



ETHOS

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From the Desk of Editor

It gives me immense pleasure to meet you all through this research journal, 'ETHOS' a sapling of the Institute. The Institute is named after the great visionary Padmabhushan Dr. Karmaveer Bhaurao Patil. Let me take this opportunity to welcome all members of the editorial board and advisory board. I remain thankful to each one of them for their consent to be a part of ETHOS team, to set the standard of journal right from deciding the policies to finalising different facets of journal, the maiden effort of the Institute.

Needless to say, the current environment is turbulent to some extent to few industries. The pace of reforms is faster than imagination as change is only constant. As Indian industry is poised for and aspiring international standards, the focus is shifted from urban markets to rural markets which is manifested through the strategies of corporates and research undertaken by scholars. The change is keeping pace in academics as well which has encouraged changes in academics especially in higher education and professional education, research and consultancy. Interdisciplinary research has become order of the day. Research and only research will help to explore new practices, strategies and policies and possibilities to cope up with the challenging environment.

On such a plateau it is felt necessary to embark a research journal which would give an ample scope to researchers for exploring new horizons and help the industry to get a competitive edge with improved knowledge.

The present issue of ETHOS is a blend of facets of empirical and conceptual explorations in the functional areas of management like Finance, Information Technology, Marketing, General Management and Business Economics with an independent section of a Case Study.

It is my pleasure to share with you that there has been a cascading flow of articles for probable publication as soon as the journey for ETHOS was announced. I hope that the saga would continue in future endeavors of ETHOS.

I am also happy to inform you that the preparation for the next issue scheduled for June 2009 has already begun. Hope you will find the first issue interesting and useful.

It is a momentous moment for me to present this maiden issue of ETHOS to you and I look forward to your valuable feedback to enable us enthrall readers and ensure *kaizen*.

Dr. B.S. Sawant
Editor - in - Chief

Disinvestment Policy and Its Impact on Employment In Public Sector : A Study

Dr. Shrikrishna Mahajan

Abstract

Government of India has adopted liberalization, privatization, globalization policy as a part of economic stabilization and structural adjustment programme (S & SAP) in 1991, the disinvestments has started in public sector as a route of privatization. Some issues are left unanswered on privatization and disinvestments and one of the issues is employment. It is not affordable in the context of jobless growth in developing country like India. Present article narrates impact of disinvestment policy on employment.

Keywords : Disinvestment, Public Sector, Employment, India.

Introduction

The Public Sector Undertakings have played a vital role in development of Indian economy. Public enterprises are concerned as 'an instrument for self-reliant economic growth of India in order to develop agriculture and industry, diversify public economy and overcome economic backwardness and prevent the growth of unaccountable monopoly power' (Reddy & Balaji, 2004). But since 1991, the Government of India changed its former policy and opened up the areas to private sector which were formerly reserved for public sector. As the Government of India adopted liberalization and globalization policy, the privatization became compulsory to developing countries like India. Especially, the World Bank and IMF forced to carry out privatization as a condition for assistance under the economic stabilization and structural adjustment programme(S & SAP). Since 1991, the disinvestment has been adopted by the Government of India as a route of privatization. Disinvestment involves the sale of public-sector-equity to the private sector and to the public at

large. It is fear that the privatization programme will result in laying off work force on a large scale particularly after lock-in-period about labour retrenchment is over. When we talk of disinvestment or privatization in India, it is relevant that the objectives of setting public enterprises should not be forgotten. When the disinvestment or privatization is concerned, we have to take into consideration that whether the objectives of public enterprises are achieved, which was laid down for social objectives and national interest.

Objectives

The main objective of this research paper is to study the impact of disinvestment on the employment in public sector undertakings. And the specific objectives are:

1. To take the review of the employment issue in disinvestment policy.
2. To study the impact of disinvestment policy on employment in public sector.
3. To study the impact of disinvestment policy on SCs' and STs' share in the employment in public sector.

Hypotheses

1. There is negative impact of disinvestment policy on the employment in public sector.

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2. There is negative impact of disinvestment policy on the employment share of SCs and STs in public sector.

Methodology

Number of issues raised arguing that they are impacts of disinvestment on employment in public sector. This paper confines to study the effects of disinvestment on employment in public sector but the study is limited to Central public sector undertakings. The trend analysis of employment in public sector provides for the empirical evidence of impact of disinvestment. The changes in number of employees in public sector during the disinvestment process have been taken into account for testing hypotheses.

Limitations

The present study has the following limitations:

1. It is limited to the central public sector undertakings.
2. It is dependent only on secondary data.
3. No other factors have been considered for the study, which can affect the employment.

Review of Literature

In the paper 'The Employment Implication of Divestiture: The Indian Experience', Simrit Kaur(2002) has attempted to explore the employment implications of disinvestment of State owned Enterprises in India. It discusses the magnitude and extent of disinvestment in the 40 Central SOEs and analyses its impact on employment. This paper has divided into four sections. In the first section, the theoretical aspect of ownership on employment has been analyzed. The second section consists of the modalities of public sector reform options adopted by India since 1991. The third section dealt with the impact of liberalization on employment has been considered and finally, section four concludes with some observations to put the analysis in perspective. Kaur has done two important intellectual exercises regarding this topic- (i) the comparison of disinvested PSUs and not-disinvested PSUs (ii) Comparison of disinvested Competitive enterprises and disinvested monopoly enterprises.

A. K. Nauriyal(2002), in his article entitled 'Disinvestment Programme in India- Some Issues', has identified some issues related to disinvestment which are- (i) Issue of the route of disinvestment, (ii) Issue of Efficiency and Autonomy, (iii) Issue of the Uses of disinvestment proceeds, (iv) Issue of the political will power and (v) Issue of the redundancy of workers.

Arun Kumar, Satinder Kaur & Neha Gupta in their article entitled 'Disinvestment in Public Sector Enterprises in India', come up with three 'PSUs sell-off models emerged that point to the approach, method and philosophy. These models are- (i) Cash Model (ii) The Merger Model (iii) The Resource Turning Model. They have made analysis and also made suggestions which are-

1. Liberalization and deregulation of the economy is an essential pre-requisite
2. Capital Market should be successfully developed.
3. The National Renewal Fund (NRF) should be merged with a disinvestment fund.
4. To protect the employee interest, government has to make shareholders agreements to ensure that there will be no retrenchment of employees at least for a period of one year after privatization and thereafter retrenchment may be under Voluntary Retirement Scheme (VRS).

B. S. Ghuman(2003) has authored the paper entitled 'Social Audit of Privatization and Challenges for Governance: The Indian Case'. In this paper, Ghuman has taken a review of social implications of privatization. This paper involves the study of some important issues such as employment environment, poverty and vulnerable groups, women, backward areas including border areas, socially backward classes, and households.

Sunita Kikeri & John Nellies(2004) have come up with the paper entitled 'An Assessment of Privatisation'. This World Bank paper has reviewed various studies on privatization across the world. It discusses some important issues such as (i) trend of privatization in different countries,

(ii) Impact of privatization- enterprise performance, cross-cutting studies, developing country studies, transition economies (iii) welfare effects- employment and distributional effects, macroeconomic and fiscal effects (iv) emerging issues- a) ownership b) promoting competition- entry & exit, linkage to financial sector reforms c) regulation d) Transparency e) Social safety Nets. This article takes stock of the empirical evidence and shows that in competitive sectors privatization has been a resounding success in improving firm performance.

A. Jagan Mohan Reddy and N. Prasanna Balaji(2004) have written the article entitled 'Privatization is Not the Panacea for All the Ills of PEs'. A. Jagan Mohan Reddy is Associate Professor at Institute of Public Enterprise, Hyderabad. And Co-author N. Prasanna Balaji is Senior Programmer at Institute of Public Enterprise, Hyderabad. They have analyzed the issue of disinvestment in different manner. They frankly argued that when we talk of privatization it is the relevant context that matters, namely, the efficiency of economy, its level of development, resource prospects, socio-economic imperatives and the socio-political perspective.

With this review of literature, the present researcher found that few studies had been conducted on the related topics so it was need of the study which was proposed by the present researcher. So it was decided to conduct the study on the present topic and acknowledged the appropriate methodology.

Public Sector in India

Role of the State in Indian Economy

After the attainment of Independence, 'Mixed Economy' has been adopted as an economic structure. Indian Constitution predicts the goal of democratic socialism. The Directive Principles of the Constitution laid down-'The State shall, in particular, direct its policy towards securing-(a) that citizens, men and women equally, have the right to an adequate means of livelihood (b) that the ownership and control of the resources of the community are so distributed as best to subserve the common good (c) result in the concentration of wealth and means of production to the common detriment.'(Constitution of India, 1998)

Evolution of Public Sector in India

At the time of independence, India was backward and underdeveloped country. Basically it was an agrarian economy with a weak industrial base, heavy unemployment, low level of savings and investment and near absence of infrastructural facilities. Indian private sector was incapable of undertaking risks as it was involving large amount of capital and also long gestation period. The public sector was thought of as the engine for self-reliant economic growth and to overcome social backwardness.

Growth of Public Sector in India

The investment in public sector enterprises has grown from Rs. 29 crores as on 1.4.1951 to Rs. 349209 crores as on 31.3.2004. The growth of investment in Public Sector Enterprises including enterprises under construction, over the years is given in Table 1.

Table No.1 Growth of Investment in Central Public Sector Enterprises

Sr.	Particulars	Total Investment (in Rs. crore)	No. of PSUs
1.	At the commencement of the 1 st Five Year Plan (1-4-1951)	29	5
2.	At the commencement of the 2 nd Five Year Plan (1-4-1956)	81	21
3.	At the commencement of the 3 rd Five Year Plan (1-4-1961)	948	47
4.	At the end of the 3 rd Five Year Plan (31-3-1966)	2410	73
5.	At the commencement of the 4 th Five Year Plan (1-4-1969)	3897	84
6.	At the commencement of the 5 th Five Year Plan (1-4-1974)	6237	122

Sr.	Particulars	Total Investment (in Rs. crore)	No. of PSUs
7.	At the end of the 5 th Five Year Plan (31-3-1979)	15534	169
8.	At the commencement of the 6 th Five Year Plan (1-4-1980)	18150	179
9.	At the commencement of the 7 th Five Year Plan (1-4-1985)	42673	215
10.	At the end of the 7 th Five Year Plan (31-3-1990)	99329	244
11.	At the commencement of the 8 th Five Year Plan (1-4-1992)	135445	246
12.	At the end of the 1 st Five Year Plan (31-3-1997)	213610	242
13.	As on 31-3-1998	231024	240
14.	As on 31-3-1999	239167	240
15.	As on 31-3-2000	252745	240
16.	As on 31-3-2001	274114	250
17.	As on 31-3-2002	324614	240
18.	As on 31-3-2003	335647	240
19.	As on 31-3-2004	349994	242
20.	As on 31-3-2005	357939	237
21.	As on 31-3-2006	393057	239

Source: (Public Enterprises Survey, 2000-2001, 2001-2002, 2002-2003, 2003-2004, 2004-2005 & 2005-2006.)

Objectives of Public Enterprises

The objectives of setting up public enterprises in India: (i) To promote rapid economic development through creation and expansion of infrastructure, (ii) to generate financial resources for development, (iii) to promote redistribution of income and wealth, (iv) to create employment opportunities, (v) to promote balanced regional growth, (vi) to encourage the development of small scale and ancillary industries and (vii) to promote exports on the one side and import substitution, on the other. (Datt & Sundaram, 2005).

Many PSUs were set up in India in the post-Independence period in those field in which the private sector was either not able to set-up units because of paucity of resources or was simply not interested because of the long gestation period and/or low profit generation possibilities. When we talk of disinvestment or privatization, it is relevant that the objectives of setting public enterprises should not be forgotten. When the disinvestment

or privatization is concerned, we have to take into considerations that whether the objectives of public enterprises are achieved, which were laid down for social objectives and national interest.

Disinvestment Policy in India

Disinvestment Committees

The Government of India appointed the Krishna Murthy Committee in 1991 and the Rangrajan Committee in 1992 for suggesting the procedures to be followed for disinvestment of public enterprises. However, the Government did not take any decision on the recommendations of this committee.

Disinvestment Commission

In August 1996, the Government of India set up Disinvestment Commission to advise on the extent, strategy, methodology and timing for disinvestment in each Public Sector Undertakings. First Disinvestment Commission under the Chairmanship of Mr. G. V. Ramkrishna submitted 12 reports to the Government making specific and

general recommendations about the public sector units. The reconstituted commission under the Chairmanship of Dr. R. H. Patil submitted 13 reports to the Department of Disinvestment. The Disinvestment Commission played a role of advisory body only. It recommended the process of disinvestment. But these recommendations are not mandatory for the government.

Beginning of the Disinvestment

Dr. Manmohan Singh, the then Finance Minister in the Congress led Government, implemented an idea of disinvestment in 1991. He fixed the first target of Rs.2500 crore in 1991-92 and actual receipts were Rs.3030 crore but after that the proceeds from disinvestment became low as compared to fixed target.

NDA Government Period

The National Democratic Alliance (NDA) Government after coming into power established Ministry of Disinvestment and appointed a separate Minister for Disinvestment. It started proceeding of disinvestment rapidly.

In its first budgetary announcement, the NDA Government decided to bring down government share holding in the Public Sector Undertakings to 26 per cent in the generality of cases; it however stated that Government would retain majority holdings in Public Sector Undertakings involving strategic consideration and that the interest of workers would be protected in all cases.

The then Minister of Disinvestment viewed on NDA Government Policy on disinvestment saying that 'The main objective of the disinvestment is to put national resources and assets to optimal use and in particular to unleash the productive potential inherent in our public sector enterprises'(Shouri:2001). The policy of disinvestment specifically aims at-

1. Modernization and up gradation of PSEs
2. Creation of new assets
3. Generating of employment
4. Retiring of public debts

UPA Government's NCMP

The United Progressive Alliance (UPA) Government came into power under the leadership of Dr. Manmohan Singh then the Government took a decision to close down Ministry of Disinvestment with effect from 27th May 2004 and the work relating to disinvestment has been allocated to the Department of Disinvestment in the Ministry of Finance. The UPA had already mentioned its strategy towards public sector in National Common Minimum Programme (NCMP) that 'the UPA Government is committed to a strong and effective public sector whose social objectives are met by its commercial functioning, but for this, there is need for selectivity and strategic focus. The UPA is pledged to devolve full managerial and commercial autonomy to successful profit making companies operating in a competitive environment. Generally profit making companies will not be privatized.' The UPA Government policy on disinvestment include the following measures

1. All privatization will be considered on a transparent and consultative case by case.
2. The existing 'Navratna' companies will be retained in the public sector.
3. Every effort will be made to modernize and restructure sick public sector companies and revive sick industry.
4. Chronically loss making companies will be either be sold off, or closed.
5. The government believes that privatization should increase competition, not decrease it.
6. It will not support the emergence of any monopoly that only restricts competition.
7. It also believes that there must be a direct link between privatization and social needs.
8. Public sector companies and nationalized banks will be encouraged to enter the capital market to raise resources and offer new investment avenues to retail investors." (GOI, 2005).

Recent Developments in Policy

As per its commitment in NCMP, the government has established a Board for Reconstruction of Public Sector Enterprises to advise the government on ways and means for strengthening public enterprises in general and making them more autonomous and professional.

Recently, the government has decided to establish National Investment Fund (NIF). All proceeds from disinvestment will be comprised to the NIF and will be spent on revival of public sector undertakings and on social sector. It has also set

up Infrastructure Finance Company Ltd. (IIFCL), a special purpose vehicle (SPV) for funding infrastructure (The Economic Times, 2005).

Actual Disinvestment

There is wide gap between actual disinvestment and target pre-determined. Total target was Rs. 96800 crores and actual disinvestment since 1991-92 is Rs. 47646.43 crores. During 1995-96 to 2002-03, the government could not achieve the target for each year. The target, actual disinvestment and methodology used each year have been given in Table 2.

Sr.	Year	No.of Co.s in Which equity sold	Target for the year	Actual receipts	Methodology
1.	1991-92	47 (31 in one tranche and 16 in other)	2500	3037.74	Minority shares sold in Dec 1991 and Feb 1992 by auction method in bundles of "very good", "good" and "average" companies
2.	1992-93	35 (in 3 tranche)	2500	1912.42	Shares sold separately for each company by auction method.
3.	1993-94	--	3500	Nil	Equity of 6 companies sold by open auction but proceeds received in 94-95.
4.	1994-95	17	4000	4843.10	Sale through auction method, in which NRIs and other persons legally permitted to buy, hold or sell equity, allowed participating.
5.	1995-96	5	7000	168.48	Equities of 4 companies auctioned
6.	1996-97	1	5000	379.67	GDR (VSNL) in international market.
7.	1997-98	1	4800	910.00	GDR (MTNL) in international market.
8.	1998-99	5	5000	5371.11	GDR (VSNL) / Domestic offerings with the participation of FIIs (CONCOR, GAIL). Cross purchase by 3 Oil sector companies i.e. GAIL, ONGC & IOC
9.	1999-00	5	10000	1860.14	GDR-GAIL, VSNL-domestic issue, BALCO restructuring, MFIL's strategic sale and others
10.	2000-01 #	5	10000	1871.26	Strategic sale of BALCO, LJMC; Takeover - KRL (CRL), CPCL (MRL), BRPL

Sr.	Year	No.of Co.s in Which equity sold	Target for the year	Actual receipts	Methodology
11.	2001-02 #	8	12000	5632.25	Strategic sale of CMC - 51%, HTL -74%, VSNL - 25%, IBP - 33.58%, PPL-- 74%, and sale of hotel properties of ITDC & HCI; receipt from surplus cash reserves from STC and MMTC
12.	2002-03 #	8	12000	3347.98	Strategic sale: HZL (26%), IPCL (25%), HCI, ITDC, Maruti: control premium from renunciation of rights issue, Put Option - MFIL (26%), Shares to employees in HZL, CMC and VSNL.
13.	2003-04	2	14500	15547.41	Jessop & Co. Ltd.(72% Strategic Sale), HZL (18.92% Call Option), through Public Offer-Maruti (27.5%), ICI Ltd. (9.2%), IBP (26%), IPCL (28.945%), CMC (26.25%), DCI (20%), GAIL (10.%) and ONGC (9.96%)
14.	2004-05	3	4000	2764.87	NTPC (5.25% Offer for Sale), IPCL (5% to Employees) and ONGC (0.01%)
15.	2005-06	1	0	1567.60	Offer for sale of MUL to institutions and employees of MUL
	Total		96800	49214.03	

Figures (inclusive of control premium, dividend/dividend tax, restructuring and transfer of surplus cash reserves prior to disinvestment)

Source: (Department of Disinvestment, Government of India, Disinvestment Till Now, from www.divest.nic.in)

Impact of Disinvestment on Employment

The negative social implications of privatization are equally pronounced and undermine the sustainability of privatization particularly in the developing countries. It is feared that privatization programme will result in laying off work force on a large scale particularly after the lock-in-period about labour retrenchment is over.

Figure 1 : Employment in Public Sector Undertakings (1971-72 to 2002-03)

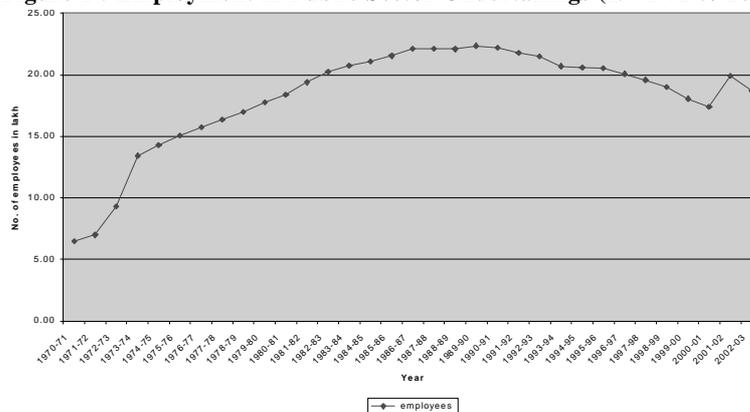


Table No. 3 Employment in Public and Private Organized Sector*(No. of employees in lakh)*

Sr.	Year	Public Sector		Private Sector		Total
		No. of employees	Percent on total	No. of employees	Percent on total	
1.	1970-71	11.10	62.26	6.73	37.74	17.83
2.	1971-72	11.69	62.68	6.96	37.32	18.65
3.	1972-73	12.40	64.85	6.72	35.15	19.12
4.	1973-74	12.73	65.35	6.75	34.65	19.48
5.	1974-75	13.13	66.75	6.79	33.25	19.92
6.	1975-76	13.63	66.75	6.79	33.25	20.42
7.	1976-77	14.18	67.11	6.95	32.89	21.13
8.	1977-78	14.73	67.45	7.11	32.55	21.84
9.	1978-79	15.58	68.30	7.23	31.70	22.81
10.	1979-80	15.12	67.62	7.24	32.38	22.36
11.	1980-81	15.48	67.66	7.40	32.34	22.88
12.	1981-82	16.28	68.38	7.53	31.62	23.81
13.	1982-83	16.75	69.39	7.39	30.61	24.14
14.	1983-84	17.22	70.06	7.36	29.94	24.58
15.	1984-85	17.58	70.29	7.43	29.71	25.01
16.	1985-86	17.68	70.58	7.37	29.42	25.05
17.	1986-87	18.24	71.17	7.39	28.83	25.63
18.	1987-88	18.32	71.26	7.39	28.74	25.71
19.	1988-89	18.51	71.30	7.45	28.70	25.96
20.	1989-90	18.77	71.23	7.58	28.77	26.35
21.	1990-91	19.06	71.28	7.68	28.72	26.74
22.	1991-92	19.21	71.00	7.85	29.00	27.06
23.	1992-93	19.33	71.12	7.85	28.88	27.18
24.	1993-94	19.45	71.04	7.93	28.96	27.38
25.	1994-95	19.47	70.72	8.06	29.28	27.53
26.	1995-96	19.43	69.54	8.51	30.46	27.94
27.	1996-97	19.56	69.24	8.69	30.76	28.25
28.	1997-98	19.42	68.94	8.75	31.06	28.17
29.	1998-99	19.41	69.05	8.70	30.95	28.11
30.	1999-00	19.31	69.06	8.65	30.94	27.96
31.	2000-01	19.14	68.87	8.65	31.13	27.79
32.	2001-02	18.77	69.01	8.43	30.99	27.20
33.	2002-03	18.58	68.82	8.42	31.18	27.00
34.	2003-04	18.20	68.81	8.25	31.19	26.45

Source: (Reserve Bank of India (2005-06), Handbook of Statistics on the Indian Economy.)

The fear is valid on three accounts: First, empirical evidence across the globes confirms it. In countries like Uganda, Arab countries, Shri Lanka, privatization has resulted in unemployment. In Uganda about 70 percent of the respondents in a study opined that total employment has come down as a result of privatization (Ssentamu J. Ddumba and Adam Mugume, 2001). Second, the private corporate sector in India prefers to import technology in consonance with country's resource endowment. Empirical evidence suggests that the technology developed in labour scarce

Table No.4 Employment and Average Annual Emoluments

Sr.	Year	No.of regular Employees(in lakh)	Average Annual Per capita Emoluments (Rs.)	% Increase from previous year	
				Man-power	Average annual emoluments
1.	1970-71	6.50	5470		
2.	1971-72	7.01	5920	7.85	8.23
3.	1972-73	9.32	5085	32.95	-14.10
4.	1973-74	13.44	5573	44.21	9.60
5.	1974-75	14.32	7402	6.55	32.82
6.	1975-76	15.05	8983	5.10	21.36
7.	1976-77	15.75	8940	4.65	-0.48
8.	1977-78	16.38	10048	4.00	12.39
9.	1978-79	17.03	11210	3.97	11.56
10.	1979-80	17.75	12468	4.23	11.22
11.	1980-81	18.38	14239	3.55	14.20
12.	1981-82	19.39	16158	5.50	13.48
13.	1982-83	20.25	18029	4.44	11.58
14.	1983-84	20.72	21546	2.32	19.51
15.	1984-85	21.07	24328	1.69	12.91
16.	1985-86	21.54	25887	2.23	6.41
17.	1986-87	22.11	28820	2.64	11.33
18.	1987-88	22.14	32537	0.14	12.90
19.	1988-89	22.09	39415	-0.23	21.14
20.	1989-90	22.36	43665	1.22	10.78
21.	1990-91	22.19	49179	-0.76	12.63
22.	1991-92	21.79	56508	-1.80	14.90
23.	1992-93	21.52	64983	-1.24	15.00
24.	1993-94	20.70	72043	-3.81	10.86
25.	1994-95	20.62	82517	-0.38	14.54
26.	1995-96	20.52	106876	-0.48	29.52
27.	1996-97	20.08	110662	-2.14	3.54
28.	1997-98	19.59	129582	-2.44	17.10
29.	1998-99	19.00	138179	-3.01	6.63

Sr.	Year	No.of regular Employees(in lakh)	Average Annual Per capita Emoluments (Rs.)	% Increase from previous year	
				Man-power	Average annual emoluments
30.	1999-00	18.06	168339	-4.95	21.83
31.	2000-01	17.40	219672	-3.65	30.49
32.	2001-02	19.92	193554	14.48	-11.89
33.	2002-03	18.66	225986	-6.32	15.78
34.	2003-04	17.62	248481	-5.57	9.95
35.	2004-05	17.00	286053	-3.52	15.12
36.	2005-06	16.49	276683	-3.00	-3.28

Source: (Govt. of India, Department of Public Enterprises, Public Enterprises Survey, Different Issues.).

Note: Data shown in the table is limited to Central Public Enterprises.

Economies is capital intensive and leads to jobless growth. [As it has been articulated that the economic growth in India in post-reform period is jobless growth (The Economic Times, 2004)]. Third, there is no legal binding on the privatized firm to remain in business forever. In case winding of the units and selling of assets including land having prime location is more profitable vis-à-vis to remain in business, the privatized firms will prefer the former.

The objective of a private firm is to maximize profit and its monitoring system is likely to be more effective than the public firm, it will affect the behaviour of managements. This in turn will have efficiency and employment implications. The change in ownership from public to private usually means losing a status resembling that of a civil servant to becoming a private sector employee with no guaranteed job security.

In India, the public sector has played a vital role as employment provider in after attainment of independence to the country. As one of the objectives of public sector is to generate employment opportunities, it accounted for about 70 per cent share in the total employment in the 'organised sector' (Table 3). In post-reform period, it's share has declined marginally. Table 3 shows that the number of employees in public sector was

11.10 lakhs in 1970-71, it went to 19.06 lakhs in 1990-91 and continuously increased upto 19.56 in 1996-97 but after that it started declining and reached to 18.58 lakhs in 2002-03. It shows that in pick period of disinvestment phases it has considerably decreased. The share of public sector in employment in organized sector was 62.26 per cent in 1970-71 which was increased upto 71.28 per cent in 1990-91 and afterwards it continuously reduced and reached to 68.82 per cent in 2002-03. It is interesting to know that the share of private sector in employment in organized sector was 37.74 per cent in 1970-71, it was continuously declined upto 28.72 per cent in 1990-91 and it again came up to 31.18 per cent. It may be the impact of privatization or disinvestment. But this analysis shows that the share of private sector in employment in organized sector is now increasing. The employees are shifting from public sector to private sector through privatization. But it is not only the transfer of employment share from public sector to private sector but also the transfer of safe government job to unsecured private job.

As Public Enterprises Surveys provide the data regarding the number of employees and average annual emoluments, Table 4 shows that the employment in public sector grown from 6.50 lakhs in 1970-71 to 22.36 lakhs in 1989-90 and declined up to 18.71 lakhs in 2002-03. The average annual emoluments to the employees of PSUs were Rs.5470 in 1970-71 which increased up to

Rs.224099 in 2002-03. Since 1990-91 the annual growth of employment in PSUs has revealed the negative growth (Table 4). The exception is only of 2001-02 where it has increased but was resulted so on account of inclusion of BSNL as PSU. It reveals that as soon as the government started disinvestment and reforms in public sector, the public sector showing continuous reduction in employment (Table 3). The total workforce in Central PSUs in 1989-90 was 22.36 lakh which has come down to 17.40 lakh in 2000-01. It increased upto 19.92 lakh on account of inclusion of BSNL as PSU in 2001-02. Again, it has come down to 18.71 lakh in 2002-03 and upto 17.66 lakh in 2003-04.

But according to Kaur, the decline in absolute employment during this period was more a result of changes in the macro policy regime (i.e.- more open economy) than of disinvestment per se (Kaur, 2002). The reduction in employment either in public sector or private sector cannot be afford in the context of jobless growth especially in post-reform period in developing country like India as its recent economic growth has been identified as jobless growth (The Economic Times, 2004).

Excess Workforce and VRS

Large scale employment by PSUs has over the years, led to a situation where some of the enterprises are saddled with over-employment or

excess manpower resulting in low level of per capita productivity. Government had initiated VRS (Voluntary Retirement Scheme) in PSUs during 1988 to help them shed excess manpower and to improve the age-mix and the skill-mix. As post-liberalization pressure increased on PSUs, a number of them resorted to VRS. The basic parameters of the model VRS which were notified by the Govt. vide DPE's on dt. 5-10-1988 and 6-1-1989 were in force since 1988 till April 2000. Government have improved upon the said scheme and introduced new schemes of VRS on 5-5-2000 and again on 6-11-2001. As per the available information, about 5.53 lakh employees opted for VRS, till 31.3.2005 (Naib, 2004).

The pre-disinvestment position of employment and post-disinvestment position of employment of 9 PSUs divested and 10 disinvested ITDC hotels and a unit of Hotel Corporation of India, has been shown in Table 6.8. It reveals that against initial employee-strength of 43,433 at the time of disinvestment, the separation of 4390 employees has taken place. Out of these separations 2996 were due to VRS and 731 on account of retirement. 1050 fresh appointments have taken place during the same period, which resulted in a net reduction in number of employees by 3340.

Table No. 5 Details of Employment Pattern : Pre-Disinvestment and Post-Disinvestment

Sr.	PSE	Month & Year	Employees at the time of Disinvestment	Attrition				Fresh Recruits	Net Change	Position (April 2003)
				Retirement	VRS	Other	Total			
1.	MFIL	Jan 2000	2037	79	853	-	932	43	-889	1148
2.	BALCO	Mar 2001	6436	361	1099	159	1619	194	-1425	5011
3.	CMC	Oct 2001	3119	11	-	122	133	558	425	3544
4.	HTL	Oct 2001	1138	134	-	77	211	1	-210	928
5.	VSNL	Feb 2002	2902	49	-	85	134	1	-133	2769
6.	IBP	Feb 2002	2200	2	-	2	4	-	-4	2196
7.	PPL	Feb 2002	1149	16	137	22	175	3	-172	977
8.	HZL	Apr 2002	8322	8	177	34	219	41	-178	8144
9.	IPCL	May 2002	13536	62	-	79	141	6	-135	13401

Sr.	PSE	Month & Year	Employees at the time of Disinvestment	Attrition				Fresh Recruits	Net Change	Position (April 2003)
				Retirement	VRS	Other	Total			
10.	ITDC (10 Hotels)	2001-2002	1798	9	730	81	820	178	-642	1156
11.	HCI (Centaur Mumbai)	Apr 2002	796	-	-	2	2	25	23	819
	Total		43433	731	2996	663	4390	1050	-3340	40093

Source: (www.parliament.nic.in, Reply of Minister of Disinvestment to Rajya Sabha, Starred Question No. 418, 10th April 2003.)

Notes: MFIL-Modern Foods India Ltd., BALCO-Bharat Aluminium Co. Ltd., CMC- Computer Maintenance Company, HTL- Hindustan Telex Ltd., VSNL- Videsh Sanchar Nigam Limited., IBP- IBP Ltd., PPL- Paradeep Phosphates Ltd., HZL- Hindustan Zinc Ltd., IPCL- Indian Petrochemicals Corporation Ltd., ITDC- Indian Tourism Development Corporation, HCI- Hotel Corporation of India Ltd.

Share of SCs and STs in Total Employment of PSUs

The public sector undertakings are friendly to socially backward classes. Under various policies and programmes including reservation policy of Central Government, the public sector undertakings are very effective instruments for protecting and promoting the interest of socially disadvantaged classes and castes.

Table No.6 Share of Scheduled Castes and Scheduled Tribes in Employment in Public Sector Undertakings

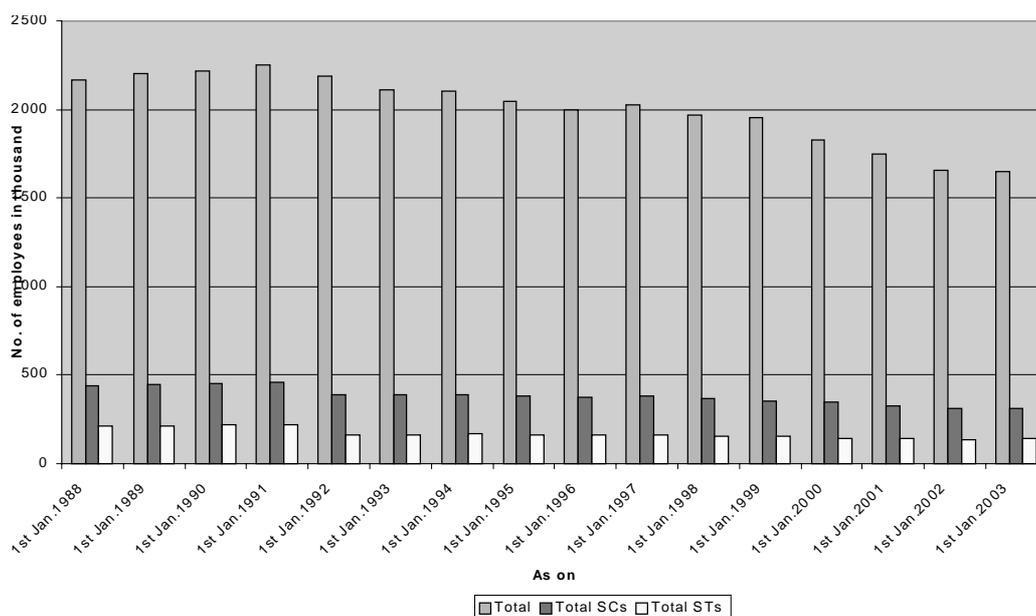
(No.in thousand)

Sr.	As on	No. of Reporting Enterprises	Total No. of employees	Scheduled Castes		Scheduled Tribes	
				No.	%	No.	%
1.	1 st Jan.1988	220	2164	439	20.3	211	9.7
2.	1 st Jan.1989	220	2204	449	20.4	213	9.7
3.	1 st Jan.1990	220	2220	454	20.5	217	9.8
4.	1 st Jan.1991	225	2249	459	20.4	221	9.8
5.	1 st Jan.1992	225	2184	388	17.8	164	7.5
6.	1 st Jan.1993	228	2110	391	18.6	163	7.7
7.	1 st Jan.1994	228	2102	392	18.7	169	8.0
8.	1 st Jan.1995	228	2046	385	18.8	161	7.9
9.	1 st Jan.1996	228	1997	378	18.9	161	8.0
10.	1 st Jan.1997	238	2022	382	18.9	163	8.0
11.	1 st Jan.1998	238	1964	371	18.9	156	8.0
12.	1 st Jan.1999	238	1952	356	18.2	153	7.8

Sr.	As on	No. of Reporting Enterprises	Total No. of employees	Scheduled Castes		Scheduled Tribes	
				No.	%	No.	%
13.	1 st Jan.2000	238	1829	345	18.8	146	8.0
14.	1 st Jan.2001	238	1747	327	18.8	143	8.2
15.	1 st Jan.2002	238	1658	309	18.6	134	8.1
16.	1 st Jan.2003	218	1652	313	19.0	139	8.4

Source: (Public Enterprises Survey, various issues.)

Figure 2 : Employment To SCs and STs in Public Sector Undertakings



The share of SCs and STs in total employment of PSUs has marginally declined during the period since 1991 to 2003 (Table 6 and Figure 2). It was 30 per cent in 1998 which came down to 27.4 per cent in 2003. The number of employees belongs to SCs were 4.59 lakh on 1st January 1991 and it has declined to 3.31 lakh on 1st January 2003. The share of SCs in total employment has also declined during the same period. It was 20.3% on 1st January 1991 which came down to 19% on 1st January 2003. In case of STs also their number and share in total employment, has declined during the same period. The number and share in total employment, has declined during the same period. The number of STs employees was 2.21 lakh as on 1st January 1991 which came down to 1.39 lakh

as on 1st January 2003. The share of STs in total employment was 9.8% as on 1st January 1991 which came down to 8.4% as on 1st January 2003.

Findings

1. In India, the public sector has played a vital role as employment provider in after attainment of independence to the country. It accounted for about 70 per cent share in the total employment in the 'organised sector'.
2. The pre-disinvestment position of employment and post-disinvestment position of employment of 9 PSUs divested and 10 disinvested ITDC hotels and a unit of Hotel Corporation of India, has been reviewed. It reveals that against initial employee-strength of 43,433 at the time of

disinvestment, the separation of 4390 employees has taken place. Out of these separations 2996 were due to VRS and 731 on account of retirement. 1050 fresh appointments have taken place during the same period, which resulted in a net reduction in number of employees by 3340.

3. The employment in public sector grown from 6.50 lakhs in 1970-71 to 22.36 lakhs in 1989-90 and declined up to 18.71 lakhs in 2002-03 and upto 17.66 lakh in 2003-04. Since 1990-91 the annual growth of employment in PSUs has revealed the negative growth. This evidence proves the hypothesis set as 'there is negative impact of disinvestment policy on the employment in public sector'.
4. The share of SCs and STs in total employment of PSUs has marginally declined during the period since 1991 to 2003. It was 30 per cent in 1998 which came down to 27.4 per cent in 2003. The number of employees belongs to SCs were 4.59 lakh on 1st January 1991 and it has declined to 3.31 lakh on 1st January 2003. The share of SCs in total employment has also declined during the same period. It was 20.3% on 1st January 1991 which came down to 19% on 1st January 2003.
5. In case of STs also their number and share in total employment, has declined during the same period. The number of STs employees was 2.21 lakh as on 1st January 1991 which came down to 1.39 lakh as on 1st January 2003. The share of STs in total employment was 9.8% as on 1st January 1991 which came down to 8.4% as on 1st January 2003.
6. On the basis of above trend analysis, the hypothesis set as 'there is negative impact of disinvestment policy on the employment in public sector' is accepted.

Conclusion

In India, about 34.7 per cent people below poverty line that do not have access to even basic needs.

There is wide disparity between the rich and the poor. It remains for the state to provide economic opportunities for the poor and socially disadvantageous people so that they too can go up the prosperity ladder. There is growing problem of unemployment in the economy. PSUs can play an instrumental role in this regard since the unemployment problem is growing.

But the economic reforms in general and the disinvestment and privatization in particular, are creating an adverse impact on employment generation. The post-reform period is showing the reduction in employment which result in ultimately unemployment. Socially backward classes and castes would also pay heavy price of privatization. It seems that the existing privileges for these backward classes like SCs and STs would disappear in the post-disinvestment phase and thus depriving them the scope of social upliftment.

Government should not go for straight-way disinvestment in all PSUs. PSUs which are doing extremely well should not be touched at all and in fact more operational autonomy should be given to do further. In short, profit-making PSUs should not be disinvested. PSUs which are facing certain problems be extended a well designed packages asked to perform turnaround in a given time or else face the eventuality. PSUs which are beyond revival need to be either closed/ sold in a transparent manner so that further amounts of public money gets locked up immediately. It is more important to improve the system, to make it conducive to efficiency, productivity. To make PSUs respond effectively, the government will have to allow them to function as board managed companies. There PSUs have to be given greater functional autonomy with accountability in decision-making process. The interference by the bureaucracy and the political leadership must be minimized in favour of operational freedom. There is need for blending the socio-economic objectives with those of commercial objectives.

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Rules Based Expert System for Highly Active Antiretroviral Therapy (HAART)

B. L. Desai

Anthenh Worku

Abstract

Expert Systems are software packages that encode knowledge and decision rules of human specialists, so that the package user can call on this expertise in making decisions. This paper deals with the research work where an attempt is made to design and develop a prototype Expert system/ knowledge based system for treatment of HIV infection by physicians and occupational exposure to the virus.

Keywords: Expert System, Highly Active Anti-Retroviral Therapy, HIV

Introduction

This paper deals with the development of an expert system for treatment of HIV infection. Researchers have developed a workable expert system that recommends drugs for people living with HIV/ AIDS and health personnel who have occupational exposure to the virus. Before going into the design and development of the system the domain and the problem has been briefly described.

The Domain

The introduction of life-saving drug combinations known as the Highly Active Anti-Retroviral Therapy (HAART) in 1996 means AIDS is no longer an automatic death sentence. Death rates were halved shortly after the drug cocktails became available and declined by over 80 percent by 2001 [Bartlett, 2003].

The Highly Active Anti-Retroviral Therapy (HAART) involves a number of drugs to choose from with a varying degree of interaction among them; associated side effects could be hazardous to life. The therapy is life long and there are

laboratory investigations to monitor and different diseases to keep an eye on. All these issues would be the responsibilities of an expert in the field. What is appreciated more now than in 1996 is that while HAART can be very successful, treating persons with HIV is becoming increasingly complex.

Factors considered in treatment of HIV

Treatment of HIV and provision of prophylaxis to exposed health personnel involves consideration of various parameters. Some of these factors are discussed briefly.

Pregnancy

Pregnancy is a key factor in the choice of drugs for HIV treatment. In fact, this holds good in all cases where there is a demand to administer drugs to pregnant women. This is primarily because of the fear of giving drugs that could have unwanted effect on the unborn child. The side effects of the drug could affect the foetus in the form of physical deformities, mental retardation, metabolic disorders, and etc. Various clinical researches are done on human beings and other mammals to determine the level of drug safety during pregnancy. Efavirenz (EFZ) is one anti-retroviral drug that should never be given to women of pregnancy potential where no contraception can be assured or during pregnancy. Researches have clearly shown its teratogenic effect in primates. The drug choice is depicted in following structure (Figure: 1)

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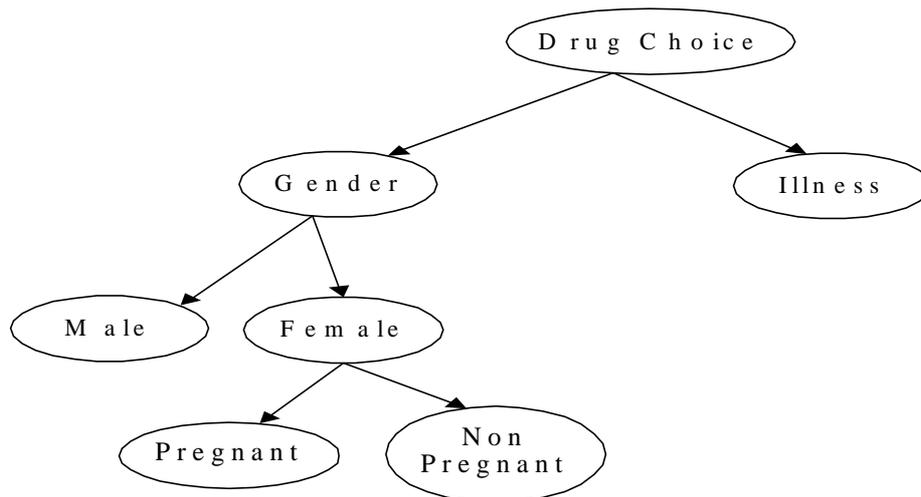


Figure 1: Concepts in Drug Selection

Tuberculosis (TB)

Tuberculosis is one of the chronic infectious diseases that commonly occur in patients with immune-compromisation or patients with HIV/AIDS. Since TB drugs can have side effects just like Antiretroviral drugs; if the situation allows ARV drugs should be started after the TB treatment is over. This decision largely depends on the patient's CD4 count. If the CD4 count is greater than 200 per mm³, the ARV treatment should be started after completion of the TB treatment. If the CD4 count is between 50 and 200 mm³, the ARV treatment could wait until the intensive phase of TB treatment is over. Whereas, if the CD4 count is less than 50 mm³, ARV drugs should be started soon after the TB drugs are tolerated.

Tuberculosis does affect not only the time when treatment should be started but also the choice of ARV drugs. There are AntiRetroVirals (ARV) drugs, which should not be administered with some of the TB drugs, and also the drug dose may vary on which drugs are used together.

Tuberculosis can manifest in different forms like Pulmonary Tuberculosis (Tuberculosis of the Lung), Tuberculos Meningitis (Tuberculosis of the Meninges), and so on. It's a treatable disease with drug combinations administered under the DOTS (Directly Observed Treatment-Short course) program. The whole treatment schedule is divided in two phases: Intensive and Maintenance. The drug choice is depicted under this situation in the following structure (Figure: 2).

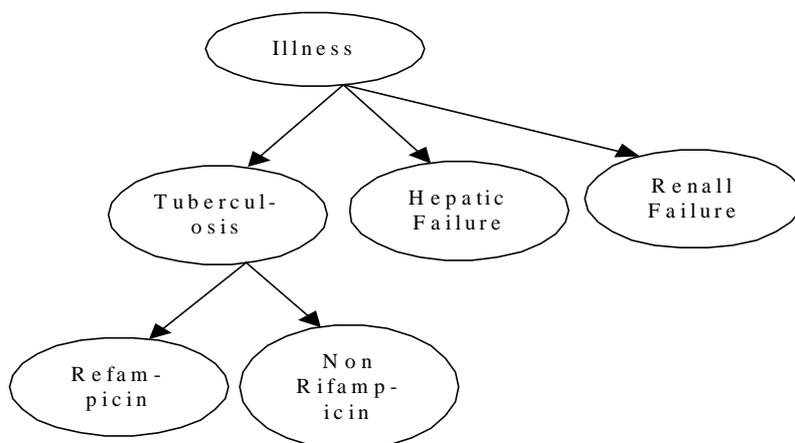


Figure 2: Concepts in Illnesses

Renal Failure

Renal failure occurs when the kidney fails to undertake its normal excretory functions because of various causes. The kidney is one of the routes through which drugs are excreted from the body after metabolization; liver being another example. This is critical because the accumulation of metabolized drug elements will have unwanted effect on the body. Therefore, in situations where

a patient has renal failure, the necessary dose adjustments should be made so, the side effects, which can jeopardize the patient's health, can be avoided. The decision on achieving dose adjustment is based on the results of the Renal Function Tests (RFT) with Creatinine Clearance being the major one. The drug choice is depicted under this situation in the following structure (Figure: 3)

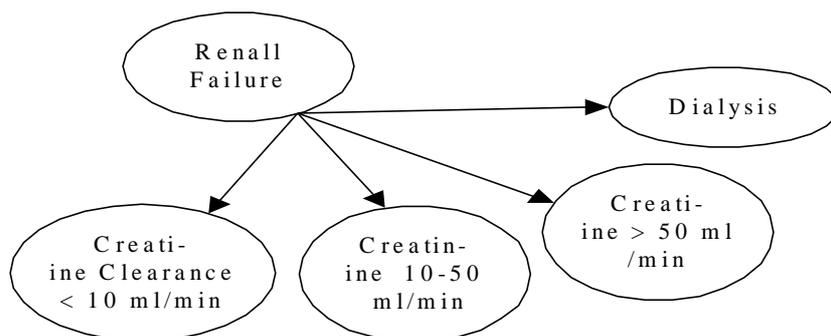


Figure 3: Concepts in Renal Failure

Hepatic Failure

The liver is an organ where lots of bodily metabolisms happen. Impairment of this task as evidenced by some abnormal Liver Function Tests (LFT) is called Hepatic Failure. As part of its metabolic functions the liver metabolizes drugs making them ready for excretion. Hence, Hepatic Failure would ask for dose adjustments to be made depending on the metabolic nature of the drug. For example, a drug, which is primarily excreted through the kidney, may not need dose adjustment in patients with hepatic failure.

Source Material

The health personnel needing PEP could have been exposed to the virus through a number of possibly infectious body tissues. The source materials deemed infectious and which warrant prophylaxis include blood, body fluids, and seminal and vaginal fluids. Other normally sterile fluid or tissue needs no prophylaxis. The source material aids not only in the decision whether or not to give prophylactic drugs but also gives a clue on which drugs to give. The drug choice is depicted under this situation in the following structure

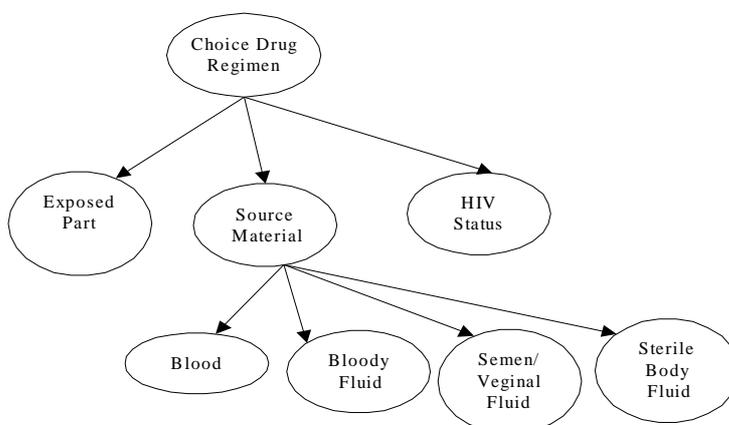


Figure 4: Concepts in Choice of Drug Regimen

Exposed Part

The body part that has been exposed to the infectious material determines possible risk and its magnitude. If Mucus membranes and skin with compromised integrity (e.g., dermatitis, open wound) are exposed to the infectious material this is risky unlike exposure to intact skin where no PEP is needed. Injuries to the skin by sharp objects also carry risk of infection. The drug choice is depicted under this situation in the following structure. (Figure: 5)

In case of mucus membrane and compromised skin exposure, the volume of the infectious material is important to assess magnitude of risk (Figure: 5).

Whereas in case of exposure by the injury of skin, by sharp objects, severity is assessed by the injurious object. For example, injury by solid needle carries a different level of risk than the case of injury by hollow needle (Figure: 6).

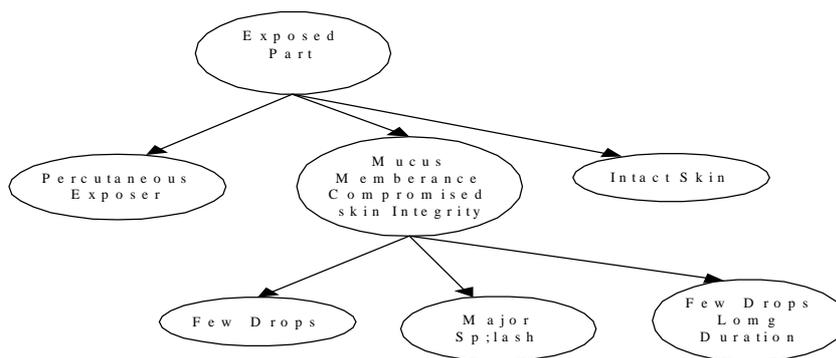


Figure 5: Concepts in Exposed Parts

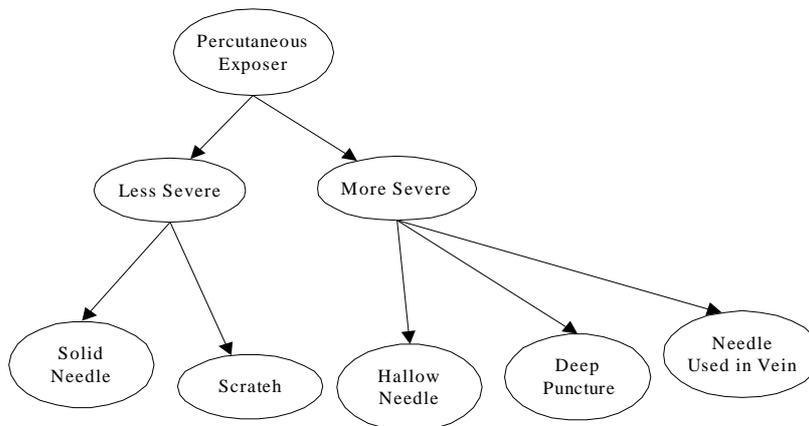


Figure 6: Concepts in Percutaneous Exposure

HIV Status

When assessing the risk of exposure, the first thing that would come to mind would be the HIV status of the source patient. Usually the source patient is either HIV Negative or Positive. But it's not always that simple. Situations could occur when the source patient is not known or his/her HIV status is not known. In such cases the decision to start or not to start PEP will be made taking other factors into

consideration. If the source patient is negative then clearly no prophylaxis is needed. On the other hand, if the source patient is positive then the degree of infectiousness of the source is evaluated by taking parameters like viral load into consideration. The drug choice is depicted under this situation in the following tree (Figure: 7) structure.

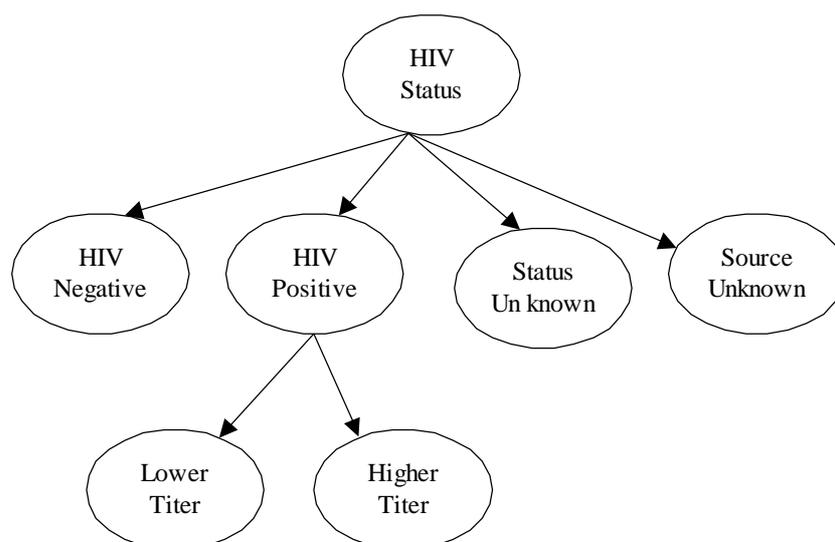


Figure 7: Concepts in HIV Status

Problem Descriptions

To navigate this complexity specialized knowledge is required and it has been shown that persons with HIV treated by experienced providers fare better than those treated by non-specialists. Even for the HIV-specialists, routine HIV care is getting more difficult as many new pieces of clinical data have to be considered on an ongoing basis, and the knowledge-base of HIV care continues to change much more rapidly than in most other medical disciplines.

Keeping the degree of the disease spread in developing countries and the already small physician (Health Personnel) to patient ratio in mind, it will not be difficult to appreciate the challenge posed in view of successfully running the life-prolonging therapy.

Though instructions of experts is one efficient way to solve this problem, it couldn't be solved substantially by only relying on experts because the number of experts who have a rich experience is limited and a great amount of investment and time is needed to educate one expert. So it calls for new techniques to solve the problem.

This can be minimized by equipping a non-expert (novice) with an expert system, which employs the knowledge used by the experts in the field.

This system at least can act as a decision support system if not a decision-maker.

Identifying the knowledge used in decision-making or problem solving is the most crucial component of an expert system design. In our case, the task of acquiring the knowledge used in decision making in the treatment of HIV, involved extensive survey of literature available and close interaction with experienced physicians in the form of interviews with the help of questionnaires.

Design of the Expert System

Designing the domain knowledge is the task of formalizing appropriate knowledge in a tool, which will then be used to solve real world problem. The domain of HIV treatment is considered only from one angle, viz, structuring the knowledge and representing it, in the way the treatment decision is arrived at.

'Top-down' approach using hierarchical tree (see tree structure figure: 8 (a) and 8 (b)) structuring was used to develop the conceptual models. A backward reasoning rule interpreter controls the basic operation of the system. During operation the inference engine attempts to establish values for parameters by backward chaining.

The current logical design of the system consists of two main modules: First Visit and Prophylaxis.

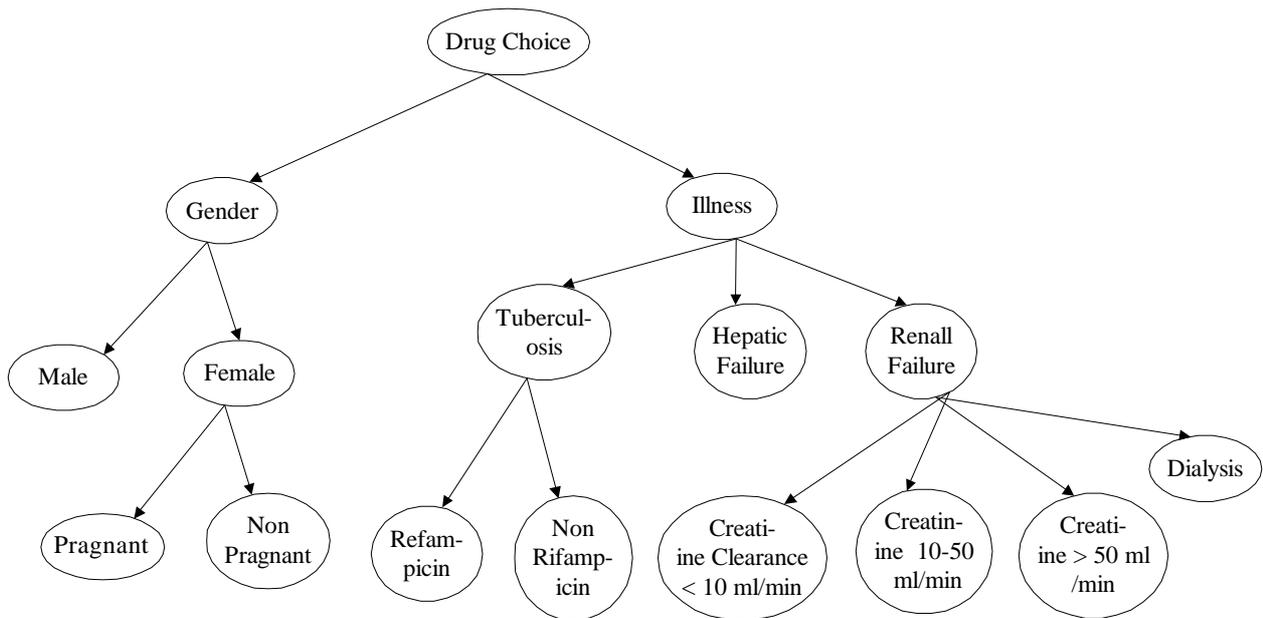


Figure 8 (a) Drug choice at first time

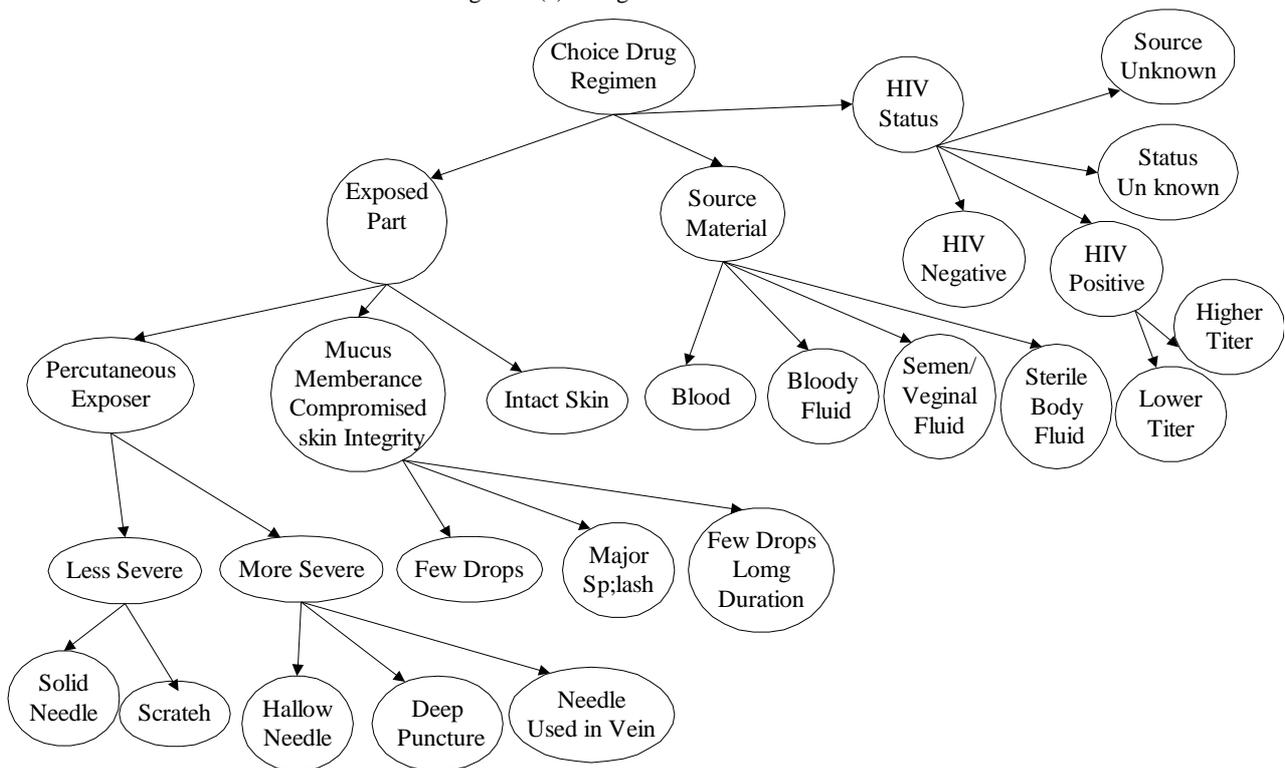


Figure 8 (b) : Drug Choice at Regimend

First Visit is needed for recommending antiretroviral drugs based on the various input parameters given in Table 1. The Prophylaxis module, on the other hand, selects antiretroviral

drugs which are deemed appropriate taking the exposure scenario into consideration based on parameters given in Table 2.

Table No. 1 : Input and Output parameters of First Visit

Input parameters	Output parameters
Gender	Drug
Pregnancy	Dosage
Tuberculosis Treatment	
Laboratory values (CD4 count, Creatinine Clearance)	
Renal Condition	
Liver Condition	
Body weight	

Table No. 2 : Input and Output parameters of Post Exposure Prophylaxis

Input parameters	Output parameters
Type of infectious material	Drug
Type of injurious material	Dosage
Clinical/immunologic condition of source	
HIV status of source	
Volume of infectious material	
Duration of Exposure	
Part exposed	

Generally, the drugs are classified in three groups depending on their mechanism of action in attacking the Virus. These are Nucleoside Reverse Transcriptase Inhibitors (NRTI), Non-Nucleoside Reverse Transcriptase Inhibitors (NNRTI) and Protease Inhibitors (PI). Following Table 3 shows a list of drugs and their categories:

Table No. 3 : List of AntiRetroviral Drugs and their Categories

NRTI	NNRTI	PI
Zidovudine (ZDV)	Nevirapine (NVP)	Saquinavir (SQV)
Didanosine (ddI)	Efavirenz (EFZ)	Ritonavir (RTV)
Zalactabine (ddC)		Indinavir (IDV)
Lamivudine (3TC)		Nelfinavir (NFV)
Stavudine (d4T)		Lopinavir (LPV)
Abacavir (ABC)		LPV/r
ZDV+3TC		SQV/r
ZDV+3TC+ABC		IDV/r

It may be noted that the above three major classifications are arrived after recommending antiretroviral drugs based on the various input parameters given in table 1 and 2. This was done to facilitate the development of possible goals.

After arriving at the goals comprising of primary nodes with possible values, the rules were designed for the tree structure (see Figure 8(a)) using forward chaining method. Since it is known that for a primary node to attain a particular value the parameters under this node should be rendered

with certain desired values. With this as basis, the rules were framed for all the nodes from primary to (n-1)th level and the rule base was designed.

Continuing top-down approach, the primary nodes are divided as mentioned above into secondary and tertiary nodes (see figure 8(a)).

The Rule Base Development

The rule based system uses rules in the form of IF-THEN. The IF part needs to be satisfied by the facts for the goal, i.e. the THEN part, to be fired.

The knowledge base is a collection of knowledge in the domain area. Rules in the form of IF-THEN have been used in this research hence; the Knowledge Base can also be referred as the Rule-base.

Following sample rules illustrates how the knowledge has been represented in the form of 'IF-THEN' rules.

Sample rules for HIV patients on their first visit

IF GENDER IS FEMALE
AND TB IS YES
AND CD4COUNT IS LESS_THAN_50
AND RENAL IS YES
AND CRCL IS MORE THAN 50 -- 50 ml/minute
AND HEPATIC IS NO TEN
RECOMMEND IS 'ZDV(300 mg/day)/3TC(150 bid)/SQV/r (0.5), ZDV(300 mg/day)/3TC(150 bid)/ABC(0),ZDV(300 mg/day)/3TC(150 bid)/NVP (0.25)'.
IF GENDER IS FEMALE
AND PREGNANCY IS YES
AND TB IS YES
AND CD4COUNT IS LESS_THAN_50
AND RENAL IS YES
AND CRCL IS '10-50ML/MIN'
AND HEPATIC IS NO
THEN RECOMMEND IS 'ZDV(300 mg/day)/3TC(150 qd)/SQV/r (0.5), ZDV(300 mg/day)/3TC(150 qd)/ABC(0),ZDV(300 mg/day)/3TC(150 qd)/NVP (0.25)'.

Sample rules for Post Exposure Prophylaxis

IF SOURCE_MATERIAL IS YES
AND PART_EXPOSED IS 'MUCUS MEMBRANE'
AND SOURCE_STATUS IS 'HIV POSITIVE'

AND VOLUME IS 'FEW DROPS/LONGER DURATION'
AND SOURCE_CONDITION IS 'HIGH VIRAL LOAD'
THEN RECOMMEND IS '**EXPANDED REGIMEN**'

IF SOURCE_MATERIAL IS YES

AND PART_EXPOSED IS 'SKIN INTEGRITY COMPROMISED' -- (E.G. Dermatitis,

AND SOURCE_STATUS IS 'HIV POSITIVE'
Open Wound)

AND VOLUME IS 'FEW DROPS/LONGER DURATION'

AND SOURCE_CONDITION IS 'ASYMPTOMATIC AND HIGH CD4 COUNT'

THEN RECOMMEND IS 'BASIC REGIMEN'

From the above rules, Except for numeric comparison as done in practice, all other parameters are qualitatively multi-valued ones. The reasoning and inference aspects of drug choice stop after assigning comparative importance of each primary node. This is also the point where expert system design stops.

For the goal driven backward chaining expert system the final goals are as follows. The primary nodes of the overall tree structure of the domain space take the values:

Illness :

TUBERCULOSIS-HEPATIC FAILURE - RENAL FAILURE

Exposed Part :

PERCUTANEOUS EXPOSER - MUCUS MEMBRANE COMPROMISED SKIN INTEGRITY - INTACT SKIN

Source Material :

BLOOD - BLOODY FLUID - SEMEN - STERILE BODY FLUID

HIV Status :

NEGATIVE - POSITIVE - STATUS UNKNOWN - SOURCE UNKNOWN

There are 112 resulting combination of drugs, which incidentally are the goals in the systems, based on which an appropriate combination of drug is decided. From the study it is concluded that illness and exposed part is an important node that should be evaluated.

The system ultimately has to reach one of these combinations after processing all the parameters under each node and provide an appropriate combination of drugs.

Rule Base Implementation

For the proposed expert system, choices of several expert system shells are available, and KPWIN (Knowledge Pro Ver. 3.3) was found to be the most suitable for the purpose. Because 'If-Then' rules are supported as the basic paradigm for representing domain knowledge in the rule, its inference engine supports backward chaining explanation facilities like why? and how? . And the rule base can be created using any conventional text editor.

The rule base structure comprises 'Rule Master' and 'Rule Help' text files.

Rule Master -

It is a set of expected conditions and outputs for the given inputs (leaf nodes / tertiary nodes).

Rule Help -

It consists of possible messages and descriptions of drugs.

Given below is an illustration of working of system with its set of rules. Consider any of the drug recommendation with the values that may be rendered to the nodes on the basis of the processing

RECOMMENDATION

This recommendation lead to following drugs as the Outcome

- 'ZDV(300 mg/day)/3TC(150 qd)/SQV/r (0.5),
- ZDV(300 mg/day)/3TC(150 qd)/ABC(0),
- ZDV(300 mg/day)/3TC(150 qd)/NVP (0.25).'

For those combinations, a corresponding rule has been framed, which is as follows;

Rule # 3

IF ? GENDER IS FEMALE
 AND ?PREGNANCY IS YES
 AND ?TB IS YES
 AND ?CD4COUNT IS LESS_THAN_50

AND ?RENAL_FAILURE IS YES
 AND ?CRCL IS '>50ML/MIN'
 AND ?HEPATIC IS NO
 THEN RECOMMEND IS 'ZDV(300 mg/day)/3TC(150 bid)/SQV/r (0.5), ZDV(300 mg/day)/3TC(150 bid)/ABC(0),ZDV(300 mg/day)/3TC(150 bid)/NVP (0.25)'.
 The basic process of system is controlled by a backward reasoning rule interpreter. While processing above rule, the inference engine attempts to establish values for parameters by backward chaining.

For instance, to establish the value of the parameter Recommendation, the rule interpreter follows the steps given follows;

Rule 3 is fired from the knowledge base, since its right hand side deals with Recommendation.

The rule interpreter now has 5 goals to prove, therefore, the five goals on the left hand side of rule 3. These are again proven by backward chaining. The system interacts with the user during inference if it encounters parameters whose values are not known.

The consultation is essentially a search through a tree of goals (see tree structure fig:8(a) and 8(b)). The top goal at the root of the tree is the action part of the goal rule, that is, the recommendation of a drug therapy. The leaf nodes of the tree are facts which are laboratory data, cannot be deduced.

Assigning Certainty Factors (CFs)

In building of the Knowledge Base/ expert system, the degree of suitability of drug regimens for different groups of patients have been identified after many literature reviews and discussion had with the experts in the field. The following table 4 shows the Potency of drug regimens in patients with Pregnancy and Tuberculosis

Table: 4 Potency of drug regimens in patients with Pregnancy and Tuberculosis

Drug combinations	Pregnancy	Tuberculosis
ZDV/3TC/EFZ	+++	++
ZDV/3TC/NVP	++	+

In the above table + indicates least favourable and ++++ indicates most favourable. Hence, it has been assumed that, ++++ (most favourable) is similar to a Certainty Factor of 1. Where as +++ (3/4) is the same as 0.75. The calculation goes on with ++ to mean 0.5 and + becomes 0.25.

The Certainty Factor of drug regimens used in patients who are both pregnant and suffering from tuberculosis is calculated by multiplying the individual CFs and using the product as the cumulative CF [Parsaye and Chignell, 1988, Abduselam, 2001].

Explanation Facilities

In this prototype system, explanation facility in the form of features like 'WHY' and 'HOW' are added. This will answer the queries as to how and why a decision is taken for selecting a particular drug. This feature can be explained clearly by the following illustration.

For example, if the patient is pregnant, and the user wants to know why? a particular drug has been advised by the system or why? a particular set of guidelines for drug selection is suggested by the system. For which, following message will be displayed using a pop up window;

Pregnancy is a key factor in the choice of drugs for HIV treatment. In fact, this holds good in all cases where there is a demand to administer drugs to pregnant women. This is primarily because of the fear of giving drugs that could have unwanted effect on the unborn child. The side effects of the drug could affect the fetus in the form of, physical deformities, mental retardation, metabolic disorders, and etc. Various clinical researches are done on human beings and other mammals to determine the level of drug safety during pregnancy. Efavirenz (EFZ) is one antiRetroviral drug that should never be given to women of pregnancy potential where no contraception can be assured or during pregnancy. Researches have clearly shown its teratogenic effect in primates. Hence, the drug choice should be done with utmost care.

The WHY facility is built for the 'First Visit' module only.

Similarly, HOW explanation facility is also added, which reasons why a given drug regimen was recommended. Hence, 'how' feature of the expert system shell works in the following manner:

After enough parameters have been input to the system, the list of following recommended drugs with explanation appears in a popup window, that how the decision (conclusion) has arrived at.

The recommended drug for this patient (the patient with pregnancy) is

Drug	Dose	Certainty Factor
ZDV	200 mg po bid	1.0
3TC	150 mg po bid	
NVP	400 mg po qd	

Explanation

Key factor in the decision is Pregnancy: The fact that the patient is pregnant precludes the use of EFZ in the regimen. Since the patient is not Tuberculous there is no fear of ARV drugs that have interaction with Rifampin. No organ failure is evident in this patient precluding the need for dose adjustment.

The system is flexible to accommodate additional parameters as and when required. At present, the proposed knowledge base/expert system has considered all the vital parameters required to take decision or support decision making.

Conclusion

The expert system developed for recommending appropriate drugs and dosage for HIV patients (treatment of HIV patients) will be helpful in solving the problems faced by physicians and occupational exposure to the virus. Initial feedbacks collected by us from hospitals selected for the study have been positive. The physicians have certainly stated that this system can be employed to enhance the treatment process. The system can be employed in its present state. With further work, the scope of the expert system can be widened to include other diseases related to HIV/AIDS.

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Home Appliances Market in Ahmednagar District : An Empirical Study

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Abstract

This research paper is an attempt to study the services provided by the retailers of home appliances in the urban areas of Maharashtra in order to identify the major characteristics or factors considered to be important by the consumers.

The researcher has studied a large sample of buyers of home appliances from the said area to find out the extent of their agreement or disagreement using five point scale with a number of statements and applied Factor Analysis to this set of data to identify among factors - such as fresh looks and customer care, discount, variety and fun , POP display to boost impulse buying, financial alliances to offer installment schemes and collaborative commerce to offer modern experience of retailing are considered to be important by the consumers.

The researcher has identified two distinct segments of the consumers based on the study namely Service Oriented Segment and Impulse Oriented Segment.

The researcher has attempted to suggest two different strategies namely Pull strategy and Push Strategy. Also the pricing strategy is suggested which is applicable in both Push and Pull strategy.

Keywords : Home Appliances, Retail Marketing, Marketing Strategy

Introduction

The typical retail business in India has been a fine mixture of some small capital, skills, and perseverance in building strong bond with people in a practical way. Since last many decades the country has been witnessing a tradition of such retail and wholesale business. This business was based on local needs and strictly according to the social and economic structure of the locality. The procedure of business was metered in such a way that it would be benefited to the sellers, customers and producers. It lacked the charisma of modern retailing.

Shopping has been a way of life for Indians. It is direct reflection of the tendencies to shop. The Indian consumer never fully tanks up his car. Usually it is only about Rs.500 worth of Petrol he goes for.

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Quatre Bornes, Mauritius.

Why? Is it that he is in short of money? Or he likes the shopping experience? A typical housewife while purchasing a sari usually puts the retailer into problem.

The recent trend in retailing is witnessed by Indian market mainly due to increased purchasing power, changed family structures and sudden information explosion. The consumer has become aware of the choices available to the international consumer and started demanding for the same variety. Families and children have become increasingly important. They are largely untargeted but are prime navigators. Teenagers have become a defining group, setting trends and acting as the vanguards for new products. Women have become a central decision force for the entire family. They are posing a profound effect on consumption as they constantly change their lifestyle and demand for convenience and choice.

This change became evident in last 15 years. The economic reforms have posed new challenges in front of many professions like farmers, small entrepreneurs, weavers, workers and the laborers.

These professionals are obliged to bring in reforms to meet them. The wholesale and retail traders however had saved their traditional way in profession.

Current Retailing Scenario

Retailing entered in a new phase in India in last decade. Established retailers are now experimenting with new formats in infrastructure, pricing and customer care. The biggest change however has been on the price front. Globally hypermarkets account for 60% of the retail sales. That further accentuates the span and scope of the discount brand.

The Government of India is preparing itself for granting entry to MNC's and foreign direct Investments into retail business. The supporters of globalization are pressurizing for this cause. The corporate newspapers from this country are continuously publishing articles and editorials. The high-income group and higher middle class are also fascinated by the idea of MNC's opening retail stores in India. Accordingly the president of famous multinational superstore 'Wall Mart' has declared their intention of opening retail stores in India. European and American companies like 'Carrefour', Casino, TESCO, Metro, ShopRite, Sears, Roebuck, JCPenny, Kroger Safeway and Home Depot declare the same intentions.

These giants have a chain of superstores and Shopping Malls throughout the globe; Wall Mart has a total of 3000 stores with trade of 28800 Million dollars. The average area of its shopping mall is 85000 Square feet. After chasing the 100 Million customers from Mexico, China, Japan, Canada and Germany, now they are eyeing at least 250 to 300 million of Indian customers. The French MNC Carrefour's investment is 12000 dollars; the casino group has 9062 retail stores in 15 countries. The Annual Sale of Wall Mart is 120000 million dollars.

Now these Superstores and Shopping Malls are waiting for entry in India and posing a new challenge in front of the domestic retailers.

The organized retail sector has maximum share of 39% from Clothing and Textile Industry. Followed

by 11% from food and grocery and at 3rd place with 9% share comes the Consumer durables Sector. Although the Central Government has allowed 51% Foreign Direct Investment in organized retailing, the franchisee route of selling the consumer durable home appliances is not expecting any long term effects on their business. Some brands like Samsung, and LG prefer to strengthen their franchises. The Rs.1900 Crore Godrej and Boyce Manufacturing Company which is a leading home appliances company in India has recently appointed a Delhi based consultancy to streamline the work processes of its retail division for bringing the company run showrooms under one umbrella and showcasing its new face highlighted by a foray into the home segment.

The recent trends in rural India are showing positive signs for development in the living standards of the small town dwellers and rural masses also. Millions of upwardly mobile middle-class Indians in small town have shed the spartan life style of previous generations and adopted a new attitude to spending. Everything from color TV's to Washing Machines are being lapped up by small towns. With majority of Indians residing in small towns, Marketers are pulling out all stops to ensure they do not miss out this opportunity. Retail chain Pantaloon has opened Big Bazar in Cities like Sangli, Durgapur, Bhubneshwar, Nashik, and Vadodara which are alluring the rural masses to visit and purchase. So it is evident that the towns in Ahmednagar districts will also be chained in by the superstores in near future.

In this scenario the researchers has tried to showcase the different attitudes of the consumers towards different characteristics of retailing.

This study is an attempt to segment the consumer families in Ahmednagar district on the basis of their common attitude towards the retailing characteristics of home appliances retailers.

Objectives

Present study has been undertaken with the intension of the following objectives.

1. To examine the attitude and preferences of Customers of home appliances in Ahmednagar District of Maharashtra.

2. To study the fitness of good for marketing strategies adopted by retailers of home appliances in Ahmednagar District of Maharashtra.

Data and Methodology

The research is inferential diagnostic in nature based on a systematic collection, analysis, and interpretation of the data related to the attitude of the customers of home appliances towards the retailing characteristics and the strategies of the retailers of Home Appliances in Ahmednagar District. This study is undertaken during Sep 2006 and Jan 2007. Both Primary and Secondary data have been brought in use for this study. Primary data needed has been collected through personal interviews using a structured schedule. The question format used is closed ended. Schedule was executed on sample. Secondary data has been collected using websites, books, magazines and resource persons. Sample size for this research is 1260. Samples which were selected using non probability quota sampling method. Fifteen (15) home appliances in regular use by households are taken for study. The home appliances are radio, tape, VCD, TV, Washing Machine, refrigerator, mixer, cooler, air conditioners, water purifier, vacuum cleaner, iron, fan, cooker and oven.

The selected samples are asked to read the 11 statements and report on a five point scale the extent to which they agreed or disagreed. The collected data

is tabulated, and analyzed by using Principal Component Factor Analysis of the Correlation Matrix and interpreted.

Data Analysis and Interpretation

Data has been analysed with help of Factor Analysis to know which retailing characteristics (Factors) are considered most important by home appliances buyers.

Statements :

- Statement 1 : I cannot live without home appliances,
- Statement 2 : I mostly like retailers, who offer well after sale service,
- Statement 3 : I mostly look for credit and installment facility,
- Statement 4 : I purchase from the shops who keep large variety,
- Statement 5 : I mostly select the shops with parking facility,
- Statement 6 : I like shops with good ambience,
- Statement 7 : I mostly buy from modern shops,
- Statement 8 : I often visit exhibitions,
- Statement 9 : I mostly buy from exhibitions,
- Statement 10: I mostly buy from malls in the cities.
- Statement 11: I wish to have mall in my town.

Principal Component Factor Analysis of the Correlation Matrix

Unrotated Factor Loadings and Communalities

Variable	Factor1	Factor2	Factor3	Factor4	Factor5
I can not live without home appliances	0.672	-0.622	0.033	-0.018	-0.023
I mostly like retailers who offer well after sale service	0.768	-0.136	-0.106	-0.143	0.009
I mostly look for credit card and installment facility	0.500	0.199	-0.358	-0.696	-0.016
I purchase from shops who keep large variety	-0.335	-0.459	-0.485	0.071	-0.387
I mostly select the shops with parking facility	-0.814	0.029	-0.143	0.113	0.323
I like shops with good ambience	0.635	0.108	0.328	0.562	-0.127
I mostly buy from modern shops	0.654	0.297	0.040	0.202	0.177

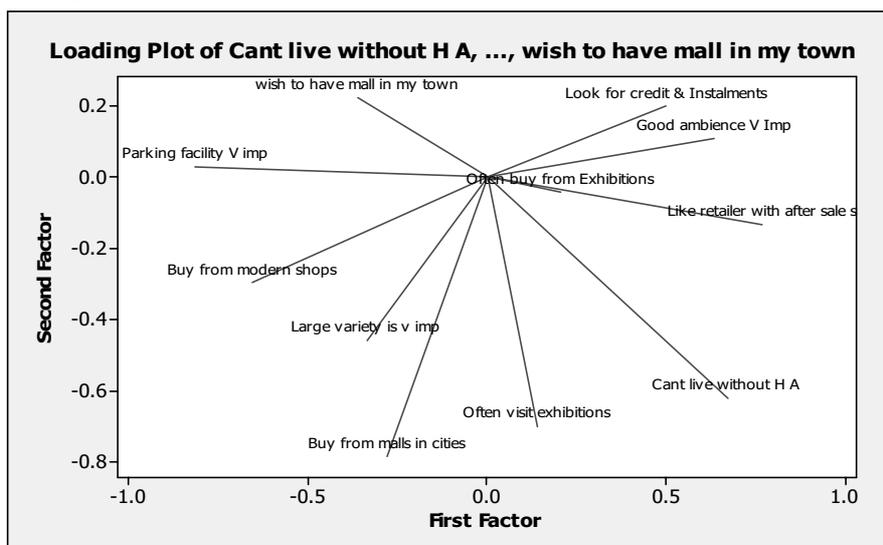
Variable	Factor1	Factor2	Factor3	Factor4	Factor5
I often visit exhibitions	0.139	-0.700	0.346	-0.180	-0.098
I mostly buy from Exhibitions	0.204	-0.045	-0.678	0.415	-0.296
I mostly buy from malls in cities	-0.277	-0.785	0.094	0.072	0.212
I wish to have mall in my town	-0.362	0.222	0.437	-0.156	-0.681
Variance	3.1651	1.9146	1.2841	1.1140	0.9085
% Var	0.288	0.174	0.117	0.101	0.083

Variable	Factor 6	Factor 7	Factor 8	Factor 9	Factor10
I can not live without home appliances	-0.106	-0.070	0.010	-0.155	0.127
I mostly like retailers who offer well after sale service	-0.241	0.267	0.382	0.222	-0.187
I mostly look for credit card and installment facility	0.038	-0.115	-0.009	0.055	0.262
I purchase from shops who keep large variety	-0.363	0.162	-0.336	0.126	0.010
I mostly select the shops with parking facility	-0.023	-0.043	0.170	0.334	0.173
I like shops with good ambience	-0.004	0.216	-0.003	0.096	0.278
I mostly buy from modern shops	0.257	0.496	0.235	-0.182	0.099
I often visit exhibitions	0.474	-0.062	-0.155	0.266	-0.062
I mostly buy from Exhibitions	0.358	-0.243	0.221	-0.014	-0.024
I mostly buy from malls in cities	-0.243	-0.274	0.222	-0.100	0.064
I wish to have mall in my town	-0.171	-0.244	0.211	0.060	0.026
Variance	0.7097	0.6074	0.5103	0.3312	0.2458
% Var	0.065	0.055	0.046	0.030	0.022

Variable	Factor11	Communality
I can not live without home appliances	0.320	1.000
I mostly like retailers who offer well after sale service	-0.013	1.000
I mostly look for credit card and installment facility	-0.105	1.000
I purchase from shops who keep large variety	-0.032	1.000
I mostly select the shops with parking facility	0.164	1.000
I like shops with good ambience	-0.115	1.000
I mostly buy from modern shops	-0.006	1.000
I often visit exhibitions	-0.031	1.000
I mostly buy from Exhibitions	-0.009	1.000
I mostly buy from malls in cities	-0.225	1.000
I wish to have mall in my town	0.049	1.000
Variance	0.2091	11.0000
% Var	0.019	1.000

(The loadings: represent how much a factor explains the variable. High loadings (positive or negative) indicate that the factor strongly influences the variable. Low loading indicates low influence of factor on variable.)

Graph: Factor loading.



From the table and loading plot it is seen that the factor 1 is good fit for Statement 1, 2, 5, 6 and 7. This indicates that statement 1, 2, 5, 6 and 7 are probably measuring the same basic attitude so it can be concluded that for this group home appliances itself have great influence and the modernization of shops, good ambience, Parking facility and well after sale service are the influencing variables.

Factor 2 is good fit on statements 1, 8 and 10 indicating that for this group the home appliances are very important, and exhibitions and malls in cities are influencing their choices.

Factor 3 is good fit on statement 9 only indicating that this group wishes to buy from exhibitions.

Factor 4 is good fit on statement 3 only, indicating credit and installment facility is the only factor that makes them buy.

Factor 5 is good fit on statement 11 only, indicating fascination for having mall in their town.

Factor 6, 7, 8, 9, 10 and 11 are not having high loadings on any of the statements, indicating weak influence on the variables.

The commanalties indicate the proportion of variance in the responses to the statement, since all the 11 factors account for the variance associated with each of the 11 statements, the 11 factors fit the data quite well.

Having the % variance 1.000, can confirm the consideration of good fit to the data.

Factor Score Coefficients

Variable	Factor1	Factor2	Factor3	Factor4	Factor5
I can not live without home appliances	0.212	-0.325	0.026	-0.016	-0.025
I mostly like retailers who offer well after sale service	0.243	-0.071	-0.083	-0.128	0.009
I mostly look for credit card and installment facility	0.158	0.104	-0.279	-0.625	-0.017
I purchase from shops who keep large variety	-0.106	-0.240	-0.377	0.064	-0.426
I mostly select the shops with parking facility	-0.257	0.015	-0.111	0.101	0.355
I like shops with good ambience	0.201	0.057	0.255	0.504	-0.140
I mostly buy from modern shops	-0.207	-0.155	-0.031	-0.182	-0.195

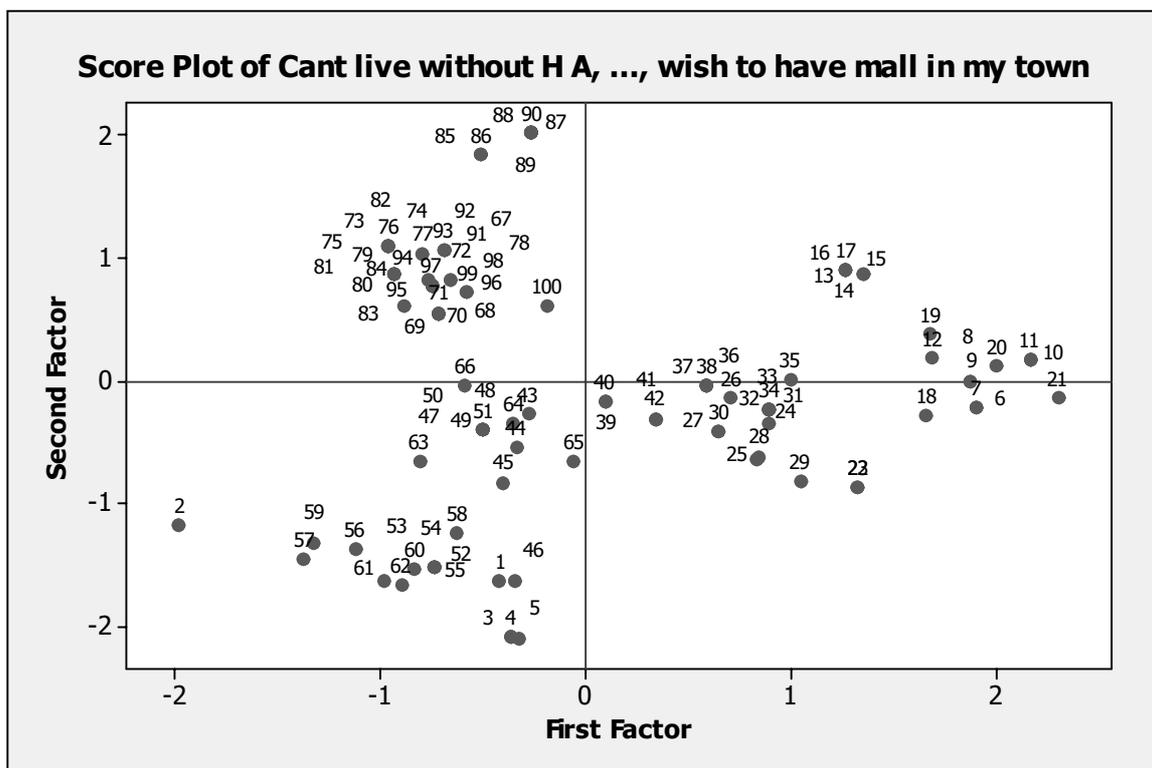
Variable	Factor1	Factor2	Factor3	Factor4	Factor5
I often visit exhhibitions	0.044	-0.366	0.269	-0.162	-0.108
I mostly buy from Exhibitions	0.064	-0.023	-0.528	0.373	-0.326
I mostly buy from malls in cities	-0.088	-0.410	0.073	0.064	0.233
I wish to have mall in my town	-0.115	0.116	0.340	-0.140	-0.749

Variable	Factor6	Factor7	Factor8	Factor9	Factor10
I can not live without home appliances	-0.150	-0.115	0.020	-0.469	0.516
I mostly like retailers who offer well after sale service	-0.340	0.439	0.749	0.669	-0.760
I mostly look for credit card and installment facility	0.053	-0.190	-0.017	0.167	1.066
I purchase from shops who keep large variety	-0.511	0.267	-0.658	0.379	0.040
I mostly select the shops with parking facility	-0.033	-0.071	0.333	1.010	0.702
I like shops with good ambience	-0.005	0.355	-0.006	0.291	1.130
I mostly buy from modern shops	0.363	0.816	0.461	-0.550	0.402
I often visit exhhibitions	0.668	-0.102	-0.305	0.804	-0.254
I mostly buy from Exhibitions	0.504	-0.400	0.434	-0.042	-0.099
I mostly buy from malls in cities	-0.342	-0.451	0.436	-0.303	0.262
I wish to have mall in my town	-0.241	-0.402	0.414	0.180	0.105

Variable	Factor11
I can not live without home appliances	1532
I mostly like retailers who offer well after sale service	-0.061
I mostly look for credit card and installment facility	-0.501
I purchase from shops who keep large variety	-0.153
I mostly select the shops with parking facility	0.786
I like shops with good ambience	-0.548
I mostly buy from modern shops	-0.030
I often visit exhhibitions	-0.147
I mostly buy from Exhibitions	-0.043
I mostly buy from malls in cities	-1.077
I wish to have mall in my town	0.234

The following score plot indicates matching with the loading pattern. The factor Score coefficient matches the loading pattern. For factor 1 the coefficients with high absolute value (Can not live without Home appliances, well after sale service, Parking facility, good ambience and Modernization of shop match the five variables for that load on factor 1.

Graph: Factor loading.



The score plot checks assumption of normality and reveals outliers if any. If the data is normal and no outliers are present then the score plot shows points randomly distributed around zero. This plot also suggests normality without outliers.

Findings

The consumers of the home appliances in Ahmednagar district of Maharashtra State can be segmented in two distinct groups with specific types of attitudes towards the services offered by retailers.

They are :

1. Service Oriented Segment: The group for whom home appliances are very important and the modernization of shops, good ambience, parking facility and well after sale service are the influencing variables.
2. Impulse Oriented Segment: The group for whom the home appliances are very important and they buy from exhibitions and malls in cities.

Both the groups have two common factors where their attitudes are similar. The home appliances are very important for both of these groups and credit and installment facility is the common factor found in both the groups.

Suggestions

The retailers of home appliances are expected to device three different strategies for the two segments mentioned earlier.

A. Push Strategy: Service Oriented Strategies

1. The Store should be located along an adequately wide road, free of encroachments.
2. Maximum possible size of store should be utilized.
3. 24-hour complaint handling service should be provided.
4. Modern, sophisticated and going for outing like atmosphere and ambience with Food Plaza, Crèche and Children Amusement facility should be arranged.

5. Layout of the store should facilitate maximum visibility of products to increase ease in selection.
6. Classified sections of different variety should be arranged according to prices, features, designs and styles.
7. Automisation of order processing and complaint handling should be employed.
6. Arranging Seminars, Workshops and Symposiums on topics like impact of modern technology and changes in living standards on the society.
7. Arranging Sports events, Rally, Cleanliness Day etc.

B. Pull Strategy: Impulse Oriented Strategy

1. Exhibitions should be arranged at least two times in a year.
2. Infomercials should be broadcasted by using local media to increase awareness about share of home appliances in building overall living standard of the community.
3. Special sales events like Cheapest Day of the Year, Grand Exchange Day, Guaranteed Credit Day, Lucky Draw Dreams Day, Prize for Quiz Day, and Guaranteed Gift Day should be arranged on routine basis.
4. Maximum publicity to every event should be given by using print media.
5. Attention towards Social responsibility should be given by retailers.

C. Pricing Strategy

1. Value for money strategy should be employed for diagonal growth in return on investments.
2. Price level should be maintained.
3. Price guarantee should be employed.
4. Mark down pricing by vertical integration should be introduced.
5. No frills pricing with full service should be introduced.
6. Exchange vouchers and discount facilities should be introduced.
7. Plastic card payments, Internet banking, and pay on delivery systems should be employed.
8. Collaboration with financial institutions for easier loan and credit facility should be made.

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Financial Performance of Indian Railways : Policy Implications

P. S. Kamble • B. J. Kadam

Abstract

Transport facilities are so much important in making the process of development as dynamic as possible. They enable the movement of inputs and raw materials from one place to another, as well as increase in mobility of factors of production in general, and human resources in particular. Railways are an important mode of transport facilities on the ground of its rapidity, convenience, capacity and so on. However, it requires huge investment. Hence, railways are a public undertaking in India, which has a long history.

It is a fact that Indian Railways have been playing a significant role in strengthening transport facilities and thereby contributing significantly to the development of India. However, the availability of Railway facilities in India adequately demands the need for their development so as to promote their scope and frequencies. They are very much meager especially in the rural areas of our country. Thus, Railways have been concentrated very significantly in the urban India. Finance has a special role to play in the development of Indian Railways extensively as well as intensively. For this, the financial performance of the Indian Railways should be progressive and satisfactory. It is against this overall background, it is very much essential to assess the financial performance of the Indian Railways for their further extensive as well as intensive growth. Hence, the present paper endeavors to examine the financial performance of the Indian Railways for the latest period of seven years from 2001-02 to 2007-08. It is observed that some of the provisions in the Railway budget for 2008-09 are against the satisfactory performance of the Indian Railways in the backdrop of their development needs in India. This research paper has been organised as: I) Introduction, II) Hypothesis of the Study, III) Objectives of the Study, IV) Data Base and Research Methodology, V) Profile and Growth of Infrastructure, VI) Financial Performance of Indian Railways, VII) Role of Indian Railways in Economic Development of India, VIII) Major Conclusions, IX) Policy Implications for Development of Indian Railways, X) Concluding Remarks XI) References. Present study reveals that the financial position of Indian Railways is not so good as depicted. It is need of the hour to bring about reforms in Indian Railways as suggested by this research paper. The reality is rather different.

Keywords : Railway, Financial Performance, Policy Implications, Infrastructure

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Introduction

Each and every country of the world desires rapid and all round economic development having intension to raise standard of living of the people, whereby social welfare maximisation can be materialised. Infrastructures play a very significant role in speeding up the process of socio-economic development of the economy. In absence of necessary and adequate infrastructural facilities, a single productive activity cannot be started, which becomes a hindrance in the process of

development of the economy as a whole. In the initial stages of economic development, there was absence of private participation in the development of infrastructures in India, as well as in the world economy as a whole. Recently, it has been found that the participation of the private sector along with the public sector in the development of the infra-structures like roads, transport, communication, electricity, ports, and harbours etc. has increased reasonably.

Transport facilities are very important in making the process of development as dynamic as possible. They enable the movement of inputs and raw materials from one place to another, as well as increase the mobility of factors of production in general, and human resources in particular. Railways are an important mode of transport facilities on the ground of its rapidity, convenience, capacity and so on. However, it requires huge investment. Hence, railways is a public undertaking in India, which has a long history.

It is a fact that Indian Railways has been playing a significant role in strengthening transport facilities and thereby contributing significantly to the development of India. However, the availability of Railway facilities in India adequately demands their development especially in the rural areas. Railways have been concentrated in the urban India. Finance has a special role to play in the development of Indian Railways extensively as well as intensively. For this, the financial performance of the Indian Railways should be progressive and satisfactory. It is against this overall background, it is essential to assess the financial performance of Indian Railways for their all round growth. Hence, the present paper endeavors to examine the financial performance of the Indian Railways for the latest period of seven years from 2001-02 to 2007-08. It is observed that some of the provisions in the Railway budget for 2008-09 are against the satisfactory performance of the Indian Railways in the backdrop of their development needs in India. This research paper has been organized as:

I) Introduction, II) Hypothesis of the Study, III) Objectives of the Study, IV) Data Base and Research Methodology, V) Profile and Growth of Infrastructure, VI) Financial Performance of Indian Railways, VII) Role of Indian Railways in Economic Development of India, VIII) Major Conclusions, IX) Policy Implications for Development of Indian Railways, X) Concluding Remarks XI) References.

The present policy of Government of India towards Railways as reflected in Railways budgets indicates that it is a populist policy having political intension, which does not think of improving financial health and performance of Indian Railways. It is mainly a policy of fare rate cuts. It does not consider mobilization of capital receipts necessary for the development of Railways. No efforts necessary for promoting income from passenger traffic which at present heavily depends on goods transport are found. This demands an urgent need for studying financial performance of Indian Railways remedial measures to improve their financial position.

Hypothesis of the Study

A hypothesis of the present study is as follows:

Transport facilities in general and Railways in particular play a vital role in economic development of the economy. Strong financial position coupled with financial autonomy will enable Indian Railways extensive and intensive growth for their significant contribution to the development of India.

Objectives of the Study

The major and noteworthy objectives of the present study are as enlisted below.

1. To study profile and growth of infrastructures in India.
2. To examine the financial performance of the Indian Railways.
3. To assess the role of Indian Railways in economic development of India.
4. To reveal policy implications for the development of Indian Railways.

Data Base and Research Methodology

The present study attempts to assess a profile and growth of infrastructures in India, with emphasis on Railways as a mode of transport. The study also intends to examine the financial performance of the Indian Railways coupled with their role in economic development of the country for latest period of seven years from 2001-02 to 2007-08.

This study mainly relies on the secondary data published by the Railway Ministry, Government of India, Central Statistical Organisation (CSO), Economic Survey of India, Railway Budgets for the period from 2001-02 to 2007-08. The collected data are classified and tabulated in the light of hypothesis and objectives of present study. The tabulated data is processed by employing the necessary statistical tools like Mean, Ratio

Analysis, Compound Growth Rate (CGR), Simple Growth Rate (SGR), Standard Deviation (SD), Correlation and Regression to reveal the trends and inferences about the topic under study. This study also has made the use of computer software packages such as MS Excel and SPSS.

Profile and Growth of Infrastructures in India

Infrastructures have a special importance in the rapid and all round economic development of the economy. Hence, their availability to the extent required is so much desirable. The transport facility is a crucial public utility, which provides citizens, access to work places and educational institutions. It also enables better land use and dispersal of activities and curbs spatial concentration. (Dr.Pathak M.G.1992) Profile and growth of infrastructure in India is presented in Table 1.

Table No. 01 : Profile and Growth of Infrastructure in India

Items	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
III) Energy						
1. Coal	4.6	5.1	6.4	6.4	4.5	4.9
2. Electricity	3.2	5.1	5.2	5.1	7.5	6.6
3. Petroleum						
a) Crude Oil Production	3.4	0.7	1.8	- 5.3	6.0	0.3
b) Refinery Output	4.9	8.2	4.3	2.1	12.6	7.5
II) Steel						
	7.3	9.8	8.4	11.2	9.7	6.4
III) Cement						
	8.8	6.1	6.6	12.3	9.9	7
IV) Transport and Communication						
1. Railway Revenue	5.3	7.5	8.1	10.7	9.7	8.2
Goods Traffic						
2. Cargo at Ports	9	10	11.3	10.3	9.7	12.5
3. Telecom. (Cell)	119.2	115.3	10.4	89.4	107.31	44.5
4. Civil Aviation						
a) Cargo Handled						
i) Exports	13.3	1.0	12.4	7.3	- 1.3	6.7
ii) Imports	18.6	13.4	24.2	15.8	19.6	21.5
b) Passengers handled at						
i) International Terminals	4.8	6.5	14	12.8	11.8	12.7
ii) Domestic Terminals	9.6	13.1	23.6	27.1	37	24.1

Source: (Ministry of Commerce and Industry, Ministry of Statistics and Programme Implementation)

It is observed from Table 1 that coal and electricity are major components of energy. Both of these have shown a marginal growth with considerable fluctuations. In the petroleum products, output of both the crude oil and refinery has shown marginal growth with wide fluctuations. It is a good thing that steel and cement production have registered a significant growth with wide fluctuations. Transport and communication facilities as infrastructures in general, and telephones in particular have shown a tremendous growth. Likewise, the performance of railways, ports, civil aviation is also considerably fair one. Civil aviation has helped more in imports than exports. Similarly Air transport facilities for domestic use have shown a significant growth.

Financial Performance of Indian Railways

Indian Railways is an important mode of transport and consequently an infrastructural development in India. It is the second largest network of Railways in the world. Finance has crucial importance in the growth and efficiency of infrastructural facilities. It is a fact that only financially sound undertakings can strengthen availability and growth of concerned infrastructural facilities. This necessitates an assessment of the financial performance of Indian Railways.

TableNo. 02 :Overall Financial Position of Indian Railways

(Rs. in crore)

Year	Total Receipts	Total Expenditure	Surplus (+)/ Deficit (-)
2001-02	38651	94367	- 55716
2002-03	41936	104339	- 62403
2003-04	44060	112290	- 68230
2004-05	48032	122527	- 74495
2005-06	55631	141253	- 85622
2006-07	63500	164830	- 101330
2007-08	72888	190612	- 117724
ACGR	11.17	12.32	13.07

Source : (Ministry of Railways)

Note : ACGR = Annual Compound Growth Rate

The data in Table 2 presents the overall financial position of Indian Railways for the latest period of seven years from 2001-02 to 2007-08. It is found that the overall financial position of Indian Railways is worse. There is a problem of deficit and deficit is mounting continuously and rapidly during the period under reference. The growth of Total Receipts of the Indian Railways was lesser to their Total Expenditure. This is a clear indication of weak financial position of Indian Railways. The growth in Total Receipts of Railways was only 11.17%, but Total Expenditure grew at the rate of 12.12%. Consequently, their deficit showed a persistent and significant growth of 13.07 p.a. . Indian Railways depend on General Budget of Government of India to meet their deficit. Urbanisation and industrialisation in India are taking place at a rapid rate. However, this does not seem to match with the supply levels of public transport due to financial constraints. (Goel and Tripata 2000)

In the financial position of Indian Railways, their financial operations on Revenue account have a vital bearing because they show abilities of Railways to provide their services. Sound financial position on Revenue account enables Railways to provide more frequent, adequate facilities. Table 3 presents the data about Financial Position of Indian Railways on Revenue Account.

TableNo.03 : Financial Position of Indian Railways on Revenue Account

(Rs. in crore)

Year	Total Receipts	Total Expenditure	Surplus (+)/ Deficit (-)
2001-02	38651	46220	- 7569
2002-03	41936	53240	- 11304
2003-04	44060	56228	- 12168
2004-05	48032	62013	- 13981
2005-06	55631	75375	- 19744
2006-07	63500	88799	- 25299
2007-08	72888	101519	- 28631
ACGR	11.17	14.03	24.28

Source : (Ministry of Railways)

The data in the above table adequately indicates that the financial position of Indian Railways on Revenue account had been worse. Their revenue expenditure was always higher than Revenue receipts. Likewise, growth in Revenue expenditure of Railways was tremendously rapid (14.04% ACGR) than the growth of Revenue receipts (11.17% ACGR). Hence, Revenue deficit of Railways grew at the highest rate of 24.28% p. a. Thus, it is the failure of the Indian Railways even in mobilising expected Revenue receipts, and they

rely on the Union Government of India to meet Revenue deficit.

The study of finances of Indian Railways reveals that they do not have exclusive sources of Capital receipts. They only collect Revenue receipts and a part of it is kept aside as Depreciation fund, which is used for capital expenditure coupled with heavy dependence on General budget. This necessitates to examine the Growth and Composition of Revenue Receipts of Indian Railways. The necessary data are presented in Table 4.

Table No. 04 : Growth and Composition of Revenue Receipts of Indian Railways.

(Rs. in crore)

Item	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	ASGR
I) Traffic Receipts [98]	37858 [98]	41148 [98]	43005 [99]	47370 [98]	54491 [99]	62732 [98]	71318	12.42
1) Passenger (30)	11197 (31)	12575 (31)	13398 (30)	14113 (28)	15126 (27)	17225 (28)	20075	11.32
2) Goods (66)	24845 (64)	26505 (64)	27618 (65)	30778 (68)	36287 (66)	41716 (66)	46943	12.70
3) Other (4)	1816 (5)	2068 (5)	1989 (5)	2479 (4)	3078 (7)	3791 (6)	4300	19.54
II) Miscellaneous Receipts [2]	793 [2]	788 [2]	1055 [1]	662 [2]	1140 [1]	768 [1]	1570	13.99
Total Revenue Receipts [100]	3865 [100]	41936 [100]	44060 [100]	48032 [100]	55631 [100]	63500 [100]	72888	12.65

Source : (Ministry of Railways)

Note : 1) Figures into square brackets indicates % to Total Revenue Receipts

2) Figures into round brackets show % to Traffic Receipts

ASGR = Average Simple Growth Rate

It is observed from Table 4 that growth in Revenue receipts of Indian Railways was considerable, but not satisfactory. As far as growth is concerned, miscellaneous revenue grew rapidly than the Traffic receipts. However, the relative position of different revenue receipt sources reveals that Traffic revenue was a prominent source than the miscellaneous sources. In Revenue receipts,

revenue from Goods traffic was a major revenue source, which contributed about 65% of Traffic receipts. After that, passenger traffic assisted in the mobilisation of Revenue receipts of Railways in general, and their Traffic receipts in particular. Economic fare may be defined as the transport price, which is affordable to the passenger and brings in traffic revenue, which ensures financial

viability for transport operators. (Kadam V.A. and Bagade M.V.2000) Receipts from other sources of traffic increased rapidly, but with very meager relative contribution.

It is observed that the mean of Total Revenue receipts and Traffic income of Indian Railways was higher and stood at 56057.57 and 55089.57 respectively. The standard deviation (SD) reveals that Traffic Receipts showed major variations, but consistent and positive (S. D. 17095.07). In the Revenue receipts, miscellaneous revenue had wide (430814.85) variations consisting of ups and downs. Income from Goods traffic showed higher deviation (S. D. 8384.76) than the receipts from passenger traffic (S. D. 3005.01) but in a positive direction. The correlation analysis of Revenue receipts and their sources showed the positive and high degrees of association such as .74, .80, .79, .70 between Revenue receipts and Traffic income, income from Goods traffic, income from other

sources and receipts from miscellaneous sources. However, comparatively Goods traffic and other sources of Traffic receipts showed a high degree and positive correlation. Regression analysis of Revenue receipts of Railways reveals that miscellaneous receipts (Std. Beta .611) influenced conspicuously in their mobilisation. After that one the influence of Goods traffic (St. Beta .541) and passenger traffic (std. Beta .206) were significant.

Adequacy, quantity and quality of transport services at present are affected by the current or revenue expenditure of that undertaking. This necessitates to examine the growth and composition of Revenue expenditure of Indian Railways. Table 5 contains the necessary information and data about that. It is not only receipts, but also spending is important, as far as transport facilities are concerned. Total expenditure is divided into Revenue expenditure and capital expenditure. (Dr. Kamble P.S.2008)

Table No. 05 : Growth and Pattern of Revenue Expenditure of Indian Railways

(Rs. in crore)

Year	Working Expenses	Depreciation Fund	Pension Fund	Total General Revenue	Total Revenue Expenditure
2001-02	36293 (79)	2000 (4)	5590 (12)	2337 (5)	46220 (100)
2002-03	41068 (77)	2402 (5)	5940 (11)	3830 (7)	53240 (100)
2003-04	42905 (76)	2592 (5)	6253 (11)	4478 (8)	56228 (100)
2004-05	47370 (76)	2700 (4)	6670 (11)	5273 (9)	62013 (100)
2005-06	54491 (72)	3775 (5)	6966 (9)	10143 (14)	75375 (100)
2006-07	62732 (71)	4198 (5)	7416 (8)	14453 (16)	88799 (100)
2007-08	71318 (70)	5496 (5)	8683 (9)	16022 (16)	101519 (100)
ASGR	13.78	24.97	7.90	83.65	17.09

Source : (Ministry of Railways)

Note : Figures into brackets indicate % to Total Revenue Expenditure.

It is seen from the data in Table 5 that expenditure of Indian Railways on directing revenue towards General budget grew (83.65% p. a.) rapidly than Depreciation Fund (24.97%), Working expenses (13.78%) and Pension Fund (7.90%). However, it is a fact that working expenses have consumed a prominent share (about 75%) of the Revenue expenditure of Indian Railways. After that the relative share of revenue to General budget/revenue is increasing persistently and significantly (11% as an average). The relative share of expenditure on Pension Fund is decreasing, as against the constant expenditure on Depreciation fund.

Indian Railways have spent a major portion of their Revenue expenditure on working expenses (Mean : 50882.43) than receipts to General Revenue (Mean 8070.5) Pension Fund (Mean 6788.28) and Depreciation Fund (Mean 3309). The standard deviation of composition of Revenue expenditure indicates that working expenses showed maximum deviations (S. D. 12624.03), but in positive direction, followed by revenue to General revenue (S. D. 5474.86), Depreciation Fund (S. D. 1239.05) and Pension Fund (S. D. 1038.55). The correlation analysis reveals a positive and higher degree association of different items of Revenue expenditure of Railways, such as working expenses (.99), General revenue (.99), Depreciation fund (.98) and Pension fund (.97) respectively. More importantly, regression analysis revealed that working expenses greatly influenced (62%) Revenue expenditure of Indian Railways followed by revenue to General Revenue (27%), Depreciation fund (6%) and Pension fund (5%).

It is observed that Indian Railways do not collect Capital receipts except through Depreciation fund, but they incur capital expenditure. It is the Capital expenditure, which plays a significant role in strengthening, promotion and development of Railway network. This poses the need for assessing the growth and composition of Capital expenditure of Indian Railways. Table 6 shows the data about capital expenditure activities of Indian Railways.

Table No. 06 : Growth and Pattern of Capital Expenditure of Indian Railways

(Rs. in crore)

Year	Capital at Charge	Investment from Capital Depreciation Fund	Total Capital Expenditure
2001-02	37757 (78)	10390 (22)	48147 (100)
2002-03	40709 (80)	10390 (20)	51099 (100)
2003-04	45672 (81)	10390 (19)	56062 (100)
2004-05	48957 (81)	10390 (19)	60514 (100)
2005-06	53062 (81)	12816 (19)	65878 (100)
2006-07	58145 (76)	17886 (24)	76031 (100)
2007-08	63243 (71)	25850 (29)	89093 (100)
ASGR	9.64	21.25	12.14

Source : (Ministry of Railways)

With the rapid growth of the economy in recent years, the importance and urgency of removing infrastructure constraints have increased. (GOI 2007-08) Capital expenditure of Indian Railways consists of expenditure on purchase of necessary capital goods for Railways (Capital at charge) and investment in the production of capital assets necessary for the development of Railways. The data in Table 6 show that capital at charge is a prominent item of capital expenditure of Indian Railways, which has consumed on an average 67% share of Total capital expenditure during the period under study. However, recently due to increased attention, investment expenditure from capital fund (Depreciation Fund) has been growing significantly, which showed a growth of 21.25%

on an average per annum. This indicates lack of sustained efforts towards the development of potentialities of Railway facilities in India indeed it is a matter of concern.

Role of Indian Railways in Economic Development of India

Infrastructures in general and Railways in particular have a pivotal significance in economic

development of the economy. It is a fact that in absence of necessary and adequate infrastructural facilities, economic development to the satisfactory extent cannot be materialised. This requires examining the role of Indian Railways in economic development of our economy. The necessary data are illustrated in Table 7 below.

Table No. 07 : Role of Railways in Economic Development of India

<i>(Rs. in crore)</i>		
Year	Total Expenditure	GDP
2001-02	94367 (4)	2097726 (100)
2002-03	104339 (5)	2261415 (100)
2003-04	112290 (4)	2538171 (100)
2004-05	122527 (4)	2877706 (100)
2005-06	141253 (4)	3275670 (100)
2006-07	164830 (4)	3790063 (100)
ASGR	12.44	13.44

Source : (Central Statistical Organisation (CSO))

Note: Figures in the brackets show % to GDP

Indian Railways network is under a single management and has been contributing to the industrial and economic development of the country for more than 150 years. (GOI 2007-08)

It is observed from the data in Table 7 that Indian economy has been registered with a significant growth during the period under study from 2001-02 to 2006-07. The economic growth of India took place at the rate of 13.44 on an average annually as indicated by the Average Simple Growth Rate. The correlation analysis reveals a high degree positive association (.87) between Railways

(expenditure on Railways) as an infrastructure and economic growth (GDP). It is a clear indicator of significant contribution of Railways to economic development of India.

Economic growth as indicated by the GDP can be divided into three productive sectors namely primary, secondary and tertiary sectors. The contributions of Indian Railways to the development of these productive sectors are also necessary to examine, that can be done with the help of data in Table 8 below.

Table No. 0 8 : Railways and Sectoral Distribution of GDP of India*(Rs. in crore)*

Year	Expenses on Railways	Primary Sector GDP	Secondary Sector GDP	Tertiary Sector GDP	GDP
2001-02	94367 [4]	534488 (25)	483661 (23)	1079577 (52)	2097726 (100)
2002-03	104339 [5]	534802 (24)	535732 (24)	1190881 (52)	2261415 (100)
2003-04	112290 [4]	596224 (17)	602030 (17)	1339917 (66)	3538171 (100)
2004-05	122527 [4]	637198 (22)	726307 (25)	1514201 (53)	2877706 (100)
2005-06	141253 [4]	709998 (22)	848409 (26)	1717263 (52)	3275670 (100)
2006-07	164830 [4]	797240 (21)	1008014 (27)	1984809 (52)	3790063 (100)
ASGR	12.44	8.19	18.06	13.97	13.44

Source : (Central Statistical Organisation (CSO))

Note : 1) Figures into round brackets indicate % to GDP.

2) Figures into square brackets show % to GDP.

The data in Table 8 show that Indian economy is a service sector growth oriented economy which heavily depends upon the growth of service sector that has contributed to economic growth of our economy by more than fifty (54%) percent, followed by secondary sector (24%) and primary sector (22%). However, the secondary sector registered a rapid growth (18.06%) than the other productive sectors like Tertiary (13.97%) and primary (8.19%) once. Expenditure on Railways stood at only 4% of GDP and increased to 12.44% on an average during the period under reference.

The correlation analysis of Indian Railways and their contribution to sectoral growth of the economy reveal that there is a high degree of positive correlation between Railways expenditure and development of primary sector (.992), secondary sector (.995) and tertiary sector (.993) in the aggregate growth of our economy. Regression analysis of Railway expenditure and its impact on the growth of these productive sectors in India are concerned, it was found that the growth of all the productive sectors namely primary sector (standardised Beta, 97) secondary sector (standardised Beta 98) and tertiary sector

(standardised Beta 99) was highly influenced by the Railways. Particularly the growth of tertiary and secondary sector was benefited more.

It is a fact that Indian Railways have been playing a vital role in the economic development of India. The foregoing analysis adequately reveals that Indian Railways help in the transport of machinery, tools equipments, energy sources, human resources necessary for the development of different productive sectors and their by development of the economy as a whole. Like wise, they also facilitate in the transport of finished goods to the markets. They have been also helping in the development of service like finance, insurance, banking, hotels and restaurants, constructions, education and others. To be precise, Indian Railways have become an engine of economic growth of India in many respects.

Important Conclusions

The present study endeavors to examine the financial performance of the Indian Railways in the context of their growth coupled with their contribution to economic growth of the economy, sector wise. One would draw the following important conclusions from this paper

1. Profile and growth of infrastructures in India adequately reveal that Telecommunication is the fastest growing infrastructure in India followed by the infrastructures like steel, cement, energy, ports and civil aviation.
2. The financial position of Indian Railways is weak. They are facing the problem of significant budgetary deficit and that too is steadily mounting up. It is a serious matter of concern.
3. Increasing level of revenue deficit is also an important problem of the Indian Railways. It is also an indicator of deteriorated financial position of Railways.
4. Indian Railways depend upon General revenue of Government of India, for meeting their both the overall as well as revenue deficits. This amply proves that Indian Railways have been not enjoying financial autonomy. The annual plan of Rs. 37,500 crore for 2008-09 is based on the support of Rs. 874 crore (21%) from General revenues of Government of India. (GOI 2008-09)
5. The analysis of Revenue receipts growth and composition of Indian Railways shows that they heavily depend upon Goods traffic for Revenue receipts. It is good thing that receipts from other sources, miscellaneous receipts have been increasing, but their relative contribution is meager. Income from passenger traffic is smaller in its relative share as well slower in growth.
6. Indian Railways spend a major share of their Revenue expenditure on working expenses. Since recently their contributions to the General Revenue of Government of India has been augmenting significantly and rapidly. It is only unique subscription to the revenue of Government of India. However, their deficits as well as Capital expenditure are significantly high.
7. Indian Railways do not provide much for Capital expenditure. They also do not maintain

a separate account for Capital receipts. However, they incur capital expenditure and it is mainly for purchase of capital goods and production of capital assets. It is a matter of concern that they have not been able to promote potentialities of Railway facilities by way of investment.

8. Indian Railways have significantly contributed to economic development of India. More importantly they have helped in the development of all the productive sectors namely primary, secondary and tertiary ones. However, service sector and secondary sector have been benefited sizably than the primary sector in their development due to concentration of Indian Railways in the urban areas.

Policy Implications for Development of Indian Railways

The assessment of financial performance of Indian Railways and their role in economic growth of India reveals the following policy implications for their growth as well as development of Indian economy.

1. Infrastructures play a vital role in the economic growth of the economy. Hence, priority should be given to the development of infrastructural facilities with an apt public private partnership.
2. It is the need of the hour to explore new avenues of revenue mobilisation by the Indian Railways so as to meet budgetary deficit as well as growing need to meet increasing expenditure. For these, rental spaces at Railway stations, hike in rents on commercial complexes and their development etc. will be useful.
3. It is in the fitness of things to promote the contribution of passenger traffic earnings in the Revenue receipts of Indian Railways, which are meager at present. This discards the policy of tariff/ticket cuts especially on air-conditioned traveling. Relativity index of fares for AC I class reduced from 1150 to 1000 and from 650 to 600 for AC II tier. Reduction in fare is expected to be AC I : 7% and AC II : 4%.

4. Indian Railways must maintain a separate capital account especially for capital receipts which play an important role in the growth of Railways.
5. Financial transactions of Indian Railways should be segregated from the General budget of Government of India to enjoy financial autonomy (40% dependence on Union Government) necessary for their progress. They should reduce excessive dependence on Government of India particularly for meeting deficit as well as capital investment at a later stage.
6. Indian Railways have been centralised in urban areas than the rural one. Their extensive growth in rural areas of India will facilitate the

development of rural economy in general and primary sector in particular.

Concluding Remarks

Infrastructures have a special role in economic development of the economy. However, there is a need for extensive and intensive growth in infrastructure in India with emphasis on development in rural areas. Financial Performance of Indian Railways is so much dismal. They are in acute need of additional revenue mobilisation. Financial autonomy is a major problem due to their over dependence on Government of India for financial assistance. It is gratifying that Indian Railways have been significantly contributing to the economic growth of India, especially tertiary and secondary sectors. Thus, the present study adequately tests its hypothesis.

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Celebrity Endorsements in India : Past and Present

M. P. Dhotre

Abstract

Today many marketers are lured by celebrity power. They want popular celebrities to endorse their products and for that they are spending huge amounts. Today celebrity advertising is used to sell absolutely anything to everything in the market. It has become a common phenomenon for higher brand recall and change in the brand preferences. Organizations use this technique with the primary objective of communicating and connecting with the mass audience effectively.

This research article discusses the concept of celebrity endorsement in detail. Article presents overview of celebrity advertising on Indian television. It also discusses the journey of celebrity advertising on Indian television since its inception and its present role in today's market scenario.

Keywords : Celebrity Endorsement, Brand, Celebrity Endorser, Brand Ambassador

Introduction

Today many marketers are lured by celebrity power. They are crazy about signing the popular celebrities to endorse their brands. According to recent statistics, the number of celebrity advertisements has doubled in the past ten years. Although this statistic is related to consumer goods and services, there has also been an increase in the use of celebrities among luxury brands (Sahil Ashra 2007). Hamish Pringle, in his book 'Celebrity Sells' quoted that the trend towards using celebrities to market products will not only continue but expand in many new directions (Meyer Russ 2005)

Due to globalization and cutthroat competition in the consumer market, it has become imperative to create awareness about the quality, services and in general about overall offerings of the company. Organizations make every attempt to enhance their image in the customers' mind. Therefore, companies are spending huge amounts on advertising. In the face of these sophisticated and cluttered market conditions, companies try to be heard. They attempt to seek the attention towards

the benefits associated with their products. In a market overflowing with clutter, advertising messages in all media must work hard for attention. The average person is exposed to more than 600 advertisements per day. (Clow Kenneth 2006) Everyday potential customers are bombarded by thousands of voices and images in the variety of print media, websites, radio, and mostly through television commercials (TVC). Every brand attempts to grab some attention in the rat race. In this highly cluttered and saturated media scene, marketers have to try different gimmicks to get the attention and create awareness about their offerings.

Use of celebrities has become a common phenomenon for higher brand recall and change in the brand preferences. Any organization of any size, any type can use this technique with the primary objective of communicating and connecting with the mass audience effectively. The recent market research finding was that 8 out of 10 TVCs scoring the highest recall were those with celebrity appearances (Bhawna Sikka and Vaibhav Hari). Corporate India is widely using celebrity advertising to sell anything to the consumers.

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Research Methodology

This research article is based on a secondary data. Based on a review of literature, qualitative data is

classified and tabulated. Celebrity advertisements on national and private channels on Indian Television since its inception to till date (Year 2008) are considered in the present study.

The Concept

The term 'endorsement' tends to be frequently associated with advertising messages featuring public figures. A celebrity endorser is defined as 'any individual who enjoys public recognition and who uses this recognition on behalf of a consumer good by appearing with it in an advertisement' (McCracken 1989).

Celebrity endorsers are the people who exert significant influence in several circles or society. They range from film and television stars to musicians, sports personalities, royals, politicians and even social activists.

Forms of Endorsements

Any advertisement that features an actual expert, celebrity, consumer, or organization expressing support for a company's products and/or services is considered an endorsement. This support can take the form of verbal statements, demonstrations, or depictions of the name, signature, likeness or other identifying personal characteristics of an individual or the name or seal of an organization. Advertisements containing excerpts of reviews by unbiased third parties such as film, theater, music, or book reviews are also regarded as endorsements. Endorsements and testimonials can also be used

in any medium, from television and radio spots to direct mail business fliers and magazine/newspaper advertisements. Celebrity endorsement is used for communicating commercial as well as social messages. Brand ambassador and celebrity endorser, these two terms are often used as synonym.

Brand, according to Macmillan dictionary, is a product or group of products that has its own name and is manufactured by a particular company. Ambassador, according to Webster's dictionary, is a diplomatic agent of a country to a foreign country or an authorized representative. In the business world, both these words have been combined to make "Brand Ambassador" who after getting his fee, is supposed to popularize a particular brand with the backing of his own popularity. Marketers want to en-cash the popularity of these public figures. They expect celebrities or brand ambassadors to use their influencing and selling power in the market. Brand ambassador can be a representative of an organization, institution or corporation who portrays the products or services of that organization.

Types of Celebrities

Though Indian marketers depend more on film stars and cricket players, global advertisers use celebrities from diverse field. Following table depicts the Top 10 Celebrities from the list of Top 100 Global Celebrities for the year 2007-2008⁵

Table No. 1: Top 10 Global Celebrities

Following table shows the top ten global celebrities.

Sr. No	Name of Celebrity	Celebrity Type
1	Oprah Winfrey	Talking Head/ Talk Show Anchor
2	Tiger Woods	Athlete- Golf Player
3	Angelina Jolie	Actress
4	Beyonce Knowles	Musician
5	David Beckham	Athlete- Soccer Player
6	Johnny Depp	Actor
7	Jay-Z	Hip-hop impresario
8	The Police	Musicians
9	J.K. Rowling	Author
10	Brad Pitt	Actor

Source : (www.forbes.com)

Table No. 2 : Top 10 Indian Celebrities

Following table depicts a list of the top 10 Indian Celebrities for the year 2006 and type of celebrity.

Sr. No	Name of Celebrity	Celebrity Type
1	Amitabh Bachchan	Actor
2	Sachin Tendulkar	Cricket Player
3	Shahrukh Khan	Actor
4	Aamir Khan	Actor
5	Kapil Dev	Cricket Player
6	Sunil Gavaskar	Cricket Player
7	Saurav Ganguly	Cricket Player
8	Kajol	Actress
9	Aishwarya Rai	Actress
10	Hema Malini	Actress

Source : (www.blonnet.com)

It is evident from Table No.1 and 2 that global advertisers use celebrities from diverse field. However, Indian marketers depend heavily on film stars and cricket players. Following table illustrates different types of celebrity endorsers from diverse fields.

Table No. 3: Major Occupation of Celebrities

Following table shows the major occupation of celebrities.

Sr. No.	Celebrity Type
1	Actors and Actresses from Film, Theatre and Television
2	Authors
3	Business Personalities
4	Chefs
5	Comedians
6	Consumer Advocates
7	Directors/ Producers
8	Experts
9	Models
10	Musicians
11	Poets
12	Politicians
13	Religious Leaders
14	Reporters
15	Sports Personalities

Rationale behind using Celebrity Endorsements

'Why do companies spend huge sums to have celebrities appear in their ads and endorse their products?' is an obvious question to justify a huge cost associated with the celebrity endorsements.

Television commercials are very costly and many of them last only 15 seconds. Advertisers feel that an instantly recognizable celebrity who can capture viewers' attention is well worth money. Advertisers recognize the value of using celebrities, a public figure like television and movie stars, sports stars, musicians and other popular public figures. They think that celebrities have a shopping power. That is why they draw attention to advertising message in a much cluttered media environment. Marketers think a popular celebrity will favorably influence consumers' feelings, attitudes and purchase behavior. They believe that celebrities can enhance the target audience's perceptions of the product in terms of image and performance.

In comparison with other types of endorsements, celebrity endorsements are more effective in dimensions such as trustworthiness, believability, persuasiveness, and likability (Freiden 1984; Till and Shimp 1998). A company achieves some clearcut goals by using a celebrity. It works out in building brand loyalty, as the consumer may have interest on that particular celebrity. So when he/

she would see that celebrity in the advertisement, then that person could get motivated to use that product/service, as his/her favourite person is involved in there.

Another aspect of using celebrity endorser or brand ambassador is, when the companies are not sure of the quality of their products which would catch the attention of the customers on their own, they tend to depend more on ambassadors or celebrities. In a way, the endorsers work as the salesmen on behalf of these organizations.

Celebrity Endorsements in India - Historical Background

Though celebrity endorsement is widely used in a new millennium in India, it was started way-back in US. Knowing the popularity and celebrity power, especially of sports personalities, Gillette, a manufacturer of shaving blades used then famous US baseball player Wagnor for endorsing its products way back in 1910.

In India, very first advertisement of Lux Soap featured 'Leela Chitnis' as brand ambassador in 1929. Popularly known as 'The beauty soap of film stars'. Since the 1930s, over 400 stunning, well-known Hollywood and Bollywood actresses have marketed the soap to women as a beauty enhancer.

Till 1980, the use of celebrity advertising was negligible on television. The very reason behind it was the presence of only national channel. There were heavy regulations from Government. However, in a decade's time, some remarkable celebrity advertisements were observed. Then Indian cricket team's wicket-keeper Farookh Engineer modeled for Brylcream shaving gel, signaling the trend of using cricketers as brand ambassadors in India. By 90's, Indian television was on a growth path. Celebrity advertisements like, then famous TV star/ anchor Tabassum endorsing Prestige Pressure Cooker with punch line 'Jo bibise kare pyar, wo prestige se kaise kare inkaar..', popular cricketer Kapil Dev endorsing Palmolive Shaving Cream with his popular tagline 'Palmolive da jawab nahin..', then number one cricketer Sunil Gavaskar endorsing Dinesh Suiting, Miss India Swaroop Sampat endorsing

Singar Kumkum, Doctor Shriram Lagoo endorsing Dabur Chawanprash, etc. are still in the public memory.

Celebrity endorsements got the kick start after liberalization. With the entry of global players, domestic companies faced fierce competition. Precisely after 90's, private channels started on Indian television and advertisers got the wider choice to advertise on various national as well as regional channels. In this rat race, every advertiser tried different technique to stand out in the clutter. As a result, many followed the route of celebrity endorsements for better recall.

TV Ad Indx had given following statistics (www.ibanklive.com) (Year 2005-2006).

- Film stars featured in 259 ads.
- Cricketers starred in 108 ads.
- 'A' category stars charge between Rs. 4 to 10 Crore per campaign.

Number of brands advertised on TV has gone up from 3000 a decade ago to 11500 today.

Present Scenario

Celebrity endorsement in India is getting bigger and better day by day. They endorse a wide range of products. The list contains soft drinks, chocolates, candies, biscuits, fast food, soaps, toothpastes, paints, cars, tires, scooters, suiting, footwear, watches, home appliances, pens, hair oil, chyawanprash, insurance policy, diamonds, liquor, cigarettes, photo films, etc. Apparently any product or service be it a small or big in the market, is endorsed by the celebrities.

Researcher observed that celebrity endorsements are used for almost all products and services in the market offered for a sale. However, it is observed that celebrity advertisements are more prominent for lifestyle goods, luxury goods and shopping goods. Considering the growth potential of service sector in India, many multinational companies are entering the market which has made the market more competitive. As a result many service firms are largely using celebrity advertisements to create the brand image and message about the service quality.

After studying the product categories, researchers observed that since the inception, following service products have been endorsed largely by the celebrities.

A list of selected services is given below.

Table No. 4 : Services Endorsed by Celebrities

Following table shows services endorsed by celebrities, the industry they cater to.

Sr. No.	Series Endorsed
1	Airlines
2	Banking Services
3	Cellular Services
4	Insurance Products
5	Real Estate
6	Tourism
7	Transport Service
8	Website Portals

Conclusion

Across the world, celebrities have been used for a variety of brand endorsements. Researcher observed that corporate India does not want to sell anything to the consumer without a celebrity involvement. It is observed that almost all types

of products are endorsed and there is at least some match between product personality and celebrity personality.

Companies believe that celebrity endorsements are the easy way out with their mass appeal. However there is a need to choose the right celebrity. Celebrity does help in increasing sales but only if he/she is selected carefully and used effectively. The personality of brand and the celebrity have to complement each other; hence selection of the celebrity is very crucial.

Researcher opines that, consumers today are smart enough to discriminate and decide about brands with or without celebrities. Companies should also strengthen their brands so that celebrity power may not overshadow the brand power. Hence, in a long run, product performance and services offered always stand ahead of celebrities' selling power. Companies should understand that celebrity endorsements come with risks attached. They should ensure that benefits of celebrity endorsement are not outweighed by the risks.

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Reverse Brain Drain : A Conceptual Framework

S. A. Somwanshi

Abstract

Developed economies, fat pay packages, job satisfaction were some of the facts that attracted the intellectuals to other countries. As Indian economy has seen phenomenal changes and registered growth, the scenario has changed. Indian companies are also offering enriching work conditions and competitive compensation. This, with an urge to give their children an Indian cultural environment to grow has lured many Indian intellectuals to shift their work place to India. This reverse brain drain is surely a positive sign for betterment of economy.

This paper is a modest attempt to study the recent trend of reverse brain drain to India in terms of its trends, reasons, its impact on Indian economy, recommendations to encourage it and its perspective.

Keywords : Brain Drain, Reverse Brain Drain, Work Environment

One of the many Indian Scientists who stayed back and wanted this Reverse Brain Drain Not only there is Reverse Brain Drain but foreign students now want to study in Indian Institutions.

Former President Dr. A. P. J. Abdul Kalam's call is to reverse brain drain by beckoning all those bright Indians who had gone abroad in search of gains. University of Nalanda in Bihar which trained in ancient times - "I want this trend to be a global tramp facility here" and excelled in the field of IT, should help in reversing the brain drain. (Kalam 2007)

In fact, the British Royal Society coined the term 'brain-drain' to describe the outflow of migration in the 1960's primarily of British, German and Canadian scholars to U. S. To some extent, every country in the world, including U. S., loses through migration of highly educated and skilled individuals (Shinn David H 2007).

American Heritage Dictionary defines Brain-drain as The loss of skilled intellectual and technical labour through the movement of such labour to more favourable geographic, economic, or professional environments (Faridani sramak 2007)

The global Indian diaspora is a vast pool of knowledge that we must tap, especially in the sciences. Many young bright Indian scientists working abroad in advanced fields of research wish to come home for varying periods of time and we must fully exploit its potential of this reverse brain - drain. (Nandini Durga 2007)

For developing countries, one of the more important demographic shifts is the return of skilled workers and researchers - a reverse 'brain drain'. In India, for instance, this development is helping fuel a boom in research and development.

There is a 'reverse brain - drain' from the U. S. with the people of Indian origin returning home to contribute to the current economic boom in India.

With globalization, many Americans of Indian origin in the high-technology industry are looking at India as a 'career-enhancing move.'

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Research studies revealed a dramatic increase in the contributions of foreign nationals to U. S. Intellectual property. Over an 8 year period. In the study, "Intellectual property, the Immigration Backlog and a Reverse Brain-Drain conducted by Duke New York and Harvard Universities, found that the number of skilled workers waiting for visas is significantly larger than the number that can be admitted to United States. This imbalance creates the potential for a sizeable reverse brain-drain from the United States to the skilled workers' home countries.

The earlier studies documented that one in four engineering and technology companies founded between 1995 and 2005 had an immigrant founder. These companies employed 4,50,000 workers and generated \$ 52 billion in revenue in 2006. Indian immigrants founded more companies than the next four groups (from the U. K., China, Taiwan and Japan) combined (Ewing Marion 2007)

Interestingly, these companies founders tend to be highly educated in science, technology, mathematics and engineering related disciplines, with 96% holding bachelor's degrees and 75% holding master's or Ph.D. degrees. In 2006, 13.7% over 9.5% in 1998 of international patent applications from US had an inventor or co-inventor with Indian heritage names. (Ewing Marion 2007)

Introduction

The best B. Schools have encouraged their students to become adept at multi-tasking, translating theory into practice and seeking in cross - cultural experiences from a 'brain-drain' situation, that prevailed in India for many decades, the new mantra is 'brain-gain' befitting a country whose economy is growing at an impressive clip of 8% a year.

More over, many IIM graduates who prefer to stay on in India earning modest salaries averaging 1000 dollars a month, for it's a great feeling to tell the world 'we are as good as anyone else'. (Thakurta P.G. 2006)

The BPO industry in the country, has not only changed the power equations, it also did what no other industry could ever think of - it recruited professionals of foreign origin to work at facilities in India. As a good example is - Delhi - based Tecnovale R-Solutions Ltd.,

The Trends of Reverse Brain - Drain to India

In the past, the only way people returned to India was when they were pushed No one disputes the fact that, when it comes to economic dynamism, the U. S. Still ranks at the top. But the combination of these reverse brain- drain policies presents a clear danger to America's future competitiveness.

The countries with highest immigrants to US during 1990's were : India, China, Philippines, Canada, UK and Japan; U.S. has only 6% of the people of the world while it holds 40% of the Ph.Ds. Indians account for 43% of H-1 B entrants of U.S..(Rubenstein Edwin 2001)

India will see larger inflows of talented professionals particularly from country's 25 million diaspora spread across 110 countries; thanks to the nations's standing in the global knowledge economy. Dr. Manmohan Singh Government is the first to set up a separate Ministry to deal with, the diaspora - the Ministry of overseas Indian Affairs.

The best and brightest of Indians are being lured into leaving their homes and working in Australia, Canada, U. S. and Western Europe. This brain - drain represents a U. S. \$ 2 billion loss for India. (Vanderheid Erica 2007) But there is hope for India's developing I. T. Industry, suggesting that these high technology workers intend to return to their home land.

It is by no means a flood for reverse brain - drain to India. Mr. Ajay Kela, Ph.D. at University of Rochester, stayed two decades, worked for General Electricals, returned to India and receives 10 resumes a month from people with decades of experience in U. S. trying to relocate. (Rai Saritha 2005) But it could become one as more and more

Indians professionals from California's Silicon Valley wind their way back and relocate themselves in India as entrepreneurs.

Only in Mumbai, 4000 Americans are working in various companies. Technovate e-solutions Ltd, a subsidiary of UK based e-brokers, its CEO Prashant Sahani said, The company arranges for its employees to undertake short tours in and around the capital during week ends. In addition, they are offered free accommodation and transport so that they don't have to worry about such nitty-gritty. Kati Koivukangas, travel sales consultant from Finland got the job after an interview. due to the scheme. (Agarwal B.B.)

There are 40 Europeans from eight nationalities of Finland, Sweden, Norway, Germany, Switzerland, Ireland and England. serving as many European countries from the Technovate office at Okhla, New Delhi. However, there is no macro-data available in India.

Indians:

Nasscom, a trade group of Indian outsourcing companies estimates that 30,000 technology professionals have moved back in the last 18 months. Bangalore, Hyderabad and Delhi are becoming magnets for an influx of Indians, a top earning ethnic group in U. S. (Rai Saritha 2005)

Indian metropolitan cities, with their western - style work environment, generous paychecks and quick career jumps, offer the returnees what, until now, they could only get in places like Palo Alto and Boston (U.S.)

This year the public policy Institute of California reported the majority of India-born IT professionals in Silicon Valley, California, USA, would consider starting a business in their birth country. In addition, 45% of respondents said they probably would return home.

More than half under age of 35 have considered returning. (Vaonderheid Erica 2007)

As many as 32000 Britons of Indian origin have already returned to India to be part of resurgent economy - (PTI 2006)

Drawing 1500 NRI visitors seeking middle level to high level jobs, find their homeland a better place to work Oracle, Hewlett and Packard, GSS, America, Infotech, IBM, Yahoo India, HK Consulting outfit scouting for NRI talent.

Infosys India recruited 25 returnees from top American schools for its 100 seat summer internship this year.

Reasons for Reverse Brain - Drain to India

The remarkable increase in foreign investment in research and development over the past five years is as an indicator of India's growing reputation as an intellectual powerhouse.

It is significant that Indian companies are today willing to pay global salaries to talented young graduates so as to be able to compete effectively in the world market.

All these guys who went abroad have gradually seen that today India is not such a bad place to work at all Today with tech., one can effectively work from anywhere and let's face it There is no better country to bring up your children.

A foreigner Mr Ethel Graff, a project leader says 'I was pleasantly surprised to find that the working environment in India (at - BPO) is no different than that in Europe.' (Aggarwal B.B.)

The gated community of Palm Meadows in the white field suburbs, and many others in the vicinity, with names like Ozone and Lake Vista, are full of Indians worked in US and Europe, but who have been lured home by the surging Indian economy and its buoyant technology industry.

'Expatriates are returning because India is hot. There is an increasing feeling that significant action in the technology industry is moving to India' Said Nandan Nilekani, CEO, Infosys Technologies India's second - largest outsourcing firm.

Lori Blackman, a recruitment consultant in Dallas observed while most returnees are first-generation expatriates, second-generation Indians living in US are also returning. 'Among them I sense an

altruistic pull to return to India to help build their home country to a greater power than the country had ever hoped to achieve.'

For many returnees, the newly challenging work environment in India has ties in neatly with raising their children in Indian culture and caring for aging parents.

Interestingly, one reason for the currency getting strong is due to huge inflow of foreign Exchange to India, primarily due to high NRI remittances.

With a vibrant economy welcoming get offers from their employers who are setting up their centers in India. NRI's home a section of them is only too eager to give up the life of helpless immigrant and restore his first citizenship status.

Impact of Reverse Brain-drain on Indian Economy :

In the words of Prashant Sahani from Tecnovate company- 'We have found that the presence of Europeans has contributed positively in training our local employees. The foreign employees hold cultural familiarization programmes for our people here.'

There is a housing boom. Homes have tripled in value in Palm Meadows over the last 12 months, and rents have quadrupled

In the words of Brink Lindsey, V.P. (Research), Cato Institute, Washington 'The US will miss the talents of people of Indian origin who returns to India, the moves could create greater possibilities for trade between two countries.'

Many technology companies - multinationals and Indian outsourcing firms as well as start-ups- are eager to hire returnees with western managerial experience or technology specialization .

Even as the lifestyle gaps between Indian and the west have narrowed rapidly, salary differences at top executive levels have virtually disappeared. Annual pay packages of a half - million dollars are common in Bangalore, but even for those taking a pay cut to return home, the lower cost of living balances smaller paychecks.

Partha Iyengar, an analyst in India for Partner, an American Research company says: But this is the first time in the knowledge industry we have globalization impacting two countries at a large scale - India and the US.

David Heenan, a leading expert on globalization. says America's foreign - born superstars - many of our best and bright ones in science and technology - are deciding that there's no place like home. And they are heading back to their countries at the alarming rate of upto 1000 per day what he calls America's 'reverse brain-drain' if the exodus continues, Strength will be in jeopardy. (Libland Sharl 2007)

The brain-drain is having a significant negative effect on most developing countries although a few have coped successfully with the problem. 79% of 1990-91 Ph.D. recipients in science and technology from India were still working in US by 1995. (Shinn David H 2007)

The higher the level of education, the greater the probability they remained in their adopted country.

During the technical boom in US around 2000 many IT workers from India were attracted to the US under H1-B Visa programme. The concerns were raised that this was a form of brain-drain as highly skilled workers were being lost. However, some Indian politicians confidently claimed that this was not a problem because there were so many tech workers in the pool. Indeed, today India is a major off-sourcing centre for technology.

The thriving hi-tech industries in India, Israel, Ireland, Taiwan and South Korea were founded by returning migrants who brought with them not only capital to invest and contacts but also entrepreneurial skills and cutting edge technologies.

For example, Thailand established in 1997, a 2.2 billion project called 'Reverse the brain-drain'. Its aim is to use the brain and connections of Thai professionals living overseas to help in the development of Thailand, particularly in science and technology. (Yaknin Sam 2005)

Line of Action in Future :

Infosys non-executive chairman. N.R.Narayana Murthy suggests. It will be important for us to provide the basic necessities such as good English knowledge, housing and better commuting facilities. I have met Indians settled in many parts of the globe and they have great affection for their country's progress. High income in foreign countries will not stop them from coming back to their motherland."

Hon. P. M. Manmohan Singh said "India's Visa regime, employment procedure and remuneration systems, especially in Universities and Government institutions, must change and respond to facilitate this reverse brain-drain.

The annual outlay on science and technology would be increased from less than one percent of GDP to two percent over five years and encourage a reverse brain drain of some of the country's brightest students abroad. (Nandini Durga 2007)

David Heenan in his book 'Flight Capital' The Alarming Exodus of Americas Best and Bright (Davies-Black, 2005) offers the following 12 strategies to reverse the American brain-drain. 1. Know thy competition. 2. Create higher- value products and services in open economy and commitment to innovation 3. Spur immigration reform. 4. Attractions for foreigners to stay - (Dust off the welcome mat) . 5. Target the best minds. (Making visas and financial aid easier to obtain). 6. Encourage dual loyalties- (forging alliances with those departed migrants straddling two worlds. 7. Reform public education system - whose students can compete those in academic spending. 9. Celebrate science and technology (i.e. nurture the nerds). 10. Expand the workforce (defer retirement). 11. Reconsider national service- (assignments in military, - non military areas) and 12. Act now (safeguard the country's most important resource - talent.) (Lifelong Shart 2007)

India should, in the wake of above adopt suitably appropriate strategies.

To avoid the loss of highly qualified workers, however, the developing countries need to build their own innovation and research facilities..... China, for instance, has recently Launched a programme aimed at developing 100 selected Universities into world - class research centers. (Vaknin Sam 2005)

Another way to ensure return could be to encourage students to study abroad while making study, grants conditional on the students to return home.

Government of India may hold Home coming meetings with Indian diaspora to encourage its involvement in and support for India's development

Conclusion

Along with major developments in medical and IT research, these signs pointing to a brilliant future for India. By 2020, the effects of the country's silent scientific repatriation will make it the world's number one knowledge production centre - predicted by R. A. Mashelkar, Director General, CSIR. (Mashdkar R.A. 2005)

The key to a peaceful and prosperous future lies in a multilateral agreement between brain-exporting, brain importing and transit countries. Such an agreement should facilitate the sharing of the benefits accruing from migration and 'brain-exchange' among home countries, countries of origin, and transit countries.

The future is bright for the Indian Information Technology Industry. The Ministry of IT estimated that it will need two million IT Professionals. It aims to establish 100 million domestic internet connections and export U. S. \$ 50 billion in IT Softwares and services by 2008. Last year India's Software exports grew by 29% over the previous year. Reverse Brain Drain to India would be a welcome move

Notes

Note: Intellectual property refers to creation of mind:

Inventions, Literary and artistic works, symbols, names, images and designs used in commerce. It involves broad range from the internet to healthcare to science and technology, Law, Literature and the arts.

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A Study of Employee Turnover with reference to Information Technology Firms in Pune City

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Abstract

The impact of turnover has received considerable attention by senior management, human resources professionals, and industrial psychologists. It gives sleepless nights to human resource manager and has proven to be one of the most costly and seemingly intractable human resource challenges confronting organizations. This paper provides an insight into causes of employee turnover and remedial measures need to be initiated to retain human resource asset. The findings have implications for redesigning work settings to attract, motivate and retain the best employees.

Keywords : Employee Turnover, Retention, Information Technology

Introduction

Beginning of 1990s, the Indian business environment has undergone remarkable change. Most organizations viewed the presence of a long serving group of employees as an indication of internal efficiency. However, with economic liberalization opening up new career horizons for professionals in most industries, and thereby tremendously enhancing their prospects for mobility from one organization to another, turnover has come to be understood as a negative 'spill over' effect of industrial growth. This phenomenon commonly called turnover had been of secondary interest to most researchers but increasingly more and more attention is beginning to pour in this direction.

As the paradigm of lifetime employment becomes unrealistic, the question 'who stays with you?' has assumed great importance in organizations today.

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Simultaneously, there has been an increasing tendency to 'buy in' the talents of professionals with cross-functional skills in order to create a competitive advantage. One visible effect of this has been a consistent rise in the pay packages of most organizations so as to attract and retain the most desirable employees. Such a trend over the last few years has resulted in an unstable labour market, especially for industries such as marketing, advertising, finance and software where the skills are by and large transferable, from one work environment to another.

Employee turnover is high in a software firm. The software industry has been the sunrise industry in India. As Bill Gates mentioned: 'The software industry will create millions of new jobs in the years ahead. India more than any other developing nation, is seizing this opportunity, and will become a huge exporter of software expertise. In fact, India is likely to be a software superpower.'

India is an important player on the IT map of the world on account of it being an important source of technically qualified and English speaking manpower. The Indian IT sector has enlarged from US \$ 1.73 billion in 1994-95 to a US \$ 2.81 billion in 2000-01.

One of the most distinctive characteristics of those software organizations is that they have only the expertise of their staff as assets with which to trade. The task of a leader in such organizations is therefore to recruit, train, empower and retain the best and the brightest professionals.

Definition and Concept

Employee turnover is the rotation of workers around the labour market; between firms, jobs and occupations; and between the states of employment and unemployment (Abassi et al. 2000). The term "turnover" is defined by Price (1977) as: the ratio of the number of organizational members who have left during the period being considered divided by the average number of people in that organization during the period. Frequently, managers refer to turnover as the entire process associated with filling a vacancy: Each time a position is vacated, either voluntarily or involuntarily, a new employee must be hired and trained. This replacement cycle is known as turnover. This term is also often utilized in efforts to measure relationships of employees in an organization as they leave, regardless of reason.

Turnover is becoming a serious problem in today's corporate environment. Turnover costs for many organizations are very high and can significantly affect the financial performance of an organization, it leads to two costs, one is direct cost and second is indirect. Direct costs is also known as replacement cost, which includes recruitment, selection, and training of new people. Much time and expense goes into this process. Indirect costs include such things as increased workloads and overtime expenses for co-workers, as well as reduced productivity associated with low employee morale. Estimated costs vary from organization to organization, some as low as a few hundred rupees to as high as four times the annual salary of the employee.

Organizations invest a lot on their employees in terms of induction, training and developing, maintaining and retaining them in their organization. Therefore, managers put in enduring

efforts to minimize employee's turnover. Although, there is no standard framework for understanding the employees turnover process as whole, a wide range of factors have been found useful in interpreting employee turnover. Many factors play a role in the employee turnover of any company, and these can stem from both the employer and the employees. Wages, company benefits, employee attendance, and job performance are all factors that play a significant role in employee turnover. All these factors are conceptually categorised as pull and push factor. Pull factor include personal betterment viz. lucrative opportunity outside organization, career advancement etc. Whereas push factor includes domestic obligation, job dissatisfaction, sense of powerlessness, insufficient information, unclear expectations of peers and supervisors, ambiguity of performance evaluation methods, extensive job pressures, and lack of consensus on job functions or duties, and lack of commitment in the organization.

Objectives

The management of various IT firms encounters challenge of employee turnover, which is beyond control and influence growth of an organization, Present research has been undertaken to know the causes behind employee turnover and to propose remedial measures to control the brain drain and consequently assist organization to prosper by preserving valuable human resource asset.

Methodology and Sampling

The study is inferential descriptive in nature; survey method is used to collect required data. Data regarding perception towards employee turnover had been collected from 57 employees working in a different IT firms and 13 employers in Pune city.

Data were collected with the help of structured schedule; the schedule was executed on samples conducting interviews to solicit information on source of employee turnover. Researcher has used purposive sampling method and collected quantitative data, the data collected from primary

source were analyzed by using simple statistical tools viz. tabulation, percentage, average etc. IT firms for this project means the firms who are rendering service as per need of customer by developing various kinds of software.

Findings of Present Research

Following discussion reveal findings to present research based on analysis of data. Findings are classified as specific findings of employees, specific findings of employer and general findings.

Specific Findings of Employees

1. Employees join IT firms with some objective. 47.37 % sample employees joined due to career advancement opportunities available in their respective organisation, 31.6% each are unemployed and want employment, and employee attracted due to salary advancement sample employees 15.78 % joined due to fringe benefits and 5.2% joined due to friend's reference.
2. Employees leave the organisation due to various reasons, 26.31% sample employees left organisation due to availability of better career opportunity, 21.05 % resigned due to conflict with other employee, 15.78% leaving for higher pay, and 10.52 % each employees leave due to conflict with manager, domestic problem and career change.
3. Jobs are not challenging and sufficient resources are not available to discharge their duties are the reasons cited by employee behind employee turnover since its weighted score is 9.2 and 11.4 average, received IV and V rank respectively.
4. Superiors are not possessing required job knowledge and are not open to suggestion secured 11.66 and 11.93 weighted average and received III and IV rank respectively.
5. Departments are not adequately equipped and not efficient enough to work with, since it weighted average is 11.2 and 12.13 and received IV and III rank.

6. Management is discriminating and reluctant to give fair and equal treatment secured 10.6 weighted averages and VII rank, not providing development opportunity and not discussing job related issue secured 10.66 and 10.93 weighted average and received VI and V rank.
7. Thirty percent sample employees are neither satisfied nor dissatisfied with their respective company.
8. Employees expressing their disgruntle regarding salary review since it weighted average is 10.2 secured III rank.
9. Exciting work environment and job autonomy scored 10.4 and 10.06 respectively and ranked IV and V.
10. Forty seven percent sample employees are neither satisfied nor dissatisfied with their position in company.
11. Thirty six percent sample employees are of the opinion that company is neither flexible nor inflexible towards family responsibility of employees.
12. Twenty six percent each sample employees experienced gender discrimination and sexual harassment.

Specific Findings of Employer

1. It has concluded from employer response that, all IT firms facing the problem of employee turnover 30.76 % sample employer are of the opinion that, employees are leaving organisation due to exorbitant expectation from them.
2. 61.53 % employer facing the problem of involuntary turnover. 30.76 % Sample employer quoted that poor recruitment and personal policy are the reason behind employee turnover.
3. 53.84 % employer is at opinion that replacement cost is higher due to employee turnover.
4. Loss of departing employee experience is another invisible problem faced by 69.23 % employer.

General Findings

These findings are based on researchers observation and discussions during field work and not substantiated by data.

a. Job Related Factors

These are individual decisions, which make one to quit due to lack of commitment in the organization; job dissatisfaction it also include personal agency refers to concepts such as a sense of powerlessness, locus of control and personal control. Locus of control refers to the extent to which people believe that the external factors such as chance and powerful others are in control of the events, which influence their lives. Role stressors also lead to employees' turnover. Role ambiguity refers to the difference between what people expect of us on the job and what one feel one should do. This causes uncertainty about what our role should be. It can be a result of misunderstanding what is expected and how to meet the expectations. Insufficient information on how to perform the job adequately, unclear expectations of peers and supervisors, ambiguity of performance evaluation methods, extensive job pressures, and lack of consensus on job functions or duties may cause employees to feel less involved and less satisfied with their jobs and careers, less committed to their organizations, and eventually display a propensity to leave the organization.

b. Organizational Factors

Organisational instability is contributing to high employee turnover. Indications are that employees are more likely to stay when there is a predictable work environment and vice versa. Therefore, in situations where organizations are not stable employees tend to quit and look for stable organisations because with stable organisations they would be able to predict their career advancement. Adopting a cost oriented approach to employment costs led to disenchantment of staff and hence it leads to labour turnover. Absence of openness' in

sharing information, poor personnel policies, poor recruitment policies, poor supervisory practices, poor grievance procedures, or lack of motivation. All these factors contribute to high employee turnover in the sense that there is no proper management practices and policies on personnel matters hence employees are not recruited scientifically, promotions of employees are not based on spelled out policies, no grievance procedures are in place and thus employee decides to quit.

c. Personal Betterment/ Domestic Problems

There are some factors that are, in fact, beyond the control of management, some employees resign if career growth is missing in their existing job and go in the search of greener pasture outside, some employees voluntarily quit due to family obligations such as the need to provide care for children or aged relatives.

Specific Prescriptions

By referring above findings few prescriptions have been rewarded that may assist IT firms to retain intellectual, knowledgeable and educated manpower, which consequently helps organization to prosper.

1. Management of IT firms should provide adequate advancement opportunities. It fosters employee loyalty, implement a career ladder regular performance reviews need to be administered to identify employees' strengths and weaknesses, and help them improve in areas that will lead to job advancement. A clear professional development plan gives employees an incentive to stick around.
2. Offer fair and competitive salaries commensurate with industry. Fair compensation alone does not guarantee employee loyalty, but offering below-market wages makes it much more likely that employees will look for work elsewhere. To retain workers, conduct regular reviews of the salaries offer for all job titles like entry-level, experienced staff and supervisory-level. These salaries need to be compared with

department's salaries with statistically reliable averages. If there are significant discrepancies, then management needs to take steps to ensure that organization is in line with the marketplace.

3. Job should be challenging and there is need to define roles and responsibilities clearly, so that employee will be aware what is expected of them every day, what type of decisions they are allowed to take on their own, and to whom they are supposed to report. Develop a formal job description for each title or position in your department and allot sufficient resources to employee to work effectively and efficiently.
4. Management needs to conduct employee satisfaction surveys to ascertain expectancy of employees, which may help to maintain employee satisfaction at higher level.
5. Job autonomy should be granted that allow employees to make their own decision and helps to create work environment where everyone would like to work.

Conclusion

Turnover is becoming a serious problem in today's corporate environment. Turnover costs for many organizations are very high and can significantly affect the financial performance of an organization. From results it can be concluded that there are various reasons behind employee turnover these reasons are conceptually categorized into pull and push factors. Pull factor includes personal betterment viz-lucrative opportunity outside organization, career advancement etc. Whereas push factor include domestic obligations, job dissatisfaction, sense of powerlessness, insufficient information on how to perform the job adequately, unclear expectations of peers and supervisors, ambiguity of performance evaluation methods, extensive job pressures, and lack of consensus on job functions or duties, lack of commitment in the organization etc. This research paper proposed a remedial measure if implemented and executed properly would help concerned organizations to minimize intensity of problem.

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Annexure No. 01

Following tabulation shows responses from employees for selected variables used for this study with its weighted average and rank.

Table No.1 : Reason for Joining and Leaving Employment.

Sr.No.	Particular	No.of Respondents	%
1	Unemployed	18	31.6
2	Referred By Friend	3	5.2
3	Fringe Benefit	9	15.78
4	Company Reputation	0	0
5	Career Advancement	27	47.37
6	Advertisement	12	21.05
7	Salary Advancement	18	31.6
Reason for Leaving			
1	Higher Pay	9	15.78
2	Benefits	3	5.26
3	Better Job Opportunity	15	26.31
4	Commute	3	5.26
5	Conflict with other Employees	12	21.05
6	Conflict with Managers	6	10.52
7	Family and Personal Reasons	6	10.52
8	Relocation/Move	0	0
9	Career Change	6	10.52
10	Company Instability	0	0
Nature of Job			
Sr.No.	Particulars	Weighted Avg.	Rank
1	Job was Challenging	9.2	V
2	Skills were Effectively Used	12.6	I
3	Job Orientation was Effective	12	II
4	Work load was Reasonable	11.6	III
5	Sufficient Resources were Available	11.4	IV
6	Safe Working Environment	11.8	III
Nature of Supervision			
1	Had Knowledge of the Job	11.66	IV
2	Had Knowledge of Supervision	13.8	I
3	Was open to Suggestions	11.93	III
4	Recognized Employees Contribution	12.93	II
Selected Working Conditions in Department			
1	Had Good Synergy	12.73	I
2	Had Adequate Equipment	11.2	IV
3	Was Adequately Staffed	12.4	II
4	Was Efficient	12.13	III

Sr.No.	Particulars	Weighted Avg.	Rank
Management Attitude Towards Selected Work Environment Attributes			
1	Gave Fair and Equal Treatment	10.6	VII
2	Was Available to Discuss Job Related Issues	10.93	V
3	Welcomed Suggestions and Encouraged Feedback	11.66	IV
4	Maintained Consistent Policies and Practices	13	I
5	Provided Recognition for Achievements	11.8	III
6	Encouraged Cooperation/Collegiality	12	II
7	Provided Development Opportunities	10.66	VI
Employees Satisfaction			
Employee Satisfaction with Company Benefits and Policies			
1	Accuracy of Job Description	11.6	II
2	Salary Reviews	10.2	III
3	Adequate Information on Promotion is Provided	11.6	II
4	Listening to the Employee in Employer/Employee Disputes	11.66	I
5	Accuracy of Job Description	11.6	II
6	Salary Reviews	10.2	III
7	Adequate Information on Promotion is Provided	11.6	II
8	Listening to the Employee in Employer/Employee Disputes	11.66	I
Employee Satisfaction Towards Selected Work Environment Variables			
1	Career Advancement Opportunity	13.4	II
2	My Work Gives me a Feeling of Personal Accomplishment	10.93	VIII
3	Clearly Defined Quality Goals	11.53	IV
4	Company Informing About Matter Affecting us	12.6	III
5	Senior Manager Visibly Demonstrate a Commitment to Quality	11	VII
6	Information from Management on what is going on in your Division	11.26	VI
7	Involvement in Decision that Affect Your Work	11.4	V
8	Opportunity to Get a Better Job In This Company	13.73	I

Annexure No. 2

Following tabulation shows responses from employer for selected variables used for this study.

Sr.No.	Particular	No.of respondents	%
Problem of Employee Turnover Faced by the Company			
1	Yes	13	100
2	No	0	0
Reason Behind Employee Turnover			
1	Job Related Stress	2	15.38
2	External Environment	0	0
3	Personal Reason	2	15.38
4	Low Growth	3	23.07
5	Cultural Problem	0	0
6	Exorbitant Expectation	4	30.76
7	Job Satisfaction	2	15.38
Total		13	100
Reason of Involuntary Employee Turnover			
1	Death or Illness of Employee	5	38.46
2	Need to Provide Care to Children	0	0
3	Aged Parent	8	61.53
Total		13	100
Reason of High Employee Turnover			
1	Poor Personal Policy	3	23.07
2	Poor Recruitment Policy	4	30.76
3	Poor Supervisory Policy	2	15.38
4	Poor Grievance Procedure	2	15.38
5	Recognition of Work	2	15.38
Total		13	100
Cost of Employee Turnover			
1	Replacement Cost	7	53.84
2	Low Productivity	4	30.76
3	Overtime Payment	2	15.38
Total		13	100
Indirect or Invisible Problem Faced by Organisation due to Employee Turnover			
1	Loss of Departing Employee Experience	9	69.23
2	Competitor Are Gaining Those Human Asset	4	30.76
Total		13	100
Cost Incurred to Organisation for Hiring New Employee			
1	Same as a Salary Who Left the Organisation	0	0
2	More Than That	13	100
3	Less Than That	0	0
Total		13	100

A Socio Economic Study of Customers of Retail Bazaar in D Grade Town : A Case Study

R. R. Chavan

Abstract

Many Retail bazaars are interested in developing stronger bond with the customers. CRM is the process of managing the detailed information about individual customer and carefully managing all customers touch points to maximize customers' loyalty. CRM is not a technology but a way to deal with customer to increase the loyalty. Majority of the bazaars attract customer belonging to A1 and B2 socio economic class. The need is acute to focus on socio economic class as segments and prescribe tailor made CRM programme.

Keywords : Socio Economic Class, Retail, Retail Bazaar, CRM

Introduction

The retail industry is changing at an increasing rate and this leads to growth of organized retail sector. The change is only constant thing in retail marketing. The demand for retail bazaar is increasing in sophisticated class. This bazaar market is changing according to the needs of the consumers. Now in a family husband and wife are working so they spend their holiday in weekly purchases. The retail bazaar is generally preferred by them. Now a days the retail bazaar is not only providing the snacks counter and children play corner but also providing entertainment zone so that customer will spend their leisure time maximum in retail bazaar. Most of the customers prefer these bazars for their weekly, monthly purchases. Day by day this bazaar is transforming into Malls where virtually all facilities are available to the customers. Customers are visiting these types of places as they go for outing.

In India, organized retail accounts for only two percent of overall retail activity as compared to

80% in most of the developed countries. Retailing in India is gradually becoming well organized. The policy of Government of India towards retailing is also supportive since 51% of direct investment in one brand retailing is permitted. The consumer in India is now being exposed to shopping as an experience and is charmed with a host of international brands at competitive prices. Today, the Indian consumer expects a wide choice in the form of better quality retail outlets, product choices and brand options. The customer has started spending more and demanding more from the retail industry.

Though organized retail sector is growing, they need modification in their strategy to compete with conventional Kirana stores which are cost effective. The problem faced by the organized retail bazaar are numerous the sections like fruits, vegetables have wastage in supply chain and have got low shelf life and margin. But these are the sections, which drive people more often to organized stores and also lure them to other profitable sections like apparel, electronics and the like.

Retaining customer is a big challenge to the Bazaar. It has been observed that bazaar does not maintain close relationship with the customers.

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They are doing their business in professional way without entertaining the customers but in Kirana store, the shopkeeper knows the customer well and is able to give more personalized touch to the customer. They changes the selling strategy as per the customers' attitude, behavior, and requirement and makes available all the products in shop as per the needs of customers. Retail bazaar is substitute for Kirana. Only making product available is not sufficient to retain the customer, there is need to maintain good relationship. Bazaar provides variety of sections such as grocery, confectionary, cosmetics, garments and gift articles, medicine etc. Customer visits the bazaar for their daily routine purchases. When it comes to special purchases like garments, electronics items, medicines they move to specialized shops. So it takes time to encourage the customer from grocery to apparel sections. CRM activity will help bazaars to educate customers and direct them to apparel sections at earliest.

Objective

Present study has been undertaken with an objective to find out profile of customer visiting retail bazaar on the basis of socio economic classes and to derive CRM strategy on the basis of customer's profile.

Research Methodology

The study is inferential descriptive in nature. A detailed close-ended structured schedule was prepared to execute on samples. Sample unit was customers visiting retail bazaar. On the spot non-probability sampling technique was used and sample size was 656 customers. The study was conducted in all retail bazaars in Satara city. Satara is D grade town having population of 1, 08,043 (2001 Census) located at the western part of Maharashtra state, India. Study was conducted during May and June 2007. The data has been analyzed by using simple statistical tools as Measures of Central Tendency and Percentages.

Concept Used for Study

The study is based on few concepts viz. retail

bazaar, retail, socio-economic class and customer relationship management.

Retail Bazaar is a shop or a part of a store in which miscellaneous articles are sold. Retail is selling of goods to consumers; usually in small quantities and not for resale. Retailing consists of the sale of goods or merchandise from a fixed location, such as a department store or kiosk, or by post, in small or individual lots for direct consumption by the purchaser¹. Retailing may include subordinated services such as delivery.

Socio-Economic Class (SEC) : The Market Research Society of India (MRSI) developed and appropriate alternative to Monthly household Income, which was called S.E.C, i.e. socio economic class. The two demographic variables i.e. chief wage earners education and occupation are used to economic classification. The classification was done across five groups-A, B, C, D, E and further A, B, E groups had sub groups-A1, A2, B1, B2, E1 and E2.

Customer Relationship Management is a business philosophy, set of strategies, systems and a program focuses on identifying and building loyalty with most valued customers.

Data Analysis

For the analysis of data, researcher has classified all samples as per the Socio economic Classes and the results are:

1. The samples who visited to the Bazaar belong to the A1 to B2 S.E.C. Around 78.82% customers who visit to bazaar for purchasing fall in A1 to B2 S.E.C. and rest 21.18% belongs to other S.E.C. No sample belonging to E2 SEC was found to visit the bazaar.
2. Regarding occupation, 63.26% samples belong to Business class i.e. 41.01% and 22.26% skilled workers who visited Bazaar. It shows that most of the samples are businessmen and skilled workers. Only 36% customers from other occupations visited the Bazaar.
3. Group Mode Analysis:

Table No 1: Group Model Analysis

Following table is an effort to find out model value of an occupation.

Sr.	Occupation	Frequency	1	2	3	4	5
1.	Unskilled workers	52	258		261		
2.	Skilled workers	206					
3.	Shop owners	3	60	209	217	266	208
4.	Business None	57		205			
5.	Business 1 to 9	148	160	62	178	210	120
6.	Business 10+	12					
7.	Self employed profession	50	108	128			
8.	Clerk/Salesman	58					
9.	Officer executives	70					

Group Model Analysis

Sr.	Highest Frequency of the group	1	2	3	4	5
1.	206	Skilled workers	--	--	--	--
2.	258	Skilled workers	--	--	--	--
3.	209	Skilled workers	Shop owners	--	--	--
4.	261	Skilled workers	Shop owners	--	--	--
5.	266	Skilled workers	Shop owners	Business None	--	--
6.	208	-----	Shop owners	Business None	Business 1 to 9	--
7.	Total	5	4	2	1	0

Since the value of skilled workers occurs maximum number i.e. 5 times. Therefore the mode is 206.

4. As per Table No.3 majority of the samples i.e. 74.55% are graduate/PG (general 46.04% and 28.51% professional) and remaining 25.45% from school 5-9, SSC/HSC, and some have attended college but are not graduates. All Graduate/PG professional lie between A1 to B2 S.E.C. and 97% of the total Graduates/PG general lie between A1 to B2 S.E.C.

5. Table No. 4 shows Income Group matters when it comes to visit the bazaar, 80.34% of total sample having monthly income in between 5001- 25000, which comprises; 46.80% samples from Rs. 5001-15000 and 33.54% samples belongs to 15000-25000. This depicts that the higher income groups visited the bazaar for retail purchases. The highest monthly and household income group

who visited the bazaar belongs to A1 to B2 S.E.C.

6. The effort has been made to find out customers travelling effort to reach bazaar, 78.13% of the customer visited bazaar from 1000 to 2000 meters and 22.86% of customers from 100 to 1000 meters away from the Bazaar which means that samples travel to purchase their needs from Bazaar irrespective of distance. Out of these, 85.03% of customers belong to A1 to B2 S.E.C.
7. Expectations from retail bazaars is increasing day by day, 85.21%, 75.15% and 80.03% of samples wish to have vegetables, milk and milk products and fruits respectively from bazaar. Majority of the samples are expecting more products from the bazaar, which are of day to day use in the house.
8. As per the Table No.7, 56% of the customers had positive response for information by SMS system. Out of these 48% are from A1 S.E.C. and 24% from B2 S.E.C. It also shows that 91.32% customers who like to get informed by SMS belong to A1 to B2 S.E.C.
9. As per the Table No.8, 72.95% samples are not using Internet. But 28.05% samples are using internet in which 58% are from A1 S.E.C and 22% are from B2 S.E.C. 98.36% of the internet users lie in A1 to B2 S.E.C.
10. As per the Table No.9, customers' needed information from bazaar such as company schemes (85.64%), bazaar schemes (87.1%) and new brand arrivals (43.6%). This shows that most of the customers especially A1 S.E.C. samples wish to be informed about the company schemes and Bazaar schemes.
11. As per the Table No.10, services provided by bazaar which attracted the customers were as follows, 95.58% Trolley service, 94.51% guide facility, 94.66% billing facility, 91% rate less than the MRP and 87.65% home delivery system attracts them.

Findings

Findings are classified into two group's specific findings and general findings as follows:

Specific Findings

1. Out of Customers who visit bazaar 78.82% are of from A1 to B2 S.E.C. in which A1 S.E.C. is 41.01%.
2. From the Customers who visit bazaar 63.26% are businessmen and skilled workers.
3. Majority of the samples i.e. 74.55% are graduate/PG (general and professional). 97% of the Graduates/PG general lies in between A1 to B2 S.E.C. and all Graduate/PG professional lies in between A1 to B2 S.E.C.
4. 80.34% of the customers income is in between 5001-25000
5. Based on the distance 78.13% of the customers visited bazaar from 1000 to 2000 meters away from their residence. Out of these 85.03% belongs to A1 to B2 S.E.C.
6. 75.15% to 85.21% of the customers expected bazaar should provide milk, fruits and vegetables.
7. 91.32% customer's who are interested to take information by SMS systems belong to A1 to B2 S.E.C.
8. Out of sample using internet users 98.36% belong to A1 to B2 S.E.C.
9. Customer needs information regarding bazaar schemes is 87.1% and company schemes is 85.64%.
10. Most of the customers i.e. 90% - 96% were attracted by the services of bazaar such as trolley, guide, billing facility, rate less than the MRP and home delivery.

General Findings

People are ready to purchase their requirements from Bazaar although it is away from their residence. Most of the customers expect more products from the bazaar, which are of day to day use. Bazaar provides a home delivery service to

the customers but they do not maintain any record of it. As per annexure of distance of Meenakshi Bazaar in 100-200 meters, there are no customers because there is meager residential area.

Prescriptions

1. Bazaar should maintain customer information in database by using format (refer annexure no.1). The information furnished through said form would help implementation of CRM activity.
2. The important variables are Education and Occupation which guide quality and brand preference of the customers.
3. Monthly income, total amount of purchase guides about the capacity to purchase as well as to determine the segmentation.
4. Birth date, marriage date, spouse's birth date, Children's birth date which can help to greet the customers on special occasions.
5. E-mail, mobile no. will help to inform customers about company schemes, bazaar schemes and new brand arrival. It will also help to communicate on their personal special occasions and remind for their home delivery.
6. Monthly requirements of the customers will help to make better availability of the products.
7. Last date of purchase, will help to remind the customers.
8. Frequency in year which gives the idea of consistency and help to determine the customers' segmentation.
9. Expectation from the bazaar will help to make available the product as per the customers' needs.

References

1. Nair Suja (2006), *"Retail Management"*, Himalaya publishing House Pvt.Ltd., Bombay, 3rd edition. page no.233.
2. Philip Kotler and Kevin Lane Keller ((2006), *"Marketing Management"*, Pearson Education(Singapore) Pvt .Ltd., Indian Branch, Delhi, 12th edition.
3. wordnet.princeton.edu/perl/webwn.

10. Bazaar should maintain home delivery record like home delivery date, items purchased on which bazaar can make proper arrangement to deliver goods to the customers.
11. Snack counter is important to have outing experience.
12. Creating an environment to increase the interaction with customers will improve the knowledge about customers' needs and help to maintain the relations.
13. Most valued customers (i.e. customer differs it in terms of profitability 80-20rule. 80% of the sales or profit comes from 20% of the customers. Bazaars can categorize the customers into two groups based on LTV score. Highest LTV scores would be a part of the 20% of the customers while the other group would includes in the 80% of the customers) should be treated in special way by reminding them about new brands, price change, new scheme and new facilities and greet them on their special occasions.
14. Since customer is of elite society, bazaar has ample scope for horizontal diversification, which may enhance the regular touch of customers with bazaar.

Conclusion

Majority of customers visiting retail bazaar are from sophisticated class having good income as well as better education. Customers want more product options and prefer to be contacted through e mail. Providing home delivery, credit facility may lead to store patronage which may help to maintain customer relationship.

**Annexure No. 01
Customer Information Form.**

Customer Information Form												
Personal data (fill in Capital letters)												
Form No.				Code No.								
Last name			First name									
Middle name												
Residential Address												
City			State									
Pin code			Phone									
Mobile			Fax									
e-mail												
Gender		Male	Female	Date of Birth		dd	mm	yy				
Marital status		Unmarried	Married	Date of Marriage		dd	mm	yy				
About your family												
Spouse Name				Spouse date of birth		dd	mm	yy				
Children's details												
	Name			Gender		Date of birth						
1				male	female	dd	mm	yy				
2				male	female	dd	mm	yy				
3				male	female	dd	mm	yy				
Education				Occupation								
Illiterate				worker								
SSC/HSC				Shop owner								
Some college but not graduate				Clerk/Sales manager								
Graduate/PG general				Officer /Executive								
Graduate/PG general				Business/Industrialist								
Any Other				Any Other								
Leisure time to read the SMS or check the E-mail												
Monthly requirements(Rs.000)		Grocery		Cosmetics		Confectionary		Medicines		Vegetables		Other
Last date of purchase												
Frequency in year												
Total purchase Rs(00000)												
Expectation from the Bazaar												
Response for the last delivery			Fully satisfied		Partly satisfied		Satisfied		Less satisfied		Unsatisfi ed	
Complaints if any												
Home delivery requirement			If Yes,		Date		Day		Time			
Visit to bazaar with			family		friend		Alone					

Source: (Primary Data)

Annexure: No. 02

Table No 01: Distribution of Samples as per the Socio Economic Class.

Following table shows distribution of samples on the basis of Socio Economic Class.

Sr.	SEC	Frequency	Percentage
1.	A1	269	41.01
2.	A2	48	7.32
3.	B1	54	8.23
4.	B2	146	22.26
5.	C	73	11.13
6.	D	50	7.62
7.	E1	16	2.44
Total		656	100

Source: (Primary Data)

Table No 02: Distribution of Samples as per the Occupation.

Following table shows distribution of samples on the basis of occupation.

Sr.	Occupation	A1	A2	B1	B2	C	D	E1	Total
1	Unskilled workers	0					38	14	52
	%	0	0	0	0	0	6	2.13	7.93
2	Skilled workers			3	125	66	10	2	206
	%	0	0	0.46	19.05	10.06	2	0.30	31.40
3	Petty traders								0
	%	0	0	0.00	0.00	0	0	0.00	0.00
4	Shop owners		3						3
	%	0	0.46	0.00	0.00	0	0	0.00	0.46
5	Business/Industrialist	170	33	10	4				217
	%	25.9	5.03	1.52	0.61	0	0	0.00	33.08
6	None	21	33	3					57
	%	3.2	5.03	0.46	0.00	0	0	0.00	8.69
7	1TO 9	138		6	4				148
	%	21.0	0.00	0.91	0.61	0	0	0.00	22.56
8	10+	11		1					12
	00%	1.7	0.00	0.15	0.00	0	0	0.00	1.83
9	Self employed profession	34	8		6		2		50
	%	5.2	1.22	0.00	0.91	0	0	0.00	7.62
10	Clerk / salesman	21	4	29	4	0			58
	%	3.2	0.61	4.42	0.61	0.00	0	0.00	8.84
11	Officer executives	44		12	7	7			70
	%	6.7	0.00	1.83	1.07	1.07	0	0.00	10.67
Total		269	48	54	146	73	50	16	656

Source: (Primary Data)

Table No 03: Distribution of Samples as per the Educational Qualification.

Following table shows distribution of samples on the basis of educational qualifications.
Educational Qualification

Sr.	SEC	Illiterate	%	School 5-9	%	SSC / HSC	%	Some College but not graduate	%	Graduate / PG General	%	Graduate / PG Professional	%	Total	%
1.	A1	0	0		0.00	2	0.30	2	0.30	129	19.66 (47.95) (42.71)	136	20.73 50.55 72.72	269	41.01
2.	A2	0	0	2	0.30	1	0.15	2	0.30	40	6.10 (83.33) (13.24)	3	0.46 (6.25) (1.60)	48	7.32
3.	B1	0	0		0.00	13	1.98	1	0.15	34	5.18 (62.96) (11.25)	6	0.91 (11.11) (3.20)	54	8.23
4.	B2	0	0	1	0.15	6	0.91	7	1.07	90	13.72 (61.64) (29.80)	42	6.40 (28.76) (22.45)	146	22.26
5.	C	0	0	1	0.15	47	7.16	19	2.90	6	0.91 (8.21) (1.98)	0	0.00	73	11.13
6.	D	0	0	11	1.68	36	5.49		0.00	3	0.46 (6) (0.09)	0	0.00	50	7.62
7.	E1	0	0	16	2.44	0	0.00	0	0.00	0	0.00	0	0.00	16	2.44
Total		0	0	31	4.73	105	16.01	31	4.73	302	46.04	187	28.51	656	100

Source: (Primary Data)

Note: Researcher has used three percentages. 1st percentage is based on total samples and 2nd is on column total and 3rd is on row total.

Table No 04: Distribution of Samples as per Monthly Income

Following table shows distribution of samples on the basis of monthly income.

SEC	Upto 5000		5001-15000		15000-25000		25000and above		Total
	M	%	M	%	M	%	M	%	M
A1	10	1.52	103	15.70	144	21.95	12	1.83	269
A2	0	0	24	3.66	24	3.66	0	0	48
B1	2	0.30	40	6.10	9	1.37	3	0.46	54
B2	10	1.52	86	13.11	38	5.79	12	1.83	146
C	18	2.74	47	7.16	5	0.76	3	0.46	73
D	40	6.10	7	1.07	0	0	3	0.46	50
E1	16	2.44	0	0	0	0	0	0	16
Total	96	14.63	307	46.80	220	33.54	33	5.03	656

Source: (Primary Data)

Table No 05: Distribution of Samples as per the Travel Distance to visit the Bazaar

Following table shows distribution of samples on the basis of the distance travelled from their residence to visit the Bazaar

SEC	<i>(Distance in meters)</i>															
	0-100	%	100-200	%	200-500	%	500-1000	%	1000-1500	%	1500-2000	%	2000abov	%	Total	%
A1	18	52.94			6	50.00	45	43.27	65	44.22	59	38.82	76	36.71	269	41.01
A2	6	17.65				0.00	7	6.73	10	6.80	14	9.21	11	5.31	48	7.32
B1		0.00				0.00	4	3.85	10	6.80	24	15.79	16	7.73	54	8.23
B2	9	26.47			6	50.00	24	23.08	40	27.21	32	21.05	35	16.91	146	22.26
C		0.00				0.00	12	11.54	10	6.80	18	11.84	33	15.94	73	11.13
D	1	2.94				0.00	12	11.54	4	2.72	5	3.29	28	13.53	50	7.62
E1		0.00				0.00		0.00	8	5.44		0.00	8	3.86	16	2.44
Total	34	5.18			12	1.83	104	15.85	147	22.41	152	23.17	207	31.55	656	100.00

Source: (Primary Data)

Table No 06: Distribution of Samples as per the Expectation from Bazaar.

Following table shows distribution of samples on the basis of the expectation from bazaar

Sr.	SEC	Vegetables	Milk/milk product	Fruits
1.	A1	240	235	235
2.	A2	48	37	43
3.	B1	7	5	6
4.	B2	140	134	134
5.	C	70	53	56
6.	D	46	29	43
7.	E1	8	0	8
	Total	559	493	525
	%	85.21	75.15	80.03

Table No 07: Distribution of Samples as per the Customers Likes to Get Informed by SMS

Following table shows distribution of samples on the basis of the customers likes to get informed by SMS.

Sr.	SEC	Yes	%	No	%	Total	%
1.	A1	178	27.07	91	14	269	41.01
2.	A2	27	4.07	21	3	48	7.32
3.	B1	44	6.69	10	2	54	8.23
4.	B2	88	13.35	58	9	146	22.26
5.	C	30	4.55	43	7	73	11.13
6.	D	4	0.54	46	7	50	7.62
7.	E1	0	0.00	16	2	16	2.44
Total		369	56	287	44	656	100

Source: (Primary Data)

Table No 08: Distribution of Samples as per the Customers' Access to Computer or Internet.

Following table shows distribution of samples on the basis of the customers' access to computer or Internet.

Sr.	SEC	Yes	%	No	%	Total	%
1.	A1	104	15.85	165	25.2	269	41.01
2.	A2	19	2.90	29	4.4	48	7.32
3.	B1	17	2.59	37	5.6	54	8.23
4.	B2	41	6.25	105	16.0	146	22.26
5.	C	3	0.46	70	10.7	73	11.13
6.	D	0	0.00	50	7.6	50	7.62
7.	E1	0	0.00	16	2.4	16	2.44
Total		184	28.05	472	71.95	656	100

Source: (Primary Data)

Table No 09 : Distribution of Samples who like to be informed About Scheme and New Arrival.

Following table shows distribution of samples on the basis of liking to be informed about company scheme, new brand arrival and Bazaar scheme.

SEC	About company scheme		New brand arrival		Bazaar scheme		Total
	Number	%	Number	%	Number	%	Number
A1	225	83.50	131	48.5	230	85.4	269
A2	43	88.89	16	33.3	40	83.3	48
B1	44	81.25	27	50.0	44	81.3	54
B2	128	88.00	76	52.0	128	88.0	146
C	60	81.82	33	45.5	63	86.4	73
D	46	92.86	4	7.1	50	100.0	50
E1	16	100.00	0	0.0	16	100.0	16
Total	562	85.64	286	43.6	571	87.1	656

Source: (Primary Data)

Table No 10 : Distribution of Samples as per attraction towards Services Provided by the Bazaar.

Following table shows distribution of samples on the basis of attraction towards the services provided by the Bazaar

Sr.	SEC	Trolley	Guide	Billing Facility	Rate less than MRP	Home delivery
1.	A1	253	248	240	240	238
2.	A2	45	45	45	40	40
3.	B1	47	51	54	51	34
4.	B2	146	140	146	134	134
5.	C	73	70	70	70	66
6.	D	46	50	50	46	46
7.	E1	16	16	16	16	16
	Total	627	620	621	597	575
	%	95.58	94.51	94.66	91	87.65

Source: (Primary Data)

G. P. Jakhotiya

Mr. Kumar, the young chairman of Karwa Group was happy with the broad road map prepared by him and his team. It took almost three months to reach certain harsh conclusions. His father, Mr. Anant Karwa died untimely; when Kumar was only 27, in 1995. Anant, an engineer, got a small yarn factory from his grandfather in 1970, located near Kolkata. The factory was making reasonable profit, although labour productivity was very low and infrastructure was quite bad. The grandfather told his grandson, to expand fabulously and create a 'Karwa Empire'. Anant virtually implemented his grandfather's advice and created thirty companies in twenty-five years. Of these, six companies were abroad, in countries like Egypt, Indonesia, Thailand and Malaysia.

Anant created a well-diversified 'Karwa Group', dealing in textile, steel, copper, cement, paper, manganese and aluminum. Broadly, the group transacted in metals and commodities. It was a matter of pride for every Indian that the Karwa Group was multinational and doing well in the foreign countries. The group exploited all governmental policies, to create monopoly businesses in India. Those were the years of licence raj and quota raj. More than true entrepreneurship, 'government management' was important. Babus in the bureaucratic system were 'powerful agents' between the industrialists and politicians. Hence, it was natural that the Karwa Group developed its core competence in managing these babus.

A closed economy had its advantages and disadvantages. Karwa Group could restrict many

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new competitors, using the babus. Therefore, it could enjoy an easy market. Over a period of time, its executives forgot marketing skills. Under the pressure of monopoly and restrictive trade practices act, it could not expand its production capacities to global scale. It could not raise funds abroad, as the central bank was very rigid. It could not also create versatile 'corporate citizens', as its business model didn't need any such versatility. One interesting 1 component of this business model was 'a very close monitoring of financial performance'. Each company in the Karwa Group knew its maximum possible profit, as it was working to its maximum capacity of production and pricing was more or less directed by the government. The Karwa Group created its own internal control mechanism, which became popular as the 'Parta System'. (Parta is a Marwadi word, which means performance or profit.) To increase its profit well predicted from the market, the Karwa Group started looking inside for extra profit. The obvious effort was 'cost reduction'. As capacities, markets and prices were uncertain, there was hardly any hardship for the technocrats. What became critically important was 'financial control and analysis'. Hence, almost 90 % of the Karwa companies were headed by conservative, Marwadi chartered accountants.

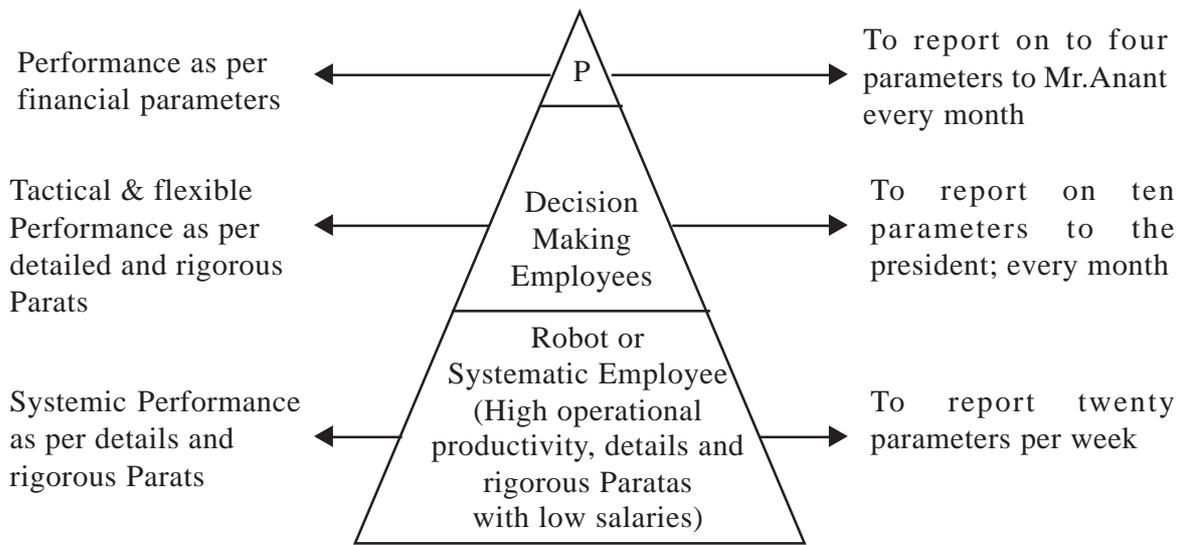
Anant had a fantastic skill of selecting, educating and rewarding right type of people. All his corporate presidents were competent and loyal leaders of the Karwa Group companies. Their loyalty was 100 %, although their competence was defined by a few limited parameters viz. production volume, time and cost. In other words, these presidents were not 'complete entrepreneurs'. It was a unique case of Anant being the sole vision - provider and the presidents were share and shrewd executors. After the Group expanded considerably, Anant empowered his presidents

further. He used to monitor their performances informally with just four financial parameters - operating cost, profitability, operating rate of return on investment and increase in net worth.

The Parta System was quite rigorous. It used to capture minute details of productivity and cost efficiencies. It was also a facilitator of 'collective understanding of overall performance'. All

functional employees used to define, appreciate, analyze and report their performances through a common language of 'Parta'. The Partas were internally defined, rigorous benchmarks. In the pyramid of the organization, the employees at the lowest level were to compute 2 and submit around twenty Partas (or parameters) on a weekly basis, to their immediate superiors.

A simple explanation may be further given as follows --



A Parta used to combine technical (i.e. operational) and financial performance beautifully. Therefore, all the Karwa companies enjoyed same language of communication, between different businesses, functions and locations. Another good use of the Parta System was performance appraisal and reward determination. The reward was in form of annual cash bonus, although its quantum was not very lucrative. Karwas used to test the overall employability of an employee; within first two years of his functioning. The set parameters were quite obvious, with their clear weightages -

Parameter	Weightage
Core Performance	50
Cost Control and Reduction	15
Integrity and Loyalty	20
Consistency	15
Total	100

The weightage attached to core performance was '90', in case of senior executives and presidents; as loyalty and consistency parameters were assumed to be a natural behaviour, gained over a period of time.

Anant used to devote almost 50 % of his time for 'business development and growth'. With comprehensive empowerment of the presidents and the rigor of the Parta System, Anant could find good amount of time for developmental thinking. It is astonishing today to imagine about Anant's approach to benchmarking, vision-mapping and strategy formulation, when there was no 'software' available. Yet, he and his team could create and nurture a multinational group with self - made theories and practices of business. Karwa's executives have been known for their comprehensive use of versatile benchmarking. They use market references, in-house trend analysis of past performance, bottom-line targets

and comparable parameters from unrelated industries.

The Karwa Group reached a business size of Rs.18,000 crore by 1995, which was at an average annual growth rate of 50 %. It always selected those businesses, which would offer an ROI between 33 % and 50 % i.e. with a payback period of 2 to 3 years. 67 % of its total turnover came from domestic market and the rest through export activities. All its foreign businesses were collaborations with local partners, using 95 % of its workforce drawn from foreign local markets. The group was to exploit the growth opportunities visible through the opening up of Indian economy after 1991. As India became a member of WTO, and was under tremendous pressure of the western countries and institutions; started opening her economy gradually. A vibrant, new economic policy was designed to offer an agenda for reshaping the economy. It was not at all clear to the political leaders, bureaucrats and the industrial houses, which way the global economic winds would flow. The period of five years from 1991 to 1996 was an era of confusion, frustration, and worries for most of the Indian business houses. Those who could grasp the WTO design through formal and informal approaches could guess the good and bad impact of things to come.

Anant too could visualize the challenges and opportunities thrown open by the WTO design. Yet he could not conclude on a reasonably definite agenda, to face these challenges and exploit the opportunities. This was because his presidents continued the old fashions of entrepreneurship; with unwarranted level of confidence and lack of strategic analysis of the changing environment. Anant didn't have enough resources to apply to the new areas of business excellence. At the same time, his companies were 'production-driven', using same old quotas, licences and permits. Some of his foreign enterprise did offer signals of crisis and change, but the Indian enterprises could not understand them for want of a 'strategic planning mechanism'.

Anant's health deteriorated in 1994, when Kumar was a young executive gaining exposure in the

Karwa Group. The group's activism was mainly maintained by the trusted presidents of the flagship companies, but it lacked the speed, direction and quantum, which was offered by Anant's leadership. Kumar could guess the challenge of group - leadership to be performed by him in near future. He carried out his difficult dialogues with Anant, to gain some more insight into the Karwa Group's organism, opportunities and obstacles. Anant, despite his fast health deterioration; shared his inner voices with Kumar. It was a very unique and yet extremely difficult dialogue between a generous father and his bright and innocent son. The son did his best to understand his father's incomplete realizations and unending aspirations. Anant's vision, speed and pragmatism were unparalleled in Indian business history of the 20th century. Kumar was to continue this legacy of entrepreneurial excellence in the new era of globalization.

After Anant died, Kumar got a huge task of grasping the global waves, working with old, shrewd and self-centred presidents of the flagship companies, causing and managing change to respond to the market more dynamically and appropriately. He had a dilemma of combining and balancing loyalty and competence. 'Change' was a combination of retention of old, good value system and new, vibrant entrepreneurship. Kumar could reasonably assess the big 5 change happening in the global market. A few of his important observations were -

1. Government's role in sponsoring or restricting business houses was vanishing very fast. As a result, concepts and practice of licences and permits, monopoly controls and quotas became outdated.
2. WTO's design compelled every member country to relax and rectify the tariff rates, entry and exit rules, mechanism of movement of capital, technology and human resources etc. This compulsion created global market for all entrepreneurs.
3. New players started entering India and collaborated with local companies to exploit all types of business opportunities. As a result,

Karwa's commodity and metal businesses didn't remain monopolies.

4. New technical skills and market adventurism was required to compete, sustain and grow.
5. Organizational structures were now supposed to be flat, simple and responsive
6. Old rates of earnings were fast becoming a history. Huge volumes and low margins were the reality now.
7. Young employees have become quite demanding, for their job - descriptions, empowerment and monetary gains.
8. Fund mobility has drastically increased. As a result, 'capital' and 'capital providers' became less important. Ideas, knowledge etc. replaced capital in many businesses.
9. With a global movement of goods and services, customers started enjoying lot many alternatives, at reasonable prices. Hence, demand for quality and service increased considerably. Rather, quality was now taken for granted.
10. Revolutionary changes in communication, information and corporate governance practices compelled every business enterprise to become highly accountable to its shareholders, customers and society at large. While considering these observations, Kumar reached a clear conclusion that a dose of rectification or revitalization would not be enough; to make his group and group-members competent enough to compete today and tomorrow. What was required, was 'reincarnation'. The very core of 'Karwa Philosophy' could be maintained, as it is the 'soul' of Karwa entrepreneurship. Perhaps, every thing else was to be defined again. Businesses, which are of a certain critical mass, need to be continued with an honest assessment of their future viability with present strengths. Corrections in the business models of the key businesses were also to be visualized. A generalized view of the Karwa's business model may be as follows -

Profit (ROI) —→ Products and Processes —→ People and Policies

Karwas never initiated for difficult products and processes. They selected every business with a minimum assured ROI and with the available people's competencies. Their rigid policies were taken for granted as business doctrines. With such business model, causing and managing 'change' was very difficult. The critical issue was of defining such change. One may perceive change in general sense, but defining it with workable details is certainly a huge task. Kumar's grasp of the various facets of the Karwa Group was very good. He could quickly distinguish between good legacies of yesterday and useless dogmas continuing from day before yesterday. He could also come to a conclusion that the entire process of reincarnation was to be strategically planned and implemented, with the induction of brilliant and committed executives from outside. Kumar used right type of services of the consultants, to select right type of executives. Although most of his father's loyal associates agreed for such comprehensive change, but didn't come forward to actively support Kumar. Hence, Kumar had to depend more on a new team of change makers. He could study similar experiments carried out by the Lata Group, quite successfully. He knew that the Ruias and Kapadiyas were very late in causing change and therefore landed in acute trouble. Some of the old multinational companies too didn't visualize the 'compulsions of change' imposed by the vibrancies of 7 globalization. For quite some time, the government too was very confused about the processes of macro changes in her economic policies.

Kumar's new team comprised of very competent, young and dashing executives, who enjoyed global style and quantum of entre-preneurship elsewhere. Dr. Sharma (from the Dutch company dealing in household commodities) joined to take care of human resources. He was known for his expertise in altering and enriching people - processes. Mr. Brown (from the famous American corporation selling nonferrous metals) joined for research and development. Mr. Patel (from the global leader in

advanced technological experiments, Tutui and Company) joined to head international initiatives. Kumar tactically involved both the presidents of his two flagship companies, in the change process. He took four young and brilliant executives from the group, to support the implementation thoroughly. These young executives were spotted to be tomorrow's leaders in the Karwa empire.

This team managing change, was given an inspiring name - The New Karwas (TNK). TNK first decided to involve a reputed Indian consulting firm to evaluate the present Karwas. This consultant was also to continue with the group, to moderate and facilitate the change process. Kumar initially wanted to know the 'beginning of reincarnation'. He didn't want to give a message of total change to his employees, to avoid a possible situation of panic across the group. Such panic would have definitely affected the present mode of performance. The consultant and the TNK initially had a meaningful dialogue about each other's perceptions of change. It was very vital for both, to have total agreement on all the facets, shades and stages of change. After all, it was a

big, unparallel attempt to reincarnate. The challenge was of detaching from some of the obvious and popular business practices nurtured by his father and championed by the senior executives. These practices suited yesterday's environment very well. The detachment was also painful, as it was to hurt the very tested wisdom of the experienced presidents of the Karwa Group. When change has to happen, 8 surgical bleeding is unavoidable. All the pain of the surgery becomes valid, when it ends in success.

TNK and Consultant interacted with all the presidents of Karwa companies. They also spoke to select, brilliant and young executives. They had thorough discussions with the external value-drivers like suppliers, distributors, stockists and contractors. As a tactical approach, the consultant (through his contacts) had useful dialogue with some of the key bureaucrats, to appreciate their view-points about the WTO's impact on India in general and Karwa's businesses in particular. This perception gathering exercise was quite useful to reach the first stage assessment of the Karwa Group. The important conclusions were -

Karwa Group's overall assessment (i.e. its status so far)

Performance Parameter	Operational Performance (Technical, Logical and Organic)	Financial Performance (Cost Benefit Impact and Results for stakeholders)	Strategic Performance (Structural and Long Term Impact)
Processes			
Technical	Good	Very Good	Average
Marketing	Poor	Good	Poor
Accounting	Very Good	Very Good	Average
People			
Employees	Very Good	Good	Poor
Suppliers	Very Good	Very Good	Poor
Distributors	Good	Good	Poor
Price			
Cost	Good	Average	Average
Profit	Very Good	Good	Average
Promotion			
Of Product	Poor	Poor	Poor
Of People	Average	Average	Poor

Performance Parameter	Operational Performance (Technical, Logical and Organic)	Financial Performance (Cost Benefit Impact and Results for stakeholders)	Strategic Performance (Structural and Long Term Impact)
Policies			
Ethics in Business	Average	Poor	Average
Govt. Management	Very Good	Good	Good
Owners' involvement in management	Very Good	Good	Good
Corporate Governance	Poor	Average	Average
Place			
Production Centres	Very Good	Very Good	Average
Markets	Average	Average	Poor
Products			
Main	Good	Good	Average
Subordinate	Good	Average	Average

All the seven performances require considerable change in their operational details, financial viability and strategic design. TNK and the consultant were to also work on realignment, regrouping and retreating the businesses of Karwa Group. The western theory of core competence and focus on one business was not very well acceptable to Kumar and TNK. This was simply because 'focus on one business' would not offer desired growth in Karwa's net worth, year after year. This hypothesis was further truer about Indian economy and market. Where should an Indian entrepreneur look for his growth, in a closed economy? Anant solved this problem by diversifying into different metals and commodities. The interesting feature of Anant's entrepreneurship was 'networking as his

core competence'. (Late Mr. Dhanraj of the Variance Group too used the same core competence of networking. He created, nurtured and expanded businesses into the areas of primary needs of a common man in India. Polyester, petrochemicals, energy, telecommunication, information technology and bio-tech ventures were the entrepreneurial achievements of Dhanraj and his team.)

Kumar's dilemma of reshaping his group was to be defined by five major expectations of a global market. He was to assess each of his businesses, keeping in mind these five expectations. This was a very delicate and difficult phase of the entire programme of reincarnation. The consultant described the five areas of global excellence as follows -

Area of global excellence	Key Components	Karwa Group's present status
Product Quality	Flexibility, Local Taste, Visibility, Comparable Rank against alternatives	Average
Product Cost	Affordability, Reasonability, Consistency Quite big	Good
Size of operations	(at least 5 % of the global market)	Poor
Response to market	Speed, accuracy, visibility, capacity to withstand the threat, ruthlessness in treatment, long-term strategies	Poor
Innovation	Sustenance, cost-affordability, pragmatism, employees' involvement, involvement of suppliers and distributors	Poor

Karwa Group's present status was poor on three out of five parameters. With its close monitoring of cost, its performance on this parameter was reasonably good. Yet, it was not very clear, how the group would maintain its cost - performance as a sustainable competitive advantage. This was obviously an area of worry, as the foreign competitors entering Indian market, enjoyed economy of scale, on account of huge volume of operations. It was now a gigantic task for Mr. Kumar and TNK, to reach early conclusions about 'strategies of reincarnation'. It was already a late initiative, after the Indian government signaled the global change to come.

TNK and the Consultant reached one important conclusion that the entire process of reincarnation was to go through five broad phases as follows -

1. Ultimate choices of businesses (keeping in mind the competencies, capital and creation of wealth for the stakeholder)
2. Broad strategies for next three years, for the five major areas of business performance-

- (i) Business size
 - (ii) Cost Management
 - (iii) Operations and Technology Management
 - (iv) Employee Productivity and Knowledge Management
 - (v) Resource Management
3. Focused programme to implement the strategies, with clear definition of commitments
 4. A comprehensive yet simple monitoring system with total involvement of all the employees
 5. Clear periodic milestones, based on operational and financial measurement

The first phase was most critical, as it was to decide the 'business portfolio' of the Karwa Group, which ultimately to define the direction of growth. The consultant suggested that the group should continue with present businesses and add three new businesses of retail sales of textile, entertainment and telecommunication. This suggestion was thoroughly discussed and the group reached following conclusions --

Sr. No.	Business	Change suggested	Reasons for Changes
1	Cement	Consolidate the business with much bigger capacity and take over good plants in Asian countries.	Asian Governments shall spend a lot on roads, houses, bridges etc. This should boost demand for cement in next decade
2	Textile	Add further value to present products, join Italian and French groups as partners in 'retail textile business'.	European customers now prefer Asian clothes. Quality is an issue, which could be sorted out through the joint ventures.
3	Aluminium, Copper and Manganese	These non-ferrous businesses should be brought under one company. Major mines from Africa should be taken over, through a joint venture with local partner	Non-ferrous business requires backward integration. It also requires geographical diversification
4	Steel	This ferrous business should be sold at a reasonable price	Ferrous and non-ferrous businesses do not go together, both operationally and strategically. Iron businesses do not go together, both operationally and strategically. Iron ore prices are increasing, making production of steel unviable.

Sr. No.	Business	Change suggested	Reasons for Changes
5	Power	Enter this business through both the input channels naphtha and hydraulic.	Power should be an attractive business for next two decades
6	Paper	Discontinue this business	It does not offer both size and revenue. The unorganized sector is much more competitive
7	Entertainment	It requires a venture capitalist approach, which the group would not be ready for. Hence, it is not a business to be considered	Obvious rejection
8	Tele Communication	Enter the 'supply of hardware' business	It suits the production of Copper. It is also the business of next full decade

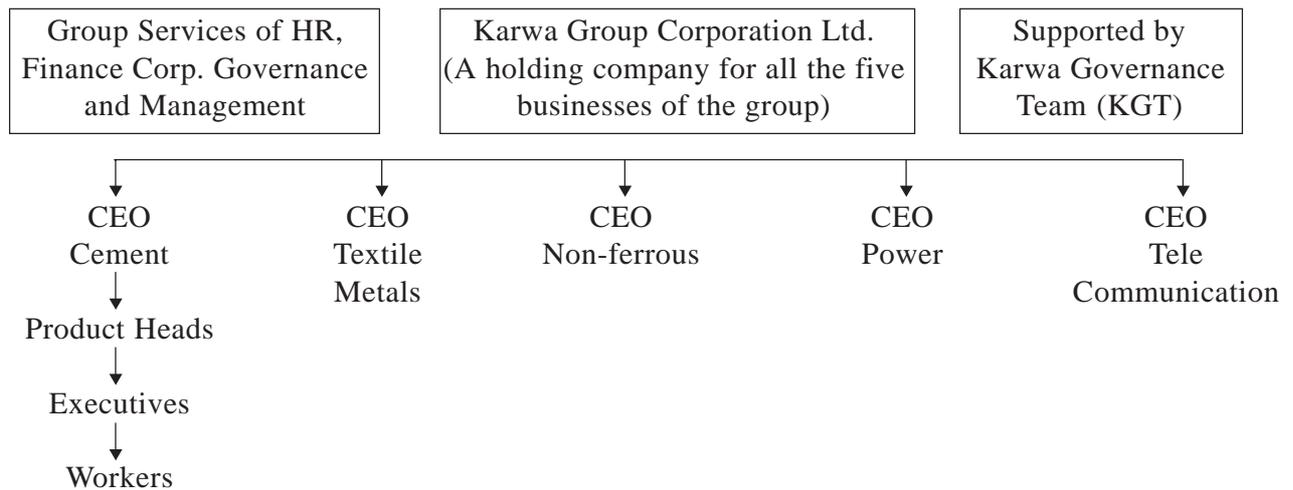
The business choices made as above, also considered the WTO mechanism and its global impact during next ten years. The major impact of globalization was perceived as, dilemmas of local choices and affordability of pricing, confusion in tariff-mechanism and continued

demand for change in quality and variety of textile and telecommunication products.

The TNK and the consultant reached following important 'prioritization of change' in the chosen businesses. (It was quite obvious that the Karwa Group had to work on parallel processes of change, without diluting the present 'volume' performance.) -

Sr. No.	Business	Change Priorities				
		Processes	Price	Place	Product	People
1	Cement	2 (Distribution)	4	3 (Plants)	1 (Quality)	2 (Marketing)
2	Textile	1 (Volume Distribution)	2 (cost)	3	1 (High Value)	2 (Marketing)
3	Aluminium, Copper and Manganese	1 (Supply Chain)	2 (Cost)	3 (Quality)	3 (Upgradation)	3 (R and D)
4	Power			It is a new business		
5	Telecommunication			It is a new business		
6	Karwa Family Trust	1 (Convert to corporation)				2 (Entrepreneurship)

Mr. Kumar wanted a very simple, yet dynamic structure for his group. After long discussion, a broad structure materialized, as follows -



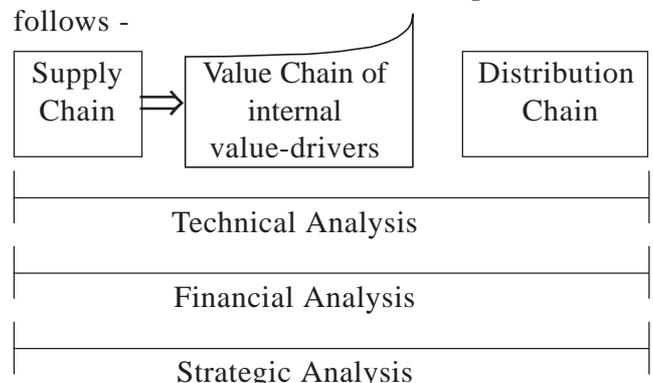
The Karwa Governance Team would comprise of professional advisors, to support Mr. Kumar in balancing between corporate governance and enterprise governance, with special reference to family governance. The professionals shall be selected from the market, who shall offer independent, unbiased opinions; with a pragmatic view of everything and anything. This team shall also support the CEOs in resolving their various dilemmas and conveying to them, the realities. In other words, the CEOs shall get moderated and facilitated by the members of the Karwa Governance Team.

Mr. Kumar was very keen to institutionalize the style and skills of entrepreneurship; across the group and at all the levels. He created a separate task force to design, implement, measure and revise a programme called 'Karwa Entrepreneurial Drive' (KED). KED should mainly comprise of knowledge

Management, entrepreneurial ideas and skills, business ethos, family management and management of change. Mr. Kumar clearly knew that, entrepreneurship could be institutionalized and enriched, if certain facilitative elements would be taken care of. These elements were - clear and complete processes of empowerment, performance-based pay structure, well-integrated processes of communication, accounting and core operations. The old accounting system was good enough for yesterday's simplistic activities of production and distribution. In a new, dynamic environment; each

function, location, product and group was to be treated as a profit centre and then as an investment centre. The aggressive treatment of 'crude profit centre' existed in the old accounting system, but it was applied and observed only by the accountants. Mr. Kumar wanted each employee to think and act like an entrepreneur.

The consultant also defined a comprehensive programme to convert each stakeholder into a mature corporate citizen. 99 % of the Karwa Group's suppliers and distributors were individualistic proprietorships or at the most, partnerships; without any exposure to systematic business management. With such crude, external value-drivers, it would be just impossible to dream of becoming a 'world class business group'. Historically, these value drivers enjoyed Karwa's shelter and easy markets. Transforming them into tough, smart and ruthless entrepreneurs was a big task for Mr. Kumar and team. The entire value-chain of each business, therefore was to be examined on three different sets of parameters as follows -



Mr. Kumar thought it very appropriate to create an independent team to guide and facilitate the external value-drivers to become 'competent corporate citizens'. TNK and the consultant also reached one important conclusion that the multiple analysis of each value chain should also thoroughly include the exercise of 'value appropriation'. TNK could visualize four alternate situations of value-propositions as follows -

1. Real Value - Actual utility of a function or product
2. Esteem Value - Notional or ornamental or distinctive value of a function or product
3. Perceived Value - Value (rightly or wrongly) perceived by the customers
4. Practical Value - Value of a product needed by the customer

Value Appropriation and Entrepreneurial Thinking should facilitate 'Strategic Cost Management', across the group. TNK identified a few vital exercises of strategic cost management as follows -

1. Activity Based Costing (ABC) - A true, technical attempt to convert 'common cost' into 'identified cost'
2. Target Based Costing - Costing of product and function, connected to market realities and shareholders' expectations
3. Life Cycle Costing - The Karwa Group would be required to consider each product with a long-term, sustainable view. Life Cycle of a product should be clubbed rationally with the life cycle of the organization and its value-drivers.

Mr. Kumar had many deliberations with his brilliant finance executives and reached a versatile design of 'financial measurement of performance'. This versatile design was to facilitate a 360 Financial Measurement at operating level -

1. Operating Cost (with element-wise break-up)
2. Operating Profitability
3. Absolute Volume and Market Share
4. Turnover of Receivables and Inventory
5. Operating ROI

6. Financial Valuation of value-addition through every process
7. Financial benchmarks for process costing and product costing

Financial Measurement at owners' level -

1. Post Tax ROI
2. Economic Value Added (EVA)
3. Owners Value Added (i.e. Adjusted EVA)
4. Absolute growth in net worth
5. Percentage growth in net worth
6. Financial benchmarks for the Post Tax ROI and growth in net worth

The TNK rightly arrived at a conclusion that benchmarking must be versatile, to excel on the best-possible parameters of entrepreneurship. Therefore, the benchmarks should be sourced from all the four sources -

1. Market
2. Internal Trend Analysis
3. Based on end-targets and from
4. Unrelated Industries and Group Companies

Mr. Kumar thought it appropriate, to introduce intra-group entrepreneurial competition, to facilitate the annual recognition of the 'Best CEO'. Such competition should be useful to select a CEO to be inducted to the board of Karwa Group Corporation Ltd, by rotation. This system should also offer a chance to the 'number two senior executive' of a company, to become 'number one' and facilitate 'succession planning'.

TNK and the consultant agreed with Mr. Kumar's idea of such intra-group competition, but also suggested to look at a few more options tried out in the western countries vis-à-vis Japan. Another angle to such induction was an indirect facilitation of 'ownership sharing'. Mr. Kumar was of strong opinion that each CEO and his senior executives should be offered sizable quantity of respective Karwa Group companies, to inculcate 'real entrepreneurship'. He was of an opinion that 'equity sharing' should be gradually offered to all

the employees, using some flexible formula and transparent arrangement.

Mr. Kumar and the TNK wanted the Karwa Group to become 'world-class'. They pragmatically reached a conclusion that each Karwa company should excel on two of the six parameters (defining a world class corporation); as its 'sustained competitive advantage'. Each company should be at least 'number - 2' on other two parameters and 'number - 3' on the remaining parameters. It was not accurately clear to him and TNK, whether such definition of world-class performance was adequate. The six parameters decided by them, were -

1. Size of turnover
2. Employee Productivity
3. New Product Development
4. Strategic Cost Management
5. Product Quality and
6. Economic Value Added

The consultant suggested that 'dreaming to be world-class is excellent'. But it has to be a reality sooner and not later. Hence, the Karwa Group should develop a 'performance management system', which would address both the targets - desirable and achievable. The achievable targets should decide annual budgets, whereas the desirable targets would be a base for achievements in near future.

Mr. Kumar, his CEOs and the employees of the Karwa Group were heading for a big change. The change was viewed as 'reincarnation'. Yet the very core of the Karwa Group (which Mr. Anant established) was to continue and it was an Indian design of entrepreneurship. Mr. Anant used to tell his colleagues that Indian traders were known to be the best entrepreneurs worldwide for many centuries. The impressive legacy of such natural entrepreneurship was to be retained by the Karwa Group. Rather, it was the focal point of the entire programme of reincarnation.

After the broad road map of transformation was discussed and finalized, Mr. Kumar opened his heart to the members of TNK. A big opportunity of biotech business, supported by corporatization of agriculture was attracting his attention. His father created a multinational group, which Mr. Kumar wanted to expand on a much bigger scale. The WTO-design (rightly or wrongly) was compelling many ambitious entrepreneurs worldwide, to think about biotechnology. The Karwa Group too, was appropriately thinking about alternate branches of biotechnology.

Karwas historically did not look at research and development seriously. But now, with the rapid upsurge of 'global knowledge initiatives', the group and its chairman were to study and inculcate various tangible and intangible processes of knowledge management; to gain 'research and development' as the group's new competitive advantage. Mr. Kumar was now doing some serious introspection or an incremental effort of adding strength to the presently thought agenda of reincarnation. Anyhow, he conveyed to his associates that the Karwa Group would be now continuously and brilliantly working on the doctrine of 'link - listen - learn - lead'. It was ultimately the substance of reincarnation and its purpose too!

Questions

1. Critically assess the approaches used by Mr. Kumar to restructure and revitalize his business group.
2. Analyze the impact of change in people processes, on the quality of organizational culture in the Karwa Group.
3. Should Mr. Kumar use organic or inorganic approach for further growth of his business group?
4. What is your assessment of the potentials of Karwa Group to become a real world-class group of businesses?

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