are nothing with the mentality where they are the nominal. Companies need to puzzle out the mind set of customer and then try to sell the artifact. Here, we have analyzed the impetus of brand's failing in Indian market. Advertisement, pricing, taste, brand ambassador etc are the annotation for triumph.

Advertisements are plug to brain cells. Promoting brand by television media with ear catching punch line tying emotions knots with the product and finally urb to product/brand amid of thousand of brands in shelf. Brands like HappyDent had non-Indianised audio-visuals ads which didn't clout people's eye for the product. Same story was repeated by Heinz and Lipton Tea.

In gleam of above analysis, we can nimbly decipher that "Customization" should be the first step in the Indian Market. Drawing a line with some of the intersection points at the needs and demands of the customers can only paint the beautiful images in the minds of the citizen of any realm. And this realization of needs and demands plays a non-speaking part for the success.

In parallel, availability is reason for fizzling out of cosmopolitan wares in India, the availability in terms of reach of the product and easy accessibility to purchase. "Kiranawalla" are yet the most preferred shopping stores for the usual daily snap up. Whilst malls are banking gravity but there is long way to peregrinate in India. Thus, international brands are foible due to availability facet.

Basic visuals are an arresting feature. Kellogg's, Pillsbury atta, Tang or Ching's are not grub/nosh for Indians. They do not even many a time apt according to the timings of the intake. Daily requirement according to the toil are different from other province. So before striding into Indian market, good study should be done on the vitals for Indians.

Pricing is footslogging towards quirk or victory of market shares. Foreigners may bestow the price of Pringles for potato chips/wafers but Indians would lean to Rs. 10 jaggy bag which can be wolt down at once.

This being the case we can figure out that tract/exegesis has append epistemic to idiosyncrasitic reason of brands in Indian episode. Overall results unveil the possible reasons and how a company needs to balance them and make success spiel/recital/anecdote.

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Emerging Issues In International Management Ethics

Dr M Saeed*

This review article highlights the ethical issues, emerging in the wake of globalization. The multinational corporations are exposed to a number of cross cultural and ethical challenges as they enter into the markets of different countries across the globe. These challenges need to be addressed not only through Business Strategies but also through ethical, moral, inter-disciplinary, multi-cultural and philosophical explorations This article is a review of the book: Ethics in International Management edited by Brij Nino Kumar and Horst Steinmann, Berlin: Walter de Gruyter, 1998, ISBN, 3-11-015447-1, 461pp.

During the last three decades, the field of international management has grown from the interest of a few philosophers to an interdisciplinary area of study covering both the liberal arts and the business management. Credit for this development goes to both the philosophers and business scholars who have succeeded in relating ethical theories to the various problems of ethics that arise in international management. They have shown not only that business ethics is a fruitful area for philosophical exploration but also that practicing managers in the world of business can benefit from the results.

Ethics in International Management is a relatively comprehensive and up-to-date discussion of the most prominent issues in the field of ethics in international management and the major positions and arguments on these issues. The focus of the book is primarily on ethical issues faced by the multinational corporations (MNCs); and the positions on these issues and the arguments from them have been taken from a wide variety of sources, including economics, religion and law. The issues selected for discussion are widely debated by scholars around the world together with practical examples in this edited work which comprises of three parts. Part 1 provides that theoretical reflections on possible improvements of status quo in morals in international business must begin with the foundations and objectives of a reform. Part 2 discusses how ethical considerations affect corporate policies and operations of the MNCs. Part 3 provides discussions on morals of the main religions of the world. It also discusses culture as a point of departure for foundations of corporate ethics in international management.

Institutionalizing ethical practices in the firm is an arduous task for management under any circumstances, and it becomes especially problematic as corporations move into the international arena (John; pp. 151). Besides the usual barriers of custom and language, operating in foreign locations also poses another problem of different countries having value systems which vary widely, often leading to ethical norms and beliefs which are at odds with those of the originating MNCs. While other corporate objectives, such as emphasizing quality or customer service, can be accepted consistently around the world, the management has to consider the values of the local culture in which the company operates.

The first and the most obvious set of conditions that give rise to the ethical problems grow out of the fact the MNCs function in three domains: (1) a home base of operation where the MNC is headquartered; (2) a foreign base of operation in a host country; and (3) additional foreign markets beyond 1 and 2. Each of these domains has a unique web of ethical beliefs and principles which often conflicts with those of the other domains.

Globalization has made international competence crucial to the survival of business. To improve internationally-focused business strategies, companies must develop new skills in multicultural collaboration and raise their level of cross-cultural awareness. At the same time, public demand for

* Professor, Department of Business Administration, Minot State University, North Dakota, USA.

ethical accountability from leading social institutions requires businesses to take a more active role in creating and maintaining ethical work climate. Comprehensive integrating responses to these two concerns pose a particularly difficult challenge for MNCs.

In Chapter 1, "Corporate Ethics and Global Business: Philosophical Considerations on International Management", it has been argued that under the current conditions of globalization, international firms are facing more cultural conflicts without suitable means of national or international law available for dealing with these conflicts. Therefore, according to Horst Steinmann and Andreas G. Scherer, it is necessary that global firms determine their own policy and behave as moral actors, as for example suggested under the US-Model Business Principles. But, the point that deserves a consideration is that US Model Business Principles do not discuss the processes of planning, decision-making and information in international companies. Because of some of the issues, having a great sensitivity to local cultures, a culturalistic approach must attempt to integrate them in the process of management as early as possible through suitable channels of information and participation. The US-Model Business Principles also do not give due recognition on the design of organizational structures and leadership style of a corporation. The effectiveness and efficiency of the leadership style varies depending on the different prevailing cultural conditions.

In the second chapter entitled, "Constructive Anthropology and Cultural Pluralism: Methodological Reflections on Cultural Integration" Harald Wohlrapp addresses the question of how cultural integration and individuality of different cultures can both be made possible. Cultural difference has been defined as difference in forms of life. Cultural integration is then the overcoming of cultural difference in a process in which increasing understanding of the other and one's culture go hand in hand (Lorenzen Paul; pp. 239 & 248). The article suggests three steps of cultural integration: experience, understanding and producing peace. However, the beliefs that religious ties, in so far as they do still subsist, belong to a private sphere and do not enter into reasoning for interactions among them will create disharmony and is not consistent with Islamic approach. One should look for a position from which he can enter into communication reasonably with the members of various religions and cultural backgrounds. The author does not address other important values for cultural integration such as trust, caring, responsibility and tolerance. These values do play an important role in promoting cultural integration.

The third chapter contributed by S. Prakash Sethi and Linda M. Sama involved a discussion about the competitive context of ethical decision-making. The authors have argued that in the real world, corporate actions are influenced to a great extent by external market based conditions and suggest that a more comprehensive explanation of ethical business conduct should include both corporate, i.e. internal considerations, and competitive, industry structure-based, i.e. external conditions. Their framework provides a systematic analysis of the interactive effect between different types of external market-based competitive conditions, institutional opportunities to engage in ethical behavior and the likelihood that corporations would do so. The authors stress that competitive markets strive for productivity and thereby serve the general welfare even when the business firm is pursuing its own self-interest and is not concerned about promoting general welfare. Unfortunately the reality is quite different from this perception when applied to business morality. While productive markets may prompt firms to act smartly, they do not induce them to act ethically, and perfect markets are highly imperfect in their enforcement of business morality. The authors' framework of the relationship between the ethical conduct of the firms and their external market competitive conditions is too simplistic. Other important internal factors are also linked to ethical conduct of the firms. Given the existence of opportunities in the marketplace, an individual firm's choice of ethical and unethical behavior would be influenced by such internal factors such as corporate culture and managers' own ethical values.

Hans-Peter Meister and Henning Banthien have discussed the role of International Industry Associations in development and implementation of corporate ethics in Chapter 4. The demands of sustainability and of a globally expanding economy

force companies as well as society to confront various challengers on a social, political, and economic level. The principle of dialogue is a key means for developing ethically sound judgments in the face of complex modernity. However, the creation of this framework cannot be solely achieved by individual companies. For this, the specific knowledge, initiating, and steering-competencies of industry associations have been recommended. The authors have proposed to the Industry Associations to establish a discourse on ethics in the market economy, beneficial to all stakeholders. However, the companies which are participants to a dialogue, compete against one another and do not have a sufficient amount of information at their disposal which would allow them to enter into cooperation and dialogue. Participants of a dialogue should get over the traditional way of thinking in win-lose categories and introduce companies to the idea of win-win situations.

It is difficult to uphold that Industrial Associations are set up primarily to tackle ethical issues. Normally, other issues, such as sales, consumer demand and government regulations dominate the discussion in the associations. Ethical issues, as normally viewed as not contributing a significant share to the companies' profit, are secondary issues and are normally "side tracked" in the discussion among the participating companies. Such an association may also be dominated by a few large corporations which contribute a larger amount to the association's budget and financial requirements. The situation will leave the smaller corporations as followers which are subject to the influence of larger corporations. This again, will lead to the failure to achieve the association's objectives.

It is in this context that Andre Habisch has argued for the ethics of Win-Win in Chapter 5. He has examined the crucial role of social capitalism for sustainable socio-economic development. In the globalized economy of the 21st century, more than ever before, multinational enterprises (MNEs) will form part of their host country's society. In this new context constitutional order with stable property rights, predictable political patterns and rational economic policy can no longer be taken for granted. With economic success depending on a sustainable political environment, MNEs will have to invest in local social capital. He stresses that overcoming dilemmas of distrusts and lack of co-operation will play a proactive role in creating 'win-win' scenarios and transform the relationship between business and civil society. The author highlights that the motive of MNEs in host countries should be "participating in economic development" rather than "coping with the environment". However, MNEs also use their bargaining power to realize their special interests and short-term advantages. In many cases, their lobbying does not create positive but negative external effects for the political and economic culture of host countries (Porter; pp. 598). The MNEs can play a great role in the creation of social capital in their host countries by cooperating with Non-Governmental Organizations (NGOs) to pursue their social goals.

Brij Nino Kumar and Ina Graf have argued that MNCs in lieu of government institutions must voluntarily shoulder the moral responsibility for the consequences of globalization (Chapter 6). Generally, the awareness, especially with respect to sustainable development among the MNCs is still lacking. The conflicts resulting out of globalization are shown, and their relationship to sustainable development offering a frame for normative guidelines of ethical behavior and legitimacy of MNCs is identified. However, it is difficult to identify the consensually justifiable rules which can legitimize MNCs' corporate activity because the perception of host-countries of what MNCs should be and how they should perform is determined by the values that can be very subjective and culturally diverse.

In assessing the implementation strategies with integrated sustainable development among the companies, the authors do not address the problem of lack of "integrated management personnel". Corporate decision making has been and is still oriented towards profit, return-on investment, market-share and other quantitative indicators. Management personnel itself can be a constraint in achieving the goals of sustainable development as a normative foundation for international business strategies.

As argued by Klaus M. Leisinger, environment consonant corporate behavior is a matter of both ethics and of business prudence and correctly perceived self interest (Chapter 7). Environmentally responsible corporations not only help to bequeath

a world worth living for the future generations, they also garner public acceptance. The author blames the developing countries by stating that a sustained development cannot be achieved unless the efforts of the developing countries to industrialize go forward in conformance with the highest possible standard of present-day environmental protection. However, it should also be pointed out that in meeting the high investment costs manifestly above the average in their field of activity, it is imperative that broad coalitions and implementation partnerships be pursued by MNCs for transfer of ecology related technology from developed countries to developing ones.

Analyzing the problems of bribery and extortion, Michael H. Wichen has rightly observed that corruption, as a global cancer leads to massive misallocation and wastage of resources and erosion of social and moral fabric of many societies (Chapter 8). Bribery, although condemned everywhere in the world, is still not a criminal act in many countries; and the process is further complicated by legal codes that vary from country to country; what is legal in one country may be winked at in another and legal in a third country (Sheila M., Puffer & Daniel J. McCarthy; 1995). In defining corruption, the author does not take cognizance of another form of corruption which frequently takes the form of price fixing or collusion, where the competing companies agree among themselves which company, usually in turn, will submit the lowest offer, while the others submit "protection offers". Thus, the company with the lowest offer will succeed which will reciprocate the favor by providing a similar chance to its collaborator in future.

In Chapter 9, Robert D. Haas presents the cases of the practical experience of corporate ethics in an international environment and discusses the approaches to the problem: (1) neglect it; (2) compliance-based programs, and (3) value-oriented programs (integrity approach). Compliance-based programs are based on rules and regulations, with the goal of preventing, detecting and punishing legal violations. We need to consider some potential disadvantages of applying compliance-based programs which discourage managers or employees from exercising their own situational judgments and thus make the system too bureaucratic.

G. Iyer rejects the notion that ethical responsibilities for international marketing decisions can be readily extended either from a set of multinational corporate responsibilities or from ethical theories in arguing that the crucial element of international marketing is exchange which includes consumer sovereignty, commutative justice, productive justice, distributive justice and honest influences (Chapter 10). His framework underscores the need for understanding cross-cultural contexts and the ways in which a variety of organizational, market and non-market considerations may influence ethical evaluations and conduct. He further fails to highlight the important role of "price justice" in international marketing as one of the ethical foundations for international marketing exchanges. There is an expansive realm of ethical issues in pricing. Issues may be raised at all levels of the distribution channel, across different market structures and competitive situations and across industry types (Laczniak Gene; pp. 73). The ethical issues include price discrimination, excessive mark-up, price fixing, predatory pricing and misleading price advertising. Another major limitation of this paper has been its restricted focus on international marketing exchanges. Specifically, only the relations in the domain of marketing were analyzed. A more balanced approach would require considering the perspectives and interests of other stakeholder as well.

Marvin T. Brown explores the relationship between ethics and diversity by reflecting on the development of Levi Strauss and Company's "Valuing Diversity and Ethics" training program (Chapter 11). Instead of seeing diversity as a problem for ethics, he shows how valuing diversity enriches ethical reflections and highlights three different ways that ethics and diversity are related: through ethical principles, at the level of cultural assumptions, and through dialogue to connect ethics and diversity (Brown; pp. 46).

Ethics workshops are costly and suitable for large corporations only. A large amount of budget needs to be allocated for traveling and accommodation and also for payment to external consultants and facilitators. Furthermore, conducting such workshops shall require commitment and recognition of the top management of the company. If top management does not recognize or value the importance of

diversity and ethics, such workshops cannot be carried out.

Ethical decisions of the management depend not only on principles, but also on situational analysis and assumptions about such themes as forgiveness, responsibility and control in the workplace. Those involved in the situation must always fill in the gap between principles and actions. For different people, such a gap (i.e. between principles and actions) is filled with different actions subject to their interpretation of the rules, policies and procedures laid down by a company. As such, it may occur that the actions taken may contradict what is intended by the policy makers and top managers.

D.J. Clackworty suggests that a competent global Human Resource Management should master three competencies: cultural awareness, in order to understand the real intentions of the parties; cultural deftness, in order to translate this knowledge to the parties themselves in an understandable way, and cultural wisdom, in order to advise the parties on culturally and ethically acceptable strategies for overcoming the conflict (Chapter 12). The principle of "moving towards" method as suggested by the author states that "do unto others as we would have them to unto us". It has certain practical disadvantages in cross-cultural situations. We may want to be kind to people, but we want to be kind to them in our way; and should it happen that our way is not their way, they will most probably not understand and appreciate our intention of being kind. It could be that our "benevolent" intention is even misconstrued by them as paternalism or even arrogance. The principle of "moving under" method states that "do unto others as they would have us do unto them". The danger of this approach however is that we waive all rights of our own and subject our interests totally to others, taking the full responsibility onto ourselves to learn and follow their expectations and thus, we also withhold from them the strength of our culture. One point which has been ignored in considering the cross-cultural situations in human resource policymaking is that of developing organizational leadership which plays a tremendous role.

Shitangshu K. Chakraborty attempts a metaphysical-psychological survey of theoretical principles of ethics and morals from mainstream Indian ethos and lays a focus on individual endeavor and transformation towards higher levels of consciousness (Chapter 13). He talks about intrinsic consciousness which alone cannot address the social dimension of ethical issues in plural societies. K.H. Lee expresses a genuine concern on the prevalence of corruption in business in China and is of the opinion that the establishment of a legal framework which can be used to govern and regulate global business activities will solve the problems of bribery and corruption (Chapter 14). The present challenge for China is to continue to adopt the open door policy, to fight against corruption with different measures, and to develop a legal framework and nurture a commensurate culture. Merely instituting laws cannot curb corruption if it is a problem within the business culture of a society. As such, beside enactment of laws, the society should also be educated of the danger of corruption and be indoctrinated that corruption will ruin it and its civilization. The article does not provide a due consideration on other ethical issues surrounding the business environment in China. Counterfeiting is a case in point. A growing number of MNCs are concerned about doing business in China. Within hours of the time their goods are on the street, many find that counterfeiters are already working on developing their own version of the product - and in many cases, these clones look just like the original. Today there are fake cans of Coca-Cola, fake McDonald's burgers and fake Gillette razor blades (Hodgetts, pp. 492). Minimal fines on counterfeiters and "couldn't care less" attitude are causing a great worry to the MNCs operating in China.

Iwao Taka has examined the issues pertaining to contextualism which is deeply rooted in Japanese culture as an individual tendency to take social context into consideration and decide a course of action from the viewpoint of the context (Chapter 15). As observed by the author himself, this tendency has brought a number of competitive edges to Japanese corporations but at the same has also been a source of business scandals in Japan. In order to rectify the problematic aspects of contextualism, there is a necessity to inculcate ethical norms and values into Japanese corporate culture. Culture has become one of the criteria to judge what is ethical in contextualism. These trends show that international marketing executives are ready to adapt to any

environment as long as there is profit; and are, thus, guided by the famous schema of maximizing profits by whatever means. Besides having its setbacks, contextualism also has positive points which have not be highlighted. Contextualism will make the corporations appreciate the business environment that they are working in. For example, in the production and marketing strategies, corporations would take diversified demand of consumers into consideration and try to develop the products from the viewpoint of the consumers. Secondly, in Japan, how outside people see the corporations is very significant. Japanese managers normally consider themselves to be representatives of the respective corporations. This should act as a deterrent against disgraceful actions, worrying that misconduct could tarnish the corporate image (Enderle, pp. 122).

The sixteenth chapter, "An Islamic Framework for International Marketing Ethics" (Saeed, M. and Zafar U. Ahmed) highlights the capability and strength of Islam for creating and sustaining a strong culture of ethical international marketing and involves a discussion of some of the Qur'anic concepts which relate to ethical international marketing decision-making and the interrelationship among the Qur'anic concepts and four Ps of the marketing (product, price, place and promotion).

George Enderle presents the idea of "ethics gap" where ethics differ significantly in one cultural setting from those in another cultural setting which results in difficult ethical assessment among different cultures (Chapter 17). The restrained ethical assessment argued by the author faces with two major objections. Firstly, it is not ethically acceptable to refrain from ethical assessment in the international sphere when basic norms are violated; like, for instance, dumping becomes a way of doing business. Secondly, on what ethical basis should a corporation going global be evaluated, according to its home country standards or to global standards? What about the ethical assessment of multinational firms competing in the global marketplace? The author does not take cognizance of another important point which has also contributed to the emergence of business ethics in its present form which is the shaping of the philosophy and practice of business ethics that began in the late 1970s with the introduction of Business Ethics as a course of study in business schools. The teaching of Business Ethics helps to prepare students for the moral decisions and for handling dilemmas that they are likely to be there in corporate environment (Dunfee and Werhane, G.; pp. 72).

The approaches to business corporate ethics refrain from explicitly addressing the contents of corporate decisions and actions. On one hand, this reluctance might be understandable, given the limitations of theoretical approaches; on the other hand, it results in shirking the responsibilities of struggling with complex and vital issues, for which practitioners may expect advice from business ethicists.

Adela Cortina has argued that the companies which wish to survive and assume their responsibility in building a lasting peace must incorporate a dialogical inter-cultural ethics as a management tool and a way to comply with a principle of responsibility (Chapter 18). He has rightly emphasized the need of an inter-cultural dialogue for a civil society. In the 19th Chapter of the book, Sheila M. Puffer and Daniel J. McCarthy have examined the multifaceted issues of business ethics in "Transforming Economy" of Russia by applying the Integrative Social Contracts Theory (Donaldson, T. and T Dunfee; 1994). The discussion about the challenges pertaining to the ethicality of questionable Russian business practices of extortion, managerial buy-outs, breaking contracts, ignoring senseless laws, personal favoritism and lay off is very interesting and thought provoking, though no suggestions have been provided to rectify or even reduce these evil practices. As Russia becomes more active in the world economy, its business laws and practices are likely to become increasingly influenced by and aligned with the norms of the broader international economic order.

In the last chapter of the book, Simon Webley has analyzed the different aspects of Inter-Faith Declaration of International Business Ethics, as an example of a code of ethics based on common and generally acceptable values of three major monotheistic religions - Islam, Christianity and Judaism (Business Ethics, European Review, January 1996). One can argue for a code of business ethics, based on external factors of Mega Business Environment, namely political, legal, social and cultural considerations, but without a moral commitment of all concerned, there is always a

likelihood of a lack of sincerity towards social obligations. There are also other factors which have heightened the need for codes of behavior. These have probably escaped the attention of the author. Firstly, there is a considerable increase in awareness of moral dimensions of public life, including behavior of business environmental issues (Enderle; pp. 24). This is partly associated with more readily available information and also due to worldwide public attention being drawn to human rights and other issues via a series of well publicized global United Nations conventions and conferences. Secondly, the worldwide accessibility to information as a result of the information technology revolution has also led to an urgent need of the codes of behavior.

In the wake of globalization and as a consequence of technological advancements, a wide range of major challenges with increasingly international implications are emanating such as sustainable development and poverty alleviation, fair and efficient markets with ethically acceptable environmental standards and working conditions, cultural and religious diversity, and common ethical ground for international co-operation (Lawrence; pp. 122). The initiatives so far taken are only the early steps towards institutionalizing ethical conduct of business and still lack of a professional objective and sincere approach to provide momentum for effectively influencing multinational corporations. As globalization escalates with a growing attention towards ethical misconduct, it becomes increasingly critical for corporations to develop effective business strategies which should be ethically and morally profound. This book reinforces this need and exposes the reader to multi-dimensional and cross-cultural issues of ethics in International Management, and provides some worthwhile insights on emerging ethical issues which have escaped the attention of practitioners, educators as well as researchers in the area of Business Management.

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Managing Micro-Entrepreneurship in Backward Classes

Dr M S Chhikara*

Abstract: Indian economy is faced with a paradox. On the one hand, with the wave of liberalization, globalization and privatization Indian economy is moving on a fast track. On the other hand, there is slowing down of poverty reduction, increasing unemployment and increasing gap between living conditions of rural and urban areas as well as interpersonal and inter-regional.

One of the measures, in this regard, is developing micro-entrepreneurship by providing credit. This paper, basically based on performance evaluation of NBCFDC, examines complete cycle of micro-entrepreneurship development and finds that:

- Micro-entrepreneurship (Self-employment) is viable means for poverty alleviation.
- Lack of access to capital assets/credit is a big constraint for self-employment, becoming micro-entrepreneurs and setup micro-enterprises.
- The poor are able to save despite their low level and sporadic incomes and they also contribute their mite to national wealth creation.
- They are not merely the beneficiaries but partners in national economic endeavour.
- There is need for an integrated approach consisting of stimulatory support and sustaining services for developing micro-entrepreneurs.

"Poverty anywhere is dangerous for prosperity everywhere. If a free society cannot help the many who are poor, it cannot save the few who are rich".

Golden Saying

"There is plenty of evidence that unemployment has many far-reaching effects other than loss of income including psychological harm, loss of work motivation, skill and self-confidence, increase in ailments and morbidity (and even mortality rates), disruption of family relations and social life, hardening of social exclusion and accentuation of racial tensions, and gender asymmetries." -

Introduction

The goals of economic development in India, namely, maximum production with full employment, economic equality and social justice, were stated very clearly in the First Five Year Plan. In accordance, India adopted state-sponsored highly protective model upto 1991 and then shifted to the process of development based on liberalization, privatization and globalization. The first phase affected the growth rate while the second phase affected the concepts of poverty eradication and social justice. Broadly, only the rich have been reaping the benefits of growth and the downward percolation of benefits is hardly visible in any of the sectors. Currently the business environment is dominated by the "survival of the fittest" philosophy.

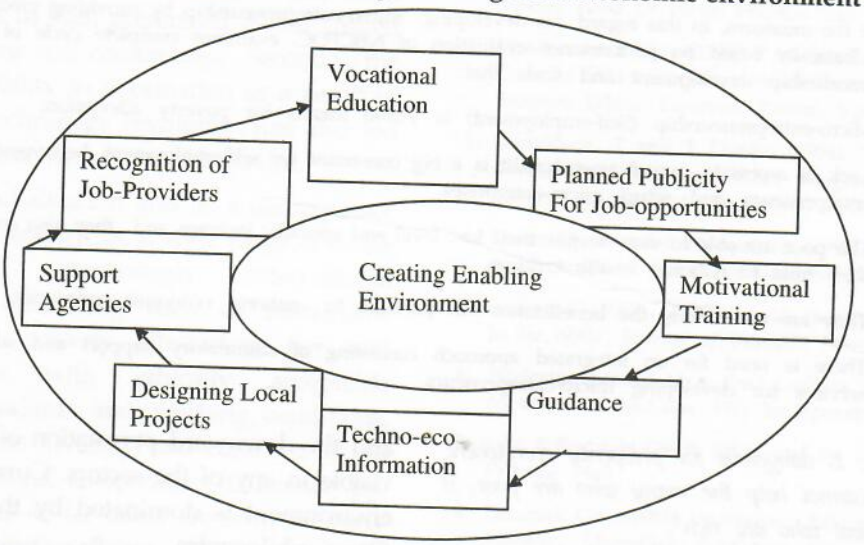
No doubt in the journey accomplished so far after Independence (1947) up to the launch of Eleventh Five Year Plan, many surprising twists and turns have taken place for the uplift of the poor and the relative share of poor has come down, say from about 50% in 1947 to 20% in 2007 - 08. But in absolute terms, about 20 crore people (equivalent of the whole European population) of the third generation after independence live below the poverty line. Developing micro-entrepreneurship, as one of the measures could prove effective tool in poverty eradication. But not withstanding the progress made over the decades, the majority of the rural people still does not appear to have access to finance from a formal source. According to the RFAS 2003, some 59 per cent of rural households do not have a deposit account and 79 per cent of rural households have no access to credit from a formal source . Thus, though the Indian banking, over the years, has become more inclusive and proactive, the rural masses, particularly the poor face severe difficulties.

*Faculty, Management Development Institute, (MDI), Gurgaon.

Conceptual Framework for Developing Micro Enterprises

Developing entrepreneurship is a multi-facet long term process involving conducive polices and programmes, proactive institutional framework, efficient administrators and agile entrepreneurs. Currently financial institutions, banks and numerous development corporations are assisting micro-entrepreneurship at stimulatory, support and sustaining stages. The Central as well the State governments have evolved many assistance programmes and schemes for the promotion of micro-enterprises and creating enabling socio-economic environment for promoting self-employment through micro enterprises. The broad network of different activities is shown in figure 1 below.

Figure 1. Approach for creating enabling socio-economic environment



Each phase of activities mentioned above is highly interactive, supplementary and crucial to the other phases. The relationship between different components is circular, propelling each other.

Strategic Measures:

- The perception of downward percolation of benefits has almost failed. Therefore, the bottom up design is important and it is also important to understand that one programme will not work for every person and location.
- Public Private Partnership (PPP) in human capital formation, social development and harnessing the energy and creativity of masses should be encouraged through tax concessions, exemptions in registration charges, revenue from commercial development, extra built up space through TOR, relaxations in development control, etc.
- Industrialists and other agencies from the private sector should come forward not merely with the objective of economic development with profit orientation but also with a conviction for ensuring Corporate Social Responsibility i.e. the motive of social upliftment and prosperity of the society.
- A more effective mechanism is required for monitoring the human development by constituting committees at block /town level and village level with minimum bureaucratic presence but extensive participation of the private sector and sociologists. A collective action among the public is required to control the practices of misappropriation, bribe, etc.
- There is a need to think local, rather than global and focus on one village as a pilot project first, make it a success and then attempt replicating this effort elsewhere. Also the government should consider introducing the economic condition as the criterion for job reservations giving overriding priority over the conventional classes earmarked for reservation.

This paper, basically based on evaluation of NBCFDC performance, is an attempt to examine the role of NBCFDC for developing micro-entrepreneurship and mitigating poverty. National Backward Classes Finance and Development Corporation (NBCFDC),

established on 13th June 1992, is playing a supplementary role in promoting social and economic development of the poor and unprivileged sections of the backward classes. As a credit provider for self-employment it implements its programmes and schemes through State Chennelising Agencies (SCAs). In Jharkhand State, NBCFDC provides its financial assistance through the Jharkhand State Tribal Cooperative And Development Corporation while in Bihar State, it provides financial assistance through the Bihar State Backward Classes Finance and Development Corporation. The respective SCAs in Jharkhand and Bihar provide loans for setting enterprises in service sector, agriculture and allied activities, business and transport through their regional /district offices. Based on both the secondary and primary information collected from the respective SCAs, this paper examines:

1. The actual utilization of loan for the purpose it was given
2. The success rate of the micro-entrepreneurs assisted under NBCFDC schemes along with recovery position from them to the SCA
3. Problems in implementation of schemes at grass root level/SCA level
4. Alternative practical methods which can be adopted for better implementation of schemes.
5. Identification of projects which may be taken up in particular areas keeping in view the backward and forward linkages etc.

Scope and Methodology:

The findings have been derived from the review of secondary information, focused discussions, semi-structured questionnaires, personal intuition, etc. Primary information was collected from 514 (255 from Bihar and 259 from Jharkhand state) micro-entrepreneurs assisted under NBCFDC schemes. The districts/micro-enterprises were selected randomly. Five districts were selected from each state. Geographically these 5 districts were located in East, West, North, South and Centre of each State, representing the functional position of the NBCFDC schemes fully.

- Since inception to 2007-08, 12,782 beneficiaries were identified by the SCAs in the two States. Of them only 2452 were actually assisted.
- Per unit average amount of assistance sanctioned as well as granted in this high cost and inflationary era are quite small to establish and operate an economic enterprise optimally. The inadequacy of initial credit creates incipient sickness. The amount received has been not only

1. Utilization Status (Secondary Data Analysis) Assistance Sanctioned & Utilized

Particulars	Bihar	Jharkhand	Total
1. Number of micro-entrepreneurs Identified	11800	982	12782
2. Number of micro-entrepreneurs Assisted	1848	604	2452
3. [1-2]	9952	378	10330
4. [2 as % of 1]	15.66	61.51	19.18
5. Assistance Sanctioned (Rupees Lakh)	6954	495.3	7449.3
6. Assistance Granted (Rupees Lakh)	1561	341.7	1902.7
7. [5-6]	4893	153.6	5546.6
8. [6 as % of5]	22.45	32.27	25.54
Average (Per unit) assistance sanctioned [5/1]	58,932	50,437	58280
Average (Per unit) assistance Granted [6/2]	84,470	57,450	77, 598

quite low but also has been fluctuating greatly over the last six years.

- Outreach of the corporation is limited. The beneficiaries identified as well as those who were granted assistance represent negligible fraction of the total backward population.
- There is big gap between sanctions and disbursement of credit in terms of both the number of beneficiaries and amount of assistance. Only one-fourth of the assistance sanctioned is actually given to the beneficiaries. In terms of number only 19.18 % of the total identified beneficiaries have been provided assistance.
- Year -wise the percentage of beneficiaries varies from 2..36% in 2006-07 to 40.42% in 2001-02 indicating a drastic fall in the percentage of the beneficiaries. This falling trend has been observed consistently over the years.
- The share of different branches in the total number of micro-enterprises as well as in amount distributed varied to great extent over the different branch offices in both states. It was significantly higher in developed districts. It is because of better institutional network.

2. Recovery of the amount

- The overall recovery of the amount distributed is very low. It was only 16.57 per cent in Bihar and 46.38 per cent in the Jharkhand.
- Over the years the position of recovery has been improving. It was just 7.58% in 2001-02 while during the years 2005-06 and 2006-07 it rose to 71.86% and 62.05% respectively.

Primary Data Analysis - Findings Revealed by Field Survey

3. Purpose- wise Utilization of Assistance

- The beneficiaries borrowing money for setting up business in new line other than family vocation were 74.12%.
- The rest 25.88% borrowed money from SCA for setting up business in line with family vocation.
- About 90% beneficiaries utilized the loan for the same purpose for which it was borrowed.

4. Attraction for Taking Loan.

- The NBCFDC schemes are very liberal and concessional in nature.
- Low rate of Interest was the main attraction stated by (91.37%) beneficiaries.
- It was followed by Subsidy 68.63%, Easy Installments for repayment (68.63%), Easy terms & conditions (50.20%), Speedy documentation (0%), Speedy disbursement (0%), and Cooperative & Friendly staff (17.25%). Details are shown below.

5. Impact on Women

- Under the schemes of NBCFDC the participation of women is quite low.
- Participation of women is only 11.82% while 88.18% were males.

6. Impact on Youth

- The schemes of NBCFDC emphasize on assisting the unemployed youth.
- About 41.18% beneficiaries were below the age of 30 years.
- About 43% beneficiaries were below the age of 31-40 years.
- Only 15.07% beneficiaries were above the 40 years of age.

7. Impact on income

- About 58 % of the beneficiaries have increased their income up to 20%
- Almost 11 % of the beneficiaries have increased their income up to 20 to 40%.
- About 9 % beneficiaries have increased their income up to 40 to 60%
- There was no impact on income of 23 % of beneficiaries.

8. Status of enterprises

- The position of the enterprises assisted under the schemes shows a dismal picture.
- Only about 76% of the beneficiaries were operating their business enterprises. On the other hand, 24

% of the enterprises were not in operation.

- Of the beneficiaries not in operation 56.18% beneficiaries did not purchase the assets at all.
- While 43.82% beneficiaries purchased the assets but later on sold them of.

Recovery position

- Recovery position is not good. Only 20% of the beneficiaries make their payment regularly
- About 56.47% are irregular payers
- About 10 % are chronic defaulters.
- About 14 % beneficiaries did not respond in regard to their repaying position.

Future Prospects

- About 20% of the beneficiaries stated the future prospects of their project/assets as bright
- About 41 % as moderate.
- The number of beneficiaries who stated the future prospects as dark was only 18.82%.
- Only 1.57% stated as very bright.

Performance Status

- More than 77% of the beneficiaries have increased their income varying from 20% to 80%.
- About 11 % of the total beneficiaries were consistently making profit for 3 years.
- Another 19.22 % were making profits for 2 years of the last three years.
- While 19.61% were making profit for 1 year out of the last 3 years.
- But 50.59% were incurring losses during the last 3 years.

12. Problems in Implementation of the Scheme

- Limitations of self-investment (29.63%)
- Inadequacy of loan stated by 58.04% beneficiaries.
- Inadequacy of Information dissemination (70%). Systematic dissemination of information for promoting the assistance programmes and schemes of the NBCFDC are quite limited.
- Problems in Repayment of loan consisted of inadequate return ((46.27%) from the enterprises/ assets and delay in income generation (44.71%)

12.1 Problems of Institutional Terms and Conditions and Behaviour of the Staff

- About 10 % units stated that rate of interest was on higher side.
- Further, 53.13% told that the moratorium period was small.
- Mode of repayment was difficult for 20% units.
- More than 45% faced long delays in granting assistance.
- About 41.96% beneficiaries found the procedure lengthy.
- All documents asked by the corporation were not necessary for 13.33% beneficiaries
- Reasons of delaying financial assistance were not sound enough for13.33% beneficiaries.
- Attitude of the staff of the Corporation also needs change as 9.80 % beneficiaries found their behaviour dictative.

13. Measures Required

The impact of the NBCFDC schemes, measured in terms of income generation, recovery position as well as the current and future prospects of the businesses activities, have been positive. However, efforts made and motivational level of the implementing staff are at low level. Loan assistance granted and number of beneficiaries has been falling over the years. There is also gender bias in implementation of schemes. Therefore there is need to increase the coverage and simplify the terms and conditions by minimizing paperwork.

There also appears to be mismatch between the services provided by the corporation and the loan requirements of the beneficiaries. Therefore, there is need for decentralized pro-poor participatory planning and implementation at local level. Further, the schemes and programmes of the Corporation are implemented through State chennelising agencies. In this regard there is need for:

- Setting up minimum performance standards for SCAs
- Maintaining State-level database by all SCAs
- Rating of SCAs by an independent agency
- Supporting capacity building in SCAs and ensuring effective delivery
- Provisioning appropriate capital resource support every SCA.
- Undertaking performance evaluation of SCAs regularly.
- More efforts are needed to evolve and implement woman related schemes. The schemes for them should be more liberal and concessional than their male counterparts.
- There is acute shortage of staff at SCA and branch level. More people should be employed on contractual/commission basis, linking their salary/honorarium with their performance.
- NBCFDC should increase its involvement at all important stages of the implementation cycle of the schemes and also should share a performance related expenses/payment to the SAC/field staff.
- Village panchayts should be involved particularly at the identification of beneficiaries and recovery of loan. Social pressures have more weight than legal measures. It is suggested that the beneficiaries should be routed through village panchayts.
- When there is a penalty provision for defaulter, provision of incentives should be made for the regular payer of the loan.
- Subsidy should be given to the regular payer only and it should be utilized / adjusted towards the last repayment installment of the loan.
- Subsidy components should be revised and made comparable to other prevailing schemes of the similar nature.
- Regular payer of the loan should be given interest rebate in the last installments.
- Education loan scheme for the higher education should be broad-based.
- Beneficiaries should be allowed to deposit the repayment installments in the post office/bank and also as and when they are in position to deposit and not necessarily at the end of the term.
- As there is low percentage of government employees in the rural areas guarantee of the village panchayts or the person owning a immovable property should be accepted.
- In urban areas where credit risk can be covered with hypothecation of self-property, the guarantee of second party or government employee should be waived.

No doubt the cost of sustainability with outreach to widely scattered beneficiaries is high. In this regard, the Corporation needs to address the issues of operating efficiency, administrative effectiveness, maintaining portfolio quality, tracking future risks in portfolio, covering expenses and fixing appropriate interest rates. But it is certain that poverty alleviation process can be hastened if leakages are controlled.

Micro-enterprises: The Way Ahead

Broadly, the Corporation is financing the overlooked poor in resource poor regions or where the infrastructure is not very supportive. The livelihood strategies of the poor are invariably a mix of natural resource management and agriculture wage employment. Avenues for off-farm activities are limited. Providing non-farm employment and income generation would require complex, slow and incremental strategy.

In this regard, the NBCFDC has already assisted 2452 beneficiaries spread over General Stores, Automobile Repair, Electrical Repairing, Clock Repairing, Cycle Repairing, Atta Chaki, Medical Stores, Tailoring Shops, Maruti Omni Van, Auto-rikshaw/Pickup, Fruit Shops, Stationary Shops, Hair Dressing Saloons, Readymade Garments, and Furniture Shop.

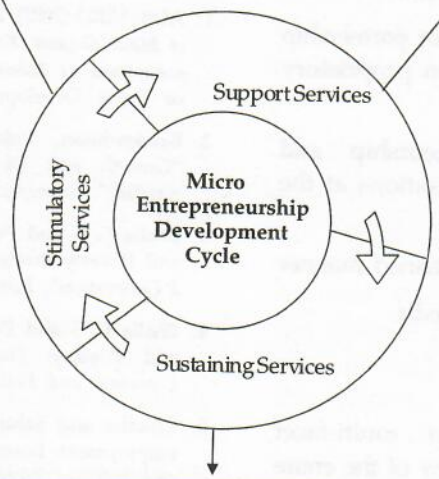
In further pursuance of its objective, it can consider to initiate both on-farm and non-farm activities. There are numerous 'Emerging Demand Areas' based on food and commercial crops, forest produce, animal husbandry, horticulture, IT Enabled Services/ Cyber Cafes / Internet, Relax Points, Household Service Points, Tour & Travel,s handicrafts, design & products, Furniture, Gifts, Toys and House ware and what not. An illustrative list of Potential Projects with backward and forward linkages is given in Annexure I.

but the efforts made by the SCA and the motivational level of the implementing staff are at low level. So there is need for broad-basing the schemes to increase their coverage. National as well as State development programs present new opportunities at both the macro and micro levels of the economy. The promotion and development of micro enterprises in the areas mentioned above are expected to create new job potential for young adults. The development of NBCFDC policies will have to necessarily take care of development programs and priorities. In this regard, there is need for an integrated approach consisting of stimulatory, support and sustaining activities simultaneously as shown below:

Integrated Approach showing Stimulatory, Support and Sustaining Activities

1. Entrepreneurial Education
2. Planned Publicity for Entrepreneurial Opportunities
3. Identification of potential entrepreneurs through scientific method
4. Motivational Training to new entrepreneurs
5. Help and guidance in selecting products and preparing project reports
6. Making available techno-economic information and project reports
7. Evolving locally suitable new products and processes
8. Creating trained personnel for entrepreneurial counseling and promotions
9. Creating entrepreneurial forum
10. Recognition of entrepreneurs

1. Registration of unit
2. Arranging seed capital
3. Creation and protection of Intellectual property
4. Providing land, shed, power, water etc.
5. Guidance for selection and procurement of plant & machinery
6. Supply of scarce raw materials
7. Getting licences
8. Providing common facilities
9. Granting tax relief or other subsidy
10. Offering management consultancy
11. Help marketing product
12. Providing information



1. Help modernization
2. Help diversification/expansion/substitute production
3. Additional financing for full capacity utilization
4. Deferring repayment/interest
5. Diagnostic industrial extension/consultancy source
6. Production units legislation/policy change
7. Product reservation/creating new avenues for marketing
8. Quality testing and improving services
9. need based common facilities centre
10. Continuous idea generation and new product & market development

However, in practice, there is no water tight compartmentalization of different activities. Each of the activities classified under different component are highly interactive, supplementary and crucial through which entrepreneurial activities flourish and grow. So, most of the activities can be and should be undertaken simultaneously.

Policy Requirements

There is need to move:-

- From a supply-driven to a demand-driven system
- From over-centralization to decentralization
- Promoting industries, services and business in rural development programmes including specific programmes for women by adopting group approach
- Developing more and varied self-employment programmes including programmes for persons with science and technology background
- Involvement of NGOs, and professional and vocational training institutions
- Promoting interaction between academic/ training institutions, and industry in the small scale, tiny and micro enterprise sectors
- Promoting group entrepreneurship or partnership compared to concentrating only on proprietory type of enterprises
- Promoting marketing entrepreneurship and development of marketing organisations at the district/State level
- Providing market support in a sustained manner
- Providing adequate and timely credit.

Conclusion

Developing micro-enterprises is a multi-facet phenomenon and requires a holistic view of the entire gamut of socio-economic enabling factors. There is urgent need to make the process of economic growth more interactive and participative for the masses living in both the rural and urban areas of the districts. Mere planning and allocation of funds to the socio-economic development programmes would not be adequate. Appropriate monitoring of the use of resources is needed to check leakages and inefficiencies in investment, maintenance and operations. To meet the challenges, the government, industry and community must work together to develop strategies to achieve sustained development, generate employment & alleviate poverty of the masses in the rural and urban areas of both districts. There is a need to demonstrate a commitment to change and address the needs of the masses through an integrated approach.

For NBCFDC to succeed, strong governance norms, the rule of law, negligible corruption and perseverance are essential. Besides, the quality of service and ability to anticipate problems of micro-enterprises are added requirements. In this regard, it always should be borne in mind that the micro entrepreneurs do strive hard to make their enterprises a success. While doing so , they also contribute their mite to national wealth creation. They are not merely the beneficiaries but partners in economic endeavour. For the Corporation and State channelising agencies micro enterprises are the business opportunities. They should undertake financing of micro-enterprises as an exciting challenge for national development.

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Deriving Service Quality Index (SQI) of Banks In Sivakasi Taluk

Er S Rajaram*

With the continuous growth of competition in the market place, understanding customers has become more and more important method of marketing. In search of competitive advantage, both practitioners and academics are keen on accurately measuring service quality in order to better understanding its essential antecedents and consequences which are ultimately established methods for improving service quality. However, due to the services' intangibility, inseparability, heterogeneity and perishability of production and consumption, service quality becomes hard to evaluate. Therefore, based on the literature review, the five most frequently mentioned dimensions used in evaluating services were chosen in present study as: reliability, responsiveness, tangible, assurance and empathy. This study attempts to identify the factors related to service quality of the banks in Virudhunagar district. An extensive survey of bank clients has been performed with a structured questionnaire to identify the factors. This paper describes the concept of a "Service Quality Index" that can be used to characterize system performance in a manner that is more appropriate for customers, taking into account customer quality and reliability requirements and expectations. Analytic Hierarchy Process (AHP) method is applied to determine the relative importance of five Service Quality Dimensions(SQD).Furthermore, the study offers suggestions to banking managers to allocate their resources on the dimensions i.e., reliability, responsiveness, tangible, assurance and empathy to improve service quality according to its relative importance.

Introduction

Proactively analyzing customer satisfaction (to confirm high-quality service) is a must in today's ultra-competitive finance world. In general, banks offer similar kinds of services by quickly matching with their competitors' innovations. However, customers can perceive differences in the quality of service. Banks have realised the importance of concentrating on service quality as a way to increase customer satisfaction and loyalty, and to improve their core competence and business performance. Service quality has been defined as customers' overall impressions of an organisation's services in terms of relative superiority or inferiority. It should not only meet but also exceed customer expectations and should include a continuous improvement process. Customers evaluate banks' performance mainly on the basis of their personal contact and interaction. Judgments are formed by comparing service expectations with the service actually perceived.

1.2 Concepts applied in the research paper:

1.2.1 Measurement of SQD's - SERVQUAL Instrument:

Service quality measurement has revolved around the concept of dimensions of service quality where dimensions refer to a set of attributes which consumers use in evaluating the quality of service provided (Asubonteng at al., 1996: 62-81). SERVQUAL as the most often used approach for measuring service quality has been to compare customers' expectations before a service encounter and their perceptions of the actual service delivered (Gronroos, 1982; Lewis and Booms, 1983; Parasuraman et al. , 1985). The SERVQUAL instrument has been the predominant method used to measure consumers' perceptions of service quality.

It has five generic dimensions or factors which are stated as follows:

(1) Tangibles. Physical facilities, equipment and appearance of personnel.

(2) Reliability. Ability to perform the promised service dependably and accurately.

(3) Responsiveness. Willingness to help customers and provide prompt service.

(4) Assurance (including competence, courtesy, credibility and security). Knowledge and courtesy of employees and their ability to inspire trust and confidence.

(5) Empathy (including access, communication,

*Senior Lecturer, MBA, Kalasalingam University, Sivakasi

understanding the customer). Caring and individualized attention that the firm provides to its customers. In the SERVQUAL instrument, 22 statements measure the performance across these five dimensions, using a seven point likert scale measuring both customer expectations and perceptions (Gabbie and O'neill, 1996).

1.2.2 Methodology in measurement of Service Quality Index (SQI)

SQI is a quantitative term that focuses basically on SERVICE and QUALITY. It is a score that measures the percentage of the customers that are completely satisfied. The SQI survey concentrates on those aspects of customer satisfaction which are very positive. It measures on complete satisfaction rather than mere satisfaction. Analytic Hierarchy Process (AHP) is one of multi criteria decision making methods that was originally developed by Prof. Thomas L. Saaty. AHP is an approach to decision making that involves structuring multiple choice criteria into a hierarchy, assessing the relative importance of these criteria, comparing alternatives for each criterion, and determining an overall ranking of the alternatives". The use of the AHP method, when used to determine how customers evaluate the service quality, enables the managers to understand more clearly which service quality factors are more important. It also provides insight which can help for strategy formulation and delivery of enhanced performance.

A general procedure for use of this method for any service quality measure would be:

- Identify the relevant quality dimensions
- Develop relative importance weights using AHP
- Compute quality index after data collections using survey instruments
- Use the quality index as both descriptive and control tools for continuous quality improvement efforts.

1.3 Objectives

a. To identify "Service Gap" between perceived and expected level of bank customers in Sivakasi Taluk.

b. To determine the Service Quality Index (SQI) of the banks in Sivakasi Taluk.

c. To determine the relative importance of five Service Quality Dimensions (SQD's) of banks.

d. To determine the Service Quality Index of Private Banks.

2.1 Research Methodology

Research design adopted for this research is "Descriptive Research". Probability sampling procedure was adopted in the research and meanwhile simple random sampling method was applied in choosing the samples from the universe. In this research, 200 samples were taken for the study. Eighty samples were taken for the pilot study in testing the SERVQUAL instrument reliability and validity. The survey was carried out in Sivakasi Taluk of Virudhunagar district. This study investigates the relationship between the perceived and expected service quality among customers of the banks. The SERVQUAL instrument was constructed with 22 items of RATER dimensions. The primary data was analyzed with SPSS 16 software. The statistical tools applied are AHP (Analytical hierarchy process), Gap Analysis, Reliability analysis, Factor Analysis, MCA (Multiple correspondence analysis), MDS (Multi dimensional scaling) and Chi-square Test.

2.2 Analysis & Interpretation

2.2.1 Reliability Analysis - Pretesting SERVQUAL Instrument

In reliability, the SERVQUAL instrument will produce same results at each time. The two ways of testing reliability are chronpach's alpha and split half reliability. Here we used APLHA method for conducting the reliability test. It is used to measure the internal consistency between the items (attributes) of SERVQUAL instrument. The alpha value varies from Zero to One.

Reliability Coefficients for Perception level:
No of Cases = 80.0 Alpha = 0.968 No of Items = 22

Sl.No	Dimensions	No of Statements	Reliability Co-efficient
1	Tangible	4	0.9675
2	Reliability	4	0.9663
3	Assurance	4	0.9666
4	Empathy	5	0.9656
5	Responsiveness	4	0.9663
	Total	**22**	**0.968**

Reliability Coefficients for Expectation level: No of Cases = 80.0 Alpha = 0.9601 No of Items = 22

Sl.No	Dimensions	No of Statements	Reliability Co-efficient
1	Tangible	4	0.961
2	Reliability	4	0.962
3	Assurance	4	0.961
4	Empathy	5	0.960
5	Responsiveness	4	0.961
	Total	**22**	**0.9601**

In this table we infer that the alpha values are 0.968 & 0.9601 for perception and expectation of SERVQUAL instrument and it is found to be having good internal consistency between the items of the instrument, so as for researcher it will be useful to proceed final data collection

2.2 Validity of SERVQUAL Instrument

Factor analysis is used to uncover the latent structure (dimensions) of a set of variables. It reduces attribute space from a larger number of variables to a smaller number of factors and as such is a "non-dependent" procedure. Content and construct validity was tested by using Explorative Factor Analysis (EFA) in SPSS 16.

2.2.1 KMO and Bartlett's Test

The KMO and Barlett's test of Sphericity are both tests of multivariate normality and sampling adequacy and The KMO value >0.8 is meritorious and these values is adequate to conduct factor analysis.

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.808
Bartlett's Test of Sphericity	Approx. Chi-Square	4956.414
	df	231
	Sig.	.000

Communalities

	Initial	Extraction
Up to date equipment & technology	1.000	.602
Physical facilities are visually appealing	1.000	.811
Banks' reception desk employees who are look clean & neat professional appearance	1.000	.536
Visually appealing materials associated with service such as pamphlets or statements	1.000	.680
Shows sincere interest in solving problem	1.000	.565
Providing service at the promised time	1.000	.692
Performing service right at the first time	1.000	.752
Maintaining error free records	1.000	.723
Dependability in handling customer service problems	1.000	.765
Keeping customers informed about when services will be performed	1.000	.637
Providing prompt service to customers respond quickly and effectively	1.000	.598
Willingness to help the customers	1.000	.509
Employees never too busy to respond customers' request	1.000	.750
Employees have instill confidence in customers	1.000	.758

Employees who are consistently courteous with the customers	1.000	.813
Employees who have knowledge to answer customers' questions	1.000	.692
Giving customers' individual attention	1.000	.773
Operating hours convenient to all customers	1.000	.835
Employees giving customers' personal attention	1.000	.823
Having customers' best interest at heart	1.000	.758
The employees understanding needs of customers	1.000	.748
Easy to meet / have a session with bank mangers or supervisors	1.000	.571

Extraction Method: Principal Component Analysis.

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	12.350	56.136	56.136	12.350	56.136	56.136
2	1.767	8.030	64.166	1.767	8.030	64.166
3	1.273	5.788	69.954	1.273	5.788	69.954
4	.967	4.396	74.349			
5	.874	3.973	78.322			
6	.792	3.602	81.924			
7	.727	3.305	85.229			
8	.615	2.794	88.023			
9	.513	2.334	90.357			
10	.422	1.918	92.275			
11	.306	1.390	93.665			
12	.271	1.230	94.895			
13	.252	1.147	96.043			
14	.199	.905	96.948			
15	.158	.720	97.668			
16	.130	.589	98.257			
17	.105	.478	98.736			
18	.085	.388	99.124			
19	.074	.339	99.463			
20	.050	.226	99.689			
21	.046	.211	99.900			
22	.022	.100	100.000			

Extraction Method: Principal Component Analysis.

Factor matrix or Component Matrix

	Component		
	1	2	3
Up to date equipment & technology	.702		.301
Physical facilities are visually appealing	.789	.432	
Banks' reception desk employees who are look clean & neat professional appearance	.605		.343
Visually appealing materials associated with service such as pamphlets or statements	.715		-.337
Shows sincere interest in solving problem	.687		
Providing service at the promised time	.822		
Performing service right at the first time	.732	.455	
Maintaining error free records	.823		
Dependability in handling customer service problems	.729	.424	
Keeping customers informed about when services will be performed	.675		.425
Providing prompt service to customers respond quickly and effectively	.756		
Willingness to help the customers	.666		
Employees never too busy to respond customers' request	.786		-.336
Employees have instill confidence in customers	.850		
Employees who are consistently courteous with the customers	.859		
Employees who have knowledge to answer customers' questions	.741	-.369	
Giving customers' individual attention	.729	-.444	
Operating hours convenient to all customers	.816		.331
Employees giving customers' personal attention	.767	-.365	-.320
Having customers' best interest at heart	.794	-.348	
The employees understanding needs of customers	.743	-.422	
Easy to meet / have a session with bank mangers or supervisors	.630		-.401

Extraction Method: Principal Component Analysis. 3 components extracted.

From the component matrix using Factor analysis we have extracted 3 factors.

As recommended by Tabachnick and Fidell (1989), only loadings greater than 0.35 or fair loadings are included in the factor for scale assessment purposes. This resulted in five factors.

The following are the 3 extraction factors:

- Employees who are consistently courteous with the customers :0.859
- Performing service right at the first time : 0.455
- Keeping customers informed about when services will be performed: 0.425

2.3 Reliability test for demographic variables

Model Summary

Dimension	Cronbach's Alpha		Variance Accounted For	
	Total (Eige value)	Inertia	% of Vari-ance	Total (Eigen value)
1	.828	3.626	.453	45.323
2	.821	3.554	.444	44.426
Total		7.180	.897	
Mean	.825	3.590	.449	44.875

The above table shows the Cronbach's Alpha which is based on the mean Eigenvalue. The demographic variables were tested under MCA for the internal consistency between demographic variables like gender, Income, Marital status, Age group, educational qualification and employment status. The mean value of the Cronbach's Alpha is 0.825, which shows the greater internal consistency between the demographic variables.

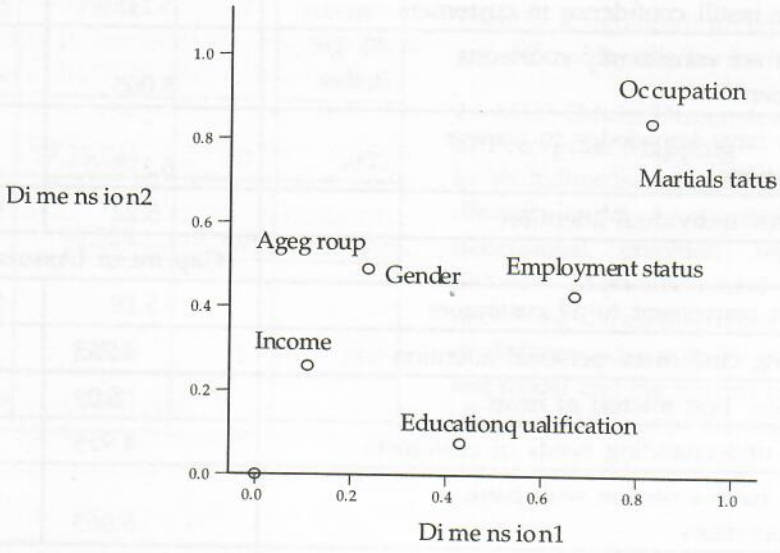
Discrimination Measures

	Dimension		Mean
	1	2	1
Gender wise	.296	.345	.321
Age group Education	.261	.411	.336
qualification	.430	.077	.253
Employment	.669	.429	.549
Occupation	.829	.842	.836
Income	.109	.259	.184
Martial status	.235	.491	.363
Active Total	3.626	3.554	3.590
% of Variance	45.323	44.426	44.875

By applying variable principal normalization method, demographic variables were discriminated into two dimensions. The discriminated values were shown below: The most discriminated and influencing variables are occupation and marital status

2.3.1 Discrimination measures of Demographic variables

Discrimination Measures



Variable Principal Normalization

2.4 Gap Analysis

Sl.No	Items in SERVQUAL Instrument	Perception Mean	Exp. Mean	Service Gap
1.	Up to date equipment & technology	5.19	5.475	-0.285
2.	Physical facilities are visually appealing	4.755	5.68	-0.925
3.	Banks' reception desk employees who are look clean & neat professional appearance	5.09	5.755	-0.665
4.	Visually appealing materials associated with service such as pamphlets or statements	4.925	5.725	-0.800
		Gap mean (Tangible)		**-0.668**
5.	Shows sincere interest in solving problem	4.815	5.25	-0.435
6.	Providing service at the promised time	4.95	5.15	-0.2
7.	Performing service right at the first time	5.005	5.29	-0.285
8.	Maintaining error free records	5.2	5.56	-0.36
9.	Dependability in handling customer service problems	4.84	5.39	-0.55
		Gap mean (Reliability)-		**0.366**
10.	Keeping customers informed about when services will be performed	5.11	5.475	-0.365
11.	Providing prompt service to customers respond quickly and effectively	4.875	5.585	-0.710
12.	Willingness to help the customers	5.06	5.645	-0.585
13.	Employees never too busy to respond customers' request	4.92	5.555	-0.635
		Gap mean (Responsiveness)		**-0.574**
14.	Employees have instill confidence in customers	5.115	5.665	-0.550
15.	Employees who are consistently courteous with the customers	5.005	5.515	-0.510
16.	Employees who have knowledge to answer customers' questions	5.375	5.46	-0.085
17.	Giving customers' individual attention	5.22	5.665	-0.445
		Gap mean (Assurance)		**-0.398**
18.	Operating hours convenient to all customers	5.19	5.475	-0.285
19.	Employees giving customers' personal attention	4.755	5.38	-0.625
20.	Having customers' best interest at heart	5.09	5.23	-0.14
21.	The employees understanding needs of customers	4.925	5.3	-0.375
22.	Easy to meet / have a session with bank mangers or supervisors	5.065	6.05	-0.985
		Gap mean (Empathy)		**-0.482**

From the Gap analysis, it is inferred that the customer perception is less than their expectation level in RATER dimensions. The customer perception is satisfied with the existing systems and their expectation is little bit higher than the existing level. So, the management has to focus on important dimensions like Tangible and Empathy. The other three dimensions have little service gap between the perception & expectation level of the customers towards the Banks' service in Sivakasi Taluk.

2.5 Service Gap comparison of the Banks

H0: There is no significant difference between the service gap offered by private banks in Sivakasi Taluk

H1: There is a significant difference between the service gap offered by private banks in Sivakasi Taluk

From the above table the inference is that most of the banks in Sivakasi Taluk have positive value in the service gap mean (performance - expectation) towards the service provider and customer (perceived quality).

Private Banks	service gap between- 2 to -1	service gap between- 1 to 0	service gap between- 0 to 1	service gap between- 1 to 2	service gap between 2 to 3
TMB	8	10	3	4	0
ICICI	0	7	8	24	0
Canara Bank	1	8	8	7	1
Punjab National Bank	4	10	8	3	0
UBI	0	0	19	3	3
AXIS bank	5	15	3	2	0
Indian Overseas Bank	3	16	4	2	0
Indian Bank	0	0	4	19	2

Chi-Square Test

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	79.250(a)	40	.000
Likelihood Ratio	90.538	40	.000
Linear-by-Linear Association	7.442	1	.006
N of Valid Cases	200		

The calculated value is greater than 0.05, Hence Hi is accepted

There is a significant difference between the service gap offered by the banks in Sivakasi taluk.

2.6 MDS (Multi Dimensional Scaling) - Approach of Perceptual Mapping

In multidimensional scaling, a matrix made up of dissimilarity data is converted into one, two, or three-dimensional graphical representation of those distances. Multidimensional scaling (MDS) uncovers underlying dimensions based on a series of similarity or distance judgments by subjects. SPSS attempts a first model and the S-Stress formula indicates how far off the model is from the original dissimilarity matrix.

Young's S-stress formula 1 is used.

Iteration	S-stress	Improvement
1	.04436	
2	.02138	.02297
3	.01554	.00585
4	.01222	.00332
5	.00965	.00256
6	.00760	.00205
7	.00601	.00160
8	.00500	.00100
9	.00438	.00063

Iterations stopped because S-stress improvement is less than .001000

Stress and squared correlation (RSQ) in distances

For matrix Stress = .00514 RSQ = .99980

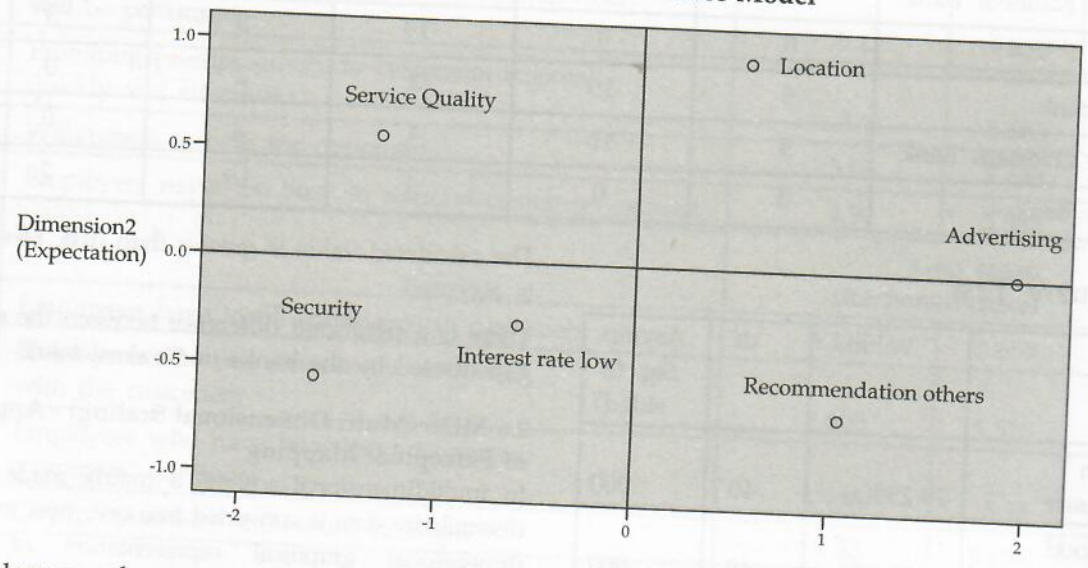
RSQ values are the proportion of variance of the scaled data (disparities)in the partition (row, matrix, or entire data) which is accounted for by their corresponding distances. Stress values are Kruskal's stress formula 1. S-Stress formula indicates how far the model is from the original dissimilarity matrix. Stress and squared correlation in distances, RSQ values are the proportion of variance of the scaled data in the partition (row, matrix, or entire data) which is accounted for by their corresponding distances. RSQ is an indicator of how much of the variance in the original dissimilarity matrix is accounted for by the multidimensional scaling model.

Configuration derived in 2 dimensions

Stimulus Number	Stimulus Name	Dimension 1	Dimension 2
1	Advertising	1.9423	-.0040
2	location	.5532	9580
3	recommen-dation others	1.0475	-.6740
4	Interest Less	-.5980	-.2881
5	Service Quality	1.3170	.5638
6	security	-1.6279	-.5557

In the perceptual mapping, we are plotting the mind set of the customer by ranking the major factors which influence in choosing primary bank. The

Euclideand Distance Model



output shows that the customers giving high preference in choosing bank are location and advertising & service quality.

2.7 By applying AHP technique

By customer opinions, gather information to determine relative importance of the Service quality RATER dimension which based upon pair-wise comparison scaling. Initially a raw preference matrix could be arrived at using expert opinion. That matrix could then be normalized using AHP rules (Winston, 1985). The pair comparison scale is shown below:

More Important					Less Important			
Extremely	Very Strongly	Strongly	Moderately	Equally	Moderately	Strongly	Very Strongly	Extremely
9	7	5	3	1	0.33	0.2	0.14	0.11

The relative importance of these determinants may be differed for different bank service providers, which is all the more reason that a procedure such as AHP may be best for determining, monitoring and tracking service quality of the bank. The raw data was gathered from the customers of the banks in Sivakasi Taluk.

2.7.1 Service Quality mean Score for the private bank service

Sl. No	Service Quality	Dimensions	SQ Mean Priority
1.	Tangible	1.02	5
2.	Reliability	1.15	2
3.	Assurance	1.20	1
4.	Responsiveness	1.09	3
5.	Empathy	1.06	4

From the above table, it is also evident that Assurance and Reliability scored higher value of service quality mean than other three dimensions. But usually concerning bank service reliability and assurance dimensions would be the most important issues that customers care about. Using the SQ mean, we would help us simply access the Service Quality Index (SQI) of the banks. A survey was designed with three important questions related to service quality in each of the RATER dimensions in a 7-point Likert type scale ranging from -3 to +3. We could define Service Quality Index (SQI) as the weighted sum of all the scores is determined below:

Overall Service Quality Index of Banks in Sivakasi Taluk:

0.230*0.52+0.192*1.1+0.194*1.2+0.2*1.06+0.185*1.12 = 0.9828

2.7.2 Service Quality Index for Private Banks

Private Bank	Service Quality Index	Rank
Karur	1.159	4
TMB	0.945	9
ICICI	1.211	3
Canara	1.140	5
Punjab	1.195	7
UBI	1.222	2
Axis	1.128	6
Indian Overseas	1.113	8
Indian Bank	1.360	1

From the above table, Service Quality Index is derived for selected banks in Sivakasi taluk. Initially we could use the index as a descriptive measure and use the same to derive the quality assurance and control efforts. From the analysis, we have a good SQI and in relative terms higher index for an organization will have the better quality level and meanwhile Indian Bank scored first rank with value of 1.360 SQI

3.1 Findings of the research

The findings of the research show that the infrastructure customers want more, according to the survey are:

- It also shows that the management has to focus on important dimensions like Tangible and Empathy in banks is still low in the customers' perception compared with expected level.

- The most of the respondent's age group lied between 19 to 29 years with proportionate of 63%. The educational qualification of the respondents is taken under graduation classification of 49% of the samples. For the employment wise classification, Own business category of the respondents were chosen at a rate of 20 percentage. 56% of the respondents were lies between the category income level of Rs.5001 to 10000.
- The demographic variables were tested under MCA for the internal consistency between demographic variables like gender, Income, Marital status, Age group, educational qualification and employment status. The mean value of the Cronbach's Alpha is 0.825, which shows the greater internal consistency between the variables.
- The Chronpha alpha values are 0.968 & 0.9601 for perception and expectation of the SERVQUAL instrument and it is found to be having good internal consistency between the items for the research work.
- From the Gap analysis it is inferred that the customer perception is less than their expectation level in RATER dimensions of service quality. The customer perception is satisfied with the existing systems and their expectation is little bit higher than the existing level. So, the management has to focus on important dimensions like Reliability and Empathy. The other three dimensions have little service gap between the perception and expectation level of the customers towards the bank service.
- In the overall results, customers' perception of quality in banks is positive and banks expectation score is little high than perceptions core. While customers have responded negatively to various parameters, the survey has also tried to understand the management's perception about the customers' expectation. The results show that bank officials have insisted that they are willing to help customers and have the knowledge of the customers' needs.
- The results also show that managers feel that they are keeping the customers informed and they do listen to them. The service quality is intangible and difficult to interpret, and it builds on experience that can vary. Though the service quality is improving after the entry of private banks, the customers' expectations are still high.
- By perceptual mapping, we identified major factors influencing the customers in choosing their primary bank are location, advertising and service quality.
- The most influencing factors for customer better service quality of private banks are employees who are consistently courteous with the customers: 0.859, service right at the first time: 0.455, keeping customers informed about when services will be performed: 0.425.
- Assurance and Reliability dimensions have little service gap than the other three dimensions and meanwhile Assurance and Reliability dimensions scored high service quality index mean when compared with other dimensions of service quality.
- Overall service quality index for the banks in Sivakasi taluk is 0.9828, which means higher Service Quality Index for an organization will have the better quality level and from the analysis Indian Bank scored first rank having 1.360 SQI.

3.2 Conclusion

Quality is important for the service sectors, yet it will be very difficult to assess it due to its diversity, complexity and intangible nature. Service organizations could use a consolidated index such as Quality Index to track their quality level and improve the same. There are a number of reasons that make such an index intuitively appealing. It uses an expert opinion base for generating relative importance among the quality dimensions. While one may argue that all dimensions of quality are equally important, as a matter of fact they are not. In this article, we propose an AHP approach to determine, monitor and control the service quality. Relative weights of quality dimensions were derived from AHP method. The dimensions themselves were assessed through a survey. Combining these two, a Quality Index was derived. Hence getting an index based on different dimensions all weighted in some order of importance would be a better overall measure. It will also provide a better direction for deciding where to devote resources for more effective improvement and better results. Further, one could

use survey instruments to measure both expectation and actual performance in the five dimensions of service quality to somehow fill the gaps between them. These values would also help in providing valuable information as to where to improve the service. Finally, organizations interested in quality improvement could track the Quality Index as well as its components over time to ensure continuous improvement, a necessary requisite for enforcing Total Quality Management efforts.

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Towards A Bargaining Theory Approach to Foreign Direct Investment

Dr S K Bedi*

It is now widely acknowledged that development in the theory of foreign direct investment (FDI) and the transnational enterprise has not kept pace with the tremendous expansion of the business of transnation corporations (TNCs) over the last four decades or so. The stymied growth of discipline can be attributed to three basic factors-highly complex and subtle corporate behaviour of the forms, sparse availability of reliable and researchable data and technical problems involved in the analysis of the basically eclectic discipline. Market imperfections multi-market operations across countries and proliferation of strategic alliances between TNCs have greatly complicated the task of explaining TNC behavior and trans-border investment flows.

Theoretical attempts to demystify the phenomenon of FDI have been made not only from the discipline of economics but also from political science and specialized business schools. A common hiatus in most of the approaches is that these either ignore or assume away government bargaining and negotiations at the entry point of the host country. This is a powerful factor that by itself can stop or permit the inflow of FDI and can influence the operating conditions of TNCs in the post-entry stage. There has, of course, been a separate stream of literature focusing on the TNC-Government relationship but it relates predominantly to the operative rather than entry stage of the TNCs. This warrants a relook into the theory of FDI with government bargaining in focus and as a critical variable determining FDI.

Inadequacy of Existing Theoretical Explanation

The conspicuousness of the missing government intervention angle can be discerned in the following brief survey of major theoretical approaches to FDI. A pioneer explanation of the phenomenon is provided in Vernon (1966) in his international product life cycle theory. The theory explains the dynamic sequencing of domestic production, exporting, foreign direct investment and finally overseas production. The theory takes TNC as a unit of analysis and removes in one stroke the classical assumption of international factor immobility. The same logic infact can be applied to explain inter-regional (compared to international) flow of direct investment in which case it fails as a distinctive international theory. The theory is removed from reality as it assigns no role to government intervention in the transborder flow of investment. Government intervention is similarly assumed away in the celebrated work of Hymer(1976) who founded his approach on the economies of imperfect competition introduced by Joan Robinson(1937), emphasized such market imperfections as scale economies and proprietary technologies as prime movers of FDI.

Another strand of FDI theory is built on the advantages that a TNC may obtain through cross-border internalization of market transaction Hymer (1960) rather than through arm's length transactions. Motives for internalization may be compelled by market failures or induced by transfer pricing possibilities; nevertheless, they permit greater control over a vertically integrated and global chain of production. The explanatory power of internalization rests on the benefits and costs of internalization markets particularly of intermediate goods and raw materials (Buckley and Casson, 1985). Internalizing theorists (e.g.Caves,1983 and Dunning, 1981) treat nation states (and their governments) as exogenous variables though Dunning in his eclectic approach makes a limited effort to integrate it back into this model. The integration however, relies more on factor endowment of countries rather than on bargaining activities of their governments. Otherwise too, internalization is a poor theoretical construct in so far as it is claimed as an explanation of FDI. Its explanatory power is more in the areas of

*Professor, IMSAR and Head, Deptt of Business Economics, Maharshi Dayanand University, Rohtak.

international resources allocation by TNCs and theory organizational forms and behavior which unfortunately are not fundamental to the theory of FDI.

Allied to the internalization approach, has been the application of transaction cost theory to FDI. Build largely on the works of Williamson (1975 and 1981), Teece(1976 and 1986), Hennart (1982) and Casson (1983) it explains that the firms are inclined to internalize those transactions which can be done more effectively and efficiently as compared to externally through competitive markets- the leading motive being to reduce transaction costs. Such costs could be extra-ordinarily large in situations, when the ratio of current assets to total assets of a TNC is high and it has to access financial markets repeatedly to finance its current assets needs. The approach is more suitable in explaining the structure and functioning of corporate hierarchies but suffers from the same inherent weakness as those of standard internalization approach.

An alternative stream of explanations emanating from business schools equally and conspicuously miss the constraint of host country bargaining, business school approaches which have been running parallel to economic approaches both complementarily and competitively emphasize strategic behavior of the firm in explaining the occurrence of FDI. Driven by the compulsions of internal growth or dynamically changing competitive environment or both, FDI is viewed as a strategic initiative to maintain or advance the relative position of the firm in the competitive market or as a strategic response to halt or pre-empt the growth of a rival firms in an oligopolistic set up. Such explanations are cast primarily in terms of motivations, strategic actions and reactions and other behavioral tactics. Firms' individual behavior being greatly divergent and heterogeneous, most business schools' approaches use case-study method as their pedagogical medium and this does not carry one far into the labyrinths of FDI theory (Simon, 1976; Nelson and Winte, 1982). The approaches which are outlined below do provide a list of motives and determinants of a firm's behavior with regard to FDI but these are not unified into comprehensive and testable FDI theory.

A leading business school approach is evolved out of the works of Caves (1971), Kogut (1986), Ghoshal (1987) and Porter (1990) and emphasizes competitive advantages as the prime force behind FDI. The firms are able to recognize their distinct or unique competitive advantages over their rivals in such areas as expertise, technology, finance or marketing and make FDI as a part of their business strategy. Inter-firm human resource management is generally the king-pin of the strategy. Robinson (1968 and 1987), Boddewyn (1988) and Grosse and Kujawa (1992) recognize government modifiers of firms' competitive behavior which spur competition in the interest of their national economies. Nevertheless, the role of the government is visualized as only passive and facilitating rather than active and deterministic.

The aggregation of location-specific factors, competitive advantages and the internalizing concept in the Dunning's (1977 and 1988) eclectic approach offers no synergy to its explanatory power. In this synthesized approach, Dunning missed the opportunity of integrating the role of the government and its intervention into his FDI theory.

Another strand of business school approach is build on financial theory. It uses international spreads in real cost of borrowing, exchange rate changes and currency capitalization as factors of FDI (Aliber1970). The role of the government is recognized only to the extent of its prescription of the exchange rate regime and adoption of macroeconomic policies that affect the inflation rate, the exchange rate, financial market conditions and the general business environment impacting international business decisions. Changes in these variables create immense arbitrage opportunities following which massive movements of short term capital can take place across countries. That way, the approach serves more top explain portfolio rather than direct international investment. The theory could not have taken into account the fact of government bargaining as it is generally not involved in short-term capital transactions.

Significance of the Government Factor

A realistic theory of FDI simply cannot assume government intervention as absent or statically given. It has to explicitly recognize that TNCs have to pass through the government barrier and live in the shade its macroeconomic policies which make up the overall business environment. The distorting effect of government intervention can be so powerful as to neutralize or reverse the predictions of standard FDI

theory and upset the strategic calculations of the TNCs. A theory of FDI, therefore has to be evolved in the specific contents and framework of government attitudes, policies and expectations from TNCs. These factors are often entrenched in economic nationalism and socio-political realities of host countries.

Government-TNC relationship both at the entry and post-entry stages is marked by conflict as well as congruence of interests of both parties. In any case, what is central to the relationship is the distribution of gains of FDI between the investing TNC and the host country government. The distribution characterized by the tradeoff of economic interests of the two parties is determined by negotiated bargaining which is often complex and subtle. The success or failure of the bargaining negotiations is a critical factor for the FDI to result, even at the post entry operative stage, the government-TNC relations, affecting TNC performance play a deterministic role in modifying the subsequent successive rounds of investment.

The role of the government assumes significance in the light of the fact that strategic goals like maximization of global profits or shareholders value of a TNC with an FDI proposal are most likely to conflict with national concerns of equity, protection of domestic industry, foreign exchange conservation and technology transfer. This type of government role is recognized in literature (e.g.Behrman, 1962 and 1970; Robinson, 1964 and Fayerweather, 1969) but has not been put in the bargaining perspective to explain the occurrence of FDI.

The Bargaining Theory Approach

FDI may be visualized as the outcome of a process of bargaining between an investment proposing TNC and the host country government. The various economic and business schools' approaches discussed above provide alternative sets of necessary conditions for FDI- the conditions the fulfillment of which brings a firm to the negotiating table vis-a-vis the host country government. The sufficient condition is met when the bargaining outcome is positive. The process involves intricate and persuasive negotiations aimed at balancing TNC's commercial interests and the government's national economic interests.

An additional insight can be gained into FDI theory by applying the approach of Inter-organization bargaining. The approach originally developed in political economy framework(Gilpin,1975) has been applied to explain business situations by Moran(1974), Gladwin and Walter(1980) and Behrman and Grosse(1990). The theory concentrates on relative bargaining strengths and states of each participant in a specific bargaining situations and attempts to predict their positions under alternative assumptions and situations.

The Bargaining Process

In the typical bargaining process between a TNC and a host country government, the rules of the game are generally set by the later. It has to see to it that the bargaining outcome fits the overall framework of its policy towards FDI and the TNCs. The leeway, adjustment and maneuverability are generally larger on the TNC side as its overall corporate strategy is more flexible and decision-making less constrained than that of opposite party. The process does not usually takes place in air -tight situation; the bargaining position and compromises are often affected by third party considerations which may include other (rival) TNCs, governments or domestic enterprises of the host country. The outcome is considerably affected by the nature of existent competitive environment- whether TNCs compete for gaining entry into the host country or a number of prospective host countries compete for obtaining FDI from a particular TNC.

Distribution of the total gains from a planned FDI inflow between the investing TNC and the host country forms the kernel of bargaining negotiations. Both the parties often contend for retaining controlling ownership and management. Market access, technology transfer, FDI composition (cash and kind forms) and terms and conditions of investment servicing (dividend, repatriation and royalty remittance abroad) lie at the centre of conflict and bargaining areas. Then there are such allied but sometimes equally important issues as tax concessions, export obligations, protection of intellectual property, bureaucratic controls, import entitlements and environment obligations, which constitute the subject matter of bargaining.

Bargaining Strengths and Stakes

In a given situation, the bargaining outcome is a function of the relative bargaining resources and stakes of the negotiating parties. The bargaining strengths of one party to be an effective ponder able in the negotiations must be fully perceived and recognised by the other party. Evaluation of a bargaining resource possessed by one party is greatly affected by the options, choices and the substitutes available to it and this information may not be available to the other party. In such a situation, information asymmetry may lead to the failure of negotiations and the FDI proposal may not take off. Similarly, over valuation or undervaluation of bargaining resources of the contracting parties may impede the negotiations process.

Bargaining resources available with TNCs may include proprietary technology and management skills, information, worldwide markets, international sourcing advantages for vital inputs, access to global financial markets and ability to produce high-quality products. Valuation of these resources by a host country government can be much higher if the firm is expected to develop high linkages, both forward and backward, with the domestic industry, possess high potential for output and employment, affect substantial import substitution and generate foreign exchange through exporting. When the host government wield right and complete information and has the ability to analyze the likely effects of FDI it would discount valuation of the proposal by its expected employment, output and export displacements effects on rival domestic firms. The bargaining strengths and resources of the host country government may include large market, cheap labor and raw material supplies, cheap or subsidized infrastructure and fiscal concessions.

The objective of each party is to maximize and acquisition and control of the bargained- over resources in the negotiation process. Each party in the bargaining may start conceding to part with apart of its resources beginning with those that it considers least valuable to it but which can be of substantial value to the other party. Differences in the perceived valuation of the resources surrendered and gained in the bargaining process constitute backbone of the negotiations. If the resources exchanged were valued identically by both the parties, perhaps no bargaining would be possible.

Mutual valuation of the bargaining resources in an FDI deal is substantially affected by the relative stakes of contracting parties. The stakes are largely defined by economic compulsions for FDI and the quantum of economic loss in the form of opportunities wasted if negotiations breakdown. Stakes are also qualitative like those implicit in the fear of reputation loss, setback to global spread, surrender of commercial ground to rival firms or an unintended message to the outside corporate world regarding the firm's inability to team up or tie up. The relative stake of a contracting TNC would be higher, if there is:

a. lower availability of other similar markets in the place of existing ones;

b. higher anticipated share of the negotiated investment in the total global investment of the firm;

c. higher share of the sales and profits in the host country market in the global sales and profits of the TNC;

d. lower anticipated aggregate gain from alternative forms of entry in the host country like franchising, licensing, production buyback or management contract;

e. larger gains of wider global presence with host country entry in terms of corporate status and prestige.

Similarly, for the host government country, the stakes would be higher, if there is:

a. lower availability of other firms to make investment in it ;

b. narrower choices of foreign collaboration in forms other than FDI;

c. higher significance of investment from the standpoint of economy's growth and public welfare;

d. higher overall beneficial effects of enlarged economic relationship with the governments of the investing TNCs.

A sufficiently high and matching level of stakes, both qualitative and quantitative, is the sine qua non of successful bargaining that yields respectable terms of investment to both the parties. Negotiations can still succeed and FDI result, when the stake levels are great divergent, but the terms are most likely to be adverse to the party with relatively much higher stakes. But this would set the stage for a tense

and irritable TNC-government relationship in the post-entry stage and unless the exploitative nature of investment terms are corrected later, subsequent doses of FDI may not be expected to be at the desired level, if the inferior partner is the foreign firm. The terms of investment infact set the profitability environment for the TNC and if the profitability levels fall consistently below the level of risk exposure there may result even foreign equity dilution or straight capital flight.

In negotiating the size, composition and direction of FDI, bargaining skills and strategy adaption have a great role to play. A TNC may adapt its corporate strategy in such a way that the host country government begins to see its interests fulfilled in the expansion of TNC investment and operations. In such a strategy, for instance, the TNC may make a public sector unit its major equity partner or make it a major supplier of raw materials and intermediates to the TNC. Or, alternatively, the TNC may choose to operate in an important import-substitution area of the host country.

Bargaining theory does not supplant but is built on the economic and business school approaches which serve as its foundation. It is not even an alternative explanation of FDI. Its main utility flows from the fact that while economic and business school approaches provide the necessary condition of FDI, it provides the sufficient condition for it to take place. The significance of the approach does not lie in the fact of bargaining itself but in laying down a framework for understanding the mutual expectations of the investing TNC and the host country government. From the host country perspective, it enables the government to effect more realistic and relevant changes in their policy and attitude towards FDI and TNCs.

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Industrial Strategies of Economic Development In India

Dr Gajendra Singh* Dr P S Rana** Shailender Singh***

Economic development requires diversification, not specialization that is why productive diversification in industrialization is a key correlate of economic development. Evidence suggests that recent industrial reforms encouraged to higher economic growth and development in the country. India can generate additional economic growth by fostering industrial activity both of heavy and small scale industry. In this paper we have examined a framework for the analysis of the Indian economic development over the last few years in context to industrialization. The study is focused on the role of industrialization in economic development of Indian economy. For this analysis we focused on industrial strategy and consequences for GDP growth rate.

Introduction

The process of liberalization has opened up new vistas for various sectors of the economy as also posed certain challenges. While on the one hand, it expands the scope of cross-border transactions, on the other, the new order holds different perception about protection and safeguards that a global trading system should provide to its members (SIDBI report-2001). Development is multi-dimensional phenomenon. Some of its major dimensions includes: the level of economic growth, level of education, level of health services, degree of modernization, status of women, level of nutrition, quality of housing and access to communication.[2]

Till the 1960 the term 'economic development' was often used as a synonym of 'economic growth' in economic literature. Now economic development is no longer considered identical with economic growth. It is taken to mean growth plus progressive changes in certain crucial variables which determine the well-being of the people. There are qualitative dimensions in the development process which may be missing in the growth of an economy expressed in terms of an increase in the national product or the product per capita.[7] Economic growth is defined as sustained and substantial rise in product per capita (Kuznets). One must differentiate between level from the rate of economic growth, the level of economic growth of the country is measured in terms of the size of national (or per capita) real income where as the percentage change in this level over a given period of time is rate of economic growth.[7] That is, if we define A_1 and A_2 as the levels of income in two different periods and G as the percentage rate of growth then

$$G=A_2-A_1/A_1x100$$

As a concept, 'economic development' is much broader term than 'economic growth'. The economic development of India is highly depend upon various sectors like agriculture, manufacturing & services. "Economic development, achieved largely through productivity growth, is very important to both developed and developing nations. However, even though we know that higher productivity leads to improved economic outcomes (for example, higher income, more choices to the consumers, better quality products, etc.), there has been no consensus among researchers about either the desired path of development or the role of state in economic development".[5]

Research objective and Methodology

In this research we had examined the effects of industrialization on GDP of the country and the effect of industrialization on economic development of the country. This study relies heavily on secondary data sources such as publications and survey findings by CSO and the World Bank that assess the industry trends and human capital development efforts at the firm level. For macro-economic data on India, we

*Associate Professor, Department of Business Management, H.N.B.Garhwal University Srinagar Garhwal, Uttrakhand
**Professor, Department of Economics, H.N.B.Garhwal Universit, Srinagar Garhwal, Uttrakhand
***Senior Lecturer, Academy of Management Studies, Dehradun, Uttrakhand

have drawn upon most recent surveys reported by the Government of India. Data have also been adapted from other scholarly publications whenever deemed necessary.

The plan of the paper is as follows. Section I summarizes the industrial strategy of economic development in India. Section II analyses the special role that industries play in India's economic growth.

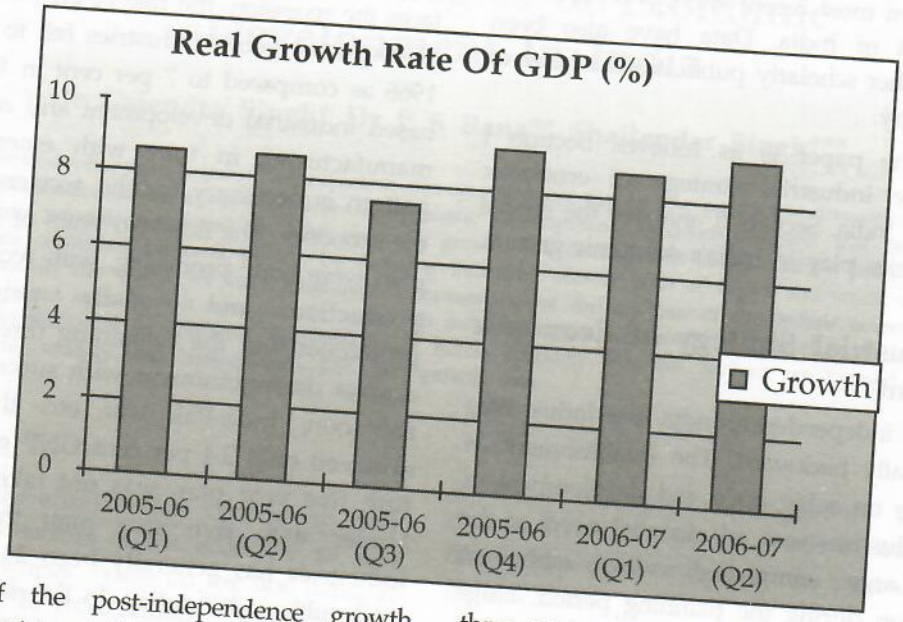
India's Industrial Strategy of Economic Development

At the time of independence, India was industrially and economically backward. The establishment of new industries on a big scale and development of traditional industries was an essential need of the economy. Large emphasis was laid on industrialization during the planning period. Huge investments were made in heavy industries and capital goods sector particularly in iron and steel, heavy engineering and machine building industries.3 For a predominantly agricultural based country like India, development of industries is a must for economic growth and development. There is huge chance for the industrialization of a country like India with a vast manpower, large and varied resources and sub-continental benefits. After independence in 1947, Planning Commission was set up to plan and control Indian economy. A Five Year Plan was generated to estimate and project various economic policies.

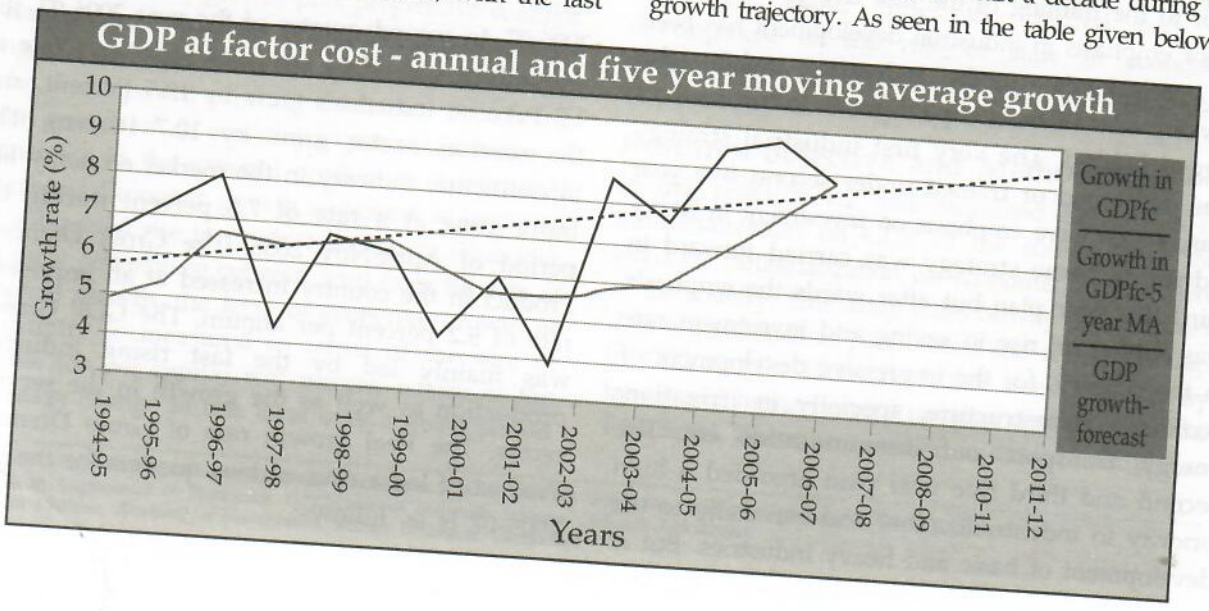
Prior to the framing of the first five year plan, the major emphasis in industrial development has been on consumer's goods industries, while the development of basis capital goods industries had lagged behind. The very first industrial strategy was developed or framed under second five year plan, which gave emphasis on investment in heavy industries. Same strategy was carried forward in third five year plan but after wards the emphasis was shifted on rise in saving and investment rate in the country, for the impressive development of economic infrastructure, specially in irrigation, energy, transport and communication etc. The second and third five year plan accorded a high priority to industrialization, and especially to the development of basic and heavy industries. But at the end of the third five year plan the economy faces the recession, the rate of growth in the output of consumer goods industries fell to 3 per cent in 1966 as compared to 7 per cent in 1965. A broad-based industrial development and restructuring of manufacturing in tune with emerging demand pattern is necessary for the accelerated growth of the economy. The first two years of fourth five year plan were quite promising, with record food grains production and equally rising industrial production but the remaining three years proved a great disappointment with successive failure of monsoon, Indo-Pak war etc. the fourth plan achieved only 3.4 per cent GNP growth rate. The fifth five year plan was not taken up seriously. Under sixth five year plan the allocation of industries has generally been 24 per cent of the total pubic sector outlay. In the next three five year plans, outlays on industries declined steeply and it was only 6.4 per cent in the ninth plan. The target growth of industry during the Tenth Plan (2002-07) was put at 10 per cent consistent with an overall GDP growth of 8 per cent.

The strategy of economic development in India meant direct participation of government in economic activities such as production and selling & regulation of private sector economic activities through a complex system of control. Economy Statistics on India's Economy has shown (Table-1) that the country's economy has experienced a robust growth in the second quarter of the year 2006-07. In second quarter of the year 2006-07, the agriculture and allied activities grew at a rate of 1.7 Percent, industries grew by 10.5 Percent, and the services sector grew by 10.7 Percent. The infrastructure industry in the market economy like India grew at a rate of 7.8 percent during the period of April-Nov 2006. The Gross Domestic Product in the country increased at an impressive rate of 9.2 percent per annum. The GDP Growth was mainly led by the fast rising industrial production as well as the growth in the services sector. The Real growth rate of Gross Domestic Product of India over various quarters for the year 2006-07 is as follows:

Table-1



An analysis of the post-independence growth experience shows two statistically significant breaks in the rate of growth of the economy. Since 1950-51, India has passed through ten five year plans and several annual plans and is now in the eleventh five-year plan. The first break occurred in the early 1980s when the economy moved to growth rate of around 3.5 to 5.5 per cent. This followed a policy shift away from excessive controls and restrictions on private enterprise towards gradual decontrol. The second break occurred in the mid-1990s with the ushering in of deeper and broad based reforms at the beginning of the decade. The step up in the GDP growth rate to 6.5 per cent in the late 1990s and further to 7.8 per cent during the Tenth Five Year Plan, with the last three years averaging over 9 per cent, is evidence of the success of these policy measures. If this trend persists in the medium term, the economy would average over 8.9 per cent per annum over the Eleventh Five Year Plan period. If we achieve the GDP growth target of the Eleventh Five Year Plan, and step up the growth rate to 9.5 per cent in the succeeding year, the Indian economy would have averaged 9 per cent over a decade. This achievement would put India among the select group of about a dozen medium large economies (such as China, Singapore, Japan, Taiwan China, Thailand, South Korea, Portugal, Greece and Hong Kong China) that have averaged a GDP growth of 9 per cent or more for at least a decade during their growth trajectory. As seen in the table given below, in



the recent years the annual growth rate of industrial production has a tremendous growth of GDP and per capita income at factor cost. GDP at factor cost at constant 1999-2000 prices is projected by the CSO to grow at 8.7 per cent in 2007-08,which represents a deceleration from the unexpectedly high growth of 9.4 per cent and 9.6 per cent, respectively, in the previous two years.

Rate pf grpwtj pf GDP at factor cost at 1999-2000 prices (per cent)

	IX plan	2002-03	2003-04	2004-05	2005-06	2006-07	Xplan	2007-08
Agriculture and Allied	2.5	-7.2	10.0	0.0	5.9	3.8	2.5	2.6
Mining	4.0	8.8	3.1	8.2	4.9	5.7	6.1	3.4
Manufacturing	3.3	6.8	6.6	8.7	9.0	12.0	8.6	9.4
Electricity	4.8	4.7	4.8	7.9	4.7	6.0	5.6	7.8
Construction	7.1	7.9	12.0	16.1	16.5	12.0	12.9	9.6
Trade and hotels	7.5	6.9	10.1	7.7	9.4	8.5	8.5	12.1
Transport & communican	8.9	14.1	15.3	15.6	14.6	16.6	15.3	
Financing, real est, hsng	8.0	8.0	5.6	8.7	11.4	13.9	9.5	11.7
Community Services	7.7	3.9	5.4	6.9	7.2	6.9	6.1	7.0
GDP	5.5	3.8	8.5	7.5	9.4	9.6	7.8	8.7

Note: Plan period is simple average.

The Role of Industries in Ecoomic Develpment

Industries the back bone of any economy play a crucial role in the development of a country, as these industries by and large represent a stage in economic transition from traditional to modern technology. This is the reason why many economists consider industrial development similar to economic development. The role of industrialization in economic development arises from the basic facts like raising income, meeting high-income demand, absorbing surplus labor, social transformation etc. no country can attain an accelerated rate of economic growth and exploit her natural resources without being self-sufficient in basic and key industries. A broad-based industrial development and restructuring of manufacturing in tune with emerging demand pattern is necessary for the accelerated growth of the economy.

Despite best of their efforts and proper economic planning, India still stands amongst the line of developing countries in the world, due to low quality of industrial products. India faces lots of hurdles in the path of rapid economic growth like huge losses suffered by public sector industries, unfavorable balance of trade, limited foreign reserves. In 1990 India faces the crises, the most visible sign of the country's economic crisis was its extremely low foreign exchange reserves which was Rs. 2,400 crores in June 1991. The rapidly growing burden of national debt was 60% of the GNP in 1991. While the devaluation of 1991 added to the cost push inflation in Indian economy[9]. So India announced a new economic policy in July 1991 which comprises a number of economic reforms with liberalization, so to gear up the pace of our economic development. It is a fact worth nothing that the mounting burden of borrowings, both domestic and foreign brought the Indian economy to the brink of insolvency in early 1991. As a part of liberalization, a new industrial policy was announced by the government of India in two parts, on 24 July, 1991 and 6 august, 1991, respectively.

The pace of industrialization is influenced by a combination of factors such as sound infrastructure, uninterrupted supply of critical inputs, viz. power, credit and raw materials, proactive entrepreneurs and factors like well established financial intermediaries, favorable investment climate to attract domestic as well as Foreign Direct Investment (FDI), wider application of Information Technology and competitiveness of products in terms of quality and price in both domestic and international market. Sluggishness in the growth of Indian industry in recent times is traced to the lack of domestic demand for intermediary goods, low inventory demand for capital goods, high oil prices, existence of excess capacity in some sectors and

infrastructure constraints particularly in roads and transports. As the industrial restructuring and other measures for activating capital markets and banking system has some inherent adjustment lags, turn around has been rather slow. The factors that constraint the industrial growth at the national level is equally applicable to the performance of this sector in the State. Manufacturing sector employed about 13 per cent of the total work force in the country[5].

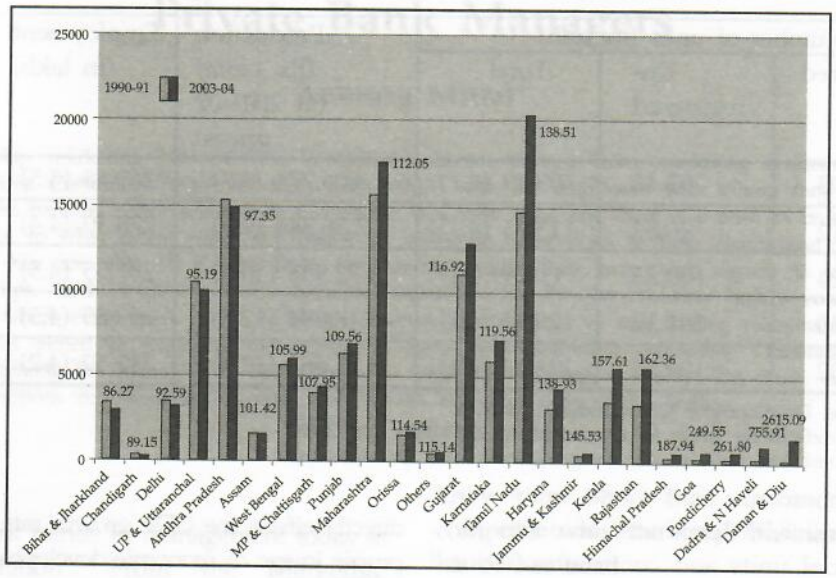
The economic growth and development of the country is generally calculated on the basis of Growth rate of GDP, which is highly effected by the industrial growth and development. Contribution of the industries state-wise is shown in Table-I indicates, that in the end of year (2003-04) the number of factories at the national level have increased (in comparison to 1990-91) by about 17 percent. In Goa, Pondicherry, Dadra & Nagar Haveli (DNH) and Daman & Diu (DD) the number of factories have more than doubled. On the other hand, the number of factories in Bihar & Jharkhand (B&J), Chandigarh, Delhi, UP & Uttaranchal (UP&U) and Andhra Pradesh has reduced. All over India the number of factories has been increased from 1,10,179 in 1990-91 to 1,29,074 in 2003-04. More over capital

Table - 3

State/Union Territoies	Year 1990-91				Year 2003-04**			
	NFACT	LABOUR	CAPITAL	NVA	NFACT	LABOUR	CAPITAL	NVA
Andhra Pradesh	15205	832120	15779	2981	14802	864112	34216	13375
Assam	1548	108953	1032	734	1570	113993	6696	3741
Bihar & Jharkhand	3409	360362	6938	2598	2907	201933	19310	8773
Chandigarh	295	12185	45	70	263	8938	312	164
Dadra & N Haveli	127	5680	116	73	960	51861	4764	2801
Daman & Diu	53	2642	27	14	1386	59877	2422	2335
Delhi	3453	144554	879	1016	3197	115478	2105	2024
Goa	220	17309	241	158	549	34457	3739	2288
Gujarat	10943	675447	13099	4468	12795	729310	85789	28865
Haryana	3070	252974	3658	1636	4256	318266	15134	9143
Himachal Pradesh	282	53580	1118	378	530	36753	5714	1750
Jammu & Kashmir	235	13577	66	76	342	26952	382	188
Karnataka	5911	418955	4844	2769	7067	507410	35429	13844
Kerala	3484	271961	2661	1222	5491	316611	6930	4091
MP & Chattisgarh	3962	417099	10324	307	4277	313904	22338	10633
Mharashtra	15595	1239152	22162	12004	17474	1114070	83472	41910
Orissa	1465	153220	4745	1153	1678	124983	16115	3215
Pondicherry	233	21661	204	97	610	39438	2301	1989
Punjab	6255	400960	5667	1857	6853	336397	9256	5314
Rajasthan	3358	241329	5099	1556	5452	245274	14012	5173
Tamil Nadu	14617	962589	11385	5793	20246	1162594	46421	19101
UP & Uttaranchal	10417	789011	14699	4625	9916	611164	32108	14163
West Bengal	5606	740980	8490	3198	5942	515267	24090	7903
Others	436	26204	380	34	502	21039	277	149
India	110179	8162504	133658	51517	129074	7872281	473331	202933

NFACT = No. of Factories: NVA = Net Value Added (Rs. Crore) : Capital = Fixed Capital (Rs. Crore) : Labour = No. of Employees; *Source : Rport on Currency & Finance-1997-98;** Source : MOSSPI (asi_table3_04htm)

Percentage Growth in Number of Factories in Different State/UT 1991-2004



employed in 2003-04 is 473331 crore as compare to 133658crore in 1990-91. The factors those constraints the industrial growth at the national level are equally applicable to the performance of this sector in the State. The state-wise comparison of per cent growth in number of industries contribution to the economy can be seen in figure 3. some of the states like Tamil Nadu, Kerela, Gujarat, Rajasthan show a huge growth rate in number of factories in 2003-04 as compare to 1990-91. A balanced view of the table and figure suggests that as far as the distribution of number of factories in the post-globalization period is concerned, disparities among the states have not increased or decreased appreciably in any meaningful way. Nevertheless, the scale and size of investment, employment, value addition, etc (and not merely the number of factories) are appropriate measures to assess the significance of industrialization.

On one hand large and heavy industries help in the economic development of the country, on the other hand small scale industries are as important as other sectors. Contribution of the sector in terms of generation of employment, output and exports is quite significant. The importance of the Small & Medium Scale Industries sector is well-recognised from its significant contribution to the socio-economic objectives of growth in generation of employment, output, exports and fostering entrepreneurship (SIDBI report on SSI sector-2001). . It contributed to the over all growth of the GDP as well as in the terms of employment generation and export. Small Scale Industries have the advantage of labour intensiveness, low cost technology, low investment and short gestation period. Therefore, the government accords much importance for the development of SSI units. The Government of India evolved new policy initiatives in 1999-2000, an important one being the Credit Insurance Scheme for providing adequate security to banks and improving flow of investment credit to SSI units, particularly, export-oriented and tiny units. The working capital limit for SSI units shall henceforth be determined by the banks on the basis of 20 per cent of the annual turnover or upto Rs.5.0 crores whichever is minimum. Performance of the small scale sector, therefore, has direct impact on the national economy. 2002-03 to 2004-05, the small enterprises sector registered continuous growth in the number of units, production, employment and exports (Table-4). During this period the average annual growth in the number of units was around 4.1 per cent and in employment 4.3 per cent annually. Further, the annual average growth in production, at current and constant prices, was 12.4 per cent and 8.1 per cent respectively. Thus, there has been a significant increase in the contribution of this sector to the economic development and employment generation in the country. At the end of March 2006, there were 19.30 lakh registered and 104.12 lakh unregistered SSI units providing direct employment to around 299.85 lakh persons. This sector

Table-4
Performance of micro and small enterprises

Year	Number of units (in lakh)			Production (Rs. crore) (at 2001-02 prices)	Employment (in lakh)	Exports (Rs. crore)
	Registered	Un-registered	Total			
2002-03	16.03	93.46	109.49 (4.1)	3,06,771 (8.7)	263.68 (4.5)	86,013 (20.7)
2003-04	17.12	96.83	113.95 (4.1)	3,36,344 (9.6)	275.30 (4.4)	97,644 (13.5)
2004-05	18.24	100.35	118.59(4.1)	3,72,938 (10.9)	287.55 (4.5)	1,24,417 (27.4)
2005-06	19.30	104.12	123.42 (4.1)	4,18,884 (12.3)	299.85 (4.3)	1,50,242 (20.8)
2006-07a	20.32	108.12	128.44 (4.1)	4,71,663 (12.6)	312.52 (4.2)	N.A.

Source : Office of the Development Commisioner (MSME)
"Estimates based on definitions prior to enactment of MSMED Act, 2006.
Note : Figures in parenthesis indicate percentage growth over previous year.

manufactures around 8,000 products, accounts for 95% of the industrial units and contributes about 39% of the value-addition in the manufacturing sector, nearly 80% of the manufacturing employment and have production of Rs.4,18,884 crore. The contribution of micro and small scale industry in exports of the product is Rs. 1,50,242 crore.

Conclusion

An analysis of the post-liberalization industrial growth shows statistically significant improvement in the rate of growth of the economy. Industrial and trade policy reforms during the last two decades have sought to build economies of scale and scope into Indian manufacturing. As a result, in some industries in India like steel, petroleum refining, petrochemicals cement, the plant sizes are perhaps close to the frontier in technology.

Not only the heavy based industries are performing well but the small scale industries are also contributing a lot in economic development. The strategy of economic development through five year plan is also effective only when it is taken up seriously, otherwise it could harm the economy badly. From the above discussion, it is clear that industrialization play a vital role in the GDP growth rate and it will effect the growth and development of the Indian economy. With the economy modernizing, globalizing and growing rapidly, some degree of cyclical fluctuation is to be expected. The finding of the study, show that for rapid economic development the government has to focus more on industrial sector in new five year plan, for proper growth and development. Increase in the number of industries directly affects the GDP growth rate, which shows the proper image of economic development in the country.

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Relationship Marketing - A Perspective of Public and Private Bank Managers

Anuraag Mittal*

Relationship marketing has attracted considerable recent interest from marketing academics and practitioners. Customers frequently form relationships with the employees with whom they interact and in the banking sector when such proposition is a very valid one there is a need to cross verify it, that is, to what extent practically banks are trying to come close to their clients and in what manner they are able to delight them and understanding they have with regard to customer relationships. Such analytical study becomes imperative in the present day highly competitive scenario where every bank claims to be an observer & maintainer of long lasting relationships. The study was aimed at exploring the perception/views on Relationship Marketing Orientation that prevails among the Managers of banks that was done by executing a survey. The study compares the perceptions of managers of public sector with that of private sector banks.

Introduction

One of the dominant trends in management today is "Customer Orientation". From the Marketing Department viewpoint, all the levels and segments of businesses are advised to turn their focus towards identifying, categorizing, understanding and serving the customer. This user orientation typically places great emphasis on information gathering units and marketing process. But to be truly effective, customer orientation must become the guiding principle of all existing and planned company action.

Relationship marketing has attracted considerable recent interest from marketing academics and practitioners. Within the academic community, although some have viewed relationship marketing merely as an applied topic of marketing with an insubstantial theory base, others have argued that relational exchange represents a paradigm shift in marketing thought. While relationships may have been rediscovered in the West, they have remained a fundamental part of exchange in many eastern culture. Organizations' interest in developing closer relationships with their private and corporate customers has come about for two principal reasons: the increasingly competitive nature of markets has resulted in good product quality which alone being inadequate for a company to gain competitive advantage - superior ongoing relationships with customers supplement a firm's competitive advantage; and the emergence of powerful, user-friendly databases has enabled large companies to know more about their customers, recreating in a computer what the small business owner knew in his or her head.

Customers frequently form relationships with the employees with whom they interact and in the banking sector when such proposition is a very valid one there is a need to cross verify it, that is, to what extent practically banks are trying to come close to their clients and in what manner they are able to delight them and to which extent they have understanding with regard to customer relationships. Such analytical study becomes imperative in the present day highly competitive scenario where every bank claims to be an observer and maintainer of long lasting relationships.

Relationship marketing has attracted the attention of scholars and practitioners. Around the world, market leaders have been increasingly moving towards relationship marketing programs. No longer is there a talk of "Mass approach", instead "One-to-One marketing with the main focus on customer relationship is the market. Mittal Anuraag, (2006), discussed the evolution of relationship marketing Approach as a evolution of a revolution in the marketing. It was being proposed that marketing is no longer just about developing, selling and delivering products. It is increasingly more concerned with development and maintenance of mutually satisfying long term relationships with customers. It was being asserted that relationship marketing is based upon the premise that it makes economic sense

*Reader, Department of Management, Delhi Institute of Advanced Studies (DIAS), New Delhi

to satisfy and retain customers as the strength and duration of relationship is directly proportional to the resultant profitability.

Jain Rajnish, Jain Sangita and Upindar Dhar, 2002-03, proposed that Customer Relationship Management (CRM) has emerged as a core business process for maintaining and enhancing competitive edge in the modern business warfare. In spite of meticulous planning and implementation, a large number of CRM programs fail to accomplish their goals. A deeper understanding of the behavioral dimensions of relationship marketing and careful evaluation can help organizations to make their relationship building efforts more effective..

Berry maintains that further research is needed in the field of relationship marketing as it progresses towards the mature marketing paradigm status. He is of the view that the characteristics of successful/ unsuccessful relationship programmes remain unidentified. Rosen and Surprenant highlighted the need to identify the variables which can be used to assess the success of a relationship.

Fournier et al. raised the concern that various firms act as though relationship marketing is a one-way strategy adopted to gain customer patronage. However, this study clearly illustrates the reciprocal nature of relationship marketing; the firm and its stakeholders simultaneously reap the rewards for their effort in developing, nurturing and maintaining the relationship.

Purpose of the Study

A new age marketing is aimed at winning customer forever, when companies greet the customers, create the product to suit to their needs and work hard to develop life time customer through the principle of "consumer delight". The success of any business depends solely on the quality of product and/ or service and customer-organization relationship. Instead of running after the customer, there is a need to run with the customer. Customer's active participation and attitude is also essential to project success as quality of service depends upon the customer's disclosure of his/her exact requirements, cooperation, prompt decisions and actions at every stage.

While customer's attitude and perceptions have changed, many organizations are yet to respond to the change in the desired manner, though, they have recognized the need to be more relationship oriented. Relationship between customer and business firms has been consistently encouraged as successful business practice . According to Gronroos , business philosophy has shifted from purely economic production orientation to a customer market concept and then to societal orientation. Now business philosophy is shifting again towards relationship marketing.

It is this move towards relationship marketing that is the theme of the proposed study. Although marketing scholars and practitioners have been examining relationship marketing for more than a decade (Berry), most of the studies were being criticized because of having uni-dimensional perspective. One of the greatest challenges for the top management is to instill among its employees, a deep sense of commitment towards the customers.

The study is aimed at exploring the perception of Relationship Marketing Orientation that prevails among the Managers of banks. Morris et al. , showed that although relationship marketing is widely used, actual practice diverges across companies, and the companies that claim to use relationship marketing, do not always show the degree of commitment which literature might suggest. Sheedy indicated that in banking, relationship marketing has certainly not always being implemented very carefully. This suggests that there is still a need to better understand relationship marketing.

Hence there exists a gap as to what the practising managers have to say about relationship marketing and what actually they do with regard to the relationship marketing orientation in their organizations. Since banks nearly always say that they use relationship marketing, it would be useful to understand exactly what bank themselves think, relationship marketing is. More specifically what do key account managers who are in the front lines of implementing relationship marketing, think it is.

Moreover, the present study throws some light on the issue of organizational culture and related behavioural dimensions and their interconnection with the relationship marketing philosophy.

Objectives of the Study

The present study seeks to determine the application of relationship marketing in banking of Union Territory of Delhi. It is further directed towards analyzing the bank managers (Branch Managers) opinion about their banks with respect to the relationship oriented behaviour of their bank towards their customers. It also compares the relationship marketing application in Public Sector Banks with that of Private Sector Banks

The present study has the following specific objectives:-

1 To find out whether managers believe that their banks are relationship centric or not.

2 To compare the relationship marketing orientation of both private and public sector banks.

3 To compare the culture of Private and Public Sector Banks.

Hypothesis of the Study

The study seeks to clarify several propositions that revolve around the central theme of the study, that is, analyzing the application of relationship marketing in banking sector. The hypothesis has been formulated in synchronization with the purpose and objectives of the study. Moreover, the hypothesis cover all the dimensions of relationship marketing that have been considered in the study. The following sets of hypothesis have been formulated and have been cross examined and tested to draw certain inferences and conclusions about the study.

1 There is no significant difference with respect to trust dimension of relationship marketing in Public & Private Sector Banks.

2 There is no significant difference with respect to bonding dimension of relationship marketing in Public and Private Sector Banks.

3 There is no significant difference with respect to communication dimension of relationship marketing in Public and Private Sector Banks.

4 There is no significant difference with respect to empathy dimension of relationship marketing in Public and Private Sector Banks.

5 There is no significant difference with respect to reciprocity dimension of relationship marketing in Public and Private Sector Banks.

6 There is no significant difference with respect to the culture (organizational/work) of Public Sector and Private Sector Bank

7 There is no significant difference in relationship marketing orientation of Private Sector Banks and Public Sector Banks from the view point of Bank Managers.

Sample Profile

The present study has been conducted in NCR of Delhi and is further limited to 05 Private Sector Banks and 05 Public Sector Banks. This study was confined to retail banking as constitutes a major portion of banking business. Data has been colleted using personal contact approach that is the respondents were approached personally. In order to seek fair and frank responses on the application on relationship marketing approach in banks, the respondents (Bank Managers) were asked to give their opinion about the application of relationship marketing in their respective banks by way of filling a questionnaire that was framed on several dimensions of relationship marketing. The response were measured on "7 point rating likert scale", wherein respondents were asked to give the score ranging from 1 to 7, depending on their degree of agreement or disagreement with the dimension statements so framed to gather the perception/ opinion about the implementation of relationship marketing philosophy in the banks under study.

The sample under study comprises bank officials that comprised Branch Managers and few Relationship Managers . For selecting banks "Judgment Sampling" was used in the 05 Banks each from Private and Public Sector .The top 05 banks (Public & Private Sector) were chosen on the basis of their assets and deposits value as given in the R.B.I. Report & IBA Report 2005.

The survey was executed in 2006-07 and findings analysis was carried out in Oct/Nov 2007.

The public sector banks covered were State Bank of India (SBI), Punjab National Bank, Canara Bank, Bank of Baroda and Bank of India and the private sector banks were ICICI Bank Ltd., HDFC Bank Ltd, UTI Bank Ltd.(Now AXIS Bank) ,Standard Chartered Bank and Citibank N.A..

While choosing bank customers, "Simple Random Sampling Method" was used. They were approached

with a view to capture the perception about the application of relationship marketing approach in their banks. The survey was executed on Bank Managers and their customers in Delhi Region. The survey covered 144 Bank Managers of public sector banks & 144 Managers of private sector banks in N.C.R covering almost on an average 10 Branches each of every bank under study.

Survey of Bank Managers

The data collected through a well structured questionnaire, that comprised several dimensions of relationship marketing, was entered in computer and was analysed using SPSS Software to test various hypotheses of the study.

The statistical test aimed at testing the hypotheses revealed the information whether there exists significant difference with regard to the respective dimensions value among Managers of public sector banks and private sector banks or not. For this, T-Test for Equality of Means & Levene's Test for Equality of Variances (F-Test) was used.

Reliability Analysis - Scale (ALPHA) (Managers Survey)

Reliability Coefficients

N of Cases = 288.0 N of Items = 26

Alpha = .9036

As alpha was more than 0.7, the scale constructed was found to be reliable.

Hypothesis Testing (Results)

After analyzing the data generated by administering survey of bank managers, it have been observed that, out of 07 hypotheses formulated, only 01 hypothesis was accepted after making use of statistical methods to test the hypotheses.

Following is the summary of hypothesis testing results from survey of bank managers (Table 1 B)

Hypothesis No-1 : After using statistical tests, it has been found that this hypothesis has been rejected and, hence, we can infer that there is a significant difference with respect to trust dimension of relationship marketing in public and private ector banks from the view point of Bank Managers.

Hypothesis No-2 : After using statistical tests, it has been found that, Hypothesis No-2 has been rejected and, hence, we can infer that there is a significant difference with respect to Bonding dimension of relationship marketing in public and private sector banks from the view point of Bank Managers.

Hypothesis No-3 : After using statistical tests, it has been found that this hypothesis has been accepted and, hence, we can infer that there is no significant difference with respect to Communication dimension of relationship marketing in public and private sector banks from the view point of Bank Managers.

Hypothesis No-4 : After using statistical tests, it has been found that this hypothesis has been accepted and, hence, we can infer that there is no significant difference with respect to Empathy dimension of relationship marketing in public and private sector banks from the view point of Bank Managers.

Hypothesis No-5 : After using statistical tests, it has been found that this hypothesis has been rejected and, hence, we can infer that there is a significant difference with respect to Reciprocity dimension of relationship marketing in public and private sector banks from the view point of Bank Managers

Hypothesis No-6: After using statistical tests, it has been found that Hypothesis No-6 has been rejected and, hence, we can infer that there is a significant difference with respect to Culture dimension of relationship marketing in public and private sector banks from the view point of Bank Managers

Final Hypothesis No- 7: There is no significant difference in relationship marketing orientation of private sector banks and public sector banks from the view point of Bank Managers.

There is a high mean difference among the perception of the Managers of the both the category of banks under study as mean of Managers of public sector banks is 121.5000, and that of private sector bank customers is 146.5139(Table 1 C). The gap is very high depicting that the public sector banks are quite ineffective with respect to implementing relationship marketing philosophy completely which has led to the great deal of dissatisfaction among its customers.

Levene's Test for Equality of Variances indicates that the variances for the Managers of private and public

sector banks do not differ significantly from each other at $p<0.05$, $p=0.72$[F value]. Moreover, the independent sample "t test analysis" clearly indicates that the means of Managers of private sector banks and public sector banks differ very Significantly At $p<0.05$, $p=0.00$.[t value]

After using statistical tests, it has been found that Hypothesis No-7 has been rejected and, hence, we can infer that, there is a significant difference with respect to relationship marketing in public and private sector banks from the view point of Bank Managers.

On the whole, the gap of perception among the Managers of private and public sector banks is quite wide with respect to the relationship marketing implementation with a mean difference of massive 25.0139{Table-1 D }, suggesting that public sector banks have to go a long way towards effective implementation of relationship marketing.

Result Discussions (Managerial Implications)

It was analyzed that the Managers of public sector banks perceive their banks as more trustworthy in relation to that of private sector banks. Hence there is a need to instill the feeling trust among the customers by private sector banks too. But on the whole the mean of trust dimension is very less and all the banks (private & public) need to work very hard to earn trust of the customers as this dimension is being considered as the most important deciding factor of relationship marketing.

The study clearly depicts that the bank officials of private sector banks have a close knitted bonding with the customers as compared to that of public sector banks. Hence public sector banks need to work hard towards the bonding content of relationship marketing

The research indicates that with regard to communication element of relationship marketing, managers do not find any problem with respect to free and open communication with their customers. So the Managers of both private and public sector banks perceive communication dimension to be the same in both of these categories of banks.

The study clearly depicts that the managers of both private and public sector banks feel that they empathizes with their customers and fully understand their needs.

Also the results clearly show that Bank Officials of public sector are not doing well with regard to reciprocating their clients.

The study reveals that the internal culture of public sector bank is not conducive for the effective implementation of relationship marketing. The poor mean score also tells that these banks have to improve a lot with respect to their organization culture with special reference to their interface not only with customers but among themselves too. The management support seems to be missing with respect to effective practical implementation of relationship marketing philosophy.

The overall manager survey analysis has indicated that the Managers of public sector and private sector banks are of the view that there is variation with respect to the implementation of relationship marketing philosophy in the banks under study. The poor implementation of relationship marketing approach in these banks has also revealed poor customer satisfaction, poor culture, less score on reciprocity and empathy dimensions. Hence public sector banks need to work very hard to implement relationship marketing approach.

Conclusion

In recent years, an increasing number of businesses have recognized the benefits of establishing and nurturing ongoing relationships with their customers. Many have begun to shift their emphasis from discrete transactions toward shaping longer-term, mutually beneficial exchange relationships. Often referred to as "relationship marketing" the foundation of this rapidly emerging business philosophy is the belief that strengthening ties with existing customers heightens customer satisfaction and businesses' abilities to serve customers. This avoids the high costs both parties might otherwise experience in the search for new, acceptable exchange partners. Thus one-shot purchase transactions with limited profitability are transformed into continuous strings of repeat purchases with potential for greater long-term profitability (Dwyer ; Levitt; Reichheld and Sasser; Sheth and Parvatiyar).

The value of customer relationships is particularly noteworthy in the service sector, for a variety of reasons. First, because services are intangible, customers often have little to evaluate prior to making a purchase commitment. The service provider may be the most tangible aspect of the service and, in the eyes of customers, may be equated with the service itself. Customers' perceptions of the quality of the relationship with the service provider may be commensurate with the quality of the service itself. Secondly, the difficulty of evaluating services prior to making purchase commitments often means that customers must rely on the credibility of service providers and their prior experiences with them to understand whether the promised service will meet their expectations. That is, customers generally do not purchase services, per se, but promises of services. A strong, healthy relationship between customers and service providers engenders the trust that is necessary for customers to commit to the service. Similarly, because it is often not possible to remove defective services before they reach customers, a strong relationship often helps to recover from inevitable mishaps.

The present study has attempted to understand what customer relationship-building means to Indian Banks and what practices/programs they use to develop and maintain relationships with customers. Learning what bank's specific objectives are for "building customer relationships" provides some indication of what the phrase means to them, and leads to potentially valuable insights as to their motivations for doing what they do to build customer relationships.

Although the ratings clearly suggest that building relationships with customers means different things to different managers, it is equally clear that very few of the respondents would question the wisdom of doing so. The respondents viewed the potency of relationship-building as multifaceted, capable of addressing an array of desirable marketing and service objectives. Recognizing the broad potential of relationship-building, it is not surprising that no full consensus emerged.

The six dimensions of relationship marketing under study indicates that most managers expect relationship-building programs to improve customers' satisfaction, enhance customer service and, increase the likelihood of customers spreading positive word-of-mouth about the company, build customer trust in the company, and enhance customers' bonding with the banks. In spite of one philosophy being administered in both public and private sector banks, the manner in which it is perceived and applied differs in these banks. Henceforth, there is a need to better understand the philosophy of relationship marketing and the management should pave out the way for its effective implementation through proper marketing and HR restructuring.

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TABLE 1A- Bank Managers
Group Statistics
[Sample Size - 144 Managers Public Banks &144 Managers of Private Banks]

Dimensions Of Relationship Marketing	Bank Managers	N	Mean	Std. Deviation	Std. Error Mean
TRUST	Private Bank	144	13.7639	2.2901	.1908
	Public Bank	144	16.8750	2.0273	.1689
BONDING	Private Bank	144	22.9167	2.6112	.2176
	Public Bank	144	16.9722	2.8283	.2357
COMMUNICATION	Private Bank	144	24.1250	3.5868	.2989
	Public Bank	144	24.2361	5.0605	.4217
EMPATHY	Private Bank	144	22.7500	3.3814	.2818
	Public Bank	144	22.6528	2.2198	.1850
RECIPROCITY	Private Bank	144	22.7500	3.3439	.2787
	Public Bank	144	17.2361	2.4265	.2022
CULTURE	Private Bank	144	40.2083	3.7619	.3135
	Public Bank	144	23.5278	3.0242	.2520

TABLE 1C -OVERALL ANALYSIS (All Dimensions Together)
Group Statistics (All Dimensions Together)
[Sample Size - 144 Managers Public Banks &144 Managers of Private Banks]

	Bank Manager	N	Mean	Std. Deviation	Std. Error Mean
All Dimention of relationship marketing	Private Bank	144	146.5139	13.4944	1.1245
	Public Bank	144	121.5000	14.2417	1.1868

TABLE 1B- Bank Managers
Independent Samples Test

Dimensions Of Relationship Marketing		Levene's Test for Equality of Variances (F)	Sig.	t-test for Equality of Means (t)	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference 95%	Confidence Interval of the Difference Lower	Upper
Trust	Equal variances									
	assumed	.344	.558	-12.206	286	.000	-3.1111	.2549	-3.6128	-2.6094
	Equal variances									
	not assumed			-12.206	281.855	.000	-3.1111	.2549	-3.6128	-2.6094
Bonding	Equal variances									
	assumed	.481	.488	18.531	286	.000	5.9444	.3208	5.3131	6.5758
	Equal variances									
	not assumed			18.531	284.194	.000	5.9444	.3208	5.3130	6.5758
Communication	Equal variances									
	assumed	42.469	.000	-.215	286	.830	-.1111	.5169	-1.1285	.9063
	Equal variances									
	not assumed			-.215	257.727	.830	-.1111	.5169	-1.1290	.9068
Empathy	Equal variances									
	assumed	10.605	.001	.288	286	.773	9.722E-02	.3371	-.5662	.7607
	Equal variances									
	not assumed			.288	246.951	.773	9.722E-02	.3371	-.5667	.7611
Reciproty	Equal variances									
	assumed	10.004	.002	16.015	286	.000	5.5139	.3443	4.8362	6.1916
	Equal variances									
	not assumed			16.015	260.905	.000	5.5139	.3443	4.8359	6.1918
Culture	Equal variances									
	assumed	7.562	.006	41.470	286	.000	16.6806	.4022	15.8888	17.4723
	Equal variances									
	not assumed			41.470	273.379	.000	16.6806	.4022	15.8887	17.4724

TABLE 1D- (All Dimensions Together)
Independent Samples Test (All Dimensions Together)

		Levene's Test for Equality of Variances (F) F	Sig.	t-test for Equality of Means (t) t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
All Dimensions of Relationship Marketing	Equal variances assumed	3.264	.072	15.299	286	.000	25.0139	1.6350	21.7958	28.2320
	Equal variances not assumed			15.299	285.173	.000	25.0139	1.6350	21.7958	28.2320

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Pre and Post Disinvestment Performance of Selected Energy Sector Public Enterprises

Dr Neelam Dhanda* Dr Pawan Kumar**

Public Sector has played a pivotal role in the growth and development of the Indian economy for the past 50 Years, although the role and importance of public sector have been significantly affected since the start of globalization process in India. Thus disinvestment of Government's equity in CPSUs started in 1991-92. The Rangarajan Committee (1993) recommendations further emphasized the need for substantial disinvestment. The Public Sector Disinvestment Commission was established on 23rd August, 1996 for a period of three years as an independent, non-statutory advisory body. One of the important arguments in favour of privatization of public sector enterprises is the belief that it would improve their performance. The present article is an attempt to identify the impact of disinvestment on the performance of the selected energy sector public sector enterprises with the help of pre and post disinvestment performance of selected public enterprises with help of selected performance ratios.

Indian economy was confronting various socio economic problems at the time of Independence. India at that time was an agrarian economy with a weak industrial base, low level of savings, inadequate investment and lack of infrastructural facilities. There existed considerable inequalities in income and level of employment glaring regional imbalances in economic development. The State intervention in all the sectors of the economy was inevitable since the private sector neither had the necessary resources, managerial and scientific skill, nor the will to undertake the risks associated with large long -gestation investments. Given the type and range of problems faced by the country on the economic, social and strategic fronts, it became a pragmatic compulsion to use the public sector as an instrument for self-reliant economic growth. Many of the public sector enterprises successfully expanded production, opened up new areas of technology and built up a reserve of technological competence in a number of areas.

Indian economy was pursuing the path of development in which public sector was expected to be the growth engine for almost four decades since Independence. Since the beginning of 1980s, the functioning of the public sector began to be questioned. It was held that the public sector performed well only when protected through State monopolies, entry reservations, high tariffs and quotas etc. Since quite a large number of public enterprises incurred losses year after year (at the turn of the 1990s, 120 public sector enterprises out of 245 had accumulated losses), it was argued that the State should not be called upon to meet the losses of these enterprises out of taxpayers' money.

The New Industrial Policy 1991 ushered in a new era of liberalization as industrial licensing was abolished, role of public sector diluted, doors for foreign investment considerably opened and numerous incentives and initiatives were granted to the private sector to expand its business activities. The policy also advocated privatization of public sector enterprises. Government of India adopted the route of disinvestment following the sale of public sector equity to the private sector and the public at large. Government adopted two methods of disinvestment: (i) selling of shares of select public sector units, and (ii) strategic sale of public sector unit to a private sector company. The former method was used over the period 1991-92 to 1998-99. From 1999-2k to 2003-04, the emphasis shifted to the later method which involved strategic sale of a public sector unit to a private sector company through a process of competitive bidding. After 2004-05, disinvestment realizations have been through sale of small portions of equity. The actual realization from disinvestment over the period 1991-92 to 2005-06 was Rs. 49,214 crore as against the target of Rs. 96,800 crore for the period 1991-92 to 2004-05 (no target was set for disinvestment in the 2005-06 Budget).

* Reader, Department of Commerce, Kurukshetra University, Kurukshetra
** Faculty, DIMT, Kurukshetra

Review of Literature

Stephan, Sherry. M. (1991) concluded that the true measure of success of privatization in developing as well as in the developed countries, was not the number of firms transferred from State ownership but it was the improved allocation of resources reflected in the higher growth, increased profitability, expanded production from capital projects and reduced budgetary deficits. Gupta (1993) argued that public enterprises in India were under unprecedented pressure and many public enterprises may have to be privatized. Raghavan (1994) suggested that the entire proceeds of disinvestments should flow to an independent authority which could utilize it for restructuring loss-making and sick units. Dhankar (1995) observed that disinvestment of Government holding was an economic necessity. Sharma and Kumar (1995) concluded that the new economic policy of July 1991 and other announcements made by the Government thereafter were the clear indications that the Government meant business and it was determined to make the PSUs to accomplish their objectives. Mishra and Syed (1995) stated that the Government failed to realize not only the best value but also the other objectives of the disinvestments programme. Adequate efforts were not made to build up the much-needed public enterprises-capital market linkages.Batra and Bhatia (1995) concluded that failures of public enterprises outweigh the achievements. Das (1998) tried to identify implication of disinvestment policy on the workers of public sector organizations and concluded that the Government has introduced the social safety net but the scheme still appears to be inadequate. Ravinder (1998) observed that the Navartnas and Miniratnas would face pure converge without any benefit of privatization and they would confide out on the Indian capital market. The public sector needed a skillful drive to negotiate the difficult track of privatization. Sturgess (1999) described that the public sector was changing in different ways around the world. Chatterjee (1999) suggested that the PSUs need to be categorized into critical and non-critical sectors, on the basis of certain well laid out transparent norms. Strategic PSUs may be considered as critical for the economy. The PSUs doing well or marginally sick can be converted into joint sector companies with Government having overall control by retaining 51per cent. PSUs which are chronically sick and beyond the prospect of immediate rehabilitation need to be closed down. Chattopadyay (2000) emphasized to revive the sick public sector units. Verma (2000) observed that unfortunately, in a majority of cases, bad and inept management is the prime cause of corporate sickness and eventual failure of PSUs. The study holds that industrial sickness whether in private or public sector needs to be tackled on priority basis. Bhattacharya (2000) argued in his study that mobilization of resources for public exchequer is most important objective of privatization. Bose (2000) stated that it would be premature to conclude that the direct role of the public sector in the industrialization of the Third World Countries has come to an end. Baig, Nafees (2000) observed that the public sector in India was supposed to act as a means for generating socio-economic activities in the country. Time has now come to see this sector in a changed scenario. Choudhry, (2000) observed that both public and private sectors are valuable national assets assiduously built over decades of sustained efforts and dismantling or weakening of either will be against the national interest. Parkash, Om (2001) argued that disinvestment proposal should be directed towards loss making and sick enterprises rather than profitable units in the public sector. Kumar (2001) suggested that the business reforms in public sector enterprises are possible only through careful forward looking planning with focus on product marketing, organizational structure, evaluation of finances, people related issues, leadership, evaluation and feedback. Jalan (2001) suggested that Government should take the disinvestments process in a systematic, organized and transparent manner. Mathur (2001) suggested that disinvestment is a means of privatization or just disinvestments. Stanley (2001) suggested recognizing the whole disinvestments programme in consultation with the worker groups in India to see that its benefits percolate down to the grass-root level.

Kumar Brijesh (2001) suggested that the public sector units that are not performing well should be made economically viable by taking suitable measures. Maharana and Ray (2002) suggested that

TABLE: 1

CONTRIBUTION OF ENERGY SECTOR PUBLIC SECTOR ENTERPRISES (2004-05)

(Figures in Million Tonnes)

Product Category	Public Sector Production	National Production	PSUs Production /Total Production (%)
Crude oil	29.68	33.98	87.34
Natural Gas	24.98	31.75	78.65
Refinery Crude	92.81	127.12	73.01

Source: Public Enterprises Survey 2004-05.

disinvestment of PSUs has to be done with a particular time frame so that the result will be larger resources for Government, lesser debt burden, healthier fiscal position and a productive and vibrant economy. Dhameja (2003) suggested that disinvestment of a particular enterprise should be a national decision and political considerations should not deter disinvestment process. Rangrajan (2004) suggested that the Public Sector still continues to dominate the economy in several important sectors. There is no doubt that the country must pay adequate attention to improve the functioning of public sector enterprises where their presence is essential. Mishra (2004) has suggested that Public Enterprises could achieve the distinction of efficiency by internal and external reforms. Kaushik and Neeraj (2004) observed that the success of disinvestment has so far been dependent upon domestic investment as foreign investors have been reluctant to invest in privatization process. Dutt and Sundaram (2006) observed that there should be a fresh look at the role of the highly profit making public sector undertakings. As the public sector is becoming performance-oriented, there is a need to strengthen professionalism by giving more powers and introducing the element of accountability.

Research Methodology

One of the important arguments in favour of privatization of public sector units is the belief that it would improve their performance. The present article is an attempt to identify the impact of disinvestment on the performance of the selected energy sector public sector enterprises. Energy in one form or the other is the most important input for any development and directly determines the pace of economic growth of the nation. The contribution of public sector enterprises for the energy sector products is presented in Table 1

The production distribution of energy sector products for the year 2004-05 indicates that the public sector enterprises enjoy dominant role in production of energy sector products. More than seventy per cent of different products are being contributed by public sector units in spite of the on going disinvestment programme. The public sector units still hold the key position in the production of energy sector products in India.

Sample Profile

Five public sector units, viz., HPCL, ONGC, IOCL, BPCL and GAIL, have been selected to study the pre and post disinvestment performance. These units have been selected on the basis of year of start of disinvestment process in respect of these units. Disinvestment process was initiated in these selected units during the financial year1994-95. Brief profile of the selected public sector enterprises along with the start of disinvestment process and the extent of disinvestment have been presented in Table 2.

Study Period

Since the year of start of disinvestment process has been taken as a base to select the public sector units for the purpose of the study, the total study period is eighteen years i.e., starting from 1986-87 to 2003-04. The study period is divided into two parts i.e. pre-disinvestment period (1986-87 to 1994-95) and post disinvestment period (1994-95 to 2003-04).

TABLE: 2

Profile of Selected Public Sector Units

Sr. No.	Name of the Company	Year of Incorporation	Year of the Disinvestment	Govt. Holding (percentage)	Percentage of Disinvestment
1	HPCL	1952	1994-95	51.07	48.94
2	ONGC	1959	Do	74.15	16.36
3	IOCL	1964	Do	82.03	17.85
4	BPCL	1976	Do	66.20	33.80
5	GAIL	1984	Do	57.35	32.60

Source: Information complied from various Govt. Reports and Documents

Objectives of the study

The specific objectives of the study are:

- To ascertain the impact of disinvestment on Return on Sales Ratio in selected energy sector PSUs
- To know the impact of disinvestment on Return on Assets Ratio of the selected PSUs
- To identify the impact of disinvestments on Return on Capital Employed Ratio in selected PSUs.
- To examine the impact of disinvestments on Dividend Payout Ratio of selected PSUs

Information sources

The major source of information for the purpose of the study has been the published data available in various issues of Public Enterprises Survey. The other sources of data include: books, Committee Reports, Economic Survey, Reports on Disinvestments Policy & Procedures, Progress published by Ministry of Disinvestment (GOI), and periodicals covering the areas of study.

Data analysis

Ratio analysis has been used to measure the performance of selected enterprises for the pre disinvestment period and post disinvestment period. The average value of the ratio along with standard deviation and coefficient of variation has been computed for the pre disinvestment period and post disinvestment period. Paired Sample T- test has been applied to ascertain extent of difference in the performance of selected public sector units during the pre disinvestment and post disinvestment period. T-values have been computed to find out whether there has been a statistically significant impact of disinvestments on the performance variable of the sample units.

Profitability ratios on the basis of profits before depreciation, interest & tax

The amount of profit earned by any enterprise indicates the performance of the enterprise. The profit in relation to sales or in relation to the assets may be more useful for the purpose of inter-firm and intra-firm comparative analysis. The following hypotheses have been designed to identify the extent of difference on profitability ratios during pre and post disinvestments period.

Hypothesis Testing

S. No	Ratio	Variables	Null Hypothesis
I	Return on Sales Ratio	PBDIT/ SALE	ROSa=ROSb
II	Return on Assets Ratio	PBDIT/ ASSETS	ROAa=ROAb
III	Return on Capital Employed	PBDIT/ CAP.EM-PLOYED	OC.Ea=ROC.Eb

The hypothesis testing focuses on the performance of selected public sector units to identify the extent of difference in performance between pre disinvestments period and post disinvestments

TABLE: 3

Return on Sales ratio {(PBDIT/SALE)*100}

Enterprise	Mean (Post-disinvestment)	Mean (Pre-disinvestment)	Mean Difference	T-value	Degree of Freedom	Sig. Level (2-tailed)
HPCL	6.9326396	7.13206	-.2011	-.298	8	.773
ONGC	56.236303	44.337695	12.0056	3.610	8	.007
IOCL	7.0693902	7.5627793	-.4956	-.792	8	.451
BPCL	6.6821779	7.3675855	-.68541	-1.042	7	.332
GAIL	24.853112	30.109409	-5.25563	-.321	8	.756

Source: Compiled from various issues of Public Enterprises Survey.

period. The symbols a and b in the null hypothesis stand for post and pre disinvestments period respectively for the purpose of the study.

Return on Sales Ratio (PBDIT/SALES)

Return on sales ratio has been calculated on the basis of profits before depreciation, interest and tax divided by the amount of sales during respective year {Annexure 1.1(a) & (b)}. Pre and post disinvestments performance - a comparative view based on the ratio is reported in Table 3

The post disinvestment performance of the selected public sector units has not improved during the post disinvestment period. The mean value of post disinvestment return on sales ratio is small as compared to the mean value of pre disinvestment ratio in respect of HPCL, IOCL, BPCL and GAIL. The computed T-values are also not significant at 5% level of significance. On the other hand, there seems to be significant improvement in the performance of ONGC during the post disinvestment period as the computed T-value turns out to be statistically significant at 1% level of significance.

Concluding, the performance of the selected public sector has not improved in general when measured in terms of return on sales ratio. This may be due to the fact that the basic objective of public sector units is not to maximize the profits but to concentrate upon the social objectives. The pricing policy of the public sector units during the post disinvestment period must have restricted the improvement in the performance during the post disinvestment performance of the selected public sector enterprises.

Impact of Disinvestments on Performance {(PBDIT/SALES)*100}

Impact	PSU's
Positive	ONGC*,
Negative	HPCL, IOCL, BPCL, GAIL

*1% level of significance

Return on Asset Ratio (PBDIT/ASSETS)

Return on assets has been computed for the selected units by dividing the amounts of profit (before depreciation, interest and taxes) by the amount of assets of the selected enterprise for pre and post disinvestments period [Annexure 1.2 (a) & (b)]. The comparative performance of the selected public sector enterprises for Pre and Post Disinvestment period is presented in Table 4.

Table 4 shows that the performance of ONGC, IOCL, and GAIL has been better during post disinvestments period as compared to the pre disinvestments period based upon the ratio. The performance of HPCL seems to be better during the pre disinvestment period as the computed mean score of the ratio during the pre disinvestment period is higher as compared to the mean score of the ratio during post disinvestment period. T-value is statistically significant in respect of HPCL at 5% level of significance. The performance of ONGC and GAIL has been better during the post disinvestment period as T-values are statistically significant at 1% level of significance in case of GAIL and at 5% level of significance for ONGC. So, the null hypothesis that there is no significant difference in the

TABLE: 4

Return on Assets Ratio {(PBDIT/ASSETS)x100}

Enterprise	Mean (Post-disinvestment)	Mean (Pre-disinvestment)	Mean Difference	T-value	Degree of Freedom	Sig. Level (2-tailed)
HPCL	17.507352	20.0208	-2.5122	-2.353	8	.046
ONGC	28.0856	18.0967	9.9889	2.802	8	.023
IOCL	14.785507	13.954801	.8300	.365	8	.725
BPCL	17.596482	19.370072	-1.77309	-1.539	8	.163
GAIL	21.43351	12.183404	9.250106	4.546	8	.002

Source: Compiled from various issues of Public Enterprises Survey.

performance of selected public sector units after disinvestment is rejected in respect of HPCL, ONGC and GAIL. On the other hand, the performance of HPCL and BPCL has been better during the pre disinvestments period.

Impact of Disinvestments on Performance {(PBDIT/ ASSETS)*100}

Impact	PSU's
Positive	ONGC**, IOCL, , GAIL*
Negative	HPCL**, BPCL

*1% level of significance, **5% level of significance

Return on capital employed {(PBDIT/ Capital Employed)x100}

Return of capital employed has been computed for selected units by dividing the amount of profits (before depreciation, interest and tax) by the amount of capital employed [Annexure 1.3 (a) & (b)]. The comparative view of pre and post disinvestments performance is presented in Table 5.

The performance of GAIL and ONGC seems to be improved after disinvestments. But in case of IOCL, HPCL, and BPCL the performance was better during the pre disinvestments period. The calculated T-value at 5 % level of significance reported significant difference in case of IOCL and BPCL. Thus null hypothesis is rejected in these cases. Generally it can be concluded that the performance of three units was better during the pre disinvestments period, on the other hand, the performance of ONGC and GAIL turns out to be better during the post disinvestment period, though

TABLE: 5

Return on Capital Employed {(PBDIT/CAPITAL EMPLOYED)*100}

Enterprise	Mean (Post-disinvestment)	Mean (Pre-disinvestment)	Mean Difference	T-value	Degree of Freedom	Sig. Level (2-tailed)
HPCL	36.995078	41.1272	-4.1322	-1.182	8	.271
ONGC	39.969017	37.875516	6.6756	1.165	8	.278
IOCL	32.655524	53.019938	-20.3633	-2.534	8	.035
BPCL	42.303435	49.790008	-7.48657	-2.588	8	.032
GAIL	58.050489	20.690974	37.35952	2.298	8	.051

Source: Compiled from various issues of Public Enterprises Survey

it does not turn out to be statistically significant in respect of these two public enterprises.

Impact of Disinvestments on Performance {(PBDIT/CAPITAL EMPLOYED)*100}

Impact	PSUs
Positive	ONGC, , GAIL
Negative	HPCL, IOCL**, BPCL**

* 1% level of significance, ** 5% level of significance

Profitability Ratios on the basis of profits after tax

Profits after tax have been taken as a basis to measure profitability of selected public sector undertakings. The following hypotheses have been set up to calculate the desired effects.

Hypothesis Testing

Ratio	Variables	Null Hypothesis
Return on Sales Ratio	PAT / SALES	ROSa=ROSb
Return on Assets Ratio	PAT / ASSETS	ROAa=ROAb
Return on Capital Employed	PAT / CAP.EM-PLOYED	ROC.Ea=ROC.Eb

Return on Sales Ratio (PAT/SALES)

Return on sales ratio computed on the basis of profits after tax divided by the amount of sales has been computed [Annexure 1.4 (a) & (b)].Pre and post disinvestment performance comparaision based upon the results of return on sales ratio, based upon profits after tax, is reported in Table 6.

The pre and post disinvestment performance of the selected public enterprises based upon return on sales ratio indicates that the performance of HPCL, ONGC, BPCL and GAIL has improved during the post disinvestment period. But in respect of IOCL the mean score of the ratio was higher during the pre disinvestment period explaining better performance during pre disinvestment period. The computed T-values in respect of all the selected public enterprises do not turn out to be statistically significant at 5 % level of significance. So, the null hypothesis that there is no significant difference in the performance of the selected enterprises may be accepted.

Impact of Disinvestments on Performance {(PAT/SALE)*100}

Impact	PSU's
Positive	HPCL, ONGC, BPCL, GAIL
Negative	IOCL,

* 1% level of significance, ** 5% level of significance

TABLE: 6

Return on Sales ratio {(PAT/SALE)*100}

Enterprise	Mean (Post-disinvestment)	Mean (Pre-disinvestment)	Mean Difference	T-value	Degree of Freedom	Sig. Level (2-tailed)
HPCL	3.4135618	2.82405	.5911	1.440	8	.189
ONGC	21.113477	17.235194	3.8789	1.038	8	.330
IOCL	3.2721246	3.4499838	-.1756	-.466	8	.650
BPCL	2.9132314	2.829419	.0838	.586	8	.574
GAIL	13.415892	-19.319866	32.7358	1.406	7	.203

Source: Compiled from various issues of Public Enterprises Survey.

TABLE: 7

Return on Assets Ratio {(PAT/ASSETS)*100}

Enterprise	Mean (Post-disinvestment)	Mean (Pre-disinvestment)	Mean Difference	T-value	Degree of Freedom	Sig. Level (2-tailed)
HPCL	8.6317076	8.07435	.5567	.577	8	.579
ONGC	10.833881	7.20	3.6289	1.426	8	.192
IOCL	6.9280824	6.491739	.4378	.297	8	.775
BPCL	7.6876402	7.4685991	.219041	1.335	8	.219
GAIL	11.498924	2.835581	8.6633	4.807	8	.001

Source: Compiled from various issues of Public Enterprises Survey

Return on Assets (PAT/ASSETS)

Return on assets ratio computed on the basis of profit after depreciation, interest and taxes/assets is computed for pre and post disinvestment period [Annexure 1.5(a) & (b)]. Pre and post disinvestment performance - a comparative view of the selected units is presented in Table 7

Table 7 shows that better performance is reported for the post disinvestments period in case of HPCL, ONGC, IOCL, BPCL and GAIL, but the difference between pre and post disinvestments period is not statistically significant in respect of HPCL, ONGC, IOCL and BPCL. The computed T-value in respect of GAIL is statistically significant at 1% level of significance indicating statistically significant improvement in the performance during the post disinvestment period.

Impact of Disinvestments on Performance {(PAT/ ASSETS)*100}

Impact	PSUs
Positive	HPCL, ONGC, IOCL, BPCL, GAIL*
Negative	None

*1% level of significance.

Return on Capital Employed (PAT/Capital Employed)

Return on assets ratio computed on the basis of profit after depreciation, interest and taxes/capital employed is computed for pre and post disinvestment period [Annexure 1.6(a) & (b)]. The comparative performance of the selected public sector units on the basis of return on capital employed for pre and post disinvestments period is reported in Table 8

Table 8 reveals the impact of disinvestment on return on capital employed of selected units. The analysis of mean value of the ratio during the pre and post

TABLE: 8

Return on Capital Employed Ratio {(PAT/ CAPITAL EMPLOYED)*100}

Enterprise	Mean (Post-disinvestment)	Mean (Pre-disinvestment)	Mean Difference	T-value	Degree of Freedom	Sig. Level (2-tailed)
HPCL	18.242504	16.5804	1.6633	.904	8	.392
ONGC	17.012883	15.198312	1.8156	.419	8	.686
IOCL	15.10689	24.562337	-9.4544	-2.158	8	.063
BPCL	18.669935	19.09044	-.42051	-.102	8	.921
GAIL	32.36849	5.4101609	26.9545	2.673	8	.028

Source: Compiled from various issues of Public Enterprises Survey

TABLE: 9

Dividend Payout Ratio {(DIVIDEND/PAT)*100}

Enterprise	Mean (Post-disinvestment)	Mean (Pre-disinvestment)	Mean Difference	T-value	Degree of Freedom	Sig. Level (2-tailed)
HPCL	0.2849698	0.09766	.1872	4.947	8	.001
ONGC	0.2663418	0.052385	.2139	5.529	8	.001
IOCL	0.2350818	0.0564639	.1786	6.225	8	.000
BPCL	0.2678374	0.0922757	.1755	5.259	8	.001
GAIL	0.2747789	0.0408199	.2332	15.333	7	.000

Source: Compiled from various issues of Public Enterprises Survey.

disinvestment period indicates that the performance of HPCL, ONGC and GAIL has improved during the post disinvestment period while IOCL and BPCL performed better during their pre disinvestment period. The extent of improvement in respect of GAIL is statistically significant at 5% level of significance. So, the null hypothesis in respect of GAIL is rejected.

Impact of Disinvestments on Performance {(PAT/ CAPITAL EMPLOYED)*100}

Impact	PSU's
Positive	HPCL, ONGC, GAIL**
Negative	IOCL, BPCL

* 1% level of significance, ** 5% level of significance

The market value of shares depends upon profitability and dividend payouts. The consolidated impact of disinvestments has been studied with the help of payout ratio and a consolidated statement showing the impact on the ratio during pre and disinvestments period.

Dividend Payout Ratio (PAT/DIVIDEND)

Dividend payout ratio on the basis of profits after tax divided by the amount of dividend has been computed (Annexure 1.7(a) & (b)). The comparative position of dividend payout ratio for pre and post disinvestments period is reported in Table 9.

Table 9 reveals the impact of disinvestments on dividend payout ratio of selected units. The mean value of dividend payout ratio during post disinvestment period is higher as compared to the mean value of the dividend payout ratio during the pre disinvestment period in respect of all the selected public sector units. Calculated T-values show that the difference in dividend payout ratio has been statistically significant at 1% level of significance in respect of all the selected public sector units. So, the null hypothesis is rejected that there is no significant difference in the dividend payout ratio of these units. Lastly, it can be said that the dividend payout ratio has improved in all selected public enterprises during the post disinvestments period.

Impact of Disinvestments on Performance {(DIVIDEND/PAT)*100}

Impact	PSUs
Positive	ONGC*, IOCL*,BPCL*, GAIL,* HPCL*
Negative	—

* 1% Level of significance, ** 5% Level of significance

Consolidated Impact of Disinvestment

The consolidated impact of the disinvestment process on the performance of selected public sector enterprises measured with the help of different ratios for pre and post disinvestment period has been presented Table 10.

The analyses of performance with the help of selected ratios indicate that the performance of ONGC has improved during the post disinvestment period as all the ratios indicate positive change in the performance. The performance of GAIL has also been favourably affected during the post disinvestment

TABLE: 10

Consolidated Summary of Impact of Disinvestments on Performance Ratios of Selected Units

Ratio	HPCL (48.94)	ONGC (16.6)	IOCL (17.85)	BPCL (33.80)	GAIL (32.60)
PBDIT/SALES	-	+*	-	-	-
PBDIT/ASSETS	-**	+**	+	-	+*
PBDIT/CAPITAL EMPLOYED	-	+	-**	-**	+
PAT/SALES	+	+	-	+	+
PAT/ASSETS	+	+	+	+	+
PAT/CAPITAL EMPLOYED	+	+	-	-	+**
DIVIDEND PAYOUT	+	+	+	+	+

Source: Compiled from data in various issues of Public Enterprises Survey.
Note: Figures in parenthesis indicate the percentage of disinvestment in respect of selected public sector enterprise.
* 1% Level of significance, ** 5% Level of significance

period. Six out of the seven ratios have improved during the post disinvestment period. So, the null hypothesis that there is no significant difference in the performance during the pre and post disinvestment period is out rightly rejected in respect of ONGC and GAIL. The performance of HPCL, IOCL and BPCL shows mixed result. Some ratios have improved during the post disinvestment period and some of the ratios indicate better performance during the pre disinvestment period.

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Annexure I.1 (a)

Pre Disinvestments Period Return on Sales Ratio {(PBDIT/SALE)*100}

Enterprise	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	Mean	SD	C.V
HPCL	8.17	7.78	6.55	6.72	5.77	5.37	7.25	8.29	8.30	7.13	1.10	15.42
ONGC	51.39	50.79	45.65	43.31	38.55	42.27	36.51	43.77	46.80	44.34	4.99	11.26
IOCL	7.43	5.98	6.77	8.23	9.24	9.18	6.36	7.05	7.84	7.56	1.16	15.37
BPCL	7.53	4.70	5.76	6.12	6.61	7.08	7.90	8.11	10.04	7.09	1.55	21.87
GAIL	NA	48.96	32.62	32.31	33.34	35.55	18.77	19.84	19.49	30.11	10.37	34.45

Annexure 1.1(b)

Post Disinvestments Period Return on Sales Ratio {(PBDIT/SALE)*100}

Enterprise	1995-96	1996-97	1997-98	1998-99	1999-2K	2000-01	2001-02	2002-03	2003-04	Mean	SD	C.V
HPCL	9.21	9.54	9.75	7.54	5.10	4.41	4.59	5.79	6.46	6.93	2.15	31.04
ONGC	52.54	52.49	51.67	50.77	53.66	59.24	70.41	57.23	59.08	56.35	6.16	10.94
IOCL	6.46	6.56	6.91	7.85	6.34	5.16	6.55	8.76	9.03	7.07	1.25	17.63
BPCL	7.37	9.26	10.26	7.21	5.21	4.43	5.31	5.61	6.18	6.76	1.96	29.00
GAIL	18.40	24.77	29.69	25.08	20.04	23.18	24.93	28.47	29.11	24.85	3.91	15.73

Source: Compiled from various issues of Public Enterprises Survey.

Annexure 1.2(a)

Pre Disinvestments Period Return on Assets Ratio {(PBDIT/ASSETS)*100}

Enterprise	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	Mean	SD	C.V
HPCL	17.89	21.64	22.06	22.44	17.27	15.72	20.47	20.51	22.18	20.02	2.46	12.26
ONGC	24.86	23.04	19.56	17.88	15.80	14.61	14.10	15.27	17.75	18.10	3.77	20.85
IOCL	22.62	16.70	15.50	12.81	12.68	13.56	9.63	9.70	12.40	13.95	3.99	28.59
BPCL	18.80	17.83	20.55	18.37	19.56	20.83	15.65	18.20	20.38	18.91	1.64	8.69
GAIL	NA	1.47	6.75	11.72	14.47	17.39	19.33	20.16	18.37	12.18	7.73	63.44

Annexure: 1.2(b)

Post Disinvestments Period Return on Assets Ratio {(PBDIT/ASSETS)*100}

Enterprise	1995-96	1996-97	1997-98	1998-99	1999-2K	2000-01	2001-02	2002-03	2003-04	Mean	SD	C.V
HPCL	22.85	18.58	17.87	19.58	13.12	14.29	13.58	18.07	19.63	17.51	3.24	18.50
ONGC	21.38	20.82	21.82	20.18	27.61	34.86	36.40	39.35	30.35	28.09	7.47	26.61
IOCL	12.30	11.47	12.60	15.61	13.89	11.23	14.01	21.36	20.60	14.79	3.77	25.50
BPCL	19.37	18.02	19.54	20.50	16.63	15.61	15.67	16.22	18.58	17.79	1.82	10.26
GAIL	17.03	18.65	23.54	19.12	16.58	21.88	22.74	27.25	26.12	21.43	3.84	17.93

Source: Compiled from various issues of Public Enterprises Survey

Annexure 1.3(a)

Pre Disinvestments Period Return on Capital Employed {(PBDIT/Capital Employed) *100}

Enterprise	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	Mean	SD	CV
HPCL	33.81	38.97	47.43	45.15	40.75	37.81	44.77	39.15	42.31	41.13	4.24	10.31
ONGC	52.24	50.28	41.87	39.47	33.40	27.35	27.72	27.39	41.16	37.88	9.58	25.28
IOCL	75.89	63.45	69.15	56.31	51.28	71.78	24.60	23.96	40.75	53.02	19.56	36.89
BPCL	52.28	48.48	44.27	45.72	48.44	47.61	51.85	48.85	60.25	49.75	4.69	9.43
GAIL	NA	2.29	11.19	17.60	19.89	26.37	31.55	36.81	40.53	20.69	14.45	69.84

Annexure: 1.3 (b)

Post Disinvestments Period Return on Capital Employed {(PBDIT/Capital Employed)*100}

Enterprise	1995-96	1996-97	1997-98	1998-99	1999-2K	2000-01	2001-02	2002-03	2003-04	Mean	SD	CV
HPCL	43.64	33.57	46.85	48.35	22.68	23.87	26.11	44.29	43.60	37.00	10.46	28.27
ONGC	48.14	50.68	30.05	27.19	35.28	44.42	50.75	67.35	47.10	44.55	12.31	27.64
IOCL	31.61	24.10	35.77	40.41	26.98	20.59	33.36	38.58	42.50	32.66	7.54	23.09
BPCL	49.79	35.97	48.65	44.65	34.42	32.54	36.68	50.28	55.24	43.14	8.33	19.32
GAIL	101.40	134.27	69.35	33.75	29.86	33.80	39.67	41.17	39.19	58.05	36.69	63.20

Source: Compiled from various issues of Public Enterprises Survey

Annexure: 1.4(a)

Pre Disinvestments Period Return on Sale Ratio {(PAT/SALE)*100}

Enterprise	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	Mean	SD	CV
HPCL	1.83	2.79	3.31	3.31	1.91	1.89	2.91	3.70	3.76	2.82	0.78	27.65
ONGC	26.41	24.71	23.03	19.98	10.93	5.02	8.13	20.53	16.38	17.24	7.62	44.22
IOCL	3.82	2.85	3.39	3.85	3.73	3.79	2.78	3.25	3.58	3.45	0.41	11.96
BPCL	2.41	1.88	2.40	2.49	2.42	2.61	2.84	3.23	3.85	2.68	0.57	21.27
GAIL	NA	-181.37	-16.16	3.83	2.84	8.53	7.30	9.91	10.55	-19.32	66.04	-341.65

Annexure: 1.4(b)

Post Disinvestments Period Return on Sale Ratio {(PAT/SALE)*100}

Enterprise	1995-96	1996-97	1997-98	1998-99	1999-2K	2000-01	2001-02	2002-03	2003-04	Mean	SD	CV
HPCL	4.33	4.39	4.88	3.77	3.13	2.24	1.77	2.84	3.38	3.41	1.03	30.26
ONGC	14.85	15.37	17.59	18.41	18.06	22.12	26.68	30.31	26.64	21.11	5.57	26.39
IOCL	2.85	2.54	2.86	3.48	2.60	2.40	2.51	4.95	5.27	3.27	1.09	33.35
BPCL	2.83	3.86	4.41	3.27	2.10	1.79	2.13	2.58	3.17	2.90	0.86	29.77
GAIL	11.70	13.64	17.80	15.95	10.23	11.20	11.22	13.94	15.06	13.42	2.54	18.92

Source: Compiled from various issues of Public Enterprises Survey.

Annexure: 1.5 (a)

Pre Disinvestments Period Return on Assets Ratio {(PAT/ASSETS)*100}

Enterprise	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	Mean	SD	C.V
HPCL	4.01	7.77	11.14	11.06	5.72	5.54	8.22	9.17	10.04	8.07	2.55	31.57
ONGC	12.78	11.21	9.87	8.25	4.48	1.74	3.14	7.16	6.21	7.20	3.71	51.50
IOCL	11.64	7.96	7.75	6.00	5.13	5.60	4.21	4.48	5.65	6.49	2.32	35.74
BPCL	6.02	7.13	8.56	7.48	7.15	7.67	5.62	7.25	7.82	7.19	0.90	12.47
GAIL	NA	-5.46	-3.34	1.39	1.23	4.17	7.51	10.07	9.94	2.84	5.55	195.62

Annexure: 1.5(b)

Post Disinvestments Period Return on Assets Ratio {(PAT/ASSETS)*100}

Enterprise	1995-96	1996-97	1997-98	1998-99	1999-2K	2000-01	2001-02	2002-03	2003-04	Mean	SD	C.V
HPCL	10.75	8.54	8.93	9.79	8.03	7.27	5.25	8.86	10.26	8.63	1.67	19.33
ONGC	6.04	6.10	7.43	7.32	9.29	13.01	13.79	20.84	13.68	10.83	4.92	45.39
IOCL	5.42	4.44	5.21	6.93	5.69	5.22	5.37	12.06	12.02	6.93	2.97	42.86
BPCL	7.47	7.51	8.39	9.30	6.72	6.30	6.30	7.45	9.54	7.66	1.20	15.60
GAIL	10.83	10.27	14.11	12.16	8.47	10.57	10.23	13.35	13.51	11.50	1.88	16.38

Source: Compiled from various issues of Public Enterprises Survey

Annexure: 1.6 (a)

Pre Disinvestments Period Return on Capital Employed Ratio {(PAT/ Capital Employed)*100}

Enterprise	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	Mean	SD	C.V
HPCL	7.58	13.99	23.95	22.26	13.50	13.32	17.98	17.50	19.15	16.58	5.05	30.45
ONGC	26.85	24.46	21.13	18.21	9.46	3.25	6.17	12.84	14.41	15.20	8.13	53.50
IOCL	39.05	30.24	34.59	26.37	20.73	29.66	10.77	11.06	18.58	24.56	9.97	40.59
BPCL	16.75	19.38	18.45	18.62	17.72	17.52	18.62	19.47	23.11	18.85	1.82	9.65
GAIL	NA	-8.47	-5.54	2.09	1.70	6.33	12.27	18.39	21.94	5.41	10.35	191.21

Annexure: 1.6 (b)

Post Disinvestments Period Return on Capital Employed Ratio {(PAT/ Capital Employed)*100}

Enterprise	1995-96	1996-97	1997-98	1998-99	1999-2K	2000-01	2001-02	2002-03	2003-04	Mean	SD	C.V
HPCL	20.53	15.44	23.43	24.17	13.88	12.14	10.10	21.71	22.80	18.24	5.37	29.42
ONGC	13.61	14.83	10.23	9.86	11.87	16.58	19.23	35.67	21.24	17.01	7.99	46.97
IOCL	13.93	9.33	14.79	17.93	11.05	9.57	12.79	21.78	24.79	15.11	5.40	35.77
BPCL	19.09	15.00	20.89	20.25	13.90	13.13	14.74	23.11	28.35	18.72	5.04	26.94
GAIL	64.47	73.95	41.58	21.46	15.25	16.33	17.84	20.16	20.28	32.37	22.42	69.25

Source: Compiled from various issues of Public Enterprises Survey

ANNEXURE: 1.7(a)

Pre Disinvestments Period dividend Payout Ratio (DIVIDEND/PAT)

	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	1992-93	1993-94	1994-95	Mean	SD	C.V
HPCL	0.133	0.063	0.051	0.064	0.106	0.148	0.112	0.104	0.098	0.10	0.03	33.50
ONGC	0.024	0.027	0.032	0.034	0.059	0.151	0.078	0.031	0.036	0.05	0.04	78.19
IOCL	0.041	0.054	0.048	0.037	0.037	0.052	0.073	0.064	0.103	0.06	0.02	37.40
BPCL	0.065	0.073	0.053	0.082	0.078	0.101	0.097	0.076	0.169	0.09	0.03	38.26
GAIL	NA	NA	NA	0.000	0.000	0.000	0.095	0.094	0.138	0.04	0.06	141.91

ANNEXURE: 1.7(b)

Post Disinvestments Period Dividend Payout Ratio (DIVIDEND/PAT)

	1995-96	1996-97	1997-98	1998-99	1999-2K	2000-01	2001-02	2002-03	2003-04	Mean	SD	C.V
HPCL	0.138	0.150	0.155	0.276	0.269	0.312	0.431	0.441	0.392	0.285	0.120	42.065
ONGC	0.104	0.154	0.133	0.285	0.255	0.300	0.322	0.449	0.395	0.266	0.118	44.309
IOCL	0.125	0.121	0.114	0.229	0.239	0.272	0.297	0.369	0.350	0.235	0.098	41.554
BPCL	0.092	0.134	0.144	0.266	0.267	0.274	0.388	0.360	0.310	0.248	0.103	41.657
GAIL	0.164	0.225	0.166	0.279	0.295	0.300	0.321	0.361	0.362	0.275	0.075	27.255

Source: Compiled from various issues of Public Enterprises Survey.

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Impact of Holding Period on Risk And Return: A Study of Indian Stock Market

Dr Deepa Mangala*, Neeru Gupta**

A number of studies have been done on the risk-return relationship of Indian stock market but they are based on the fundamentals of the company and macroeconomic factors of the economy. Only a few studies have been done on the risk-return relationship across various holding periods of the securities. The present research work has been done to provide an insight to the investors regarding the relation between holding period and the risk and return of the securities. This paper has analysed whether the general wisdom of getting best result with 'Buy and Hold' strategy over the longer holding period vis-à-vis shorter holding period in security market is true or not.

Introduction

Whenever investors make a financial plan their ultimate aim is to maximize return and minimize risk. They have a number of alternatives available in the stock market to form their portfolio. One of the important decisions while forming portfolio is to decide about the investment horizon. The investment horizon means the time period for which an investor holds the securities. The present study tries to examine the impact of holding period on the risk and return of the securities.

People have many motives for investing. Some people invest in order to gain a sense of power or prestige. Often the control of corporate empires is a driving motive. For most investors, however, their interest in investment is largely pecuniary- to earn a return on their money and to avoid risk. Therefore an investor has to make an empirical evaluation before adopting any investment strategy.

The risk-return relationship is characterized in general as "positive" or "direct". This means that if higher level of risk is associated with a particular investment then greater returns are required as compensation for that higher expected risk. Alternatively, if an investment has relatively lower levels of expected risk then investors are satisfied with relatively lower returns.

Objectives of the study:

- To analyze the trend in mean daily returns over short and long holding periods.
- To analyze the trend in risk as measured by standard deviation of daily returns over short and long holding periods.
- To find pattern, if any, based on various holding periods and to suggest a suitable trading strategy accordingly.

Review of Literature

A number of studies have been conducted to analyze the risk-return relationship of securities. Merton (1973) suggested that there is equilibrium relationship between market risk premium and risk in the context of a time varying economy. Campbell (1993) analytically derived the similar linear relationship between conditional return and variance. Siegel (1998) found that the stocks in the long run offered higher returns and lower risk to the investors and suggested that the stocks should be the cornerstones of every investor's long-term portfolio. Harvey (2001) found that risk-return relationship is sensitive to the specification of different models used by different econometricians to detect the risk-return relationship. Tang and Shum (2006) found the risk-return relationships in the Hong Kong stock market using a conditional model based on ups and downs of the market. Beta is found significantly and positively (negatively) related to realize returns. The same results are found for unsystematic risk, total risk and kurtosis of stock returns during ups and downs market. Lundblad (2006) empirically found the statistically insignificant relationship between the market risk premium and

*Faculty, Haryana School of Business, G J University of Science and Technology, Hisar.
**Faculty, Kedarnath Aggarwal Institute of Management, Charkhi Dadari.

its expected volatility in his study 'The Risk Return Tradeoff in the Long-Run: 1836-2003'. Misra and Misra (2007) analyzed the risk and returns of different sectors of the Indian economy using both the market and accounting based information. The results based on market information show that Fast Moving Consumer Goods (FMCG), Healthcare and Oil and Gas sectors are the most defensive sectors of the indian economy, whereas, Metal and Information Technology (IT) sectors are the most aggressive sectors of the Indian economy. Salman (2007) analyzed risk-return-volume relationship in an emerging stock market using the generalized autoregressive conditional heteroscedasticity-in-mean (GARCH-M) model and revealed that daily return volatility is time varying and highly persistent, and return is positively associated with risk.

Research Methodology

This paper is based on analytical research as it presents analysis of data collected through various sources. Judgmental sampling technique has been used. Two major Indian stock markets i.e. Bombay Stock Exchange Sensitive Index (Sensex) and S&P CNX Nifty (Nifty) have been chosen as sample. The data has been collected through various secondary sources like websites, magazines and journals. The data for Sensex has been taken for the period commencing from 1 July 1997 to 19 March 2008 and data for S&P CNX NIFTY has been taken for the period commencing from 3 July 1990 to 19 March 2008. The difference in the time period is due to unavailability of the data. The total time period has been divided into long and short holding periods. Short holding period ranges from one trading day (TDR1) to 5 trading days (TDR5), 10 trading days (TDR10), 25 trading days (TDR25), 50 trading days (TDR50) and finally 75 trading days (TDR1), while long holding periods range from 100 trading days (TDR100) to 250 trading days (TDR250), 500 trading days (TDR500), 750 trading days (TDR750), 1000 trading days (TDR1000), 2500 trading days (TDR2500) and finally to 3500 trading days (TDR3500). In case of Sensex the longest holding period is 1500 trading days (TDR1500) as the data is available for shorter time period.

Daily return on the index for a given day of the week has been calculated by subtracting the closing price on the previous trading day from the closing price on that day, then dividing the resulting number by the closing price as on the previous trading day. Daily return has been computed as follows:

$$R_t = \frac{P_t - P_t\text{-}1}{P_t\text{-}1}$$

Where, R_t is daily return on the share price index for the day 't', P_t is the closing value of the index for day 't' and P_t-1 is the closing value of the index for the preceding day. . In order to examine the variation in mean returns across holding periods the following null hypothesis has been tested against the alternative hypothesis:

H0 (Null Hypothesis) = Mean return across various holding periods do not exhibit statistically significant difference.

H1 (Alternate Hypothesis) = Mean return across various holding period exhibit statistically significant difference.

Growth rate of mean daily returns from one sub-period to another has been computed as follows:

$$GR_{sp1 \text{ to } sp2} = \frac{MDR_{sp2} - MDR_{sp1}}{MDR_{sp1}} \times 100$$

Where, GRsp1 to sp2 is growth rate of mean daily return from one sub-period to another, MDRsp2 is the mean daily return of subsequent sub-period and MDRsp1 is the mean daily return of preceding sub-period.

Statistical measure like mean, standard deviation (S.D.) and coefficient of variation (C.V.) have been applied to study the distribution pattern of stock return across various holding periods. Skewness and Kurtosis has been used to measure the normality and the peakedness of the curve. To test whether mean returns across various holding periods exhibit any statistically significant difference or not a non-parametric Kruskall-Wallis (H) test has been applied.

Analysis and Interpretation

a) Interpretation of Statistics of S&P CNX Nifty

Table-1 represents summary statistics of S&P CNX Nifty for shorter holding periods. The average return for one trading day is approx. 0.00082 while for 75 trading days it is 0.06411 which is near about 77 times of the former. Earlier stated risk-return

Table-1

Statistical Summary of daily returns of S&P CNX Nifty for various shorter holding periods

	TDR1	TDR5	TDR10	TDR25	TDR50	TDR75
AVERAGE	0.00082	0.00335	0.00762	0.02105	0.04250	0.06411
S.D.	0.01768	0.03774	0.05774	0.10303	0.15297	0.18574
MEDIAN	0.00102	0.00438	0.00883	0.02102	0.03809	0.05056
SKEWNESS	0.01465	0.18024	0.35356	0.79955	1.36442	1.21324
KURTOSIS	5.45442	4.00872	3.16360	4.15792	6.65801	4.31105
COUNT	4222	4219	4214	4199	4174	4149
C.V.	21.58897	11.27867	7.58134	4.89486	3.59901	2.89712
Kruskall-Wallis(H) Value 540*						

* Significant at 1% level

relationship as positive and direct stands true here as risk is also increasing with the investment horizon. The risk percentage for the one trading day is 0.01768 while the same is 0.18574 for 75 trading days holding-period (near about 10.5 times of the earlier). But if look at Coefficient of variation (C.V.) i.e. risk per unit of return, we find that it is decreasing (21 times for TDR to 7.5 times for 10 TDR and then to 2.89 times for 75 TDR). The median of returns approaches to mean return with the increase in holding period. The median for 5 trading days time period is 0.00438 which got increased to 0.03809 for 50 trading days holding period and then again to 0.05056 for 75-trading days time period.

Table-2 represents summary statistics of S&P CNX Nifty for longer holding periods.. The average return for 100 trading days is 0.08801 while the for 1000 trading days period is approx. 0.73622. The mean return for 3500 trading days holding period is near about 4.8717 i.e. 55 times of the returns of 100 trading days holding period. The results clearly indicates that longer the holding period larger the risk as well as the return. So, the investor's general wisdom of 'buy and hold strategy' stands true here. The value of S.D.(Risk) for 100 trading days time period is 0.21869, while the same for largest holding period i.e. 3500 trading days period is 1.2017 but the C.V. (risk per unit of return) for 100 trading days time period is 2.48494 while for 3500 trading days holding period is merely 0.24668. The investor need to bear comparatively less risk to get a single unit of return over longer time-period. It is indeed a good sign for investor. There is a clear evidence of decreasing risk per unit of return across various holding period. Like the shorter holding periods, for longer holding periods also the median value approaches to mean return as the investment horizon increase. It shows the less volatility over longer investment horizon The median for smallest holding period (i.e. 100 trading days) is 0.06513 and for the largest holding period, it is 5.01675; near about 77 times of the former.

From Table-1 and Table-2 it is clear that returns are positively skewed for both longer and shorter holding periods except in case of 3500 trading days holding period, where, the return is negatively skewed. The values of kurtosis upto 250 TDR is greater than 3, which indicate that the returns are concentrated toward mean and less scattered. But for more than 250 TDR kurtosis value is less than 3, which indicates more scatteredness of return.

Table-2

Statistical summary of daily returns of S&P CNX Nifty for various longer holding periods

	TDR100	TDR250	TDR500	TDR750	TDR 1000	TDR 2500	TDR 3500
AVERAGE	0.08801	0.22518	0.39585	0.61199	0.73622	1.60287	4.87176
S.D.	0.21869	0.39856	0.48419	0.79477	0.92183	1.18907	1.20175
MEDIAN	0.06513	0.14564	0.38773	0.32641	0.36591	1.38656	5.01675
SKEWNESS	1.07069	1.54122	0.27709	1.04686	1.08647	0.85845	-0.29066
KURTOSIS	3.10737	5.29017	-0.96976	0.29211	0.03628	0.28118	-0.62281
COUNT	4124	3974	3724	3474	3224	1724	724
C.V,	2.48494	1.77001	1.22318	1.29867	1.25211	0.74184	0.24668
Kruskall-Wallis(H) Value 5465*							

* Significant at 1% level

To test whether the difference in the mean return across various small and large holding period are statistically significant, Kruskall -Wallis (H) test has been used. For shorter holding period the table value of 'H' is less than its computed value at 1% significance level with 5 degree of freedom and for longer period also table value of 'H' is less than its computed value at 1% significance level with 7 degree of freedom. So the null hypothesis is rejected. There is significant difference in mean return of various holding periods.

Growth Rate Pattern

Further growth rate pattern of returns, risk and risk per unit of return has been analyzed. Table 3 gives the growth rate (in percentage) of risk, return and risk per unit of return for shorter holding periods. The growth rate of average return of 5 trading day holding period (over its last holding period) is decreasing from 308.578 to 50.833 for 75 trading day holding period, side by side the growth rate of risk is also decreasing from 113.45 for TDR5 to 21.417 for TDR75. But growth rate of risk per unit of return (C.V.) is increasing as the holding period increases. Table 4 gives the growth rates (in percentage) of risk, return and risk per unit of return for longer holding periods. Growth rate of average return is decreasing upto 1000 trading days holding periods but after that it is increasing for TDR2500 and TDR3500. Growth rate of risk is showing large variation for various longer holding periods. Growth rate of C.V. is also fluctuating across various longer holding periods.

b) Interpretation of descriptive statistics of BSE Sensex

Table-5 represents summary statistics of BSE Sensex for shorter holding periods. The average return for 75 trading days holding period (0.05551) is higher than 1 trading day holding period (0.0006), approx. 91 times of the later. Risk, which is measured by S.D., is also increasing with the investment horizon. S.D. for one trading day holding period is 0.01634 and is increasing to 0.15668 for 75 trading days holding period (approx.10 times of the earlier). But the risk per unit of return is decreasing from 27 times for TDR1 to 2.82 times for TDR75.

Table-6 represents statistical summary of data of BSE Sensex for longer holding periods varying from 100 trading days to 1500 trading days. The average return for 100 trading days holding period is 0.07688 while for the 1500 trading holding period the average return is approx. 1.63282, i.e. 21 times of the earlier.

Table-3

Statistical summary of growth rate of return, risk and C.V. of daily returns of S&P CNX Nifty for various shorter holding periods

	FROM TDR1 TO TDR5	FROM TDR5 TO TDR10	FROM TDR10 TO TDR25	FROM TDR25 TO TDR50	FROM TDR50 TO TDR75
AVERAGE (%)	308.578	127.617	176.371	101.925	50.833
S.D. (%)	113.453	53.001	78.438	48.468	21.417
C.V. (%)	-47.757	-32.782	-35.435	-26.474	-19.502

Table-4

Statistical summary of growth rate of return, risk and C.V. of daily returns of S&P CNX Nifty for various longer holding periods

	FROM TDR100 TO TDR250	FROM TDR250 TO TDR500	FROM TDR500 TO TDR750	FROM TDR750 TO TDR1000	FROM TDR1000 TO TDR2500	FROM TDR2500 TO TDR3500
AVERAGE (%)	155.863	75.796	54.602	20.299	117.718	203.939
S.D. (%)	82.250	21.485	64.143	15.986	28.991	1.066
C.V. (%)	-28.770	-30.894	6.172	-3.585	-40.753	-66.748

Risk is also increasing from 0.18481 for TDR100 to 1.43151 for TDR1500, approx. 8 times of the former. Risk per unit of return (C.V) for 100 trading day is 2.4 times, and for 1500 trading days holding period it decreased to 0.87 times. Just like mean return pattern of various holding periods, median value of return is also increasing with the increase in investment horizon. The median value of return is approaching to mean return as the size of holding period increases (table-5 and table-6). It indicates the less volatility of return for longer holding periods .Skewness value in Table-5 and Table-6 shows that distribution pattern of return is either positively or negatively skewed for all shorter and longer holding periods The values of kurtosis for most of the holding periods are less than 3. It means the returns are not concentrating toward mean value

To test whether the difference in the mean return across various holding periods is statistically significant the Kruskall -Wallis (H) test has been used. The table value is less than computed value of 'H' at 1% significance level with 6 degree of freedom for shorter holding period and also for longer holding period the table value is less than computed value of 'H' at 1% significance level with 5 degree of freedom. The null hypothesis is rejected. There is significant difference in mean return across various holding periods.

Growth Rate Pattern

The growth rate pattern of risk and average return of BSE Sensex for shorter and longer holding periods is presented in Table-7 and Table-8. The growth rate pattern of average return for various holding periods of BSE Sensex is similar to that of S&P CNX Nifty. The growth rate for mean returns is declining over the long run. It is coming down from 307.1935 for

Table-5

Statistical summary of daily returns of BSE Sensex for various shorter holding periods

	TDR1	TDR5	TDR10	TDR25	TDR50	TDR75
AVERAGE	0.00060	0.00247	0.00566	0.01612	0.03451	0.05551
S.D.	0.01634	0.03385	0.05088	0.08402	0.12194	0.15668
MEDIAN	0.00118	0.00505	0.01089	0.02487	0.04168	0.05441
SKEWNESS	0.23725	-0.29345	-0.32379	-0.37463	-0.04817	0.07286
KURTOSIS	3.21194	1.71663	0.84024	-0.05720	-0.61026	-0.86206
COUNT	2654	2651	2646	2631	2606	2581
C.V.	27.0298	13.72826	8.98933	5.21226	3.53373	2.82270
Kruskall-Wallis (H) Value 3370.20*						

* Significant at 1% level

Table-6

Statistical summary of daily returns of BSE Sensex for various longer holding periods

	TDR 100	TDR 250	TDR 500	TDR 750	TDR 1000	TDR 1500
AVERAGE	0.07688	0.20979	0.48584	0.76574	1.09573	1.63282
S.D.	0.18481	0.32850	0.53543	0.90932	1.29108	1.43151
MEDIAN	0.06035	0.20581	0.54820	0.48941	0.51056	0.98642
SKEWNESS	0.25974	0.12839	-0.17368	0.45462	0.59787	1.25281
KURTOSIS	-0.69584	-1.06179	-1.28849	-1.04938	-1.21054	0.64470
COUNT	2556	2406	2156	1906	1656	1156
C.V.	2.40396	1.56580	1.10208	1.18750	1.17829	0.87671
Kruskall-Wallis(H) Value 390.18*						

* Significant at 1% level

TDR5 to 60.856 for TDR75 and then to 49.018 for TDR1500. Growth rate of risk is also decreasing as the holding period is increasing.

Conclusion

In nutshell, the returns as well as risk are increasing over the long holding period. But the interesting thing is that the risk per unit of return is decreasing over the long run. The growth rate pattern is similar for both the indices i.e. BSE Sensex and S&P CNX Nifty. Also the distribution is highly peaked and positively skewed for longer holding periods. Therefore, it is clear that long-term investment is better from each perspective. In brief, it is better to opt for long-term investment if the investor has extra money to invest and wants to earn more return.

Although, the growth rate pattern dictates that initial holding periods return are increasing at faster pace and then are slowed down for later longer holding periods but this is only one side of picture. The risk growth rate is also coming down side by side. It ultimately leads to comparatively better position and supports the concept of long-term investment. Therefore, the general wisdom of "Buy and Hold

Table-7

Statistical summary of growth rate of return, risk and C.V. of daily returns of BSE Sensex for various shorter holding periods

	FROM TDR1 TO TDR5	FROM TDR5 TO TDR10	FROM TDR10 TO TDR25	FROM TDR25 TO TDR50	FROM TDR50 TO TDR75
AVERAGE (%)	307.935	129.551	184.792	114.061	60.856
S.D. (%)	107.187	50.311	65.130	45.126	28.490
C.V. (%)	-49.211	-34.519	-42.017	-32.203	-20.121

Table-8

Statistical summary of growth rate of return, risk and C.V. of daily returns of BSE Sensex for various longer holding periods

	FROM TDR100 TO TDR250	FROM TDR250 TO TDR500	FROM TDR500 TO TDR750	FROM TDR 750 TO TDR1000	FROM TDR1000 TO TDR1500
AVERAGE (%)	172.893	131.577	57.613	43.094	49.018
S.D. (%)	77.747	62.994	69.829	41.984	10.877
C.V. (%)	-34.866	-29.616	7.751	-0.776	-25.595

strategy" is true as per our study. An investor can invest in the securities and can hold it for longer period to get the better return.

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Financial Performance of Hindustan Zinc Limited in the Pre and Post ERP Period

Dr Anil Kumar Kothari*, Bichanga Walter Okibo**

Enterprises are continuously striving to improve themselves in the areas of quality, time to market, customer satisfaction, performance, profitability and productivity. Tomorrow's winners will be those businesses that can most effectively gather and quickly act upon critical information. Making informed business decisions in this manner would enable organizations to accomplish their business growth and at the same time enable them to utilize the information to competitive advantage.

To make it possible for the companies to execute this vision, there is a need for an infrastructure that will provide information across all functions and locations within the organisation. The Enterprise Resource Planning (ERP) software is the latest high-end solution information technology to fulfill this need.

In this study ERP implementation at Hindustan Zinc Limited was analyzed with the objective to study the ERP systems and implementation at HZL, analyze the financial performance of HZL before and after the implementation of ERP, analyze the growth of HZL after the SAP-ERP software and test if any significant change has been observed.

Introduction

Given the complex dynamics of today's business environment, companies require systems that enable real-time decision-making and help them save costs and time, minimize risk and achieve competitive advantage.

Today, as more and more companies make a beeline for global markets, they will need to look at technology as an enabler. This is why there has been a surge of interest in information management world wide. More and more organizations now recognize that information management is critical to the survival and growth of the business. Today, and in the future, business organizations that succeed will be those that know how to manage knowledge faster than their competitors.

The adaptive enterprise has the smartness to foresee that gearing up for ever-shrinking response times and ever-changing competitive landscape needs more than tweaking its own internal systems. It requires a complete re-orientation in the way the organization's information systems are wired. Corporate are moving towards enterprise-wide applications integrating front and back-office operation and streamlining internal and external supply chains. This makes the concepts and applications such as ERP, CRM and supply chain management very important.

Companies with ERP can integrate their accounting, sales, distribution, manufacturing, planning, purchasing, human resource and other transactions into one application software. This enables organisation transactions to be synchronized throughout the entire system. ERP systems help companies to manage their resources effectively and at the same time, better serve their customers (Roberta Russell S. II and Bernard Taylor W. III, 2005).

As such, enterprise systems will have the same issues as packaged software. An Enterprise Resource Planning (ERP) system is a software infrastructure embedded with "best practices", respectively best ways to do business based on common business practices or academic theory. The aim is to improve the co-operation and interaction between all the organisations' departments such as the products planning, manufacturing, purchasing, marketing and customers service department says (Edward Bernroider W.N. and Michel Leseure J., 2005)

Methodology

Case study method of study has been carried out

*Assistant Professor, Faculty of Management Studies (FMS), Mohan Lal Sukhadia University, Udaipur
**Research Scholar, Faculty of Management Studies (FMS), Mohan Lal Sukhadia University, Udaipur

Data and sources of data

Secondary data were used and were collected from the published annual reports of the Hindustan Zinc Limited. Data about ERP system and SAP software have also been collected from HZL SAP help desk at Chanderiya Lead Zinc Smelter, capitaline.com, walletwatch.com and sap.com.

Framework of analysis

Financial tools such as comparative balance sheet and profit and loss account, common size balance sheet and profit and loss account, trend percentage analysis and Ratio analysis was used. Statistical tools such as descriptive statistics, correlation analysis and growth rate analysis were undertaken and finally on testing, whether there is significant difference between the pre and post ERP periods the student t-test was applied.

Period of study

The study covers a period of six years system, the study period has been divided into two parts, viz. the first period covering the years from 2001 - 2002 to 2003 - 2004 (Pre-ERP period) and the second period covering years from 2004 - 2005 to 2006 - 2007 (Post-ERP period).

SAP - ERP Implementation at Hindustan Zinc Limited

ERP has to provide timely and accurate production-oriented information for long-range planning and day-to-day operational planning and control. It has to provide productivity and enhance the competitive edge by optimizing the use of resources, i.e. men, material, machinery and money. It is a tool in the hands of management to balance demand and supply and to stay competitive (Peri Sastry M. V. S., 1999). ERP helps to integrate information across the company and eliminate complex, expensive links between computer systems that were never meant to talk to each other. (Janardan Jha, 2003).

In November 2003, HZL successfully implemented ERP, SAP R/3, 4.7 version in various modules videlicet; Finance, Accounting, Costing, Material Management, Sales and Distribution, Plant Maintenance, Production Planning and Quality Management at two units viz Ranpura Agucha Mines and Chanderiya Lead Zinc Smelter. It was subsequently successfully rolled out to other units. All the units were connected through VSAT/ leased lines and Local Area Networks. Presently SAP is live at all locations of the company.

Comparative Statements

The nature and trend of the changes affecting the business are easily and clearly discernible by the use of comparative statements. It will be appreciated that the existing position of any business enterprise at a particular sate is not so much important, as its previous history happened to be. The balance sheet prepared at a particular date only adds some more information as a installment to the history of the concerned business enterprise, while analyzing the present financial position of that enterprise and needless to assert that the significance of comparative statements for such study is naturally enhanced.

In this study, the period of study that comprises of six years, has been divided into two segments. That is three year period before the implementation of ERP and three years after the implementation of the SAP-ERP system. Comparative statements have been taken to summarise and present related accounting data for a number of years incorporating therein the changes (absolute or relative or both) in individual items.

Comparative Balance Sheet

In order to find out any increase or decrease in those items, comparative balance sheets have been used for comparing assets and liabilities of two different periods i.e. the period before the implementation of ERP and the period after the implementation of the system.

The comparative balance sheet analysis reveals that the fixed assets have increased by Rs. 1462.87 crores after the implementation of ERP system at Hindustan Zinc Limited. While total shareholders funds have relatively increased by Rs. 3130.24 crores. This fact depicts that fixed assets are purchased from total shareholders funds. The total shareholders funds imply the capital employed and the reserves and surplus.

On the other hand, the investments have increased

Comparative Balance Sheet

	Before ERP (2002 - 2004)	After ERP (2005 - 2007)	Increase or Decrease (Amount)	Increase or Decrease (%)
Sources of Funds				
Total shareholders funds	1247.96	4378.19	3130.24	250.83
Long-term debt (Incl. Net Deferred Tax Liability)	318.30	593.28	274.98	86.39
Current liabilities and provisions	339.94	647.23	307.28	90.39
Total	1906.20	5618.70	3712.50	194.76
Application of Funds				
Fixed assets	748.07	2210.94	1462.87	195.55
Investments	316.66	2232.02	1915.36	260.39
Current assets	841.47	1175.74	334.27	39.72
Total	1906.20	5618.70	3712.50	194.96

Comparative Income Statement

	Before ERP (2002 - 2004)	After ERP (2005 - 2007)	Increase or Decrease (Amount)	Increase or Decrease (%)
Net sales	1495.75	4884.20	3388.45	226.54
Total income	1566.92	5044.92	3478.00	221.96
Total expenditure	1123.73	1714.63	590.90	52.58
Gross profit	448.03	3332.14	2884.11	643.73
Operating profit	383.08	3195.45	2812.36	734.14
Profit before tax	306.07	3203.72	2897.65	946.74
Adjusted net profit	204.90	2189.87	1984.97	968.75

by Rs. 1915.36 crores, relatively the long-term debts have increased by Rs. 274.98 crores, indicating that the company uses total shareholders funds in the area of investment.

Comparative Income Statement

The income statement discloses net profit or net loss on account of operations. A comparative income statement will show the absolute figures for two or more periods, the absolute change from one period to another and, if desired, the change in terms of percentage.

The comparative income statement analyses shows that the net sales, has increased by Rs. 3388.45 crores after the implementation of SAP-ERP. On the other hand, the total expenditure has increased by Rs.

Trend percentage
(Base year is 100 = 2001 - 2002)

Particulars	Pre - ERP	Post - ERP
Total Income	122.63	215.85
Net Sales	121.16	221.80
Gross Profit	262.50	327.99
Stock	80.67	121.31
Net Profit	301.50	334.16
Cost of Goods Sold	100.51	129.51

590.90 crores, there by resulting in an increase of operating profit by Rs. 2812.36 crores. The increasing rate of the net sales to total expenditure is not proportional as indicated by the percentage increase of the two. The percentage increase attained by the net sales is 226.54% compared to the percentage increase in the total expenditure which is 52.58%. This gives a clear indication that the company is attaining or improving its efficiency. The gross profit and profit before tax also have increased by Rs. 2884.11 crores and Rs. 2897.65 crores respectively after the implementation of ERP system.

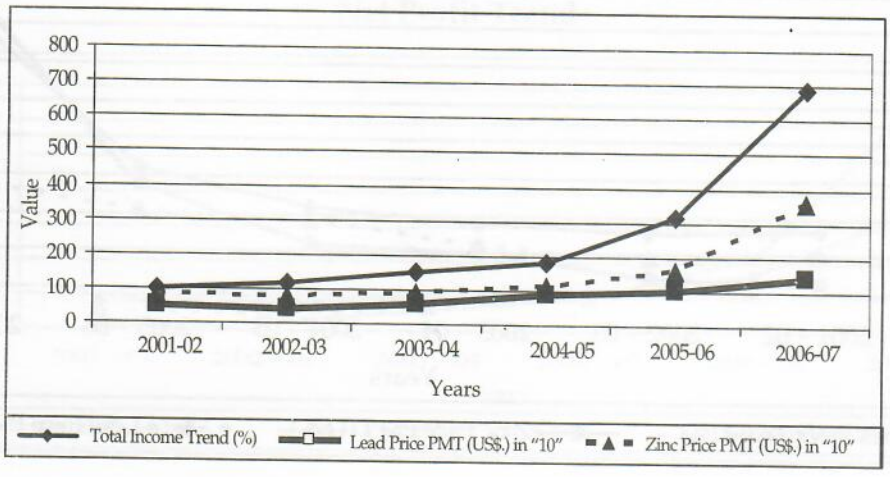
Trend Percentage Analysis

Trend percentages are immensely helpful in making a comparative study of the financial statements for several years. Trend in general term signifies the tendency. In other words, the review and appraisal of tendency in accounting variables are nothing but tendency analysis. Such analysis of business facts is significant from the point of view of forecasting or budgeting. It discloses the changes in the financial and operating data between specific periods and makes possible for the analyst to form an opinion as to whether favourable or unfavourable tendencies are reflected by the accounting data. Thus, trend indicates the movement or fluctuations in various financial factors of the business.

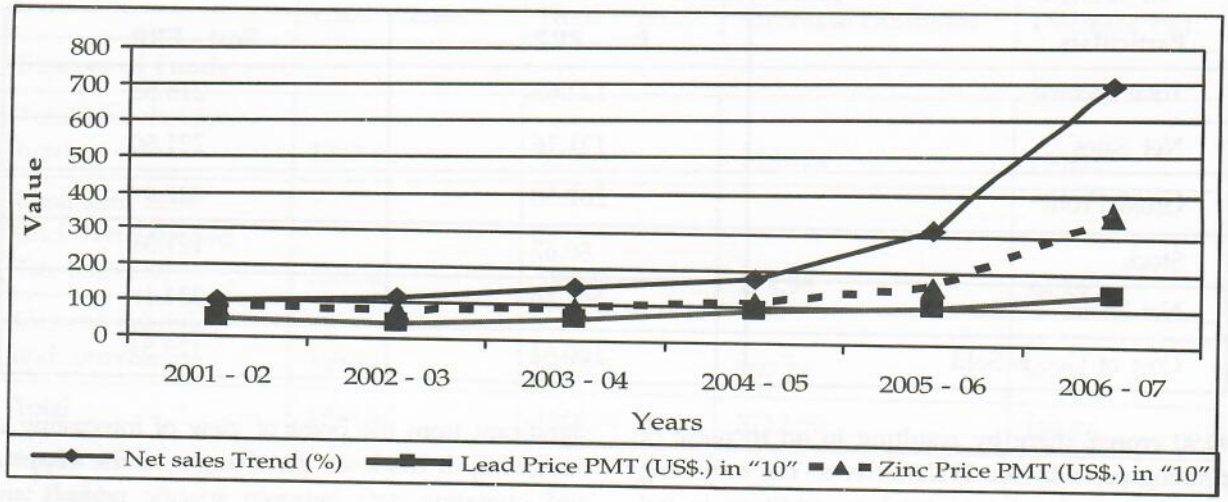
The method of calculating trend percentages involves the calculation of percentage relationship that each item bears the same item in the base year. Each item of the base year is taken as 100 and on that basis the percentage of each of the items of the years is calculated. This percentage can also be taken as index numbers showing relative changes in the financial data resulting with the passage of time.

It is clear from the above table that Total Income, Net Sales, Gross Profit, Stock, Net Profit and Cost of Goods Sold have increasing in post-ERP implementation period.

Total Income Trend



Net Sales Trend

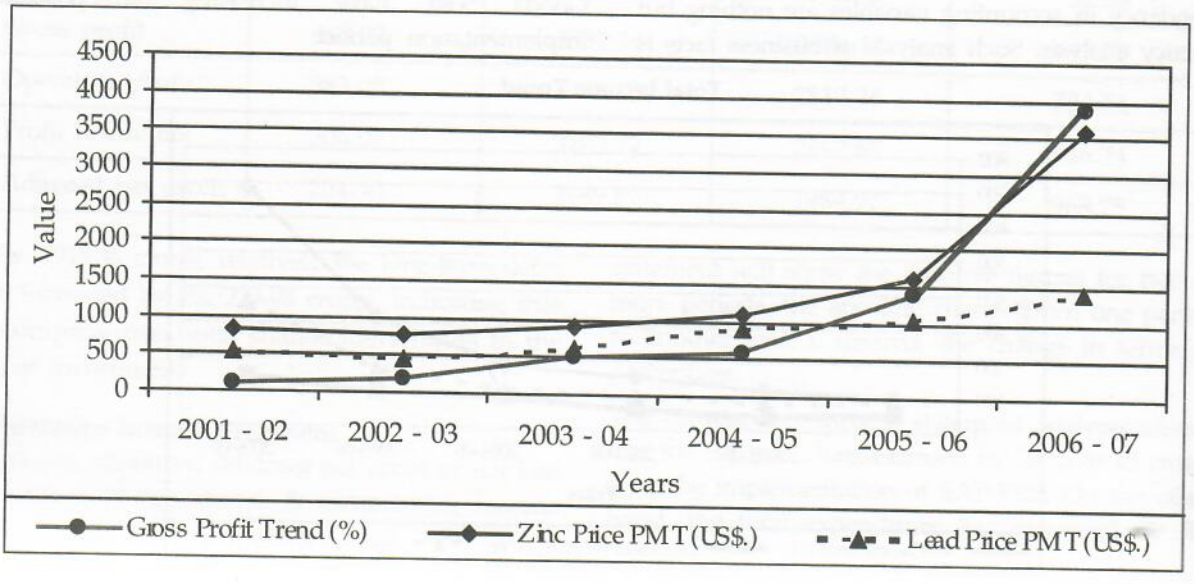


Hindustan Zinc Limited faced a slow growth of the total income in the first two years due to sharp decline of the zinc prices on the LME, and a tremendous growth was observed in the year 2006 - 2007 because there was a significant increase in the LME price of zinc and lead. But despite this price increment, the growth trend of total income is higher compared to the increasing trend of the LME prices. This gives a clear picture that the company has improved its productivity.

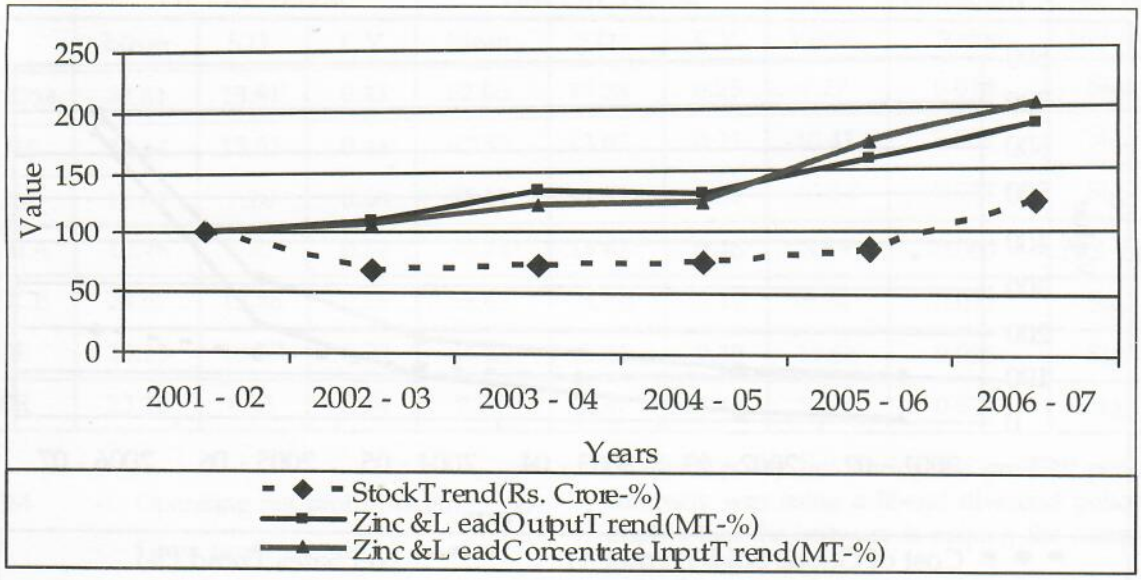
The net sales trend started to increase from the financial year 2003 - 2004 onwards due to high production, high sales volume and realization and cost reduction achieved in the operational and other areas. The line chart above indicates that the LME prices of zinc and lead increased from the year 2003 to 2007 but it also indicates clearly that the rate at which the prices were increasing is not equal to the rate at which the net sales are increasing yearly. The net sales are increasing at a higher late compared to the rate at which the price is increasing showing that the company is deriving the ERP benefits.

There was a great increase of the gross profit trend in the year 2005 - 2006 and 2006 - 2007 and this may be due to the initiatives that had earlier been taken by the company to improve its efficiency and

Gross profit Trend



Stock Trend

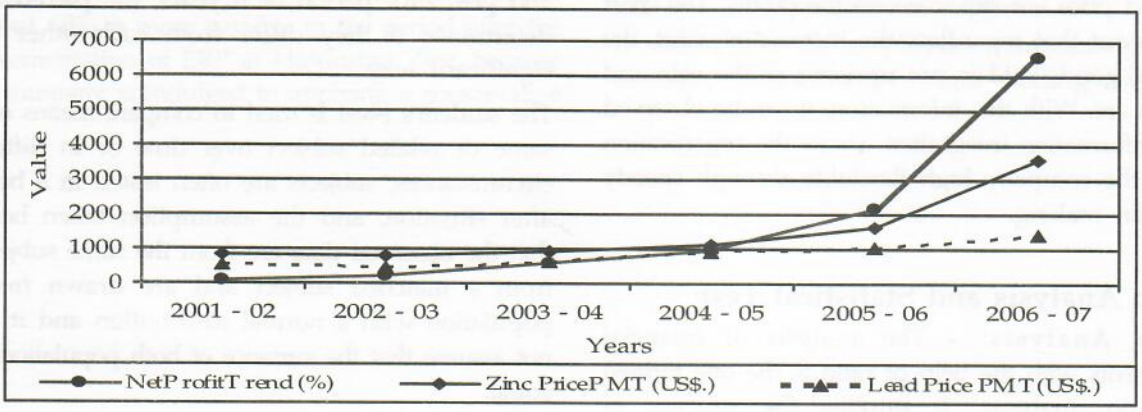


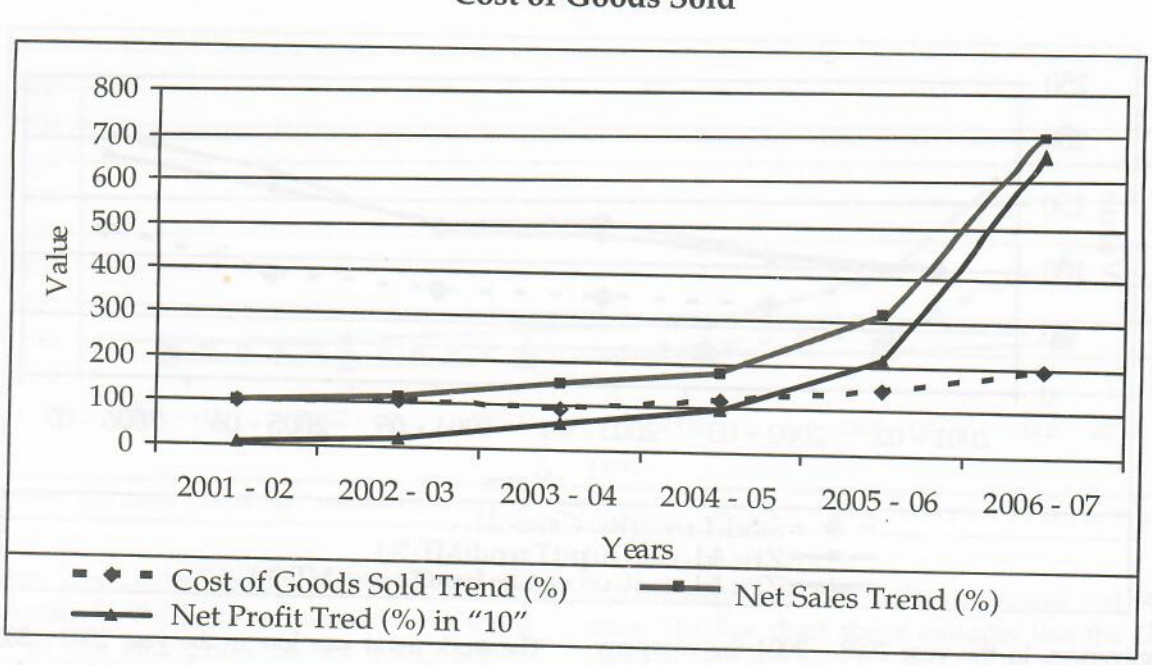
effectiveness. In the year 2003 - 2004 the company kicked off implementation of total productive maintenance (TPM) system in two of its major units viz Chanderiya lead and zinc smelter and Rampura Agucha mine, the company also implemented SAP R/3, 4.7. And in the following year 2004 - 2005 the company launched six sigma initiatives at Chanderiya lead and zinc smelter, Rampura Agucha mine and Debari zinc smelter, the project related to productivity improvement, reduction in consumption levels, recovery efficiency improvement etc. Finally, no matter the fast growth of the zinc LME price more so in the year 2006 - 2007 when it more than doubled, the growth rate of the company's gross profit also went up tremendously, and the gross profit grew at a fast rate compared to the growth of zinc price.

The stock trend was low in the year 2002 - 2003 but then started to go up as years went on, but the growth of stock was due to the growth of the production capacity that also increased as years went by. The table shows that there is an absolute growth of the input concentrates and the output of both zinc and lead in the last two years under the study but despite that there is no much increase of the stock. This indicates that the company is trying to reduce the unnecessary inventory.

Net profit trend shows a tremendous growth in the years after the implementation of ERP. This comes as a result of the usage of the SAP-ERP and six sigma systems leading to the increase of efficiency that enabled the company to reduce its cost of production. Despite the increase of the LME prices,

Net Profit Trend





the net profit of the company is moving up at a faster growth rate compared to the growth of the LME prices. While the zinc LME price doubled in the year 2006 - 2007, the net profit of the company tripled betokening that the company is gaining with the implementation of the system software.

The cost of goods sold trend has grown after the implementation of the system due to the growth of the capacity of production and increase in sales. If the trend of cost of goods sold is compared with the profit gain of the company, the company still stands at a better option as the profit is growing at a very high late compared to the cost of goods sold. One of the major targets of the ERP softwares is to reduce the cost of goods sold that will help it to reduce its product price but still maintain the profits. The chart points out that regardless the increase of sales, the cost of goods sold is not uprising as the sale and profits are. With this information, it can be observed that information integration across the organisation gives the company high flexibility through speedy decision making.

Ratio Analysis and Statistical Test

Ratio Analysis: - The analysis of financial statements with the help of ratio is the one termed as ratio analyses. It implies the process of computing, determining and presenting the relationship of items of financial statements. It also involves the comparison and interpretation of these ratios and their use for future projections. Alexander Wall, who is considered to be the pioneer of ratio-analysis, presented after a serious thinking a detailed system of ratio-analysis in 1909. He explained that the work of interpretation can be made easier by establishing quantitative relationships between the facts given in the financial statements (Gupta S. P., 2002).

Statistical Test: - To compare the period before the implementation and after the implementation of ERP at Hindustan Zinc limited a pared student's t-test has been applied to compare those two pared groups. Given two paired sets i.e. pre ERP period and post ERP period of n years, the paired t-test determines if they differ from each other in a significant way.

The student's t-test is used to compare means of the same or related subject over time or in differing circumstances; subjects are often tested in a before-after situation, and the assumption taken here is that the observed data are from the same subject or from a matched subject and are drawn from a population with a normal distribution and it does not assume that the variance of both populations are equal.

Operating and Expense Ratios (%)

	Pre ERP Period			Post ERP Period			't' - Value	Probability Value	Sig. or Not Sig.
	Mean	S.D.	C.V.	Mean	S.D.	C.V.			
ER&B	15.52	6.96	0.45	5.20	2.74	0.53	3.92	0.059	Not Sig.
A&SE	7.13	1.90	0.27	3.64	0.82	0.22	5.58	0.031	Sig.
IOBF	0.41	0.67	1.63	0.48	0.51	1.07	-0.10	0.929	Not Sig.
DA	4.07	0.70	0.17	2.69	0.91	0.34	8.66	0.013	Sig.
M&ME	40.86	4.60	0.11	27.97	10.22	0.37	3.82	0.062	Not Sig.
ME	1.49	0.44	0.29	0.79	0.43	0.55	209.00	0.000	Sig.

depreciation amount, mining & manufacturing expense and miscellaneous expenses have reduced after the implementation of ERP while interest on borrowed funds has increased. The coefficient of variation depicts that the employee's remuneration and benefits, depreciation amount, mining & manufacturing expense and miscellaneous expenses are less consistent in post implementation period while administrative & selling expense and interest on borrowed funds have become more stable and consistent after the ERP implementation.

The application of the t-test on the operating and expense ratios depicts that there is an observable difference after the implementation of ERP at Hindustan Zinc in the areas of administrative and selling expense, depreciation amount and miscellaneous expenses. On the other hand, employee's remuneration and benefits, interest on borrowed funds and mining & manufacturing expense have not shown any significant difference after the implementation of ERP. Maybe the difference will be realized as years goes by because there is an observable difference in the averages of the two periods.

Key

ER – Equity ratio

DR – Debt ratio

DTER – Debt to equity ratio

It depicts that the equity ratio, the debt ratio and debt to equity ratio have increased during the post ERP period as compared to the pre ERP period. The coefficient of variation identifies that the equity ratio, the debt ratio and debt to equity

Leverage Ratios (%)

	Pre ERP Period			Post ERP Period			't' - Value	Probability Value	Sig. or Not Sig.
	Mean	S.D.	C.V.	Mean	S.D.	C.V.			
ER	0.13	0.06	0.48	0.36	0.15	0.41	-4.18	0.053	Not Sig.
DR	0.08	0.13	1.70	0.10	0.09	0.92	-0.14	0.900	Not Sig.
DTER	0.14	0.23	1.70	0.15	0.14	0.95	-0.05	0.967	Not Sig.

Operating and Expense Ratios (%)

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DTER	0.14	0.23	1.70	0.15	0.14	0.95	-0.05	0.967	Not Sig.

Liquidity Ratios

	Pre ERP Period			Post ERP Period			't' - Value	Probability Value	Sig. or Not Sig.
	Mean	S.D.	C.V.	Mean	S.D.	C.V.			
CR	2.46	0.11	0.04	1.80	0.37	0.20	3.50	0.073	Not Sig.
QR	1.37	0.48	0.35	1.17	0.38	0.32	0.89	0.469	Not Sig.
CTFAR	0.54	0.12	0.22	0.39	0.07	0.18	2.17	0.162	Not Sig.
PR	0.73	0.06	0.08	0.83	0.04	0.04	-8.60	0.013	Sig.

ratio are more homogeneous after the implementation of ERP as compared to the period before the implementation of the system integration software.

There is no significant difference after the implementation of ERP at Hindustan Zinc in the leverage ratios as revealed by the t-test. The visible increase in the mean difference may be due to sampling fluctuation or it may imply that other factors are also contributing to the increase in the ratios.

Key

CR - Current ratio

QR - Quick ratio

CTFAR - Current to fixed assets ratio

PR - Proprietary ratio

It reveals that the current ratio, the quick ratio and the current to fixed assets ratio have decreased after the implementation of the system operating software, while proprietary ratio has increased during the post ERP period. The coefficient of variation reflects that the current ratio has become more variable after the implementation of ERP while the quick ratio, the current to fixed assets ratio and the proprietary ratio have become more uniform or more stable after the implementation of the software in the company.

ERP implementation at Hindustan Zinc limited has shown a significant difference in proprietary ratio, but the t-test reveals that there is no substantial difference observed in current, quick and current to fixed assets ratios. This does not mean that ERP does not have an effect in these areas but maybe it takes time to make an observable difference in these fields.

Key

TAT - Total asset turnover

FAT - Fixed assets turnover

It states that there is a decrease in total asset turnover ratio in the post - ERP implementation period, while there is an increase in fixed assets turnover. The coefficient of variation states that total asset turnover has a high degree of uniformity of the observation as well as homogeneity during the post - ERP period compared to the pre - ERP period. On the other hand, fixed assets turnover has a high degree of dispersion after the implementation of ERP than the period before the implementation of ERP. The activity ratios have not undergone a significant change since the implementation of ERP at the company.

Correlation Analysis

Correlation analysis was applied to indicate the strength and direction of a linear relationship between random variables. In general statistical

Asset Management or Activity Ratios

	Pre ERP Period			Post ERP Period			't' - Value	Probability Value	Sig. or Not Sig.
	Mean	S.D.	C.V.	Mean	S.D.	C.V.			
TAT	1.00	0.19	0.19	0.90	0.15	0.17	0.57	0.625	Not Sig.
FAT	2.27	0.58	0.25	2.50	1.18	0.47	-0.69	0.563	Not Sig.

Descriptive Statistics

	Mean	Std. Deviation	Number of Years
Total Zinc & Lead Concentrate Input (MT)	522999.50	153643.161	6 Years
Total Zinc & Lead Output (MT)	292881.33	68042.547	6 Years
Net Profit	1197.3867	1668.13909	6 Years
Stock (Rs. in crore)	381.3683	76.15634	6 Years
Zinc Price (US. $ PMT)	1468.33	1078.732	6 Years
Lead Price (US. $ PMT)	828.83	372.773	6 Years

usage of correlation or co-relation refers to the departure of two variables from independence. In this broad sense there are several coefficients, measuring the degree of correlation, adapted to the nature of data obtained from HZL. The Pearson - Bivariate Correlation has been used to determine correlation between, Total Zinc & Lead Concentrate Input (MT), Total Zinc & Lead Output (MT), Net Profit (Rs. in crore), Stock (Rs. in crore), Zinc LME Price (US. $ PMT) and Lead

Pre and Post ERP Correlation

	Total Zinc & Lead Concentrate Input (MT)	Total Zinc & Lead Output (MT)	Net Profit (Rs. in crore)	Stock (Rs. in crore)	Zinc Price (US. $ PMT)	Lead Price (US. $ PMT)
Total Zinc & Lead Concentrate Input (MT)	1	.979(**)	.933(**)	.604	.922(**)	.942(**)
Sig. (2-tailed)	.	.001	.007	.204	.009	.005
Total Zinc & Lead Output (MT)	.979(**)	1	.911(*)	.500	.893(*)	.941(**)
Sig. (2-tailed)	.001	.	.012	.313	.017	.005
Net Profit (Rs. in crore)	.933(**)	.911(*)	1	.732	.999(**)	.921(**)
Sig. (2-tailed)	.007	.012	.	.098	.000	.009
Stock (Rs. in crore)	.604	.500	.732	1	.760	.632
Sig. (2-tailed)	.204	.313	.098	.	.079	.178
Zinc Price (US. $ PMT)	.922(**)	.893(*)	.999(**)	.760	1	.915(*)
Sig. (2-tailed)	.009	.017	.000	.079	.	.011
Lead Price (US. $ PMT)	.942(**)	.941(**)	.921(**)	.632	.915(*)	1
Sig. (2-tailed)	.005	.005	.009	.178	.011	.

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

LME Price (US. $ PMT).

In this descriptive statistics all the six years under consideration have been taken all together for the calculation of the mean and standard deviation of all the six items that have been randomly taken for correlation analysis. The greatest dispersion is observed in the Total Zinc & Lead Concentrate Input (MT), i.e. 153643.161, while the lowest dispersion in the items under discussion is realised in Stock (Rs. in crore). This indicates that the rate of increase or decrease of stock is not too high compared to that of the other items.

The combined correlation analysis depicts that there is a positive correlation that exists within all the items under consideration, implying that all these items are positively affecting one another i.e. an increase in one of the items leads to an increase in the other and so on.

Conclusion

Based on the analysis, it is concluded that the company is making an observable increase in its financial performance in all areas during the post implementation of ERP despite the fact that some ratios have not noticed a significant change after the ERP implementation. The observable increment of the performance in the areas that have shown no significant change after ERP implementation may be due to the sampling fluctuation or due to other factor that are helping to improve the financial productivity. As per the trend, it is found that ERP implementation at HZL is taking its cause and as years go by all areas will wittiness significant changes.

The cost incurred for implementing the ERP system is quite high, but the benefits derived from the system are more. Thus it can be concluded that the performance of Hindustan Zinc Limited in the ERP environment has been encouraging.

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A Study of Determinants of Capital Structure of Small, Mid and Large cap Companies in Drugs and Pharmaceutical Industry in India

Dr Ravinder Vinayek* Anju Gupta**

The main objective of the paper is to study the differences (if any) in the determinants of Capital Structure of small, mid and large cap companies within the Drugs and Pharmaceutical Industry. It develops the panel data model for the empirical examination of the determinants of corporate capital structure in small, mid and large cap companies within the Industry. For the different empirical implications of debt instruments about different periods, we analyze measures of short term and long term and an aggregate measure of total debt on both book value as well as market value basis. The study found that there is a significant difference between determinants of capital structure of small, mid, and large cap companies with in the Drugs and Pharmaceutical Industry, but profitability, capital intensity, collateral value of assets and market to book ratio found to be the significant determinants of capital structure of all type of companies.

Introduction

The choice of debt and equity in the capital structure are significant financial decisions of corporate enterprises. A firm's capital structure is determined by legal stipulations in regard to debt-equity ratio, equity preference ratio, requirements of financial institutions and stock exchange for listing. But within the legal framework a firm has a choice in regard to sources of long-term funds, which it wishes to employ.

In the last two decades, a number of theories have been proposed to explain the variations in the debt to equity ratio across firms. Increasingly, the profession is moving beyond an examination of the basic leverage choice to more detailed aspects of the financing decision. Many researches have been done on the identifications of the factors affecting a firm's capital structure decision e.g.: Brigham's (1981), Myers(1984), Platt's(1985),Titman(1988),Kakani and Reddy (1996), S.Narayan Rao (2002),Gaud and Hoesli (2003), Abubakar Saeed (2007) etc. But neither theory nor research has been able to provide satisfactory agreement as to what factors affect the capital structure decision.

Moreover, the factors that affect each type of industry are different. Even, within a particular industry, there may be company wise differences. All the researches made previously have identified the factors affecting the capital structure decision of the firm in totality. Nevertheless, there is a need to identify the factors affecting each type of industry separately. Further, there is also a need on the part of the developing countries to test the theories that have been propounded in the developed countries because of differences in the environmental factors.

This study draws the attention on drugs and pharmaceutical industry because under the W.T.O regime the importance of this industry has increased and many changes have been incorporated in this industry. The existing structure of drugs and pharmaceutical industry in India presents a true globalized nature. India has large MNC's operating in drugs and pharmaceutical Industry. Similarly, Indian pharmaceutical companies as multinationals are also operating in the rest of the world such as Ranbaxy. In this study, the entire industry is divided into three parts

(a) Small Cap Companies

(b) Mid Cap Companies

(c) Large Cap Companies

Objectives of the study

The basic purpose of the present study is to make a special attempt to analyse the debt structure of Indian pharmaceutical industry. The study has the following objectives:

*Professor & Dean, Faculty of Commerce, Maharshi Dayanand University, Rohtak
**Research Scholar, Department of Commerce, Maharshi Dayanand University, Rohtak

(a) to analyse the debt structure of Indian drugs and pharmaceuticals industry

(b) to identify the factors affecting the capital structure of small, mid and large cap companies within this Industry

(c) to compare the differences in the determinants of capital structure between the small, mid and large cap companies within the Industry.

The theories of Debt, Variables and Hypothesis

In this section, a brief discussion of the variables, which may affect the capital structure of the firm, is given. For the present study, eleven independent variables have been chosen to analyse the impact on six dependent variables. The variables, their relation to the capital structure choice and their observable predictors are discussed below:

Profitability

There is a controversial relationship between the profitability and leverage. According to the Pecking order theory, firms prefer firstly the internal sources of funds, then debt and finally external equity. So according to this theory, more profitable the firms are, the more internal financing they will have, therefore there, should be a negative relationship between leverage and profitability. This relationship is also supported by various empirical findings (Harris and Raviv, 1991); (Rajan and Zingales, 1995). While tax based models suggest that profitable firms should borrow more, ceteris paribus, as they have greater need to shield income from corporate tax. But most of the empirical results confirm the Pecking order hypothesis (Kester, 1986; Titman and Wessels, 1988; Rajan and Zingales, 1995)

Hence the hypothesis is that profitability of a firm will be negatively associated with all debt levels. The measures used for profitability in the study are (i) return on assets (ii) return on sales, both before and after taxes.

Collateral value of assets

Most capital structure theories owned by a firm in some way affects its capital structure choice (Kakani 1999). According to trade-off hypothesis, tangible assets act as collaterals and provide security to lenders in the event of financial distress. Collaterality also protects lenders from moral hazard problem caused by the shareholders-lenders conflict (Jenson and Meckling, 1976)

So the hypothesis is that collateral value of assets is positively related to the total debt. Collateral value of assets is the ratio of account receivables, inventory and net fixed assets to total assets.

Market to book ratio

The previous studies generally suggest that growth opportunities are negatively related with leverage, Titman and Wessals (1988), Chung (1993), Barclay (1995), Lasfer (1995), Rajan and Zingales (1995). According to Huang and Song, "if management pursues growth objectives, management and shareholders interests tend to coincide for firms with strong investment opportunities. But for firms lacking investment opportunities, debt serves to limit the agency costs of managerial discretion". Therefore, firms with high growth opportunity may not issue debt in the first place and leverage is expected to be negatively related with growth opportunities.

Therefore, the hypothesis is that market to book ratio is negatively related to leverage. Market to book ratio is the ratio of book value of total assets minus book value of equity capital and reserves plus market value of equity to book value of total assets.

Size

Marsh (1982) finds that large firms more often choose long term debt while small firms choose short- term debt. Large firms have easier access to market and can borrow at easy conditions. They have the more bargaining power, so the cost of issuing debt will be less in case of large firms.

Thus there exists a positive relationship between the size of the firm and leverage. Size is measured as the natural logarithm of sales.

Capital Intensity

Capital Intensity means employment of fixed assets. Increased capital intensity implies increased risk of future earning variations. Therefore, top management is desire to retain control of the firm, and the concern of creditors to limit risk of default should result in lower debt levels. (Barton and Gordon, 1988)

Two measures are incorporated for the capital intensity attribute. One is the ratio of gross fixed assets to total assets and another is the ratio of gross

fixed assets to total sales. The positive relationship is expected between the capital intensity and leverage of the firm.

Non-debt Tax Shield (NDTS)

The tax deduction for deprecation and investment tax credits is called non-debt tax shield. This debate of tax impact on capital structure was initiated by MM proposition-2. De Angelo and Masulis (1980) argued that non-debt tax shields are substitutes for the tax benefits of debt financing and a firm with larger non-debt tax shields, ceteris paribus, is expected to use less debt.

The measure is calculated from the tax payments (T), Operating Income (PBDIT), Interest Payments (I), Total Assets (TA) and the approximate corporate tax rate during the period.

$$\text{Non-debt tax shield} = \frac{\text{PBDIT - Int. - Tax/tax rate.}}{\text{Total Assets}}$$

The hypothesis is that leverage is negatively correlated with NDTS.

Age

At the early age of life, a company needs more funds to start a business, as it has less internal funds. However, as the company grows in years, the internal funds tend to increase.

Therefore, a negative relationship is expected between the age of company and the debt equity ratio. The measure is calculated by total number of years since incorporation of a company.

Measures for the variables

In this study, eleven independent variables and six dependent variables have been chosen to analyse the impact of determinants of capital structure. The measures for the variables are given in detail as follows:

Dependent Variables

Based on Book Values

1. Total Debt Ratio (BTD) : $\frac{\text{Total debt}}{\text{Book Value of Equity}}$

Total Equity = Paid up equity capital + reserves & Surplus

2. Long Term Debt Ratio (BLTD) = $\frac{\text{Long Term Debt}}{\text{Book Value of Equity}}$

3. Short Term Debt Ratio (BSTD) = $\frac{\text{Short Term Debt}}{\text{Book Value of Equity}}$

Based on Market Values

4. Total Debt Ratio (MTD) = $\frac{\text{Total Debt}}{\text{Market Value of Equity}}$

Market Value of Equity

= Closing Price on 31st Mar. every year x No. of Shares outstanding

5. Long Term Debt Ratio (MLTD) = $\frac{\text{Long Term Debt}}{\text{Market Value of Equity}}$

6. Short term Debt Ratio (SLTD) = $\frac{\text{Short Term Debt}}{\text{Market Value of Equity}}$

Independent Variables

1. Profitability

(i) Before Tax return on Assets (BTRA) = $\frac{\text{EBIT}}{\text{Total Assets}}$

(ii) After tax return on Assets (ATRA) = $\frac{\text{Net Income After Taxes}}{\text{Total Assets}}$

(iii) Before tax return on sales (BTRS) = $\frac{\text{EBIT}}{\text{Total Sales}}$

(iv) After Tax Return on sales (ATRS) = $\frac{\text{Net Income after taxes}}{\text{Total Sales}}$

2. Collateral Value of Assets (CVA)

$$\frac{\text{Accounts Receivables + Inventory + Net Fixed Assets}}{\text{Total Assets}}$$

3. Market to Book Ratio (MBR)

$$= \frac{\text{Book Value of total assets - Book value of equity capital \& reserves + Market value of Equity}}{\text{Book Value of total Assets}}$$

4. Size

Natural Logarithm of Sales

5. Capital Intensity

(i) Capital Intensity on Sales $= \frac{\text{Gross Fixed Assets}}{\text{Total Sales}}$

(ii) Capital Intensity on Assets $= \frac{\text{Gross Fixed Assets}}{\text{Total Assets}}$

6. Non-debt tax Shield

$$= \frac{\text{PBDIT - Int. - T / t}}{\text{Total Assets}}$$

t = maximum marginal tax rate applicable to a firm in the particular ownership group (depending upon whether the firm is a domestic company or a foreign company) as per the finance act of the relevant year.

PBDIT = Profit before depreciation interest and taxes

T = Taxes paid

Here in this sample 30% tax rate is assumed.

7. Age

= Life of Company in years

Selection of Sample:

The universe for the study is entire pharmaceutical industry in India. The companies whose financial data was not available were excluded from the sample and then the final sample reached to a total of 115 no. of companies. These companies are further segregated into large, mid and small cap companies. This segregation is done based on 365 days average market capitalization on December, 2006. Table 1 depicts the distribution of companies in drugs and pharmaceutical industry in India based on their market capitalization.

Table 1

Distribution of companies on the basis of market capitalization

	Market Capitalization (in Rs.)	No. of Companies
Small Cap	up to 500 Crore	88
Mid Cap	more than 500 but Upto 2000 crore	16
Large cap	more than 2000 crore	11

Data Sources

The financial data used for the study is obtained from CMIE software prowess data base.

Analysis of Data

A panel data analysis has been done. The use of panel data not only improves sample size relative to single-period cross-sectional analysis, but is also able to capture the effects better than either cross sectional or time- series data alone (Hsiao, 1986; Baltagi, 1995). Multiple regression technique has been used on the panel data to analyse the effects of independent variables on dependent variables. Further 't' and 'f' tests have also been used to test the level of significance of regression coefficients. A correlation matrix is used to analyse the relationship between the independent variables. All this analysis has been done on SPSS Software package.

Results

The results of the analysis are presented in this section. The results have been arranged on the basis of classifications of companies. The description and analysis is based upon the correlation and regression results that are given in Table-1.

A- Regression for Small Cap Companies

Book Value Long Term Debt Ratio (BLTD)

Regression # 1 Indicates that size was the only significant factor in determining the long term debt ratio. There is a positive relationship between the size and long term debt equity ratio. Therefore, the hypothesis of positive effect of size on debt equity ratio is true. The coefficient of multiple determination,

R^2, which is a measure of the extent of variations in the dependent variable that is explained by the independent variables, is 33 per cent. It means 33 per cent of the variations in the long term debt ratio is alone due to size, which is a significant variable.

Book Value Short Term Debt Ratio (BSTD)

Regression # 2 indicates that again size is the significant determinant of the short term debt ratio, the direction being consistent with the expectation. The remaining factors are insignificant in determining the short-term debt ratio.

Book Value Total Debt ratio (BTD)

Regression # 3 indicates that for the determination of total debt ratio in the capital structure in small cap companies, all the variables are insignificant except size. The positive sign of size, collateral value of assets and the negative sign of MBR is as per hypothesized direction. However, the return on assets and NDTS are contrary to the expected signs.

Market Value Long Term Debt Ratio (MLTD)

Regression # 4 indicates that for the determination of the long term debt ratio in the capital structure before tax return on assets, capital intensity on assets, collateral value of assets, market to book ratio are highly significant factors. While collateral value of assets and MBR are negatively related, the other two are positively related to market value long term debt ratio.

The 't-values' of all these variables are significant at 1 per cent level. The profitability and the collateral value of assets have the opposite direction, as per the hypothesized direction. While the MBR and the capital intensity on assets has the same sign as per the hypothesized direction.

Market Value Short Term Debt Ratio (MSTD)

Regression # 5 indicates that except the collateral value of assets, all the factors are insignificant at 1 percent level of significance. There is a positive relationship between the collateral value of assets and the short term debt-equity ratio, which is as per the hypothesized direction. The value of R^2 reveals that about 11 percent of the variations in short term debt ratio is explained by independent variables. These results are further supported by the highly significant 'f' value, which is found to be significant at 1 per cent level.

Market Value Total Debt. Ratio (MTD)

Regression # 6 indicates that capital intensity on assets, collateral value of assets and market to book ratio are the significant determinants at 1% level of significance. Capital intensity on assets has the positive relationship with the market value total debt equity ratio, while the other two have the negative relationship with it. The direction of the capital intensity on assets and the market to book ratio is as per the hypothesized direction, whereas the collateral value of assets has the opposite sign as per the expected direction. The value of R^2 is 34 per cent, which is a good explanatory power.

B - Regression for Mid Cap Companies

Book Value Long Term debt ratio (BLTD)

Regression # 7 indicates that t-statistics of after tax return on sales, before tax return on sale and capital intensity on sale and MBR are significant at 1 per cent level. Age is another significant predictor of long term debt ratio, but its t-value is significant at 5 percent level. After tax return on sales and MBR have negatively related to long term debt ratio which is as per the predicted sign. The positive sign of before tax return on sale is contrary to the hypothesized direction. The value of R^2 reveals that about 54 per cent of the variations in the long term debt ratio are explained by the independent variables.

Book Value Short Term Debt Ratio (BSTD)

Regression # 8 indicates that return on sales, both before and after taxes, market to book ratio and the size are significant predictors of short term debt ratio. Except the before tax return on sales, all the significant predictors have the same expected sign. The value of R^2 is 39 per cent, which is a good explanatory power. In case of the short term debt ratio all hypothesizes are accepted, except the opposite sign of profitability.

Book Value Total Debt Ratio (BTD)

Regression # 9 indicates that return on sales both before and after taxes, capital intensity on sales, market to book ratio, and the size are the strong predictors of total debt equity ratio. Their t value is significant at 1 percent level. All the variables have the same expected sign except the return on assets and before tax return on sales. The value of R^2 reveals the 49 per cent of the variations in total debt ratio are explained by the independent variables.

Market Value Long Term Debt Ratio (MLTD)

Regression #10 indicates profitability, capital intensity on sales, collateral value of assets, market to book ratio, and age of company are significant determinants of market value long term debt ratio in the capital structure of the firm. The t-values are significant at 1 per cent level. In the market value long term debt ratio the hypothesis relating to size and NDTS are not true, because their coefficients have the opposite sign as per the hypothesized direction. After tax return on assets and the before tax return on sales also have the contrary sign to that of the hypothesized direction. The R^2 has a very high value of 99 per cent, which is a good explanatory power.

Market Value short term debt equity ratio (MSTD)

Regression # 11 indicates that t-values of profitability, capital intensity both on sales and assets, Collateral value of assets and age are significant at one per cent level. The hypothesis relating to capital intensity, size and NDTS are not accepted for having the opposite sign to that of the expected sign. The high value of R^2 of 99 per cent, gives good explanation of independent variables.

Market Value Total Debt Ratio (MTD)

Regression # 12 indicates that except collateral value of assets, no variable has the significant relationship with the market value of debt ratio. Collateral value of assets has the positive relationship with the market value total debt ratio in debt ratios. Capital intensity on sales has the positive, while MBR has the negative relationship with the long term debt ratio. The value of R^2 reveals that 20 per cent variation of the long term debt ratio is explained by the independent variables.

C - Regression for Large Cap Companies debt ratio

Book Value Long Term debt Ratio (BLTD)

Regression # 13 indicates that the capital intensity on sales and the MBR has significant relationship with the long term debt ratio. Capital intensity on sales has the positive, while MBR has the negative relationship with the long term debt ratio. The value of R^2 reveals that 20 per cent variations of the long term debt ratio are explained by the independent variables.

Book Value Short Term Debt Ratio (BSTD)

Regression # 14 indicates that return on sales, both before and after taxes and the age are in significant determinants of short term debt ratio. Profitability except the after tax return on sales and the capital intensity on sales has the opposite sign to that of the hypothesized direction. The value of R^2 is 36 per cent which is further supported by the f value which is significant at one percent level.

Book Value Total debt ratio (BTD)

Regression # 15 Indicate that return on sales, capital intensity on assets, non-debt tax shield and age has the significant relationship with the total debt ratio in case of large cap companies in pharmaceutical industry. The negative sign of age and NDTS are as per the hypothesis direction. The positive sign of BTRS is opposite to the hypothesized direction.

Market value Long Term Debt Ratio (MLTD)

Regression # 16 indicates that after tax return on assets and sales, capital intensity both on assets and sales and age are the significant predictors of the Market Value long term debt ratio. The negative sign of age, MBR and positive sign of collateral value of assets and capital intensity on sales is as per the hypothesized direction. But the positive sign of NDTS, negative sign of size and capital intensity on assets and positive sign of after tax return on assets do not support the anticipated directions.

Market Value Short Term Debt Ratio (MSTD)

Regression # 17 indicates that profitability, capital intensity on sales and collateral value of assets have significant t-values. The positive relationship between collateral and short term debt equity ratio implies that firms having more collateral use more debt, which is as per the hypothesized direction. The sign of size and the positive sign of NDTS do not support the anticipated directions. The profitability has the negative relationship except the after tax return on sales and before tax return on assets. The value of R^2 is 95 per cent that reveals a good explanatory power.

Market Value Total Debt Ratio (MTD)

Regression # 18 Indicate that before tax return on assets and sales, capital intensity on sales and the age have significant bearing on the market value total debt ratio. Their t-values are significant at one per cent level. All the variables in market value total debt ratio except age, MBR and capital intensity on sales have the opposite directions, which rejects the related hypothesis.

Conclusions

This paper contributes to the capital structure literature by investigating the determinants of capital structure of firms in Drugs and Pharmaceutical industry in India. The analysis in this paper has been done through utilizing a panel data set of Indian Drugs and Pharmaceuticals companies for a period between 1996 and 2006.

Before tax return on assets, collateral value of assets, capital intensity on assets and market to book ratio are noticed to be the most significant factors in deciding the capital structure of the entire small cap, mid cap and large cap companies in drug and pharmaceutical industry.

Before tax return on assets is found to be positively related with market value debt equity ratio in the small cap companies and the large cap companies, but negatively related in mid cap companies in pharmaceuticals industry. These results in small and large companies are similar to the empirical findings done by Um (2001), Oleh (2004), Buferna (2005), Garg and Chander Shekher (2002) suggesting that a high profit level gives rise to a higher debt capacity and accompanying tax shields. The negative sign of profitability with leverage in mid cap companies show the applicability of pecking order theory in these companies.

Collateral value of assets is found to be positively related to the market value debt equity ratios in the mid cap companies and large cap companies, but negatively related in small cap companies. Capital Intensity on assets is negatively related to the market value debt equity ratio in mid cap and large cap companies but positively related in small cap companies. Market to book ratio is the most significant ratio affecting each type of company. It is negatively related to the market value debt equity ratio in small cap companies, book value debt equity ratio and the market value long term debt equity ratio in mid cap companies and book value long term debt equity ratio in large cap companies.

Non-debt tax shield is found to be insignificance in deciding the debt equity ratios of the firms except the total debt equity ratio of large cap companies. Size is another significant factor affecting positively in small cap and mid cap companies in the industry. Age is statistically significant in positive direction in mid cap companies and negatively in large cap companies.

The findings of this paper contribute towards a better understanding of financing behaviour of small, mid and large cap companies in drugs and pharmaceutical industry in India. It demonstrated that (i) size of the market capitalization of the companies affected the debt equity ratio of pharmaceutical industry and (ii) profitability, capital intensity, collateral value of assets and market to book ratio seem to be important determinants of capital structure of all type of companies in the industry. Further research is necessary to fully substantiate the directional findings of the study.

Table 2

Regression results of small / mid / large cap companies

(a) Regression for small cap companies

REGRESSION # 1

BLTD =

-.055 + .023 (ATRA) -.019 (ATRS) + .010 (BTRA) - .020 (BTRS) + .001 (CIA)

+ (.659) (-.533) (.288) (-.567) (-.028)

0.49 (CIS) + .009 (CVA) -.058 (MBR) + .372 (SIZE) + .004 (NDTS) -.043 (AGE)

(1. 350) (.248) (-1.676) (5.252)** (.122) (-1.255)

R^2 = .033, ADJ-R-SQ = 0.31, F = 27.584, N = 823

REGRESSION # 2

BSTD =

-.291 + .020 (ATRA) -.015 (ATRS) + .013 (BTRA) - .014 (BTRS) - .007 (CIA)

(.555) (-.425) (-.380) (-.390) (-.214)

+.020 (CIS) + .002 (CVA) -.030 (MBR) + .418 (SIZE) + .011 (NDTS) -.002 (AGE)

(0.559) (.062) (-.855) (2.407)** (.305) (-.055)

R^2 = .007, ADJ-R-SQ = 0.006, F = 5.793, N = 823

REGRESSION # 3

BTD =

-.221 + .021 (ATRA) -.017 (ATRS) + .014 (BTRA) - .016 (BTRS) - .003 (CIA)

(.603) (-.465) (-.412) (-.437) (-.083)

+.029 (CIS) + .006 (CVA) -.035 (MBR) + .671 (SIZE) + .010 (NDTS) -.012 (AGE)

(0.795) (.176) (-.996) (3.140)** (.277) (-.347)

R^2 = .012, ADJ-R-SQ = 0.011, F = 9.861, N = 823

REGRESSION # 4

MLTD =

-.562 + .369 (ATRA) +.005 (ATRS) + 9.476 (BTRA)+.003 (BTRS) +16.955 (CIA)

(-1.724) (.189) (2.466)** (.119) (19.080)

-.010 (CIS) -6.868 (CVA) -3.171(MBR) +.001 (SIZE) + .007(NDTS)+.019 (AGE)

(-.368) (-8.298)** (-4.461)** (.047) (.244) (.691)

R^2 = .422, ADJ-R-SQ = 0.419, F = 148.716, N = 823

REGRESSION # 5

MSTD =

-.064 - .074(ATRA) +.004 (ATRS) - .082 (BTRA)+ .004 (BTRS) + .072 (CIA)

(- .872) (.108) (-.607) (.114) (.822)

-.001 (CIS) + .672 (CVA) - .025 (MBR) - .003 (SIZE) - .003 (NDTS) +.020 (AGE)

(-.016) (-9.908)** (0.770) (-.101) (-.084) (.601)

R^2 = .107, ADJ-R-SQ = 0.106, F = 98.163, N = 823

REGRESSION # 6

MTD =

-1.234 + .092(ATRA)+ .020 (ATRS)+ .268 (BTRA)+.018 (BTRS) +16.035 (CIA)

(1.028) (.690) (1.844) (.639) (10.601)

-.017 (CIS) -4.447 (CVA) - 3.096(MBR)+ .016 (SIZE) + .012(NDTS)+.026 (AGE)

(-.604) (-10.899)** (-3.319)** (.564) (.400) (.901)

R^2 = .340, ADJ-R-SQ = 0.338, F = 140.398, N = 823

(b) Regression for Mid Cap Companies

REGRESSION # 7

BLTD =

-.086+ .008 (ATRA) -9.639 (ATRS) + .012 (BTRA)+6.980(BTRS) + .045(CIA)

(.132) (-8.273)** (.210) (6.788)** (.788)

+0.337(CIS) + .055(CVA) -.055 (MBR) + .100 (SIZE) + .020 (NDTS) -.002 (AGE)

(4.089)** (.976) (-3.923)** (1.776) (-.346) (2.324)*

R^2 = .541, ADJ-R-SQ = 0.526, F = 34.717, N = 153

REGRESSION # 8

BSTD =

-.150 + .015 (ATRA) -4.148 (ATRS) + .014 (BTRA) +1.627 (BTRS)+ .006 (CIA)

(.233) (-6.146)** (.217) (2.621)** (.090)

+.73 (CIS) + .035(CVA) -.033 (MBR) + .111(SIZE) - .032 (NDTS) +.033 (AGE)

(1.013) (.528) (-3.805)** (2.353)* (-.476) (-.503)

R^2 = .390, ADJ-R-SQ = 0.374, F = 23.677, N = 153

REGRESSION # 9

BTD =

-.133 + .004 (ATRA) -10.010(ATRS)+ .007 (BTRA)+5.581(BTRS)+ .018 (CIA)

(.058) (-6.148)** (.119) (3.849)** (.297)

+0.508(CIS)+ .041 (CVA)-.063 (MBR) + .266 (SIZE) + .116(NDTS)+.080 (AGE)

(4.409)** (.680) (-3.186)** (2.556)** (-1.906) (1.333)

R^2 = .491, ADJ-R-SQ = 0.473, F = 28.339, N = 153

REGRESSION # 10

MLTD =

-.189 + 7.270(ATRA)-12.372(ATRS)-6.006 (BTRA)+9.208(BTRS)+ .035 (CIA)

(27.822)** (-17.009)** (-32.039)** (14.622)** (1.294)

-.203 (CIS) + .506 (CVA) - .028 (MBR) -.002 (SIZE) + .007(NDTS)+.003 (AGE)

(-.4.191)** (56.429)** (-3.557)** (-.600) (1.713) (5.555)**

R^2 = .998, ADJ-R-SQ = 0.998, F = 7879.417, N = 153

REGRESSION #11

MSTD =

.772+39.527(ATRA)-42.874(ATRS)-28.196(BTRA)+26.875(BTRS)-.686(CIA)

(60.010)** (-23.933)** (-57.544)** (17.250)** (-9.924)**

-.978 (CIS) + .665 (CVA) - .003 (MBR) +.000 (SIZE) +.009 (NDTS) +.004 (AGE)

(-8.217)** (14.279)** (-.652) (-.019) (1.619) (2.813)**

R^2 = .997, ADJ-R-SQ = 0.996, F = 5186.643, N = 153

REGRESSION # 12

MTD =

-1.152 + .064(ATRA)- .024 (ATRS)- .128 (BTRA)-.020 (BTRS) + .168 (CIA)

(0.758) (-1.224) (-1.665) (-1.037) (1.593)

+.015(CIS)+1.334 (CVA) - .008(MBR)- .032 (SIZE) + .016(NDTS)+.016 (AGE)

(.747) (49.245)** (-.416) (-1.612) (.765) (.812)

R^2 = .970, ADJ-R-SQ = 0.941, F = 2425.094, N = 153

(c) Regression for Large Cap Companies

REGRESSION # 13

BLTD =

.211+ .073 (ATRA) -.144 (ATRS) + .087(BTRA)-.032(BTRS) + .073(CIA) +

(.837) (-1.614) (.994) (-.350) (.825)

0.471 (CIS) + .058(CVA) -.047 (MBR) - .068 (SIZE) - .068 (NDTS) -.117 (AGE)

(3.582)** (.659) (-2.443)** (-.698) (-.764) (-1.241)

R^2 = .196, ADJ-R-SQ = 0.181, F = 12.937, N = 109

REGRESSION # 14

BSTD =

-.300 + .002 (ATRA) - 2.427(ATRS) + .005 (BTRA) + 1.360 (BTRS)+ .025 (CIA)

(.025) (-4.914)** (.057) (2.773)** (.319)

-.095 (CIS) + .041 (CVA) -.044 (MBR) + .091(SIZE) - .011 (NDTS) -.002 (AGE)

(-1.105) (.519) (-.506) (1.050) (-.141) (-4.400)**

R^2 = .364, ADJ-R-SQ = 0.346, F = 20.017, N = 109

REGRESSION # 15

BTD =

-.540 - .047 (ATRA) - 7.019(ATRS)- .010 (BTRA)+ 5.529(BTRS)+ .041 (CIA)

(-.148) (-4.854)** (-.033) (3.861)** (2.078)*

+0.106 (CIS)- 1.010 (CVA)-.122 (MBR) - .089(SIZE) - .023 (NDTS)-.007 (AGE)

(1.145) (-.920) (-1.288) (-.910) (-2.437)** (-4.236)**

R^2 = .294, ADJ-R-SQ = 0.260, F = 8.582, N = 109

REGRESSION # 16

MLTD =

.158 + 16.986 (ATRA)-15.113(ATRS)- .293 (BTRA)-.008(BTRS)- 1.480 (CIA)

(39.486)** (-13.904)** (- .973) (-.299)

(-10.933)**

+1.749 (CIS) + .088(CVA) - .009 (MBR) -.008 (SIZE) + .000 (NDTS)- .010 (AGE)

(-.6.081)** (.491) (-.827) (-.742) (.004) (-3.238)

R^2= .992, ADJ-R-SQ = 0.991, F = 2509.676, N = 109

REGRESSION # 17

MSTD =

-.206- 4.609 (ATRA)+ 1.801(ATRS)+1.344(BTRA)- .129 (BTRS)- .033 (CIA)

(5.600)** (6.159)** (2.004)* (-1.080) (-.059)

- .332 (CIS) + .653 (CVA) - .040 (MBR) +.043 (SIZE) +.009 (NDTS) -.040 (AGE)

(-5.489)** (40.604)** (-1.614) (-1.614) (.388) (- 1.638)

R^2 = .946, ADJ-R-SQ = 0.944, F = 363.178, N = 109

REGRESSION # 18

MTD =

- .121 + .093(ATRA)- .032 (ATRS)+ 10.543(BTRA)- 9.790 (BTRS) - .053 (CIA)

(0.355) (-1.207) (107.809)** (-9.767)** (-1.530)

+1.314(CIS)-.033 (CVA) - .017 (MBR)- .019 (SIZE) + .005 (NDTS)-.010 (AGE)

(4.527)** (-1.132) (-1.605) (-1.846) (.572) (3.308)**

R^2 = .991, ADJ-R-SQ = 0.991, F = 2967.381, N = 109

NOTE :

1. t - Statistics are given in parenthesis.
2. * denotes significant at the 5% level of significance.
3. ** denotes significant at 1% level of significance

Table 3

CORRELATION MATRIX OF SMALL CAP COMPANIES

Variables	BLTD	BSTD	BTD	MLTD	MSTD	MTD	DM	ATRA	ATRS	BTRA	BTRS	CIA	CIS	CVA	MBR	LOS	NDTS	AGE
BLTD	1																	
BSTD	.294**	1																
BTD	.539**	.903**	1															
MLTD	-.110**	-.003	-0.43	1														
MSTD	-.019	.011	-.008	.388**	1													
MTD	-.094**	.002	-.037	.937**	.686**	1												
DM	'.136**	.003	.046	.034	-.031	.015	1											
ATRA	.050	.032	.038	.132**	.290**	.214**	-0.19	1										
ATRS	.024	.005	.010	.000	.005	.002	-.016	.097**	1									
BTRA	.034	.025	.029	.191**	.312**	.269**	-.001	.983	.062	1								
BTRS	.020	.005	.009	.002	.005	.004	-.005	.094**	.994**	.060	1							
CIA	.009	-.004	.002	.470**	.313**	.490**	.079*	.770**	-.011	.845**	-.009	1						
CIS	-.016	-.010	-.010	.029	-.002	.022	.072*	-.072*	-.658**	-.047	-.583**	.028	1					
CVA	.021	.008	-.014	.273**	.327**	.339**	.009	.921**	.004	.969**	.003	.0926**	-.004	1				
MBR	-.027	-.016	-.016	-.053	-.029	-.053	.095**	.031	.007	.024	.011	.026	-.007	-.011	1			
LOS	.180**	.084*	.109**	-.012	.020	-.002	-.003	.155**	.235**	.137**	.215**	.045	.-329**	.072*	.162**	1		
NDTS	.003	.010	.009	.052	.108**	.082*	.006	.371**	.041	.363**	.039	.278**	-.035	.338**	-.007	-.004	1	
AGE	-.032	.003	-.005	.014	.019	.019	-.003	.000	.034	.008	.031	.010	-.046	-.003	.224**	.061	-.036	1

Note: A single astrix (*) shows the significance at one percent level
(**) shows the significance at five percent level

Table 4

CORRELATION MATRIX OF MID CAP COMPANIES

Variables	BLTD	BSTD	BTD	MLTD	MSTD	MTD	DM	ATRA	ATRS	BTRA	BTRS	CIA	CIS	CVA	MBR	LOS	NDTS	AGE
BLTD	1																	
BSTD	.524**	1																
BTD	.850**	.732**	1															
MLTD	.059	.042	.059	1														
MSTD	-.036	.014	-.018	.975**	1													
MTD	-.005	.024	.008	.989**	.997**	1												
DM	.106	-.462**	-.116	-.077	-.109	-.099	1											
ATRA	-.077	-.058	-.070	.943**	.941**	.947**	-0.072	1										
ATRS	-.408**	-.516**	-.466**	.057	.082	.074	.258**	.189	1									
BTRA	-.066	-.053	-.062	.930**	.922**	.930**	-.071	.998**	.184*	1								
BTRS	-.118	.353**	-.230**	.020	.034	.030	.301**	.138	.866**	.143	1							
CIA	.019	-.002	.021	.985**	.938**	.959**	-.067	.932**	.069	.922**	.011	1						
CIS	.530**	.297**	.507**	.043	.004	.017	.031	-.057	.271**	-.063	-.081	.045	1					
CVA	.012	.013	.021	.987**	.954**	.970**	-.085	.972**	.101	.967**	.052	.983**	.002	1				
MBR	-.306**	-.307**	-.300**	-.132	-.100	-.112	-.073	-.070	.098	-.066	.083	-.123	-.200*	-.106	1			
LOS	.146	.167*	.180*	.095	.060	.072	-.120	.089	.046	.096	.095	.109	.016	.107	.075	1		
NDTS	-.021	-.005	-.128	.353**	.349**	.352**	-.034	.343**	-.044	.342**	-.055	.342**	-.104	.349**	.153	-.193*	1	
AGE	.079	-.036	.039	-.008	-.009	-.009**	-.219**	-.015	.078	-.019	.011	-.011	.096	-.026	.033	-.014	-.074	1

Note: A single astrix (*) shows the significance at one percent level
(**) shows the significance at five percent level

Table 5

CORRELATION MATRIX OF LARGE CAP COMPANIES

6	BLTD	BSTD	BTD	MLTD	MSTD	MTD	DM	ATRA	ATRS	BTRA	BTRS	CIA	CIS	CVA	MBR	LOS	NDTS	AGE
BLTD	1																	
BSTD	.435**	1																
BTD	.897**	.593**	1															
MLTD	.186	-.072	.128	1														
MSTD	.026	.275**	.086	-.001	1													
MTD	.188	-.048	.135	.996**	.085	1												
DM	.455**	-.216*	.291**	.139	-.148	.126	1											
ATRA	.111	-.123	.061	.986**	.076	.989**	.096	1										
ATRS	-.178	-.468**	-.232*	.147	-.183	.131	-.062	.236*	1									
BTRA	.124	-.108	.074	.988**	.074	.990**	.104	.999**	.214*	1								
BTRS	-.028	-.374**	-.119	.142	.225*	.122	.009	;.217*	.929**	.206*	1							
CIA	.146	-.030	.113	.930**	.342**	.956**	.079	.955**	.106	.955**	.085	1						
CIS	.389**	-.067	.285**	.090	.005	.090	.174	.053	.023	.050	.132	.122	1					
CVA	.124	-.018	.100	.911**	.394**	.941**	.047	.941**	.106	.940**	.080	.997**	.093	1				
MBR	.314**	-.283**	-.299**	-.135	-.196	-.152	-.118	-.095	.227**	-.098	.187	-.161	-.285**	-.166	1			
LOS	.244**	-.191*	-.198*	.033	.065	.039	-.129	.105	.335**	.096	.248**	.089	-.339**	.098	.356**	1		
NDTS	-.023	'.049	-.132	.139	.034	.141	-.076	.127	-.046	.127	-.041	.123	.022	.130	-.161	.316**	1	
AGE	-.260**	-.265**	-.262**	-.006	-.088	-.014	.028	.013	-.099	.025	.036	-.017	-.261**	-.016	.341**	.167	-.102	1

Note: A single astrix (*) shows the significance at one percent level
(**) shows the significance at five percent level

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An Analytical Look at Economic Value Added (EVA)

Sweety Narang*, Dr Mandeep Kaur**

Recent passed has witnessed an interesting development in the literature, whereby, EVA is entering into traditionally academic spheres of interest. This includes the research into the association between EVA and other variables (such as stock prices), the impact of EVA on managerial decisions, linkage between corporate decision making regarding capital allocation and stock price and analytical examination of how EVA relates to the traditional measures of performance. But still there is some confusion or uncertainty about a number of important facets of EVA. So this paper attempts to outline the step-by-step calculations of Economic Value Added of a firm and outlines the unique features of economic profit measurement without getting involved in a plethora of EVA related economic adjustments. Further, it also highlights the EVA superiority over traditional accounting profit measures such as EPS, ROCE, EBIT and net operating income. It concludes that as traditional accounting measures completely miss the cost of equity capital, this omission overstates the financial position of the companies, especially, which typically finance their growth opportunities with equity capital. Moreover, the paper also depicts that security prices can rise and fall in response to the fundamental changes in a firm's real growth opportunities.

Introduction

Basic corporate finance and microeconomic theory tells that the prime financial directive of any firm ought to be to maximize the wealth of its shareholders (Stewart, 1994). Shareholder Value has become the quintessential measure of corporate performance. It is an accurate reflection of the quantum of incremental value a company generates for its shareholders, after accounting for its cost of operations, which includes the cost of capital. But it isn't easy to measure. Balance-sheet-based measures are veiled in accounting anomalies that, often, measure notional profits not real ones. On the other hand, market driven measures, like market capitalization are prone to the volatility of the bourses. The solution, thus is a mix-and-match measure that can factor in a market assessment of a company's value and at the same time, use real measures of its financial performance that it extracts from its financial statements (Business Today, 2000).

Economic Value Added (EVA) is one ideal measure of shareholder value that can realistically assess the economic contribution of a company, shorn of accounting anomalies said V. Raghunathan, Professor, Indian Institute of Management, Ahmedabad. Moreover, it is an estimate of true 'economic' profit, and the performance measure most directly linked to the creation of shareholder value over-time (Stewart, 2000). Thus through this paper an attempt has been made to throw a light on some unique features of EVA measurement that are causing confusion. In view of this, the present study is based on the following specific objectives:

- To outline the steps involved in the EVA calculations of a firm.
- To examine the EVA superiority over traditional accounting profit measures such as EBIT, ROE, ROCE and net operating income.
- To highlight the unique features of economic profit measurement without getting involved in a plethora of EVA economic adjustments.

The paper is divided into three sections. Section I outlines the step-by-step calculation of Economic Value Added with the help of an illustration of a hypothetical firm. It also explains the EVA advantage over traditional accounting based profit measures. Section II highlights the unique features of EVA concept, like impact of growth opportunities on the EVA of a Company and the economic treatment of interest-tax subsidy. Section III explains the valuation of enterprise value and stock prices of a firm. It also explains the real value opportunities available to a company by showing a relation between company's value to capital ratio and profitability index. Finally, Section IV summarizes the conclusions.

*Senior Research Fellow, Department of Commerce and Business Management, G N D U, Amritsar
** Reader, Department of Commerce and Business Management, G N D U, Amritsar

Section-I

The Concept of EVA

EVA is measured by subtracting a company's overall cost of capital-a reflection of its weighted average cost of debt and equity capital from its unlevered Net Operating Profit After Taxes, NOPAT (Grant, 2003). Here, it is worth mentioning that a levered firm is one that is financed with both debt and equity sources of financial capital, whereas, an unlevered firm is 100% equity financed. Hence, basic EVA has its two essential ingredients, namely, NOPAT i.e. unlevered net operating profit after taxes and COC i.e. the overall cost of invested capital. Operationally defined

$$EVA = NOPAT - COC \text{ (in Rs.)} \text{------ (1)}$$

In the absence of any EVA based accounting adjustment, firm's unlevered NOPAT can be explained in terms of tax adjusted earning before interest and taxes, EBIT (Grant, 2003) i.e.

$$NOPAT = EBIT(1-t) = (S - COGS - SG\&A - D) \times 1 - t \text{ ------- (2)}$$

Where, S, COGS, SG&A and D refer to the firm's sales; cost of goods sold; selling, general, and administrative expenses, and depreciation respectively. In turn, the firm's overall cost of capital, COC, can be expressed as:

$$COC = WACC \times IC$$

Weighted Average Cost of Capital (WACC)

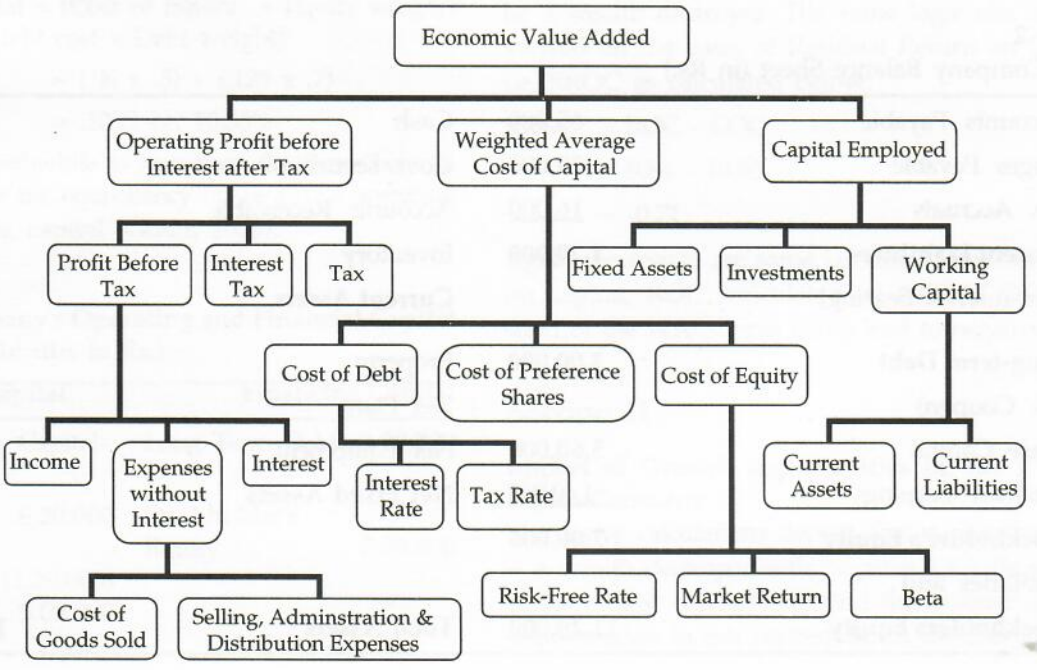
One of the most critical components of EVA is the calculation of WACC. To compensate the risk taken by investing in a particular business, both creditors and shareholders expect to earn at least same return as investments with equivalent risk earn. The WACC is thus the minimum required Return on Capital required to compensate the debt and equity investors for bearing risk. Establishing reliable and meaningful WACC, therefore, involves careful estimation of (i) after-tax cost of debt (kd), (ii) debt weight (Wd), (iii) cost of equity (ke) as per Capital Asset Pricing Model (CAPM), (iv) equity weight (We), (v) cost of preference shares (kp) and (vi) preference weight (Wp). Here after-tax cost of debt is taken because debt cost enjoys tax shield.

WACC = (Equity cost x Equity weight) + Pre-tax debt cost (1 - tax rate) x Debt weight + (Cost of Preference shares x Preference Weight)

Hence,

COC = (ke * We) + kd (1 - tax rate) * Wd + (kp * Wp) * IC

Figure 1: Economic ValueA ddedM odel



Taken together,

EVA = NOPAT - COC

= EBIT (1-t) - WACC × IC

= [(S - COGS - SG&A - D) (1 - t)] - WACC × IC

Hence, EVA is equal to its unlevered NOPAT less the overall cost of capital employed within the firm. Figure 1 depicts the various ingredients of EVA calculations that are discussed above.

To show how to measure a firm's EVA with above formulas, lets have a look at a simple Income Statement and Balance Sheet of a hypothetical firm called Alpha Company.

Table 1
Alfa Company Income Statement (in Rs.)

Sales	75,00,000
Cost of goods sold (COGS)	58,26,000
Selling Expenses	6,35,000
General and Administrative Expenses	8,75,000
Interest Expenses (10%)	30,000
Pre-tax Profit	1,34,000
Taxes (at 40%)	53,600
Net Income	80,400
Shares Outstanding	7,000
EPS	11.49

As per traditional accounting perspective, financial statements of Alpha Company given above depict a positive after-tax net income of Rs. 80,400. Being a profitable firm, its traditional accounting based financial ratios, when calculated; also show a quite positive view of company's financial position such as:

EPS = Rs.11.49

ROE = 11.49%

ROCE = 9.84%

ROA = 5.71%

Moreover, this accounting ROE figure results from multiplying Alpha's ROA at 5.71% by its equity multiplier i.e. Assets / Equity of 1.6. Hence, Alpha Company seems to be a financially sound company when analyzed from the traditional accounting perspective.

Alpha's Economic Profit Measurement

To ascertain whether the said company is actually creating the wealth for its shareholders or is a value diluter, there is a need to analyze the same statements from the Economic Value Added (EVA) perspective. To calculate EVA, there is a need to ascertain the company's unlevered net operating profit after taxes i.e. NOPAT as a first step. Upon substituting the Alpha's sales; cost of goods sold; selling, general, and administrative expenses, and tax rate figures into the NOPAT formula, we get

Table 2
Alfa Company Balance Sheet (in Rs.)

Accounts Payable	65,000	Cash	70,000
Wages Payable	39,000	Govt. securities	8,0000
Tax Accruals	16,000	Accounts Receivable	1,40,000
Current Liabilities	**1,20,000**	Inventory	3,30,000
(non-interest bearing)		**Current Assets**	**6,20,000**
Long-term Debt	**3,00,000**	Property	1,20,000
(8% Coupon)		Net Plant	1,10,000
Share Capital	5,60,000	Net Equipment	2,70,000
Retained Earnings	1,40,000	**Net Fixed Assets**	**5,00,000**
Stockholder's Equity	**7,00,000**		
Liabilities and			
Stockholders Equity	**11,20,000**	**Total Assets**	**11,20,000**

NOPAT = (S - COGS - SG&A - D) x 1 - t----- (2)

= (Rs.7,50,000 - Rs.58,26000 - Rs.15,10,000) (1 - 0.4)

= Rs.98,400.

Secondly, to estimate the overall cost of capital of the company, the first requirement is to obtain the after-tax cost of debt, which is calculated as

After tax debt cost = Pre-tax debt cost x (1 - t)

= .10 x (1 - 0.4)

= .06 i.e. 6%

Company's pre-tax debt cost can also be obtained by dividing the firm's interest expenditure at Rs.30,000 by the face value of long-term debt at Rs.3,00,000.

Further, to estimate the cost of equity, CAPM is used. This model is preferred by a number of EVA proponents like Stewart (1991), Weaver (2001), Sparling (2003) etc. because it allows for a specific, market-based evaluation of risk for a company using the concept of 'Beta'. Assuming Rf, a risk-free interest rate of 6.5%, MRP i.e. a market-driven equity risk premium (i.e. risk-free rate - market return) of 6% and a beta variant of 1.0, company's CAPM based cost of equity capital comes out to be

Cost of Equity = Rf + (MRP x Beta)

= .065 + (.06 x 1.0)

= .0125 i.e. 12.5%

As we know that Alpha's debt- equity ratio is 3:7, its overall COC can be measured as

Cost of Capital = (Cost of Equity x Equity weight) + (After-tax debt cost x Debt weight)

= (.06 x .3) + (.125 x .7)

= .1055 i.e. 10.55%

Here, it is worthwhile to repackage the firm's balance sheet to show the equivalency of the firm's operating and financing capital (Grant, 2003).

Table 3
Alpha Company's Operating and Financial Capital (Aggregate Results in Rs.)

Operating Capital		Financing Capital	
Net Working Capital		Long Term Debt	3,00,000
Current Assets	6,20,000	Stockholder's Equity	7,00,000
Current Liabilities (non-interest bearing)	(1,20,000) 5,00,000		
Net Fixed Assets	5,00,000		
Total	**10,00,000**		**10,00,000**

Table 3 shows that Alpha Company's operating capital as well as financing capital is 10 lacs. Hence, the firm's COC can be calculated by multiplying the WACC of 10.55%, to either the operating capital or its equivalent financing capital like

COC = WACC x Invested Capital ------ (3)

= 10.55% x 10,00,000

= Rs.1,05,500

After calculations, it is found that in reality Alpha's COC (as per Equation 3) is higher than its unlevered NOPAT (as per Equation 2). Substituting these figures in equation 1, it can be observed that the company's EVA comes out to be negative:

EVA= NOPAT - COC (in Rs.)

= Rs.98,400 - Rs.1,05,500

= - Rs.7100 (i.e. negative EVA)

Hence, although Alpha Company seems to be profitable from the traditional accounting perspective, yet it is a wealth destroyer, when measured on the platform of shareholder value creation. This wealth-wasting situation occurs when firm's operating profits are not sufficient to cover up the overall cost of capital and that is why Alpha Company's EVA comes out to be negative revealing the company to be a wealth destroyer. The same logic can also be viewed on the basis of Residual Return on Capital i.e. RROC as calculated below:

RROC = ROC - COC

= 9.84 - 10.55

= -0.71

Again the results are same i.e. firm's after tax return on capital, ROC (calculated as NOPAT/IC), falls short of the WACC and hence lead to negative EVA.

Section II

Impact of Growth opportunities on the EVA of Alpha Company

The above calculations depicts that Alpha Company is a wealth destroyer with negative EVA figure. But it has a clear incentive to find the positive growth opportunities. In this context, let us assume that firm

has got an opportunity to invest Rs.50,000 in a new product development process that will permanently increase its sales by Rs.90,000. Now, suppose Alpha's additional COGS and SG&A expenses comes out to be Rs.54,900 and Rs.13,850 respectively. Hence, company's NOPAT will rise by Rs.12,750 i.e.

NOPAT = (S - COGS - SG&A) x 1 - t
= (Rs.90,000 - Rs.54,900 - Rs.13,850) x (1 - .4)
= Rs.12,750

On the other hand, firm's capital cost, COC, will also rise by Rs.5,275 (i.e. 10.55% of Rs.50,000). Taken together NOPAT and COC, additional EVA from the above investment opportunity will also rise by Rs.7,475 as calculated below:

EVA = NOPAT - COC
= Rs. 12750 - Rs. 5,275
= Rs. 7,475 (i.e. positive EVA)

Further, company's revised aggregate EVA comes out to be

Aggregate EVA (Revised) = Original EVA + EVA from the growth opportunity
= -Rs.7100 + Rs.7,475
= Rs.375

Now, it has been observed that with the adoption of new growth opportunity, company has moved from a wealth destroyer position to wealth creator position. This is because of the positive spread (ROC - COC) involved in the additional investment.

Moreover, company's revised ROC at 10.64% {(Rs.98,400 + Rs.12,750)/Rs.7,35,000} is now, slightly more than the company's COC at 10.55%. Here, it is worth mentioning that in a wealth-neutral position, company's residual return on income is zero i.e. ROC just equalize the overall COC. Hence, it can be concluded that Alpha Company has the potential to increase its EVA figures significantly by adopting further growth opportunities having positive spreads. In the next section, basic valuation consequences of Alpha's growth opportunities, including an estimate of its enterprise value and stock price have been observed.

Understanding Interest-Tax Subsidy

For the calculation of EVA, it is important to use the firm's unlevered net operating profit after taxes as a first step. This is important because the cost of debt included in the overall cost of capital, already reflects the interest-tax subsidy (benefit), which a firm receives on its outstanding debt obligations (Grant, 2003). Double counting of such debt induced tax subsidy leads to the overestimation of firm's operating profitability. Moreover, it also imparts a positive bias in firm's enterprise value and its stock price.

To clarify the above point, let us calculate Alpha's net operating profit after taxes and tax liability assuming it to be a levered firm as well as an unlevered firm.

Table 4

Alpha's NOPAT and Tax liability as a levered firm and as an unlevered firm.

	As a levered firm (with debt)	As an unlevered firm (without debt)
Net Operating Profits before taxes	Rs.1,34,000	Rs.1,64,000
Tax Liability at 40%	Rs.53,600	Rs.65,600
NOPAT	Rs.80,400	Rs.98,400

Table 4 clearly depicts that Alpha's tax liability being an unlevered firm is more than that of being a levered firm. So, interest tax subsidy received by Alpha Company as a levered firm comes out to be Rs.12,000 i.e. Rs.65,600 - Rs.53,600. However, this same interest tax benefit is already reflected in the firm's overall cost of capital via the reduced cost of corporate debt financing from 10% to 6%. Hence it can also be calculated as (.10 - .06) * Debt i.e. .04 * Rs.3,00,000 = Rs.12,000. Thus to avoid positive bias through double counting of such interest-tax subsidy, EVA must be calculated by first estimating NOPAT assuming the firm to be an equivalent business-risk unlevered firm (i.e. no debt firm) and then subtracting the overall cost of capital from this unlevered net operating profit figure.

Section-III

Valuation of the Enterprise Value

To estimate the company's Market Value as an ongoing concern, it is assumed that investors pay an

NPV (Net Present Value) multiple of, say 10 times the estimated EVA of the company. With an EVA multiplier of 10 times company's revised aggregate EVA of Rs.375, the firm's estimated Market Value Added becomes Rs.3,750. Market Value Added (MVA) is the popular equivalent of NPV and these terms are used interchangeably in the EVA literature (Grant, 2003). Upon adding this MVA figure to the total operating capital employed in the business (including Rs.50,000 growth opportunity), we can obtain Enterprise Value as

$$V = IC + MVA$$
$$= Rs.10,50,000 + Rs.3,750$$
$$= Rs.10,53,750$$

Further to reflect the relationship between the shareholder value represented by the expectation of the present value of future cash flows and the historic book value, company's Enterprise value-to-Capital ratio (price-book ratio) is calculated. In this case, it comes out to be near unity i.e. (Rs.10,53,750/Rs.10,50,000). Incidentally, at this point its Profitability Index Ratio (ROC/COC) is also close to one.

Valuation of the Stock Price

Being conceptually simple, company's stock price is calculated as Equity Capitalization divided by total shares outstanding. It is obvious that Alpha Company will have to raise more capital in order to finance the positive growth opportunity. To begin with the share valuation process, it is assumed that additional investment of Rs.50,000 will be financed as per Alpha's prevailing capital structure proportions i.e. 30% debt and 70% equity. Hence, the new project of Rs.50,000 will be financed as per the prevailing debt-equity ratio of 3:7 i.e. Rs.15,000 via debt and Rs.35,000 via equity. Additional equity capital to be raised can also be calculated as number of new equity shares issued, n* multiplied by the stock price i.e. ↖E = n* x Stock Price.

In turn, stock price can be calculated by dividing the firm's aggregate equity capitalization (including additional investment in growth opportunity) with total number of outstanding shares i.e. original 7,000 as shown in balance sheet plus new shares issued (Grant, 2003). So, equity financing formula becomes

↖E = n* x Stock Price

$$Rs.35,000 = n^* \times \frac{(V - D)}{7,000 + n^*}$$

$$Rs.35,000 = \frac{n^* \times (10,53,750 - 3,15,000)}{7,000 + n^*}$$

$$n^* = 348 \text{ shares approx.}$$

Here, V is revised operating capital and D is the total debt. Upon solving the above equation, the number of new equity shares to be raised i.e. n* comes out to be 348 shares. Now, with total 7,348 shares outstanding, Alpha's stock price can be calculated as:

$$\text{Stock Price} = \frac{\text{Equity Capitalization}}{\text{Total outstanding shares}}$$

$$= \frac{Rs.7,38,750}{7,348 \text{ shares}}$$

$$= Rs.100.54 \text{ approx.}$$

Whereas, company's revised book value comes out to be Rs.100.03, which is very close to the company's stock price.

$$\text{Revised Book Value} = \frac{\text{Revised Book Capital}}{\text{Total outstanding shares}}$$

$$= \frac{Rs.\ 7,00,000 + Rs.35,000}{7,348 \text{ shares}}$$

$$= Rs.100.03$$

Here, it is observed that company's revised book-value at Rs.100.03 is very close to its book-value in the beginning at Rs.100. It is because company has just begun to create positive shareholder wealth and it has a very little amount of EVA at Rs.375 only. But company can enhance its EVA by further investing in more real-growth opportunities i.e. projects giving positive NPV. Hence, at this point it should be noted that company's financial disclosures merely give Alpha's shareholders the "illusion of value creation" by at first ignoring cost of equity capital and secondly by arbitrarily substituting the outstanding shares for more debt to give higher EPS, ROE and ROC signals.

Discovering Real Value

In the status quo i.e. no growth position, firm's existing assets generated negative EVA at -Rs7100. Assuming that investors pay an EVA multiplier of ten times, company's initial enterprise value can be

calculated as:

$$V = C + NPV$$
$$= Rs10,00,000 + (-Rs7100 \quad 10)$$
$$= Rs.9,29,000$$

At this point, its Price-Book ratio (V/C) is observed to be less than unity at .929 i.e. (9,29,000/10,00,000). Hence, the aforesaid company does not seem to be an attractive investment alternative for the active-minded investors because of its negative NPV. Further, Figure 2 shows Alpha's Real value opportunities by showing a relation between company's value to capital ratio and profitability index i.e. ROC/COC ratio.

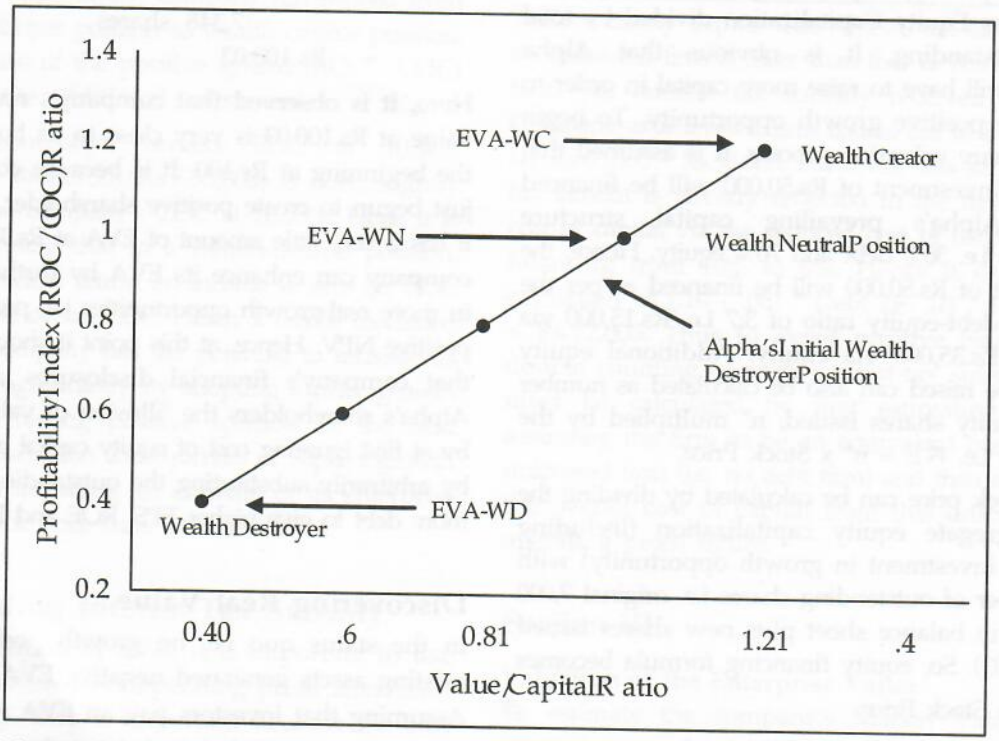
Specifically, it is found that Alpha Company is a wealth destroyer in its no-growth situation i.e. company's after tax return on invested capital, ROC at 9.84%, is not high enough to cover up its cost of capital, COC at 10.55%. This is the reason why its value-to-capital ratio and profitability index both are less than unity at .929 and .933 respectively. With the positive EVA growth opportunity at Rs.7,375, company's revised value-to-capital ratio as well as its revised profitability index have risen to approx. 1 as depicted in the Table 5.

Table 5
Company's Value-to-Capital ratio as well as its Profitability Index

	V/C Ratio	Profitability Index
Before growth opportunity	.929	.933
Revised ratios i.e. after investing in growth opportunity	$\left[\frac{Rs.10,00,000 + (Rs.375 \quad 10)}{10,00,000}\right]$ =1.0375	$\left[\frac{10.64}{10.55}\right]$ =1.008

At this point, Alpha Company has reached a wealth neutral position (see EVA-WN point in Figure 2) and seems to have the potential to grow further. Now suppose, after becoming a wealth neutral firm, company announces a second growth opportunity with positive NPV such that its profitability index

Figure 2 Alpha's Real-Value Opportunities



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