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The Indore Management Journal is published by the Indian Institute of Management, Indore, in the belief that management scholars and social scientists should integrate disciplines in an attempt to understand the complexities of contemporary management challenges.

We also believe that both researchers and practitioners can contribute by translating understanding into action, by linking theory and practice. These would enhance the relevance and thought in various related fields taking us a little outside traditional fields of management, such as sustainable development. We would like to draw special attention to our openness to such thinking as well as approaches.

This could entail working within one's area or crossing disciplinary boundaries. As an international journal, we also invite manuscripts from all countries. We welcome, too, proposals for special issues from potential guest editors. These should include how the topic or theme fits in with the Indore Management Journal's objectives. The descriptions of manuscripts (or the manuscripts themselves), along with author details should be submitted with the proposal.

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Editorial

Prosperity is the greatest dividend from peace. Leadership is the key link that integrates Global vision, regional cooperation and national mission. In his 'Leadership for the Billion' course, Dr. A. P. J. Abdul Kalam highlights the three-dimensional leadership action for world prosperity and peace. Leadership permeates not only at the global level but across all levels. In the organizational context, the onus of prosperity and growth lies on the CEO. Drawing from his own experiences, Dr. J. J. Irani shares his thoughts on 'What a CEO should do.'

This issue brings out the regular mix of articles, cases, and book reviews. The article on 'improving credit scoring accuracy by population segmentation' provides important insights whereas the other article raises an interesting question 'can advertise nurture an ecocentric vision?' The case of Gujarat State Road Transport Corporation brings the issue of strategic transformation to our readers. This issue also provides the insights on the role of interpretation in case method of teaching. The review section is a careful selection of book reviews covering issues such as global financial crisis, terrorism, marketing communication, and strategy.

The second volume of Indore Management Journal is delayed for reason beyond our control. We have constituted a new editorial board and we plan to catch up and bring the other issues on time.

Editorial Team

Indore Management Journal

VIEWPOINT

Three-Dimensional Action for World Prosperity and Peace: Global Vision, Regional Cooperation and National Missions

A. P. J. Abdul Kalam

Small aim is a Crime

This article is the speech addressed by Dr. A. P. J. Abdul Kalam to the Participants of the Leadership for the Billion Course, 2010 at Indian Institute of Management Indore on November 26, 2010

Friends, I am delighted to be with the Indian Institute of Management (IIM) Indore and address and interact with the students participating in the short course on Leadership for the Billion. During the last 14 years, IIM Indore has earned a brand and it is rated as one of the most sought-after institutions in the country. I congratulate the students who have got admission and are entering into a creative learning process for exciting professional career. My presentation and discussion, your thoughts, responses and their review can, in an integrated way, take the shape of a vision for an action plan for the course participants in various national development missions.

I am delighted that the course has four streams of students, each with their unique qualities or experiences. I would like to assure you that I am not here to teach; I am going to facilitate the learning process for the next 3 months, particularly in the areas of how to evolve prosperous and peaceful societies and what is the type of leadership needed for achieving it. At this juncture, I would like to recall one of my early experiences in 1973; of course, many of you would not have been even idea form at that time. The experience goes like this -

Problem should not become the captain; you should become the captain of the problems, defeat the problems and succeed

I was working as one of the technologist in Vikram Sarabhai Space Center of ISRO. One day Professor Satish Dhawan, the chairman of ISRO, and Dr. Brahmprakash, Director VSSC, called me to their chamber. Very rarely I had seen either of them smile, but to my surprise, when I entered the room, I found that both of them were all full of smiles. So I was astonished and got the feeling that something was 'cooking'. Then Professor Dhawan said "Kalam, I have good news for you! You are going to run a huge program for ISRO. I and Director VSSC have decided to appoint you as the project director Satellite Launch Vehicle (SLV). I am going to give all the money required for the project, the management structure and the human power needed. But you guy by 1980, you should show that you can launch Rohini Satellite using our own launch vehicle."

It was an unexpected message and it was indeed a happy moment. But, in my mind, I was full with questions and doubts of whether I can do it? The whole nation would be looking at the performance and India would be joining the leading nations capable of satellite launch. Then I have to deploy many institutions and industries, thousands of technologists, all this in 7 years. Can I do it? Can I do it?

This doubt and uncertainty made me dumbfound; I could not respond immediately. Then Prof. Dhawan came to my rescue and said "We believe in your capacity, we believe in your team building capacity and above all the knowledge required you can assemble and integrate: I can see the train of your thoughts. Let me tell you something. If one does not do any task, he or she does not have to worry about the result of positive or negative. But when you undertake a big mission like the satellite launch vehicle project, there will be many challenges - technological, leadership and also some unexpected critical problems which you cannot visualise in PERT. Kalam, remember, you should not let problems become your captain. Instead, you become the captain of your problems, defeat the problems and succeed." This advice reinforced my thinking and action and I accepted the project. This is my first lesson to all of you from the four different streams, multiple states and nations.

I was thinking, what can be the profile of my first interaction with all of you, young dynamic multi-dimensional future leaders of global excellence? Friends, on the 10th of this month, I was at Yaroslavl, a 1000-year-old city of Russia, to participate and interact at the Global Policy Forum, organised by the President of the Russian Federation, HE Dmitri Medvedev. The essence of the discussion directed towards how a happy, prosperous, democratic society with efficiency is possible in a multi-dimensional context. I selected a topic after many rounds of virtual conference with many expert friends in various parts of the world. I converged on the topic "Global Vision, Regional Cooperation and National Mission". Since all of you would be taking up many roles on national and international arena, in your careers, where you would be working from multiple nations and regions, I thought of sharing this topic with all of you.

Dear friends, so far I have interacted with more than 11 million youth like you across the world. I have been interacting with more than 37 universities internationally.

Whenever I meet the youth, intellectuals, academicians and leaders from various walks of life, one common question I come across is how we can evolve happy, prosperous and peaceful societies, across the globe. This question is very important because it reflects our commitment to create a sustainable future for the generations to come. How do we create a world with nations which are people-empowered states, with efficiency? What could be the possible ways to achieve this vision?

Two Possible Solutions

There are two possible solutions for achieving this vision.

- 1) The first solution seems to be the conventional approach which has been followed so far across the world. It starts with working for national prosperity and peace within

the local boundaries and perspectives, hoping that over a long run it would percolate into regional prosperity and peace, ultimately leading to prosperity and peace at the global level. The collective experience across the world highlights that this solution has not yielded the desired results in the past, and with the globalising world, its efficacy in bringing prosperity and peace in the future is uncertain.

- 2) The second solution would be to look at the global prosperity and peace as the overall objective of the world, thereby striving to achieve regional prosperity and peace, both of which will be great enablers for the national prosperity and peace of the participating nations. It is all about making a study, with reference to global context and finding, how every nation can align towards the global missions. The three dimensions of global, regional and national are not mutually exclusive; indeed they are complementary. The synergy of these three dimensions is vital for not only the welfare of the world, but also regional and national prosperity and peace. It has also to be remembered that national missions inspire the citizens; this spirit has to be directed towards globally important missions.

Let us look at today's global environment. The present global environment indicates that we need new and out-of-box solutions. What is the global dynamics of the present time?

Global Challenges

Today, the challenges of the world are poverty, illiteracy, safe drinking water, clean and green energy, equitable distribution of resources, quality education with values for all, societal imbalances, diseases, quality healthcare for all and good living conditions. Individual nations are working to find a solution to these challenges. These challenges are not only individual phenomena of certain nations, but a collective responsibility of the global community. These challenges take various manifestation based on the local dynamics which are interconnected on various factors. Let us look at the dynamics of these manifestations.

Dynamics of Global Manifestations

The world today is integrally connected through four rapid connectivities. They are environment, people, economy and ideas. We all know that global warming and climate change are no longer problems of individual nations; they are planetary problems. In the present time, a single product may be made out of components sourced from multiple continents and provide services to markets far off from their place of origin. We also saw how the economic turbulence originating in one part of the globe shook the whole world and how a volcanic eruption in an island country brought the entire airline industry to a halt. Advances in transportation have progressively made movement of people across nations and regions more feasible. This has led to the globalisation of skills and talents which can flow seamlessly from one nation to another. This also has led to the globalisation of human diseases, the most recent instance being of different kinds of flu which rapidly spread across the globe and threatened the entire mankind. Similarly, ideas and innovations are no longer geographically or politically confined. An invention made today somewhere takes no time to find its market thousand of miles away. The expansion of information and communication

technology and the convergence of technological tools are structuring new world of knowledge where problems of one part of the world can be solved by multiple experts based at different points of the globe. Seamless flow of information and people also means that local or regional issues will invariably gain global prominence and unaddressed problems and poverty can mutate rapidly into global terrorism which we are already witnessing.

This flow of ideas has also led to increasing importance of global human rights and propagation of the idea of democracy. Let me recall an experience.

Globalisation: When I was travelling in an aircraft in USA, I was told that much of its controls were software driven and most probably developed in India. When I presented my credit card, I was told that it was being processed in the backend server located in Mauritius. When I walked into a multinational software company in Bangalore, I was fascinated to find that it truly presented a multicultural environment. A software developer from China, working under a project leader from Korea, a software engineer from India, a hardware architect from the United States and the communication expert from Germany were all working together to solve the banking problem in Australia.

When I see all of them working together like one family forgetting about the culture from which they came or the language they speak, I feel that the only hope for such borderless interaction to continue is to inculcate the spirit of "borderlessness" in every field of human activities on our planet Earth. How to make it possible?

Hence, it is beyond doubt that we are progressively evolving a world where our problems would cut across all boundaries and would be multipronged. This implies that solutions to these problems would have to be integrated with knowledge of multiple nations and skills of multiple societies. With this background, I would like to delve further into the implementation strategies and challenges in achieving the people-empowered state through integrated approach in a global democratic environment with efficiency. Let me now discuss the instruments for global prosperity and peace.

Global World System for Prosperity and Peace: World Vision 2030

Recently I had an opportunity to take a course on 'Evolution of Happy, Prosperous and Peaceful Societies' at the Gatton College of Business and Economics at the University of Kentucky, Lexington, USA. Based on the experience with the course participants, I have been discussing with the students from multiple institutions and disciplines ideas which can lead to the realisation of a World Vision 2030. Let me present to you these visualisations.

1. A world of nations where the divide between rural and urban, rich and the poor, developed and developing has narrowed down.
2. A world of nations where there is an equitable distribution and adequate access to energy and quality water.

3. A world where core competencies of each nation are identified. Missions synergising the core competencies of different nations lead to economic advantage and faster development for all the societies.
4. A world of nations where all the students of all societies are imparted education with value system.
5. A world of nations where affordable quality health care is available to all.
6. A world of nations where the governance is responsive, transparent and corruption-free.
7. A world of nations where crime against women and children is absent and none in the society feels alienated.
8. A world in which every nation is able to give a clean green environment to all its citizens.
9. A world that is prosperous, healthy, secure, devoid of terrorism, peaceful and happy, and continues with a sustainable growth path.
10. A world of nations with creative leadership who ensure effective mechanisms to resolve conflicts between nations and societies in a timely manner, keeping overall peace and prosperity of the world as a goal.

This is the kind of the world which we have to bequeath to the youth of the world. The foundation of the world vision 2030 shall be enshrined in regional cooperation and development. The regional development will ultimately empower the individual nations to realise the vision. Do you agree?

Regional Development for Prosperity and Peace

The world has witnessed many successes for the regional cooperation. These may be based on political and economic cooperation, social amalgamation, environment protection or common developmental missions. Such cooperation has led to mutual prosperity and sustained peace, and overcome barriers which were centuries old.

Political and Economic Cooperation: One such shining example is the founding of the European Union covering 27 nations which are politically and economically connected. Based on my experience with European Union Parliament, when I addressed in 2007 at Strasburg, France, I witnessed the dynamics of regional political cooperation and underlying democratic principles in a regional organisation enriching the economic development. It should be remembered that Europe was the theatre of conflicts for hundreds of years among and between the nations, including generating two world wars. With this backdrop and dynamics, the European countries have established European Union with a vision for peace and prosperity for the entire region. European Union has become an example for connectivity among nations, probably with no possibility of war, leading to lasting regional peace. European Union formation and its performance reveal the necessity of active regional cooperation in political and economics spheres in multiple regions of the world of democratic nations.

I visualise that the regional cooperation is a very vital carrier for prosperity and peace. India, with a sound diplomatic policy, long-term vision and statesmanship, has to ensure that the SAARC (South Asian Association for Regional Cooperation) and ASEAN (Association of South East Asian Nations) and similar associations deliver the optimal benefits. I visualise that ten such associations would be needed to cover the world. For example, BRIC (Brazil, Russia, India, China) is another unique group of nations which is now striving for political and economic cooperation. For world peace and prosperity, definitely there should be an integrating force to promote such regional cooperation. I am not fully convinced that the United Nations alone would be able to achieve it. Probably, the regional cooperation has to come spontaneously based on necessity and competencies.

International Social Responsibility: I would like to touch upon India's personal experience in regional cooperation in fulfilling the millennium developments goals set by the United Nations for developing nations. As the President of India, I visited African countries such as Sudan, Tanzania, Zanzibar and South Africa in the year 2003-2004. Based on the suggestions by the then President of South Africa (His Excellency Mr Thabo Mbeki) I addressed the Pan African Parliament in 2004 at Johannesburg (South Africa), which was attended by 53 member countries of the African Union. India proposed to establish the Pan-African e-network, between India and 53 African nations for providing seamless and integrated satellite, fibre optics and wireless network. This Indian initiative was accepted by the African Parliament as a right project at the right time to fulfill the MDG (Millennium Development Goals) of Africa. As part of the project, 12 universities (7 from India and 5 from Africa), 17 Super Specialty Hospitals (12 from India and 5 from Africa), 53 tele-medicine centres and 53 tele-education centres in Africa were to be connected. The Pan African e-network will primarily provide tele-education, tele-medicine, Internet, video-conferencing and VOIP services. It also supports e-governance, e-commerce, infotainment, resource mapping and meteorological services. So far 45 countries are connected. PAN African e-network is an example of international social responsibility emanating from the regional cooperation and acts as an enabler, which has a cascading effect on the socio-economic development of many developing nations and their societies. We have to facilitate the global communities towards execution of such international social responsibility programmes which will enrich the regional development.

World Knowledge Platform: Now let me focus on how India and Russia have worked together in creating the World Knowledge Platform as symbol of regional cooperation. This is a case how two nations have engaged in "hard cooperation" based on their core competencies to evolve a world-class product and systems using innovation, creativity, knowledge generation, knowledge sharing and knowledge dissemination among the scientists of two countries.

One of the significant technological breakthroughs in India and Russia, in this decade, is the design, development and productionisation of Supersonic Cruise Missile, BRAHMOS, by an Indo-Russian joint venture. BRAHMOS is the first universal supersonic operational cruise missile in the world which can be launched from multiple platforms such as ships, submarines, road mobile and silo, and with modifications from aircraft in multiple manoeuvring trajectory profiles and against different types of targets on sea and on land

in a network-centric warfare. The system so developed is precise on the target delivering enormous kinetic energy due to its supersonic speed and is most cost-effective. Most importantly, an advanced world-class system has been realised in the shortest possible time. This is indeed the result of technological and financial cooperation leading to an operational system in a short time. In successful design, development, production and marketing of BRAHMOS missile, an innovative way of technology cooperation has emerged between India and Russia for nearly 10 billion dollars business with an investment of 150 million dollars from each partner. The message I would like to convey out of this programme is that it is possible for India, with core competencies in multiple fields, to work with many countries in joint venture mode, bringing together multiple core competencies of partnering nations leading to successful enterprises. BRAHMOS is an example of technological cooperation leading to economic benefits for the partnering nations and adds value to a number of institutions in both the countries. BRAHMOS joint venture shows how the core competencies of two countries can be brought together for addressing a need, particularly societal transformation. As a corporate social responsibility, BRAHMOS has extended the benefit of the light-weight callipers, a spin-off from missile technology, to 30,000 polio-affected children from India, Thailand, Laos and other ASEAN countries. The connectivity and sharing of core competence will lead to the evolution of global knowledge capital sharing platforms in the form of a World Knowledge Platform.

Similarly, when I addressed the Parliament of Republic of Korea, I suggested the creation of World Knowledge Platform between India and Korea. My suggestion has taken shape by the initiative of President Mr Lee Myung-bak, President of the Republic of Korea, and led to the establishment of Indo-Korea Science and Technology Centre at Indian Institute of Sciences, Bangalore, focusing on global science and technology missions.

Dear friends, there may be many successful examples of regional cooperation and development, but we have to connect these success stories as an integrated garland which would add to global peace and prosperity.

National Development for Prosperity and Peace

Now let me come to the last mile connectivity at the national level, focusing on India as an example with the experience of a democracy for a billion people.

India is spearheading the developed India Vision 2020 of achieving the mission of transforming India into an economically developed nation. India has identified five areas where it has core competence for integrated action: (1) agriculture and food processing; (2) education and healthcare; (3) information and communication technology, tele-education, tele-medicine and e-governance; (4) infrastructure: PURA, interlinking of rivers and water management, reliable and quality electric power, and surface transport; and (5) self-reliance in critical technologies. These five areas are closely inter-related and coordinated, leading to food, economic and national security.

PURA Mission

One of the important missions for sustainable rural development is PURA (Providing Urban Amenities in Rural Areas). This mission may be applicable globally for sustained development of the developed nations and developing nations and their societies. Each step the world takes towards universal development of all nations, it opens a fresh challenge for the global community to overcome. The need of the hour is the evolution of sustainable development systems which act as 'enablers' and bring inclusive growth and integrated development to nations.

One such sustainable development system is the mission of PURA.

The number of PURAs required for India alone is estimated to be 7000 covering 600,000 villages where 700 million people live. There are a number of operational PURAs in our country initiated by many educational, healthcare institutions, industry and other institutions. The Government of India is already moving ahead with the implementation of PURA on the national scale across several districts of India. We will be discussing about PURA in greater detail in a dedicated lecture.

Dear friends, so far we have seen the inter-linkages and interconnectedness between global vision, regional cooperation and national missions. There is a symbiotic and mission-oriented relationship among these three dimensions of development, which thrives in a democratic environment. This is a symbol of evolving a people-empowered state with efficient missions. What would be the standards with which we could define the distinctive achievements coming out of three-dimensional approach which leads to sustainable prosperity and peace for the world.

Towards Realising a People-empowered Society

When the world joins together to build a cohesive people-empowered society, it is necessary to ensure that benefits of development encompass all sections of the civilisation. World-over, poverty, illiteracy, unemployment and deprivation are driving forward the forces of anger, hatred and violence. These forces link themselves to some earlier real or perceived historical enmities, tyrannies, injustice, inequities, ethnic issues and religious fundamentalism, flowing into an outburst of extremism worldwide. Many nations have witnessed, and are witnessing, the manifestation of reaction against such inequalities. We have to jointly address ourselves to the root causes of such phenomena for finding lasting solutions for promoting peace.

Evolution of Enlightened Society

With this spirit of righteousness in the heart, dear friends, I would like to put forth to my class an important outcome of evolving righteous citizens across the world, which I call as the "Evolution of enlightened society". I have shared these thoughts with many intellectuals in national and international fora. How do we create such an enlightened society? The foundation for evolving an enlightened society should be based on imparting education

with global value system to the youth, transforming religion into spirituality and accelerating the economic development missions for societal transformation with inclusive growth across the nations. The evolution of enlightened society will be our most prominent framework in ensuring the sustainability of the prosperity and peace achieved through the global missions. You can find details on the evolution of enlightened citizens on my web site and in the book Family and the Nation.

Conclusion: Evolution of Prosperous, Happy and Peaceful Society

To achieve the people-empowered state, the basic foundation should start from education. Education, in its real sense, is the pursuit of truth. It is an endless journey through knowledge and enlightenment. Such a journey opens up new vistas of development of humanism where there is neither scope nor room for corruption, disharmony, jealousy, hatred or enmity. It transforms a human being into a wholesome whole, a noble soul and an asset to the universe. Universal brotherhood, in its true sense, becomes the sheet anchor for such education. Real education enhances the dignity of a human being and increases his or her self-respect. If only the real sense of education could be realised by each individual and carried forward in every field of human activity, the world will be a much better place to live in, leading to the evolution of a prosperous, happy and peaceful societies. How can such a society be realised?

- Evolution of prosperous, happy and peaceful society is powered by integrated global actions.
- Integrated global actions are powered by regional cooperation.
- Regional cooperation is powered by sharing of core competencies across nations.
- Sharing of core competence is powered by innovative national policies with global perspectives.
- Innovative national policies are powered by vision of the nation.
- Vision of the nation is powered by integrated thinking of global challenges.
- Integrated thinking is powered by enlightened citizenship.
- Enlightened citizenship is powered by education with value system, transforming the religion into the spirituality and sustained development.
- Evolution of enlightened citizenship will ultimately emanate to creative leadership.

Creative leader has unique qualities of thinking, what my nation or organisation can give to the mankind? Another important quality of the creative leader is that they think about sustainable development and peace which goes beyond the boundaries of the individual nations. Creative leader works for confluence of civilisation to overcome the conflicts of cultures. What we need in the world today is a number of creative leaders who collectively

enrich the planet earth and human civilisation. I am sure that many of you may transform into such creative leaders, bringing peace and prosperity to India and many other nations.

Apart from economic prosperity we discussed so far, what we need is a carrier of eternal goodness and wholesomeness in human conduct, which is 'Righteousness'.

As we say in our nation:

Righteousness in the heart

Where there is righteousness in the heart
There is beauty in the character.
When there is beauty in the character,
There is harmony in the home.
When there is harmony in the home,
There is an order in the nation.
When there is order in the nation,
There is peace in the world.

Friends, you can see that if we have one unique quality of individual family that will result in beauty in the character and in turn harmony in the home, leading to order in the nation and finally a peaceful world.

My best wishes to all of you.
May God bless you all.

Author's Profile

Dr. A. P. J. Abdul Kalam is notable scientist and engineer and served as the President of India from 2002 to 2007. He has been honored with many national and international awards including highest civilian awards in India like Padma Bhushan, Padma Vibhushan and Bharat Ratna.

What A CEO Should Do?

Jamshed J. Irani

This article is the speech delivered by Dr. J. J. Irani to the inaugural batch of Executive Post Graduate Program Participants of Indian Institute of Management Indore in the Management Meet at Mumbai on May 21, 2010.

You may have noticed that in the introduction given just now, it was clearly apparent that I have never attended a management school. However, over the years, I have become the chairman of the IIM, Lucknow, before that of the XLRI in Jamshedpur and I am also connected with some other management schools in India and abroad. So, as time goes on, it would appear that not having attended a formal course in a management school is an advantage rather than a drawback in future associations with management schools!!

I realise that some of you, if not all of you, are or would aspire to be chief executives in your own careers one day.

My simple advice to you, if you are considering whether to become a CEO or not, would be that you should follow your heart. In your mind you would realise what are the various alternatives open to you, and then you should follow your heart and do what you would like to do.

Many years ago, when I was appointed as the CEO of Tata Steel, I wrote down on a piece of paper what I as CEO would like to achieve and do.

- *Develop a personal vision - What I want to accomplish in my life.*
- *Tell the truth about the current reality.*
- *Do the tough things no one else wants to do.*
- *Restructure the TOP TEAM, if necessary.*
- *Build a powerful guiding coalition - management and board.*
- *Guide the creation of a shared VISION.*
- *Take the responsibility of being the main change agent.*
- *Create endless opportunities for two-way communications.*
- *Create opportunities for innovations in the rank and file.*
- *Maintain focus.*
- *Realign HR systems; overcome obstacles.*
- *Model the desired managerial behaviour - above all maintain CREDIBILITY.*
- *Preserve the core values of TATAs (and my own).*

Let me delve on some of these issues.

The very first point that I want to make is that you have to decide on a personal vision, what do you want to achieve in your life? Different people obviously have different objectives. For example, if you want to become a multimillionaire, then do not try to join the Tata group!! However, if you want the respect of the world and be known for your contributions to the community and society, then the Tata group would give you a home through which you can achieve such ambitions.

Also, a CEO's position demands the respect and support from a very large number of employees; in other words, you have to be a LEADER. In real life, only a few specialised individuals, such as musicians, artistes, sculptors and the like, can achieve success through their individual brilliance. Leaders, on the other hand, need the support of their followers if they are to achieve their goals and ambitions. Therefore, I have always believed that to be a team player is extremely important for the success of the organisation. The "team" (**T**ogether **E**veryone **A**chieves **M**ore) is far more effective than a bunch of brilliant individuals.

Some people feel that their future and their careers can be decided upon sequentially, one step at a time. I think that is a wrong approach. One has to make up his mind early in life what he or she wants to do, and then draw the career path in their mind, and work strenuously to achieve it. Whenever I talk on this subject, I am reminded of a story, a wonderful story of 'Alice in Wonderland'. I do not know whether the younger generation now reads it. I refer to that part of the story where Alice comes out of the woods and sees several paths before her. She asks the Cheshire cat sitting on a tree on which path she should tread. The Cheshire cat replies that the path she chooses depends on where she wants to go. Alice replies that she does not know where. So, the cat advises Alice that she could take any path because all the paths lead to some destination if she travels on it long enough. Obviously, this is not the attitude that you need when you are embarking on a career. You should know exactly what your objective is, and then walk assiduously on the chosen path, till you reach your destination.

Such a clear objective is necessary in family life, your personal life in addition to your professional life, and in each case, your choice should be guided by what you feel in your heart is the right thing for you to do. You must have a personal vision, and this is something which I learnt from the late JRD Tata who very often used to discuss with me what Tata Steel should look like in the future. Taking a quotation from George Bernard Shaw : Some people see things as they are, and ask "why"? I dream of things that never were and ask "why not"? This out-of-the-box thinking is extremely stimulating for fresh young minds, which have not yet been bound - even involuntarily - by their environment. So when you are developing your own vision, I would strongly advise you to think out of the box, not what your father will think you should be, or what the prime minister of the country is exhorting you to do!! Decide on your own what you want to do.

The second point that I want to make as a CEO is that you have to tell the truth about current reality. Politicians make promises which are almost always broken!! CEOs have to greatly improve upon that record!! You have to tell the truth as you see it because only then the multitudes will follow you. Please remember that the leader cannot achieve anything

on his own. He can be successful only if his followers help and support him, and they will do so only if the leader exhibits that rare quality of CREDIBILITY. His followers must be convinced that what he is saying today is what he truly believes in, and that tomorrow he will do what he is saying today. Followers will do their leader's bidding if they know that he is speaking from his heart. So, tell the truth as you see it. Sometimes you have to convey an unpleasant truth, but if this is done with sincerity, the people will respect you and accept your decisions.

If you have to choose between respect and popularity, as far as I am concerned, there is no choice: it has to be respect every time!! If you can evoke respect and popularity simultaneously, then that is obviously the best combination; but it is usually very difficult to achieve. Sometimes maybe the two can be combined, but at most times, it is respect that has a longer-lasting value than popular decisions.

So, a CEO must be prepared to speak the truth as he sees it at that moment of time. Of course, it is possible that he is occasionally wrong, and when he realises his mistake he has to alter course, accept his mistake and lead his followers in the new direction which has emerged due to changes in circumstances. That is how leaders develop and are accepted by their followers.

A CEO also has the responsibility to do the tough things no one else wants to do!! One of the American Presidents in the recent past had a paperweight on his table which said "*The Buck Stops Here*". Every one, at his own level, must decide which buck stops at his table!! It is a popular practice to keep pushing the buck up, but that is not the quality that CEOs are made of. Usually, unpopular decisions are pushed up, but true leaders realise that problems are not solved by pushing them up to the next level. People will accept even tough and unpopular decisions if they are conveyed with grace and sincerity. Decisions have to be fair and based on principles and merit, and not on the basis of personal relationships and closeness to the affected parties, what we in India commonly refer to as "*bhai-bhai*" decisions.

You have to face the consequences and take the responsibility of the outcome of your decisions. A true leader would not attempt to deflect the blame of his actions on to someone else.

The qualities that I have spoken of up to now are generic, and these apply to all leaders in all walks of life. However, some of the points that I have presented in my earlier list are specific to certain conditions faced by some leaders in certain situations. I do not know how many of you remember those days in early 1990s when Tata Steel went through a certain amount of turmoil. At that time, it was necessary to restructure the top team, and when a restructuring becomes necessary, a leader has to be quite ruthless. Trying to be everyone's favourite is not a way that is conducive to effective operations, and the structure, if necessary, has to be clearly changed and aligned to the needs of the organisation.

If the organisation is such that you need to take tough decisions in the restructuring exercise, it may mean that some of the members might leave and you have to be prepared for

such consequences. It has happened many a time in my career where I had to take a decision and restructure the top team, and the organisation came out to be healthier than it was in the past.

In the corporate world it is very important to build a powerful guiding coalition between the management and the board of the company. Unfortunately, in India it is very often felt that the "Board" is something up there in the sky somewhere, which will visit the company once in 3 months and make some pronouncements and then the CEO can carry on with the job in a manner that he thinks is best. I would like that impression to be corrected. The relationship between the CEO and the board of the company is very, very important, and it is my strong belief that the position of the chairman of the board and the CEO should be separated. In all Tata companies we have handled this separation very successfully. Recent publications in the international business press show that this view is gaining ground, and now more and more corporations have a non-executive chairman and a CEO - separate entities. In India also this trend is growing, and the legislation now under process with the government may accelerate this trend.

Mr Ratan Tata, for example, is not the CEO of any Tata company, but he is the non-executive chairman of several companies, and he and his CEOs get along very well. I am not claiming that there has never been a difference of opinion. That would be sad. In any healthy operation, there must be differences of views, and the successful organisation learns to discuss these differences openly and then arrive at a consensus which is best suited for the organisation as a whole.

The next point that I would like to put before you is that when you are in charge of a company, the vision that you have cannot be something which you can dream up in one day. It has to be a shared dream. The people in your organisation must believe that they have contributed to that shared dream and you have to give them the opportunity of participating in that journey. In the mid-1990s, we in Tata Steel decided that we must formulate a vision for the next 5 years or so. After we achieve that vision, we would move on to the next one. To formulate the vision we had consultations covering the width and the depth of the company over a period of several weeks. Everyone was enthused, and they gave their own version of what the vision should be. After extensive discussions it was ultimately left to the CEO (which was me) to distil the thoughts of thousands of persons into a few simple lines. I wrote out a vision when I was totally inspired and did not have any distractions; and it took me less than an hour ultimately to pen those four sentences. The company achieved that vision after 5 years, by the turn of the century, and then it was time to draft out another vision.

That Vision was:

"Tata Steel enters the new millennium with confidence of a learning, knowledge based and a happy organization.

We will establish ourselves as the supplier of choice by delighting our customers with our services and products.

In the coming decade, we will become the most cost competitive steel plant and so serve the community and the nation.

Where Tata Steel ventures Others will follow"

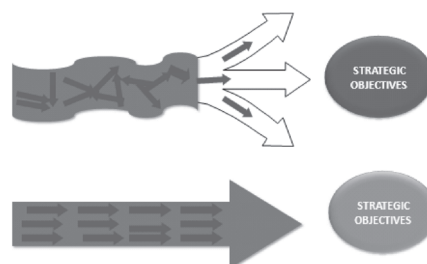
The CEO must be at the forefront of the change process, and must lead the change. The attitude should not be that I would like to change but not today, or maybe others have not changed and I will wait for them to change, before instituting the change in my own company. If it is necessary, change must be introduced and it must be led from the top. The leader must give time for the movement, and he cannot delegate this process down the line.

I would now like to mention that communication is extremely important through the entire organisation. It must be a two-way communication process, and the leader has to create endless opportunities to communicate to his teams and also to listen to them. When I took over at Tata Steel, we had almost 80,000 employees. I had to show my face to all of them and also to hear their views. Now we have e-mail and other I. T. devices, and it is far easier to communicate with all the employees. But in the early 1990s this was not so, and it had to be face-to-face communication. Also, there is a difference between hearing and listening. A leader has to listen to the views that emanate from the length and breadth of the organisation. So, it has to be a two-way communication, not just a monologue from the leader to his legions.

The future growth and success of the organisation depend very much on the innovative spirit which has to be engendered in the entire team. The antennas of everyone in the organisation have to be tuned in to the fact that we may not be able to survive if we were to continue as we have been doing for the past several decades. Purposeful change is extremely important, and if an organisation stands still, then remember the story of the hare and the tortoise !! - others will pass you by.

With all the things which the CEO has to do and drive, it is very easy to lose focus. Focussing on the core activity of the organisation, doing what it knows best is extremely important. Very often in the guise of diversification, focus is lost, and then the organisation itself loses its path. Once again, it is the responsibility of the CEO to maintain focus even as he looks around for profitable avenues into which the corporation could invest, as long as these investments are in line with the main objectives of the corporation. Another important responsibility of the CEO is to align his troops, all marching in the same direction.

Alignment of All Initiatives



The above diagram indicates that in any organisation there are bound to be persons with diverse views: some intentional and some by accident. The CEO has to move all his resources in the same direction, much like a coil carrying an electrical current wound around a soft iron bar. The coil aligns all the magnetic poles in the same direction, and the CEO has to play the role of the coil. Only if all the troops march in a unified manner in the same direction can maximum progress be achieved in the shortest possible time.

In my experience, in any organisation, there will always be approximately 10% of persons who are interested in moving the team towards a position from which change can be successfully implemented. The vast majority, almost 90%, are those who sit on the fence and wait for the others to march. If the others start marching, they will also jump into the fray and move in the right direction. Of course, there are always 1% (or even less) who are mischief mongers and who do not want to see progress. They may try to inhibit the movement of all the others. It is very important that these inhibitors are identified and coaxed into joining with the mainstream. If, out of mischief, they do not want to join in the movement for change, they have to be suitably advised, and after given ample opportunities to mend their ways, if they still persist, unfortunately, they have to be removed from the scene. Otherwise for the sake of a very few persons the whole organisation will not maintain its movement towards success.

If I have to pick one quality which the leader must have - just one - then I would name that quality as "CREDIBILITY". Of course, CEO must be a change agent, of course he must be bright, of course he must be knowledgeable, etc., etc., but if I have a choice of just one quality, it must be credibility (something which most of our politicians seriously lack!!). Obviously, the leader has to walk the talk, and all his actions should be towards achieving that objective. That is credibility. That one quality all leaders must have. It takes time to establish credibility, and it can be lost in the twinkle of an eye, lost with one stupid action.

I think I have spoken enough, and I will end with the message to all of you that I wish you well and I hope that one day you will be leaders and your organisations and India will be proud of you.

Author's Profile

Dr. Jamshed J. Irani is the Director of TATA Sons Limited and is the Chairman of the Society and Board of Governors of IIM Lucknow. He served Tata Iron & Steel Company Ltd. for about a decade as the CEO and was instrumental in transforming the company. He has received many national and international awards for his contribution to industry.

Improving Credit Scoring Accuracy by Population Segmentation

Shubhamoy Dey

Abstract

In the research work presented in this paper the possibility of improving scoring accuracy by pre-segmenting the population and then building subpopulation scorecards for each segment, is examined. A novel subspace selection technique together with a two-step cluster detection technique is used to identify naturally occurring segments (represented by clusters) in the data. Empirical results obtained from a real credit card data set demonstrate the strength of the approach. The segmentation method is able to separate the population into parts with widely different risk profiles (measured by the subpopulation odds). In the following step, different scorecards are built for each of these population segments. Significant improvement of overall accuracy of the scoring system is shown to be achieved by these segment-specific scorecards. Further, the scoring system resulting from the proposed approach is easy to implement in credit card account management systems that are currently used in the credit card industry.

Keywords: Credit risk, consumer credit, cluster detection, dimensionality reduction

I. Introduction

Credit scoring is an application of techniques from areas of statistics, operations research, and related disciplines like machine learning and data mining, that attempts to forecast financial risk associated with lending. It is essentially a way of distinguishing groups with different credit risk in a population, based on observed characteristics.

Although the concept of recognizing groups in a population was introduced in statistics by Fisher (1936), Durand (1941) was the first to propose that the technique could be used to distinguish between good and bad loans. A good account of the early successes can be found in Myers and Forgy (1963), and Churchill et al. (1977). Discussion on the basics of credit scoring has been excluded from this paper, as such details can be found in text books such as Thomas, Crook and Edelman (1992), Mays (1998), and Mays (2001). A number of previous surveys have described recent developments from different perspectives (e.g. Rosenberg and Gleit, 1994; Hand and Henley, 1997; Thomas, 2000; Thomas et al., 2005; and Crook et al, 2007).

Traditionally, linear discriminant analysis and logistic regression have been the core techniques used to construct scoring models. Since credit decisions often involve several billions of dollars, even an improvement in accuracy of a fraction of a percentage point can lead to significant gains. This has prompted both researchers and practitioners to investigate every possibility of improving scoring model accuracy. The use of logistic regression models, nonparametric models such as k-nearest neighbor, classification trees, and neural network models have been examined by Henley (1995), Henley and Hand (1996), Makowski (1985) and Angelini et al. (2008) respectively, in the quest for higher scoring accuracy.

Practitioners have been able to achieve higher scoring accuracy by segmenting the population based on implicitly different risk profiles. For example, in behavioural scoring, the population is usually split into 'up-to-date payers', '1-payment-defaulters' and '2-payments-defaulters' sub-populations, and building separate scorecards for each sub-population. The research described in this article focuses on improving the accuracy of credit scoring models by pre-segmenting the population and then building scorecards for each segment. The segmentation is done using a combination of a novel subspace selection technique proposed by Dey and Roberts (2002), and a two-step cluster detection technique. Empirical results obtained from real data demonstrate the strength of the two-stage approach. The segmentation stage is able to separate the population into parts with widely different risk profiles (measured by the population odds). In the second stage, different scorecards are built for each of these population segments, thereby significantly improving the overall accuracy of the scoring system.

2. Related Work

Classification trees essentially reduce heterogeneity by segmenting and re-segmenting the population. Frydman et al. (1985), in their classification tree approach, were among the first to suggest that splitting the population (into 'movers' and 'stayers' as described in their paper) would improve accuracy. However, Banasik et al. (1996) opine that it may not always result in improved scoring systems in practice unless the segments are distinctive enough. According to Thomas (2000), how many segments of the population should have different scorecards remains an important research question.

Various two-stage approaches have been proposed and reported in research literature (e.g. Hsieh, 2004; Huang et al., 2006; Laha, 2007; Chuang and Lin, 2009; Sustersic et al, 2009). Lee et al. (2002) use a combination of discriminant analysis and neural networks and report that the neural network training time is reduced and that scoring accuracy improves outperforming traditional discriminant analysis and logistic regression approaches. Hsieh (2005) uses clustering to segregate unrepresentative samples into 'isolated and inconsistent' clusters, and neural networks to construct the credit scoring model out of the samples in the 'consistent' clusters. A self-organizing map clustering algorithm is used to determine the number of clusters and k-means to do the clustering. Lee and Chen (2005) use multivariate adaptive regression splines to build a credit scoring model and use the significant variables as input to a neural network model. Huang et al. (2007) report promising results by combining genetic algorithms (GA) with support vector machine (SVM) classifier. The proposed hybrid GA-SVM strategy can simultaneously perform feature selection task and model parameter optimization. Chen et al. (2009) use classification and regression trees and multivariate adaptive regression splines to perform feature selection and a SVM classifier resulting in reduced type-II errors, while Xu et al. (2009) propose a combination of link analysis and SVM. Similarly Lin (2009) examines a two-stage model of logistic regression and neural networks, and Huang (2009) proposes the use of a kernel graph embedding scheme for dimensionality reduction to improve the performance of SVM classifiers.

It is evident from the results of these recent works that population segmentation is a promising approach but determining the number of 'optimum' segments and high dimensional data encountered in practical credit scoring situations pose challenges. One of the most popular time tested methods of unsupervised population segmentation is clustering. As discussed later, segments obtained by this method have the additional advantage of being easily implementable in the (usually mainframe based) software environments used by most lending institutions.

2.1 Dimensionality and Subspace Selection: In Dey and Roberts (2002), and Dey (2002) the problem of high dimensionality has been examined in some detail and a novel approach for subspace selection has been proposed. As discussed in Dey and Roberts (2002), data mining applications, and applications such as credit scoring, usually encounter high-dimensional data spaces. Most of these dimensions contain 'uninteresting' data, which would not only be of little value in terms of discovery of any rules or patterns, but have been shown to mislead some classification algorithms. Since, the computational effort increases very significantly in the presence of a large number of attributes, it is highly desirable that all irrelevant attributes be discarded.

Often, patterns of interest are embedded in lower dimensional subspaces of data. If the data space S has k attributes $\in \{a_1, a_2, \dots, a_k\}$, then an n -dimensional subspace s_n of the data space S can be formed by selecting a combination of n attributes from the set $\{a_1, a_2, \dots, a_k\}$, where $n \leq k$. Subspaces of feature set are all the more important for credit scoring applications because many of the features in the data are usually correlated. Correlation effects impact the model weights during scorecard construction using techniques such as logistic regression and discriminant analysis (Coffman, 1986). Thus, only certain subsets of features (i.e. subspaces) can be used to build robust scorecards.

It is usual to tackle this problem by getting some attributes and subspaces identified by the user (or domain experts). For even moderately large number of attributes, the number of possible subspaces is so large ($2^k - 1$) that it is quite unlikely that the 'experts' would be able to identify all the 'interesting' subspaces. Although there are a number of techniques such as principal component analysis and multi-dimensional scaling available for dimensionality reduction and feature selection, they cannot be used to identify 'interesting' subspaces.

Agarwal et al. (1998) argued that the clustering tendency of a feature space (or subspace) was a good indicator of its 'interestingness'. Based on those ideas and a direct measure of clustering tendency known as Hopkins Statistic (after Hopkins, 1954), a 'Measure of Merit' for subspaces was proposed by Dey and Roberts (2002). The *measure of merit* (M) proposed was a product of two components coverage and concentration of 'dense' areas (in other words clusters) within the feature space. The paper also reported success in identifying interesting subspaces using a highly scalable algorithm based on the rank ordering of subspaces using the *Measure of Merit*. The 'harshness' with which 'uninteresting' subspaces are filtered out by the algorithm is controlled by a threshold value parameter (τ) and a cut-off value for the *Measure of Merit* (C_M).

2.2 Two-step Clustering: Apart from being one of the most important data mining tasks (Agrawal et al., 1993), cluster detection is one of the few data mining techniques that can be classed as undirected data mining or unsupervised learning. It is the task of discovering structure in data by segmenting the heterogeneous population (represented by the complete dataset) into a number of more homogeneous subgroups called clusters. The process is based on similarity between 'objects', and the number and nature of the subgroups (or clusters) is generally not known in advance. It has been the subject of intense research for many years and a large number of algorithms have been proposed. A good comparison of several algorithms can be found in the study by Michaud (1997). Most algorithms require the number of clusters to be specified in advance, and the few that do not require this (e.g. Nakamura and Kehtarnavaz, 1998; Kothari and Pitts, 1999) are computationally intensive.

Based on Balanced Iterative Reducing and Clustering using Hierarchies (BIRCH) algorithm presented in the papers of Zhang et al. (1996) and Chiu et al. (2001), a two-step clustering method has been developed by SPSS Inc. (for SPSS Versions 11.5 and higher). It can handle both continuous and categorical variables and requires only one data pass. It has two steps: (1) pre-cluster the records into many small sub-clusters; (2) cluster the sub-clusters resulting from pre-cluster step into the desired number of clusters. It can also automatically detect the number of clusters. Euclidean distance and log-likelihood criterion are used as distance measures for purely continuous variables and mixture of categorical and continuous variables respectively. The problem of determining the optimal number of clusters is overcome using the Schwarz Bayesian Criterion. Although the log-likelihood distance measure is based on the assumption that the continuous variables follow normal distribution and that the categorical variables have multinomial distribution, the algorithm behaves reasonably well even when the assumption is not met. A study regarding its efficacy has been reported by Kayri (2007).

3. Two-stage Segmented Credit Scoring

The proposed method consists of a pre-processing step and a scoring step. The scoring step itself is a two-stage process. These process steps are depicted in the schematic diagram in Figure-1. The pre-processing step is an implementation of the *Measure of Merit* based algorithm of Dey and Roberts (2002). The output of this step is a set of interesting subspaces. Next, SPSS (Version 15.0) two-step clustering method is used to find the clusters in these subspaces. Subsequently, credit risk scorecards are built for each of the population segments (formed from the clusters) using logistic regression. The output of the 2-stage process is a set of 'conventional' credit risk scorecards (one for each population segment). As shown in Figure-1, the pre-processing step is performed by a set of C-language programs and both stages of the 2-stage credit scoring process is performed using SPSS. All the steps (pre-processing, segmentation and scorecard building) are performed using the same data set, the two new steps introduced by our proposed approach do not require any additional data.

As set out in Section 2.1 above, even a data set with a moderate number of attributes has an exponentially large number of subspaces. The pre-processing step uses inherent clustering tendency of the data to identify a sub-set of 'interesting' subspaces small enough

to be closely examined for the existence of useful population segments. This population segmentation is achieved by a cluster detection technique capable of utilizing both continuous and categorical variables (as discussed in Section 2.2) - an appropriate one to use, since both these types of variables are generally present in credit card data sets. Finally, in the second stage of the 2-stage process, we build conventional scorecards using the traditional logistic regression technique due to a number of reasons. Firstly, scorecards are used to score millions of credit card accounts through very specialized automated scoring software, and the output of our process being a set of conventional scorecards keeps the interface to those scoring software unchanged (apart for an additional step to determine the appropriate population segment - described fully in Section 4). Secondly, the dependent / target variable in credit scoring data sets is binary (good or bad account) in nature, and logistic regression is one of the strongest techniques applicable to this type of data. Thirdly, scorecards and logistic regression are well understood and trusted by financial regulators (such as the Financial Services Authority in UK), and are therefore more readily acceptable as 'sound' scoring systems to implement.

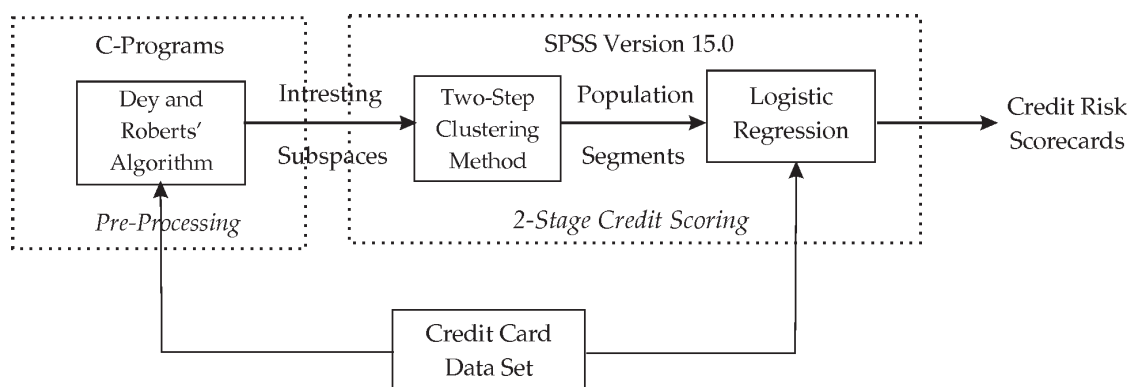


Figure-1 : Proposed 2-stage Segmented Credit Scoring Approach

3.1 Empirical Study Data Set: A credit card dataset containing behavioural data from a major credit card company has been used to demonstrate the feasibility and effectiveness of credit scoring using the proposed two-stage approach. There were totally 62599 credit card accounts in the data set and the ratio of good to bad accounts (the good-bad odds) of the population was 2.742. Out of them, the data of 21477 randomly selected accounts (approximately ?) were kept aside for validating the model, and the rest 41122 were used for building the model. The good-bad odds of the validation and build subsets were 2.740 and 2.743 respectively, confirming the absence of bias in the selection of accounts for the validation and build subsets. Each account record in the data set contained 142 independent variables: 125 internal variables (e.g. payment regularity measures, purchases and cash advances, changes in balances and credit-line utilization) and 17 credit bureau variables (e.g. total credit limit of all credit cards, total outstanding debt). The dependent variable was the credit status of the customer-good or bad. In keeping with the practice in the credit card industry, the good / bad definition was arrived at after a rigorous study of the good-bad evolution characteristics of the portfolio of accounts. A 'bad' account was defined as '3+ in 9 months', that is, one with 3 or more missed payments or declared bankrupt during a 9-month 'observation' period, and a 'good' account was defined as one with at most 1 missed payment during the lifetime of the account'.

Although most of the independent variables were continuous, many were categorical. Some of the independent variables had strong correlations amongst themselves².

3.2 Identification of subspaces: The number of subspaces that can be constructed from 142 independent variables is quite large: $2^{142} - 1$ (or 5.5×10^{42} approx.), making it almost impossible to exhaustively search for clusters in all of them. Yet, only a few of them are likely to have strong clustering tendency or interestingness. Using the *Measure of Merit* based ranking of subspaces, the Dey and Roberts' algorithm avoids searching through all the possible subspaces but locates those with strong clustering tendency. The algorithm identified five 9-dimensional, three 10-dimensional, three 11-dimensional and one 12-dimensional subspaces for consideration (see Table-I below). The threshold value parameter (t) and the cut-off value for the *Measure of Merit* (C_M) were intentionally set to a high value to restrict the number of identified subspaces to a handful. The small number of subspaces found by this preprocessing step can be exhaustively examined for population segmentation, as described in the next section.

No. of Dimns	Sub-space No.	Subspace Variables ³	Scaled Measure of Merit
9	1	DGT0, MSD0, MXDL, MCD0, MCIB, AP6M, L59, B61, B71	3.22
	2	DGT0, MSD0, MXDL, MCD0, MCIB, AP6M, W1, B61, B71	3.03
	3	DGT0, MSD0, MXDL, MCD0, MCDB, AP6M, W1, B61, B71	2.89
	4	DGT0, MSD0, MXDL, MCD0, BIB2, AP6M, W1, B61, B71	2.73
10	5	DGT0, MSD0, MXDL, MCD0, BIB2, AP6M, L59, B61, B71	2.70
	6	DGT0, MSD0, MXDL, MCD0, MCIB, AP6M, W1, L59, B61, B71	2.91
	7	DGT0, MSD0, MXDL, MCD0, MCIB, AP6M, W1, S63, B61, B71	2.86
	8	DGT0, MSD0, MXDL, MCD0, MCDB, AP6M, W1, L59, B61, B71	2.74
	9	DGT0, MSD0, MXDL, MCD0, MCIB, AP6M, W1, L59, B61, B71, PR	2.88
11	10	DGT0, MSD0, MXDL, MCD0, MCIB, AP6M, W1, L59, B61, B71, FCI_3	2.87
	11	DGT0, MSD0, MXDL, MCD0, MCDB, AP6M, W1, L59, B61, B71, FCI_6	2.77
	12	DGT0, MSD0, MXDL, MCD0, MCIB, AP6M, W1, L59, B61, B71, PR, FCI_6	2.63

Table-I: Results of preprocessing: Interesting Subspaces

A number of lower-dimensional subspaces that had lower (dimensionality scaled⁴) values of *Measure of Merit* were also identified by the algorithm but have not been shown in the table above for the sake of brevity.

3.3 Detecting Clusters in the Subspaces: All the 12 subspaces identified above were examined for existence of 'useful' clusters (i.e. clusters that could represent 'natural' population segments) using the two-step clustering method. A summary of the results is displayed in Table-2 below. The two-step clustering method automatically determined the number of clusters in each subspace. It found three distinct clusters in each subspace⁵ (as can be observed from the table below).

Subspace Number	Cluster 1		Cluster 2		Cluster 3	
	% of Accounts in Cluster	Good-Bad Odds	% of Accounts in Cluster	Good-Bad Odds	% of Accounts in Cluster	Good-Bad Odds
1	18.47	1.49	34.68	1.67	46.85	6.39
2	18.44	1.49	35.05	1.69	46.51	6.39
3	38.63	1.47	11.47	2.74	49.91	5.24
4	54.40	1.73	6.67	4.19	38.94	6.08
5	37.89	1.49	13.62	2.34	48.48	5.56
6	18.50	1.49	36.16	1.75	45.34	6.41
7	18.45	1.49	39.90	1.93	41.65	6.31
8	44.95	1.69	13.09	2.39	41.96	5.81
9	18.83	1.53	34.56	1.67	46.61	6.38
10	18.47	1.49	35.03	1.69	46.49	6.40
11	18.08	1.53	43.68	2.07	38.24	6.15
12	18.43	1.49	34.70	1.67	46.87	6.39

Table-2: Results of the Clustering Step: Distinct Population Segments

It can also be observed from Table-2 that the good-bad odds of the accounts in each cluster within a given subspace were distinctly different. For example, the three clusters in Subspace-6, had good-bad odds 1.49, 1.75 and 6.41 respectively. This itself is a significant result. It implies that the clusters represent population segments with different credit risk profiles, and that these segments can be identified by the two-step clustering algorithm, using a small subset of the independent variables.

3.4 Building Scorecards for the Clusters: Once the population segmentation has been achieved, either by the usual 'intuitive' means such as the ones described in Section 1, or by more definitive empirical methods such as clustering described in Section 3.3, it is useful to build scorecards for the population segments. Scorecards along with a set of 'cut-off scores' represent credit strategies that are used to manage the risk in credit card portfolios and control losses due to payment default. In theory, each identified population segment should have a dedicated scorecard built. However, building, monitoring and rebuilding scorecards, and devising credit strategies based on them involve practical difficulties and costs. Some segments that are small in size (compared to others) and/or have similar risk profiles or other similar characteristics are often merged together.

Building scorecards involves a number of interrelated steps. To begin with, the number and choice of independent variables included in scorecards, and how continuous variables are classed is determined by a number of factors including the inter-correlation between the variables and the variation of good-bad odds across classes. Details of the 'art' of building good scorecards can be found in Chapters 5 and 7 of Mays (2001). Ideally, scorecards should be built (and validated using the validation subset) for as many of the subspaces as possible, to find the best possible set of scorecards. For illustration, a set of three scorecards (one for each population segment/cluster) was built for the population segments (i.e. clusters)

identified in Subspace-I. Some of the performance measures of the scorecards are summarized in Table-3 behind.

Segment	No. of Accounts	Population G-B Odds	No. of Indep. Variables	Scorecard Odds Range	K-S Statistic	Gini Coeff.
1	7596	1.494	4	0.51 to 30.7	34	41.6%
2	14261	1.674	7	0.03 to 160	42	54.8%
3	19265	6.393	6	0.002 to 130	51	67.4%
Combined Effect of the three Segmented-Population Scorecards						
1,2&3	41122	2.743	N/A	0.002 to 160	49	63.4%
Scorecard for the Whole (Un-segmented) Population						
Single	41122	2.743	6	0.002 to 59.7	44	59.0%

Table-3: Results of the Logistic Regression Step: Credit Risk Scorecards

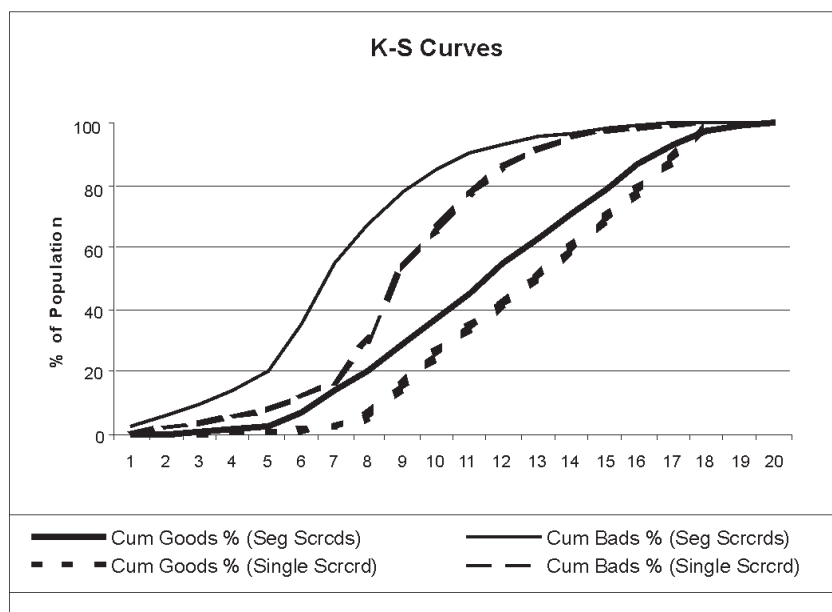
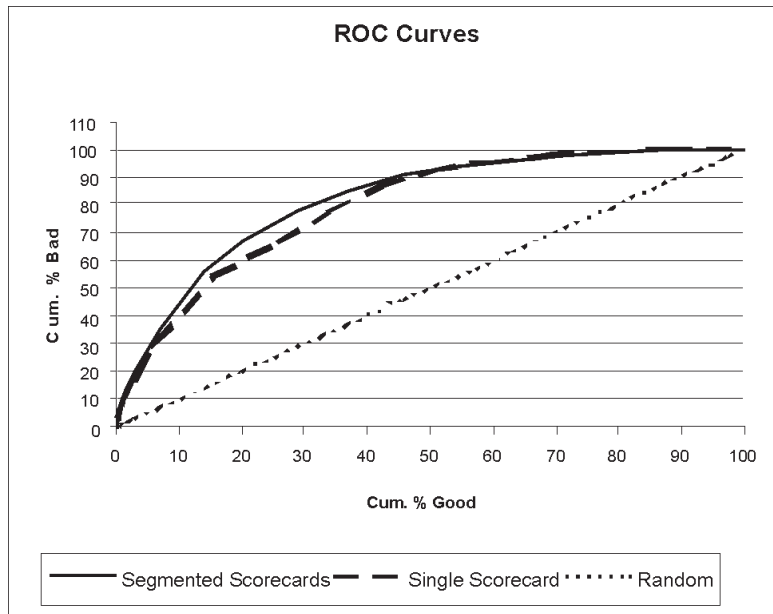
3.5 Results: It can be observed from the entries in Table-3 that the use of three segment-specific scorecards instead of a single scorecard for the whole population led to an increase of 4.4 percentage points in the Gini coefficient and an increase of 5 percentage points in the K-S Statistic. The Receiver Operating Characteristic (ROC) and Kolmogorov-Smirnov (K-S) curves shown in Figure-2 below further illustrate the fact that the segment-specific scorecards (together) better differentiate the bad accounts from the good, compared to a single whole-population scorecard. The curves shown in Figure-2 have been drawn using the validation data set, demonstrating that the increase in K-S Statistic and Gini Coefficient observed in the development sample holds for the validation sample as well.

Thus, not only does the set of three segment-specific scorecards gives a better separation of good and bad accounts (evident from the higher K-S Statistic), but also ranks risk more uniformly (evident from the higher Gini Coefficient). Also, qualitatively, the ROC curves and the K-S curves pertaining to the set of segmented scorecards are 'smooth' (i.e. without abrupt changes in slope / inflection) implying that the risk-ranking and the good-bad separation achieved by the new scorecards are uniform throughout the scored population.

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Figure-2: Scorecard Performance Characteristics based on the Validation Data Set



4. Implementation Considerations

Since the first scorecard was developed by Fair Isaac and Corp. (FICO) in the late 1950s the raw regression weights, obtained from running logistic regression on the model build data, are scaled to bring them to a range of positive integral values⁶. For example, the traditional FICO scores (still used widely in US and many other countries) range between 300 and 900. A plot of the log-odds against the scaled scores for the combined segmented scorecards is depicted in Figure-3.

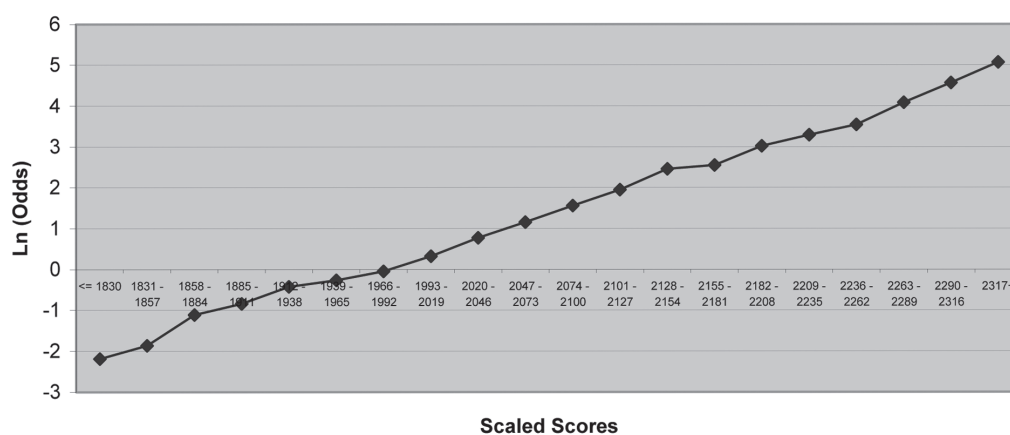


Figure-3: Log-Odds against Scaled Scores

The scaling parameters are not standardized across the industry. Different parameters are used by different lenders and credit bureaus.

Once the empirical model represented by a scorecard (or a set of segmented scorecards) have been built using data from existing accounts with known outcomes (i.e. whether good or bad account), the probability of default of any account (new or existing) with (hitherto unknown outcome) can be estimated by scoring the account using the scorecard and independent variables' data, and translating the score to a log-odds value using the (scaled) log-odds curve. Credit strategies can then be determined through cut-off scores for various credit management actions. As mentioned in Section 3, the interface to this part of the scoring and credit management system will remain unaffected by the implementation of the proposed 2-stage scoring process. The parts of the scoring system that would need to be changed to implement the segmentation scheme of the 2-stage process are discussed in the following part of this section.

In practice, credit card issuers service millions of credit card accounts using automated systems such as TRIAD Adaptive Control System (Fair Isaac Corp., 2008). Credit scoring models formulated as 'scorecards' are widely used due to the ease with which they can be implemented in those automated credit card account management systems. Although implementing a set of scorecards is fairly straight forward, complicated segmentation schemes may not be implementable. For example, if a neural network model is required to determine the population segment to which a particular account belongs, implementation could be very difficult or impossible.

The approach proposed here requires 'non-standard' steps such as Dey and Roberts' algorithm and two-step clustering method for the model building part of the credit scoring process. However, the model building is a one-time activity carried out by analysts outside the automated scoring systems. Once the population segmentation has been done (using the 'non-standard' steps necessary), determining the segment to which an account is to be assigned (which in turn will decide the scorecard that will be used for scoring that account) reduces to the task of selecting one out of a small number of clusters. Since, the centers and boundaries of the clusters used to segment the population during the model building, are fixed, finding the appropriate cluster amounts to calculating the distances to a few (known) clusters. This kind of simple logic can be accommodated in TRIAD-like automated systems.

5. Conclusions and Further work

In this paper, a practical two-stage approach for consumer credit scoring has been proposed. It has been shown that clustering is an effective and practical way of achieving good population segmentation. The problem of high dimensionality has been tackled using an algorithm published by Dey and Roberts (2002). The reduction in the number of subspaces achieved by the algorithm makes it possible to exhaustively examine all of them for clusters. In this work, the BIRCH inspired two-step clustering method has been used to address the problem of finding an unknown number of clusters, but a few other methods are also available. In the second stage of the two-stage approach, standard logistic regression-based risk scorecards have been deliberately proposed for the ease of implementation, and because most practitioners are familiar with scorecards and cut-off score-based credit strategies. Furthermore, scorecards are well understood and accepted as 'sound' credit control instruments by regulators in the credit industry. The efficacy of the approach has been demonstrated using a real data set. The results show that scorecards with better performance characteristics can be built using the approach proposed. Although, the data set pertains to the behavioural scoring area there is no reason why the approach would not work with application scoring data. However, this needs to be investigated further.

Notes

- 1 All other accounts were classed as 'indeterminate' and excluded from the data set.
- 2 This is quite usual with most large practical data sets and is routinely dealt with during the scorecard build process.
- 3 Descriptive long names of variables have been substituted by abbreviated names to prevent identification of variables proprietary to the data provider.
- 4 For details of the 'Dimensionality Scaling Factor' please refer to Dey and Roberts (2002).
- 5 However, for the purpose of our approach, the number of clusters in each subspace need not be the same.
- 6 The scaling parameters are not standardized across the industry. Different parameters are used by different lenders and credit bureaus.

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Can Advertising Nurture an Ecocentric Vision?

Amarendra Kumar Dash

Abstract

Advertising as the mouthpiece of capitalism backed by technological enhancement, over-production and marketisation is well established. In the last two decades advertising as an institution has been under tremendous criticism from the cultural and ecological critics. This paper strives to deconstruct the broad categories of value orientation to nature manifest in a handful of print advertisements and moves ahead with the core question that despite the daring proclamations of green advertising, if advertising can nurture an ecocentric vision at all. The present study is an eco-critical reading of a purposive sample of six advertisements selected from *Business World*, one of the leading business magazines of India. The methodology is based on verbal and visual analysis. The findings of the study reveal that the advertisements are trying to induce the fantasy of freedom from nature and control of one's own destiny through certain goods or services backed by science and technology. The paradox arising out of the clash of latent values in advertising and manifest values in society is discussed. The study contributes to the domain of knowledge in two ways. First, while the mainstream research has been devoted to expand consumerism, the present study is devoted to rouse sensitiveness, with particular response to nature and its ecosystem. Second, it crosses the disciplinary borders by taking clues from semiotics, rhetoric and literary hermeneutics to arrive at a deeper understanding of marketing communication.

Keywords: Advertising, Anthropocentrism, Ecocentrism, Nature, Technology, Values

I. Introduction

In the recent years, there has been a surge of green advertisements backed by green marketing strategies displaying sensitivity to nature and ecological issues. The development is primarily seen as a drive to better hold the market by strategic brand positioning by titillating the emotions of a class of consumers who are steadily awakening into a consciousness of the vulnerability of our ecosystem under capitalistic and consumerist advancements. It has also been criticised as a tactics by corporations and marketing forces to avoid a negative public image and to cover up their nexus in the degradation of our ecosystem (Stauber, 1994; Stauber and Rampton, 1995; Rampton and Stauber, 2001). According to Nakajima (2001: 334-35) "green advertising and green PR are pervasive and misleading; they provide society with a distorted view of corporate environmentalism."

Beyond the issue of deception and propaganda embedded in advertising, this paper moves a step ahead so as to ask the question "Can advertising, foster any ecological wisdom?" It conceives the very concept of green advertising, the mouthpiece of capitalism (Galbraith, 1958; Schumpeter, 1964; Harvey, 1989) and consumerism (Sahlins, 1976; Douglas and Isherwood, 1978; Bourdieu, 1984; Rushkoff, 1999) as a paradox in itself. That is because capitalism promotes technological enhancement, overproduction, marketisation and consumerism, which promotes conspicuous consumption, which can hardly be achieved without disturbing nature. In this context, the paper studies the response to nature embodied in

a purposive sample of six print advertisements taken from *Business World*, one of India's leading business magazines, to understand whether advertising can nurture an ecocentric vision at all.

2. Conceptual Frame

We live in an age of rampant production and consumption where our primary experience of day-to-day life is grounded in marketscape. Technology has rearranged the world so much that we do not have to experience it directly. We live awash in products and immersed in supermediated environments. That makes us unaware of the destructive consequences of our consumer behaviours (Sherry, Jr. 2000). Mass media in general and advertising in particular are the most potent links in the unreflective nexus of overproduction and mass consumption. With its fanciful presentations of goods and services supported by alluring rhetoric and executional cues, advertising has hypnotised people, prevailing upon their spontaneous urges and redirecting them in favour of blatant consumerism (Jhally 1978).

The materialistically advanced nations of the West have proved their complicity in the degradation of the ecosystem, imposing a human-centric interpretation of the universe over the holistic co-existence of fellow creatures and nature. The disastrous consequences of too much of interference in the balance of nature have been widely warned by ecologists and scientific communities. In this context, what is required is a holistic knowledge of the world that transcends our nested faith in the beauty of marketing and rabid consumerism anchored by the scientific sensibilities of the day (Soper, 1987).

The mission can be possible if we can refurbish our faculties with an ecocentric view of the world by shedding away the built-in egos of anthropocentrism (Eckersley, 1992). The anthropocentric view of the world constructs human supremacy and neglects the inclusiveness of all beings and elements of nature, including humans. It exalts rationality and utilitarianism over intuition and holistic living. It maintains that empirical-analytic science is the only valid way of knowing and nature is just a resource to be exploited for comfort and accumulation. An ecocentric view of the world maintains that nature is far more complex and self-sustained than humans can know. It is an autonomous life-supporting system where too much of human interference is unwarranted. It believes that ecological tragedy is both human and non-human. In spite of the stand, ecocentrism does not challenge the human claim for autonomy, but nobly strives to extend the notion of autonomy to encompass layers of inter-relationship between the personal and societal drives of humans and the cycle of life including the rest of the biotic community and elements of nature (Eckersley, 1992).

Against this backdrop, the present study strives to unfold the anthropocentric values mediated in advertising by deconstructing its rhetorical and symbolic elements manifest in the visual and textual content and to thereby substantiate the importance of ecocentric judgment.

3. Review of Literature: Advertising and Rhetoric

Since advertising possesses many of the properties of literature such as writing, figurative language, narration, character, imagery, value systems, author, text, reader, historical and

contemporary context and so on, a postmodern definition of literature is broad enough to include advertising, which can be analysed by a range of methods drawn from literary criticism (Stern and Schroeder, 1994). Several studies by Belk (1986), Holbrook (1987), Hudson and Ozanne (1988), and Sherry (1987) have also indicated a mounting interest in the humanities as a fresh approach to discuss critical issues in consumer behaviour. Scholars such as Stern (1988) have tried to tap the relationship between language, meaning and consumption. Linguistic, psycholinguistic and sociolinguistic approaches to consumer research have often been found to be useful consumer behaviour (see Harris et al., 1986; Percy, 1982; Thorson and Snyder, 1984).

The strongest contribution of literary criticism to consumer studies lies in the area of definition, classification, analysis, interpretation and evaluation of texts. Many New Critics of literature such as Cleanth Brookes, L C Knights and others use the method of explication or close reading to analyse words and word groups in a schematic fashion. The irony and paradoxes underlying the specific rhetorical constructs helped sort out total effects of the texts. This methodology promised a take-off point for consumer research (Stern, 1988, 1989) because it facilitated the deconstruction of verbal elements in consumer discourses.

Scholars such as Greenberg and Garfinkle (1963) have since long stressed the role of imagery in shaping consumer response. However, visual elements have, of late, received critical attention (Childers and Houston, 1984; Edell and Staelin, 1983; Meyers-Levy and Peracchio, 1992; Miniard et al., 1991; and Scott, 1994a).

The study of consumer behaviour has taken clues from semiotics too (see Holbrook and Grayson, 1986; Mick, 1986; Sherry and Camargo, 1987). Sherry (1987, 1988) conceived advertisements as constructed word-views and adopted linguistic tools to unravel the meaning embedded in consumption. The study of symbols, archetypes and ironies has further helped to decipher meaning from the advertisements. The semiotic studies have highlighted the contradictions between the dreams and fantasies manifest in the language and imagery of advertisements and the concurrent ironic tension with relation to the impossibility of the same.

Rhetoric, based on semiotics, has offered a lot of insight to differentiate various visual styles (Durand, 1987). A rhetorical figure is an ingenious and artistic deviation in relation to audience expectations and demonstrates a pattern beyond the specific occasion where it is used (McQuarrie and Mick, 1996). Because of its deviant characteristics, rhetoric has proved to be a stylistic device to engage audience attention in advertising.

Unfortunately, bulk of the studies in the text-interpretive tradition has concentrated on visual metaphor and has neglected other figures (e.g., Forceville, 1995; Kaplan, 1992; Kennedy, Green, and Vervaeke, 1993; Phillips, 1997). What is required is a polyrhetoric design inclusive of metaphors, puns, antitheses and rhymes, which can help us study the visual content of advertising with greater power.

4. Gaps in the Studies and Research Questions

The present study departs from the mainstream advertising research in both approach and method. First, most prior research has viewed advertising as a means of commercial communication meant for promoting goods and services by powerful vistas of persuasion. They have paid particular attention either to the analysis of persuasive content of the ad or to map the impact of the persuasive stimulus on the cognitive, affective and conative states of the consumers. The present study views advertising as a type of commercial literature communicating certain values and vision of society and nature through its ultimate quest for socialising people to pattern of consumption. Therefore, although the mainstream research has been devoted to expand consumerism, the present study is devoted to rouse sensitiveness, with particular response to nature and its ecosystem. On the whole, it is a breakaway from the anthropocentric study of advertising to an ecocentric one.

Second, prior research has basically focused on quantitative or ethnographic study of ads and their impact on people. This paper crosses the disciplinary borders by taking clues from semiotics, rhetoric and literary hermeneutics to arrive at a deeper understanding of marketing communication. It goes beyond the positivistic consumer research of advertising images and messages as persuasive stimuli to a holistic research exposing the value drives and corruptive urges manifest in the ads. It is proposed that increased awareness of the ulterior motives eminent in advertising and other commercial literature through a whole range of humanistic body of research may help us sustain a better life. Against this backdrop, the paper moves forward with the following two research questions.

RQ 1: What are the broad categories of responses to nature found in the advertisements under study?

RQ 2: Can advertising nurture an ecocentric vision?

5. Methods and measures

Sampling

Initially 52 ads were collected from the weekly issues of the magazine Business World, January-August 2008. The ads were selected on the basis of their portrayal of or reference to nature either in the visual or in the text. A pilot study involving a content analysis was carried out using Kluckhohn & Strodtbeck's (1961) value orientation to nature. The three values were subjugation to nature, harmony with nature and domination over nature. The pilot study revealed that the value subjugation to nature is not used in any of the ads. Interestingly, some of the ads were seen promoting a new value, i.e. protection from nature. Six ads representing each of the three values were selected for this paper.

Measure of visual rhetoric

The visual-rhetoric model developed by McQuarrie and Mick (1999) is used for analysing the ads' response to nature. This is quite useful for studying the property of artful deviation and its contribution to the total effect. At first step, the figurative modes of the ads are

studied. Here schemes are distinguished from tropes as two different modes of figuration. Schemes deviate by means of excessive regularity. Tropes deviate by means of an irregular usage. Metaphors, with their literally false but nonetheless illuminating equation of two different things, and puns, with their accidental resemblances, are tropes.

At the second step specific rhetorical operations, which may be simple or complex, serve to construct schemes or tropes. Repetition and reversal are the simple and complex operations that construct schemes (examples are rhyme and antithesis, respectively), while substitution and destabilisation are the simple and complex operations that construct tropes (examples are ellipsis and metaphor, respectively). In the aggregate the four rhetorical operations provide four different opportunities for adding artful deviation to an ad.

The specific visual-rhetorical figures such as visual antithesis, rhyme and metaphor are tapped in the third round. The fourth round unfolds the iconic, indexical and symbolic relation among the key visual elements. The fifth step of the model is the contribution of this paper that reveals the ad's value orientations.

Critical discourse analysis

The textual and the visual features are discussed. The ad-centric views of nature and the nature-centric views of ads are contrasted. The salient dilemmas of our society and the resultant paradox in the ads are deconstructed.

6. Results

Value orientation towards nature in the ads

The ads work against the ecological knowledge and assumes that nature does not exist to cater to human desires and that we are in fact deeply dependent on technology to get the best of life. This view try to induce the fantasy of freedom from nature and control of one's own destiny through certain goods or services backed by science and technology. This constitutes a violation of ecological knowledge about the integrity and interrelation of all parts of the global ecosystem. Table I can be studied as a miniature summary of advertising's value orientation towards nature:

Discussion

One common trait with these ads is that with their all-important mission of promoting goods or services, they reveal a deep, perhaps only semiconscious, ambivalence towards nature. The first two ads analysed above are of B L Kashyap and PPL. The core value promoted in these ads is domination over nature. They endorse that technology will allow mastery over the natural constraints. Arguably they may not be exaggerating it, since technology has often helped us win the best of nature. The portrayal of the modern man, master of technology, is only marginally concerned about the consequent ecological collapse that environmental theorists have established.

The foreground text 'CONFIDENCE AT WORK' and the background visual of mountaineering in the B L Kashyap ad nurture the appeal of work. But an in-depth semiotic reading of the key elements suggests the value of triumph over challenging nature through the use of technology. The sprawling rocky heights in the backdrop of the vast, dim sky in the

Table 1: Visual rhetoric and values in the ads

The Ad	Figurative Mode	Rhetorical Operation	Description of the Rhetorical Figure	Semiotic Relation Among Key Elements	Value Orientation Towards Nature
B L Kashyap Construction Engg.	Scheme	Reversal	Visual Antithesis-contrasts a daring human being trekking the height of mountain with an expert doing the same with proper technical support	Iconic relation contrasts two human beings climbing mountain Indexical relation contrasts spirit of ordinary man with discipline of expert Symbolic relation between technology and winning	Domination over nature
Paradeep Phosphates Limited	Scheme	Repetition	Visual Rhyme-Compares the diving young man with the half-bent wheat spike	Iconic relation between wheat spike and young man Indexical relation between wheat spike and fertility Symbolic relation between the diving man and spirit of higher achievement	Domination over nature
First Flight Couriers	Trope	Destabilisation	Visual Metaphor-Projects smiling lady doctor against the odds of nature	Iconic relation between the stethoscope and the genteel fingers of the doctor Indexical relation projects the smiling doctor against the devastations of the tsunami Symbolic presentation of the doctor emphasising care and concern	Protection from Nature
Crompton Greaves Everyday Solutions	Scheme	Reversal	Visual Antithesis-Contrasts the small burning bulb and the vast glove full of darkness	Iconic relation between the small bulb and the vast globe Indexical relation between the light-giving bulb and darkness around Symbolic relation between burning bulb and human expectations	Protection from Nature

The Ad	Figurative Mode	Rhetorical Operation	Description of the Rhetorical Figure	Semiotic Relation Among Key Elements	Value Orientation Towards Nature
ACC Wind Energy Farm	Scheme	Reversal	Visual Antithesis-Contrasts strong, earthy maroon-colored wall in the foreground with the surge blue sky in the background, in between stand the lively wind fans	Iconic relation contrasts the wall with the sky Indexical relation projects the fans as the link between the earth and the sky Symbolic relation between fans and innovation and sustainability	Harmony with Nature
Brother Printers, Scanners and Faxes	Trope	Destabilisation	Visual Metaphor-endows the printer with ruggedness and solidity of nature	Iconic relation between the printer, the SUV and the journalist Indexical relation between printer and beauty of the wilds Symbolic relation between the printer and the imperishability of nature	Harmony with Nature

visual read with the text "dreams reach...sky" and "a partner to be your wings" propel the twin gospel of our days - "work" and "win". The advertiser ingeniously intertwines the contradictory emotions of fear of nature with the pleasure of adventure.

Coming to the PPL ad, the slogan on the top 'RISE ABOVE THE ORDINARY' is presented with the picture of a young man diving in style over a long spike of wheat. A consumerist reading should certainly strike us with the appeal of rising productivity. But a better-guarded observation would enable us to ask "but how long and how much?" The calming effect will prevail when we start comparing our 'strive' for 'additional income' through 'scientific practices' with the laws of nature. Even here another paradox emerges out of the interplay of the unlimited 'motivation' for higher productivity and the ultimate limits of nature versus the limitations of technology and unlimited wants.

The First Flight Courier and Crompton Greaves ads promote the value of protection from nature. The First Flight Courier ad builds up the brand proposition over the old myth of life and death. It presents a smiling lady doctor occupying almost 50% of the page. At the bottom is narrated the story of a tsunami when 'villages were washed away' and the courier served 'a miracle' by delivering medical supplies 'against all odds'. The visual of the caring lady doctor is juxtaposed with the verbal tale of a malignant nature. The concluding line "we even deliver life" unleashes the tension between an anthropocentric claim of delivering life on the one hand and an ecocentric vision of nature as the ultimate lifegiver. The facade continues to the next stage where the dark pranks of an awfully vast globe beset with a myriad sky are lighted by a blazing electric bulb in the Crompton Greaves ad. In many ways it is a photographic counterpart of the First Flight narrative. The bulb symbolises the brightness of technology and the globe, the enigmatic nature.

By and large, the four ads discussed here, chanting the glories of technology, endow humans with a God-like mastery over nature. The convergent message is that we no longer languish under the limits of nature or the fear of her destruction, and that all our problems will be solved as soon as we buy a particular product being advertised.

The last two ads analysed above promote the value of harmony with nature. To a great extent they seem to have been inspired by the latest drive towards green advertising. They empower the products with the imperishability and delightfulness of nature. The ACC ad positions the sizzling wind fans vertically between the serge blue sky embodying freedom and endlessness with the solid brick wall embodying earthiness and stability. The slogan on the top right sums up the R&D accomplishments of the farm as 'champions in sustainable development'. The narrative on the bottom outlines how the company has moved from thermal power to wind energy generation. The 'vision' of the company is mellowed with the imagery 'a gust of fresh air'. On the whole, the ad is a perfect example of commercial literature emphasising harmony with nature. The Brother International ad positions its printing and faxing gadgets alongside a nature journalist standing against the background of the wilds of nature containing vast grazing fields full of trees and builder beasts. The effort is to associate the products with enduring properties of nature. The brand logic is further strengthened by the descriptive write-up on the bottom projecting the gadgets as 'sturdy, robust and hardworking'.

These ads are replete with images of nature embodying infinitude and freedom. Most apparently, the ads seem to reveal an envy of nature. Nature both represents and withholds freedom. The ads promise that technology grants both freedom from nature and the freedom of nature. They illustrate how the modern men tend to rely on technology to deny the limits that we perceive nature to impose upon us. At the same time, technology is to provide us with the limitlessness - the openness of possibility, the room to manoeuvre - that we perceive as inherent to these wilderness landscapes.

Anthropocentric versus ecocentric reading of the ads

The realisation of the short-term quality of life promised by advertising and its link to the degradation of ecosystems plunges humans into a moral paradox. A view of nature from the lens of advertising and a view of advertising from the lens of nature would further our existential dilemma over the craze for a cute, cozy car at the personal front and the craving for cleaner air and environment at the social front. Table 2 reveals how these ads superimpose the anthropomorphic philosophy over the ecocentric view of nature.

Table 2: Nature from ads' point of view versus ads from nature's point of view

Advertisings	Nature From the Lens of Advertising	Advertising From the Lens of Nature
B L Kashyap Construction Engineering	B L Kashyap as partner to those who passionately 'brave the toughest odds' and whose 'dreams reach for the sky'	Both the rock climber and the toughest odds are parts of nature. In between, B L Kashyap is the unnatural other and the imposter
Paradeep Phosphates Limited	Fertiliser helps extract better productivity	Nature has its own green fertiliser. The difference with human enterprise is ruthlessness only
First Flight Couriers	First Flight Courier works despite the odds of nature. Is as caring as a doctor who delivers life	The doctor delivers life in the lap of nature, which is the greater and the ultimate life
Crompton Greaves Everyday Solutions	Crompton Greaves offers protection from the mazy vastness and sprawling darkness of life	Vastness and darkness are ultimate reality, understood in patches of time and space only
ACC Wind Energy Farm	Wind as the infinite source of green fuel. Wind energy farm is eco-friendly	Nature is always there to sustain all developments
Brother Printers, Scanners and Faxes	Sturdy, robust and hardworking printing machines are like the wilds of nature	Nature is as it is, neither sturdy nor soft, or may be both

Discussion

It is time some critical discussion was made on whether a range of ecocentric thoughts and feelings can be loaded with the brand logic of all products and services being advertised. During the downsizing process of my ad samples I have seen services such as Travels and Hospitality and goods such as Herbal Cosmetics being widely advertised with the green tag. Even an excavator was presented as eco-friendly. The paradox is that travel industry lures the prospective sojourner to the solitary hinterlands of nature and, by default, contaminates its serenity. Soaps and face creams claim to have preserved the purity and superior hygiene of nature, ultimately destroying nature through mass production and release of toxic wastes into it. The absurd and the irony combine in the most shocking drama of advertising, which projects an excavator as friendly to nature.

Nurturing an ecological vision may be possible in a sparse range of advertisements according to the type of product being promoted. But by and large, the institution called advertising as a whole cannot develop a holistic stand to the greater life called nature. The oppositional point of view tabulated above indicates that advertising as the byproduct of our capitalistic-technocratic society is inherently vulnerable and a challenge to all sensible humans seeking redemption from the ghastly deluded life around.

7. Conclusion

The discourse unmade above in two phases may not be sufficient to answer the enormity of the challenge undertaken. It is established that domination over nature, protection from nature and harmony with nature are the three basic values promoted by advertising in its response to nature. Moreover, it is quite difficult to nurture an ecocentric vision within the fabric of a commercial literature catering to the interests of a market-driven community. Even ads proclaiming harmony with nature are self-constrained to foster ecosensitivity, as they try to interlink the oppositional forces of technology and nature. Yet, it may throw some light on a partial resolution of the issue. We, the people of modern days, cannot dream of relinquishing technology nor can we think of living off nature. But somewhere an equation has to be fought out between the warm utopia of technology and the cool arcadia of nature.

8. Contribution

The study contributes to the domain of knowledge in two ways. First, although the mainstream research has been devoted to expand consumerism, the present study is devoted to rouse sensitiveness, with particular response to nature and its ecosystem. Second, it crosses the disciplinary borders by taking clues from semiotics, rhetoric and literary hermeneutics to arrive at a deeper understanding of marketing communication.

Limitations and future direction

Besides space limitations, an analysis of this type is bound to study a limited number of ads. Researchers can do a quantitative content analysis of a large sample of ads to draw a better conclusion on the highly sensitive issue of advertising's response to the ecosystem. An improvised design can be framed merging together the tenets of literary hermeneutics, quantitative survey and qualitative focus group discussion.

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MANAGEMENT CASE**Towards the Strategic Transformation of Gujarat State Road Transport Corporation**Shubhabrata Basu and N. Ravichandran

Abstract

Gujarat State Road Transport Corporation (GSRTC) has been reeling under debt burdens, regulatory obligations and heavy taxation, besides enhanced competition from private operators. The above combination has seriously undermined its financial health. The situation is further aggravated by inconsistencies like inappropriate staffing, economic prosperity of its customers and development of alternative transportation systems. To address the crisis the corporation has initiated a series of measures aimed at enhancing its operational effectiveness and competitiveness. The present case study describes GSRTC's endeavour to strategically transform itself into profitable and sustainable organization.

Introduction

Gujarat State Road Transport Corporation (GSRTC) came into existence on the 1st of May, 1960 as a result of bifurcation and rearrangement of the states, post independence. Over the next five decades, it grew from a modest organization with 7 divisions, 76 depots, 7 divisional workshops and 1767 buses to 16 divisions, 125 depots, 226 bus stations, 1554 pick-up stands and 7750 buses. Consistent with its three tiered administrative structure, GSRTC set up three tier maintenance and repair facility consisting of 126 depot workshops, 16 divisional workshops and a central workshop. Besides, it also installed seven Tyre-Retreading plants, one bus body building plant with a capacity of 1000 bus bodies per year and a ticket printing press.

In 2008-09, GSRTC operated 6522 daily schedules of buses with an average of 6684 vehicles on road per day. The average vehicle utilization stood at 417 km/day with a mileage efficiency of 5.53 km/l of diesel and a fleet utilization of 87.89%. The yearly passenger load is around 875 Million with a total traffic earning of Rs. 13474 Million. GSRTC provides connectivity to approximately 98% of rural Gujarat and also to some important travel destinations in the neighbouring areas. In terms of population, the corporation covers 99% of the state's population.

In contrast to the operational expansion, the financial performance, of GSRTC, however had been less spectacular, with the corporation accumulating losses in its balance sheet for consecutive years. The losses were a result of a combination of factors - both internal

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and external in nature and origin. This necessitated a turnaround initiative in GSRTC towards profitability. As a first step towards the turnaround process, the corporation redefined its vision and mission statement to *evolve as a premier organization providing multifarious services in transportation, communications, logistics, mobility, travel and transport-related manufacturing and maintenance.*

Turning around GSRTC into a profitable and self sustaining organization requires comprehensive efforts of all the stakeholders both from within and outside the firm boundaries. Such an initiative is more challenging in the context of state owned enterprises, given their conflicting objectives arising out of divergent utility perception of key stakeholders. To cite an example, GSRTC is currently facing the challenge of implementing the provisions of the 6th Pay Commission to its employees which is likely to further strain its depleted resource position.

Given the nature of the problem at hand, a detailed case study was initiated to examine a set of inter related issues. The purposes of identifying the issues are enumerated as under:

- (i) To judge the social relevance of GSRTC and build a case for turnaround or otherwise
- (ii) To objectively identify the problem areas and examine the capability of the corporation, standalone, to respond to them
- (iii) To examine the role of the State Government as effected through its policy and financial interventions.

To accomplish this, we formalized the above issues in terms of the following questions:

1. What is the imputed social cost of GSRTC's operations?
2. What policy and other related factor have affected the performance of GSRTC and to what extent?
3. What initiatives have been taken by GSRTC to improve performance related functional parameters?
4. How efficient has GSRTC become operationally with respect to other State Transport Undertakings (STUs) as a consequence of the in-house initiatives?
5. What initiatives should Government take to help GSRTC to continue its role in fulfilling its social obligations?

The case study aims to detail a response to those questions in the subsequent sections and concludes with a frame of reference, which is likely to be generalisable across similar organizations.

GSRTC's Role in the Society and its Imputed Social Cost

GSRTC came into being on the 1st of May, 1960 through the bifurcation of the Bombay State Road Transport Corporation. Over the last five decades, it registered an operational expansion of around 350% in terms of number of buses. It operates 42,016 trips per day of which 38031 trips are ordinary while 3985 trips are express trips. In terms of connectivity, GSRTC directly services 17756 or equal to 98%² of the total number of villages in the state. Its services reach within 3 kms w.r.t. 359 villages, between 3 to 5 kms w.r.t. 134 villages and exceeding 5 km w.r.t. 159 villages. On an average it operates 28 lakh km and a passenger load of 24 lakhs a day reaching to 99% of the state's population.

The Corporation directly employs about 41,000 people (of all categories) most of whom are in the permanent role and draws salary which are inflation adjusted. The corporation, being a state undertaking, has an obligation to conform to all statutory and legislative requirements.

Connectivity Cost

GSRTC commutes about 24 lakh passengers a day who consider the corporation as their preferred transportation service provider. Total absence of service or truncated service especially in remote areas is likely to create severe problems for citizens of the state. And the problems are not limited to commuting only. Passengers, from remote areas, use the bus service to obtain their weekly provisions as well as visit market places for retail trading of agro-based products. For those commuters, the service of the corporation is a veritable life line ensured, under universal service obligation, by the state. This is an implicit cost borne by the corporation on behalf of the State Government.

Social Responsibility Cost

As the State Transportation Undertaking, GSRTC fulfils its obligation towards the less privileged and financially weaker sections of the population. In absolute terms, in the year 2008-09, GSRTC had issued 6.85 Lakhs of Student Concession Passes along with 2.17 lakhs of passes for Physically Challenged and around 44525 passes for Cancer Patients. The extent of concession extended by the corporation and its financial implication in terms of a base fare of Rs. 10/- per trip for 22 working days per month is given in Table T1. Therefore per month, the Opportunity Cost of GSRTC is around Rs. 36.37 Crores which on a yearly basis adds up to Rs. 436.47 Crores.

Direct Tax Contribution

In terms of direct contribution to the exchequer, the corporation remits to the Government an amount equal to Rs. 332.13 Crores over a traffic earning of Rs. 1347.35 Crores (2008-09). This is equal to 24.65% of gross traffic earnings by the corporation.

To summarize, GSRTC remits the following annual contributions under following categories:

- (i) Direct Remittance = Rs. 332 Crores
- (ii) Through Cross Subsidy in form of concessions = Rs. 436 Crores

2 Information generated and provided by the officials of the Corporation

Thus on a year to year basis, GSRTC directly contributes a minimum of Rs. 768 Crores to the exchequer. Therefore as a subject of study, the Corporation merits investigation for turnaround and business transformation initiatives.

Impact of Policy and Related factors on GSRTC's Performance

Post economic liberalization, in order to mitigate Government failures in key infrastructural areas (due to resource constraints leading to stunted PSU expansion), the Government allowed participation of private equity in infrastructural areas. Such decisions with respect to GSRTC lead to a range of consequences, impacting its performance.

Disruption of Intra - Organizational Cross Subsidy

State Transport Undertakings (STUs) like GSRTC manage and maintain a delicate balance in their route operations. In this operation, proceeds from profits made in one route are used to subsidize operations in non-remunerative segments. This is part of the Universal Service Obligations (USO) of STUs. However, this delicate balance gets disrupted if competition is introduced in profit making segments to the exclusion of loss making ones. **Table T2** provides the types and percentage of profitable routes and therefore renders a flavour of internal cross subsidy within the Corporation. Operationally, only 30% of GSRTC's trips break-even while, 27% of the aggregate trips do not recover even the basic variable costs like diesel. These routes therefore need to be either cross-subsidized or closed. Closure of 27% of the routes, that does not cover diesel cost, would lead to a pro-rata savings (towards fuel cost only) of around Rs. 189 Crores. This is sufficient to clear the deficit from accounts. Route closure however cannot be done under USO norms.

For the remaining 43%, improving operational effectiveness can be an option. Introduction of competition into the earning segments (21% of trips) shall pull down the means of cross subsidization thereby making the corporation a perennial drain to public exchequer. To cut losses, Government may disinvest or even close down, but there is a need to perform a cost benefit analysis keeping the social angle in view.

Financial Disincentives

The Government of Gujarat levies a passenger tax of 17.5% on passenger income from the corporation as it operates as a stage carrier. The private operators, in contrast, pay a yearly tax of Rs. 90,000 per bus as, in theory, they operate as contract operators. In practice however, they operate as stage carriers. Consequently the corporation is exposed to uneven and illegal competition. In 2008, a rough estimate by GSRTC shows that around 1,35,014 jeeps, 15,878 Maxi Cabs and 16,012 Omni Buses operated as stage carriages under casual contract permits. Adding to this uneven competition, on an average, each private express bus pays an aggregate tax of Rs. 1.84 lakhs while GSRTC pays Rs. 4.99 lakhs as tax per bus.

Another financial disincentive for GSRTC is the Motor Vehicle (MV) and Toll Tax which the Corporation is paying to the Government. In reality, this is a book adjustment between the books of account of two Government departments which however leaves the accounts of GSRTC unhealthy. A detailed analysis of the effects of 17.5% passenger tax on the financial

health of GSRTC is provided in Table T3. The information is provided by the management of the Corporation replete with future projections over a 5 years planning horizon. An average increase of around 5.5% is considered which is consistent with medium term inflation rate.

It is evident that, *ceteris paribus*, GSRTC under the present taxation policy shall remain a loss making organization at least till 2011 - 2012. This apart, GSRTC, under obligation of a public utility service, cannot charge the customers, a floating or dynamic rate for tickets depending on demand and supply conditions in the market. Therefore the price of the ticket is independent of the cost of service provided by the corporation. Consequently the profit maximization is related to operational efficiency at constant revenue level.

Procurement Norms

GSRTC has to adhere to strict norms in terms of tender, bidding and procurement coupled with fiscal discipline as it is accountable to public authorities. Public accountability requires acceptance of lowest bid/quotation which leads to delays in procurement. This in turn leads to usage of older fuel inefficient buses with high maintenance cost. Table T4 provides a synopsis of the fleet position of GSRTC.

The table shows that over a base of 2000-01, the corporation has undergone a reduction in fleet strength of 24% (2008-09). The average number of buses discarded annually over this period is around 1017 buses while the average rate of procurement from 2004-05 to 2008-09 is around 940 buses. But the trend leading to depletion is steadily getting reversed with renewed procurement of buses. However, it may be noted that the trend of procurement is steadily getting skewed towards procurement of CNG buses. The procurement trend is presented in Chart C1.

Environmental Norms on CNG Bus Procurement

From C1, it is evident that GSRTC is procuring more of CNG buses, in terms of percentage increase, than diesel buses. This is done under obligation to comply with Government norms which, in turn is an effort to comply to UN mandate. The larger UN mandate to free the environment from Green House and NO_x gases have invoked the Government (both at the Centre and at the States) to stress on CNG Buses. The underlying assumption is that, CNG being a lighter fraction is less polluting besides having lower running cost. This perspective, at best, reflects partial truth. Being a light fuel, CNG consumption, for the same power output, should also be more. This implies that to maintain same level of output, the mechanical work done must be more compared to diesel engines which lead to higher wear and tear and consequently higher depreciation cost. Secondly, to maintain the same energy output, more air is needed resulting in higher generation of NO_x gases per cycle. Leaving aside the environmental issues, a pure cost benefit analysis presented in Table T5 shows a comparative statement of total cost incurred by the corporation in running CNG vis-à-vis diesel buses.

Therefore while the relative running cost for CNG buses is lower by Rs. 4,72,707.00 in absolute terms (or Re. 0.59/km, over 800,000 km running life of the buses) overall the Diesel buses have a cost advantage of Rs. 2.23/km which is 3.77 times (377%) more economic than CNG buses. Adherence to Government's environmental norms has forced the corporation to procure around 1450 CNG buses with a net cost disadvantage of Rs.

17,79,542.00 per bus over an average life cycle of 8,00,000 km compared to diesel buses. At the aggregate level, the extra expenditure is around Rs. 258 crores (without considering the discounting rates).

Directive on Sizing of Manpower

Notwithstanding the regular severance of personnel from the payroll on account of superannuation and some attrition, the corporation has not been able to recruit people in areas that are critical for its operations. This is on account of Government directive on fresh recruitment in loss making public sectors. While this action by the Government has economic rationale, the corporation is suffering due to man power depletion in critical areas of operation. Table T6 shows the Manpower deployment in functional areas factoring in natural attrition.

Table T6 also indicates that at the current level of fleet usage (6684 running buses) the Corporation will not be in a position to run two shifts (number of drivers = 10807). Given that under the present taxation system, GSRTC shall remain a non profitable organization till 2012 (vide Table T3).

Given this situation, the Government may consider, progressively reducing the scale and scope of operation of GSRTC, thereby just maintaining the balance of between the fleet and staff strength. But this option has to factor in the social cost that is imputed within GSRTC's mandate and which has a direct bearing on the Universal Service Obligation norm.

The aforementioned regulatory impediments either directly affect the operational effectiveness of the corporation or act in conjunction with other factors to act against the corporation. Thus regulatory impediments remain an important factor of consideration with respect to the revival plan of GSRTC.

Effects of Economic Prosperity of Customer Segment

GSRTC exists for the commuters who are its customers. Therefore, investigating the customer behaviour, their evolving aspirations and preferences and maintaining a fit between the two, constitutes the primary function of the corporation. GSRTC had been in the business of rural connectivity and limited urban commuting. Rural commuters can be divided under two categories based on the distance travelled (i) Short distance commuting and (ii) Long distance commuting. Based on convenience and economical considerations, passengers typically prefer bus for short distance travel and train/aeroplane for long distance travel (more than 200 - 250 KM). This is based on the following considerations by the Commuters:

1. Number of Transactions involved during the travel
2. Availability and accessibility of vehicular transport from origin and destination point
3. Time of travel (i.e. journey more than 2 hours is difficult to sustain on a daily basis)
4. Cost of Travel
5. Group size of commuters
6. Comfort during the travel including those during the stoppages

From the passenger's perspective, Road Transportation is an optimized decision based on the above six primary variables. While Number of Transactions, Availability and Accessibility are an advantage, Time and Cost of travel are not. Traditionally, the Railways score higher on these two Variables. The last two variables are complex in nature. While capacity limitations (upper bound considerations) of the transport decide the mode of journey, the minimum acceptable levels of comfort (lower bound consideration) determine the choice of the last variable. To that extent, the fourth and the sixth variables are functions of the economic prosperity of the commuters. The traditional travel preferences of the commuters with respect to the mode of transport (road, rail or air) have started seeing a change due to a variety of reasons. Three predominant factors, in this regard, are enumerated below:

Economic Prosperity of the Passengers: The following issues are likely to affect the revenue of GSRTC through lower load factor:

1. A substantial number of erstwhile passengers have bought their own two or four wheelers
2. Passengers are short on time of travel
3. Passengers are stressing on quality and reliability of services

Commoditization of travel exclusivity: The commoditization of travel exclusivity means the following factors:

1. The cost of four wheeler vehicles have come down and low cost cars have almost become a commodity
2. Two wheelers are available on demand due to de-licensing of quotas
3. Air travel has become more affordable and hence popular due to decoupling of price structure

Therefore the passengers of today have a larger choice set available before him and he/she is no longer dependent on any particular mode of transport.

Gradual development of alternative transport infrastructure including airports: With the gradual emergence of India as a developed economy, factored by the ready or near emerging availability of supporting infrastructure, Indians in general and the traveller in particular has multiple options to choose from. The gradual removal of disparity in the cost of travelling can also be attributed to this phenomenon.

Therefore with respect to competition, new sets of rules have emerged. The traditional advantages to road transport as a whole are not fully applicable now. One can park his car or bike (for a small fee) at the airport or station and avail a faster mode of transport. Alternatively, due to the focus of the Government on development of Highway Infrastructure, cars are a better option, given the economic prosperity involved. Last but not least, the increased congestion of the city roads due to higher traffic volumes and limited development of arterial networks have slowed down the average speed of the bus as a whole. The commuters as well as the likes of the Corporation are the losers. This is likely to negatively

impact the revenues of the Road Transport Corporation, if preventive steps are not urgent taken.

The brighter side of this problem is that the corporation can concentrate in its operations in the rural areas and in the express trips. By increasing the customer focus in these sectors and by providing superior services, GSRTC may be able to create a dedicated customer base in the rural sector. This is also in line with the USO norms. However, the constraints in this approach lies with the low passenger density at the rural areas that may not justify the frequency. Also daily commutation from rural to urban areas is a function of the existence of gainful employment opportunities in urban areas over the opportunity costs in the rural areas.

Absence of a Clear Public Transport Policy Regarding GSRTC's Role

The aforementioned impediments to the operational aspect of GSRTC can be attributed partly to the absence of a clear public transport policy - that will define the role and functioning of the corporation, under the changed economic conditions. This is particularly true, given the ownership of the corporation, which lies with the Government. A clearly defined public policy, with respect to the motorized public transport which is the State's prerogative, shall provide a much needed direction for the management of the corporation.

That the Corporation had played a vital role during the formative years of the state can be gauged from Table T-7 which shows the average number of vehicles on road and the ratio of population served per bus on road. Due to paucity of private buses or even personal vehicles, the STU played a vital role in serving this population.

As is evident from Table T4, the number of vehicles (including that on road) have decreased from 2002-03 onwards while the population has increased. This lends support to the assumption of:

- (i) Higher economic prosperity of the population (i.e. more people owning private vehicles) and
- (ii) The emergence of private competitors in the protective turf of the corporation.

Given this changed scenario, it is pertinent for the Government to consider the following options namely;

1. Whether Government, as a matter of policy, should discontinue promoting the corporation (and face the high social cost in its absence as stated previously)
2. Follow a piecemeal and adhoc policy with respect to the Corporation and in the process incubating the private enterprises to fully takeover the role of the Corporation
3. Recognize the importance of Government intervention in the public transport sector and come up with a coherent public policy, clearly defining the role of GSRTC

GSRTC's Structural Initiatives towards Performance Improvements

Faced with impediments from the regulators, external competitors as well as internal inconsistencies, GSRTC responded through a series of restructuring exercises aimed at revamping the administrative and operational aspects. Some of the initiatives (both planned and implemented) are described in the sub-sections that follow.

Administrative Restructuring

GSRTC has initiated an organization wide restructuring process to reduce overhead costs and increase the productivity efficiency of allocated resources. In this regard, the corporation has primarily initiated three steps namely, (i) Merger of low performing depots and divisions, (ii) Development of infrastructure through PPP Route and the collection of attended premium income and (iii) Conversion of cost centres to profit centres, which are briefly described below.

Merger of Divisions and Depots: GSRTC has planned to merge the less efficient divisions and depots thereby bring down the cost of operation. The proposed plan of merger is presented in Table T8. The corporation envisages the following benefits with respect to the proposed merger plans:

- Reduced cost of overheads leading to more productive allocation of capital and human resources
- Free up the real estate assets for more productive usages like setting up satellite bus stations, parking spaces for land crunched cities, go-downs, budget hotels and parcel services
- Reduction of idle manpower and reallocating them in needed areas after necessary training.

In terms of financial measures, the proposed merger plan would lead to a one time savings of Rs. 84 lakhs towards administrative expenses and freeing up real estate to the tune of 3,61,376 sq.m worth Rs. 148.57 Crores (at present value). The same can be sold upfront or developed through the PPP route to ensure continued stream of revenue for the corporation.

Infrastructure Building through PPP Route: GSRTC has taken the initiative of bringing in Private Sector Participants (PSP) to develop lands owned by the corporation into Bus Terminals. A total of 51 such terminals are contemplated across Gujarat under the Built - Transfer - Lease (BTL) mode. 17 terminals are already modernized across Gujarat. This mode of development termed Value Captured through Linkages enable the corporation to harness economies of scope (like commercial centres built adjacent to Terminals) without capital investment. This initiative is likely to provide the passengers with much needed comfort. Besides the corporation has also earned a premium income of Rs. 38.4 Crores (2009-10) through infrastructure developed through PPP projects.

Conversion of Cost Centre to Profit Centre: Typically maintenance departments like workshops are cost centres for the corporation. Plans are afloat to convert them to profit centres through reduction of existing cost structure and enhancement of handling capacities. This is contemplated along two routes namely:

- Outsourcing basic operations like hiring buses with drivers so that related expenses like maintenance are default outsourced to the existing maintenance relations and linkages of the hired buses.
- Contracting out existing facilities to third party transporters like private operators. This will enhance the usage of the existing facilities. The income from the same would add to the marginal revenue from the workshop division given that fixed costs like salary are incurred irrespective of fluctuations in quantum of work.

The decision of the corporation towards converting the cost centres to profit centre is partly based upon its expectations with respect to the Draft Bus Body Code of Government of India. This code, if implemented properly, shall enforce stringent construction norms which only resourceful organizations like GSRTC can comply with. Under that scenario, GSRTC can leverage its existing infrastructure like the central workshop to construct buses and other vehicle bodies for other Government Departments like Police, STUs of other states and even the buses for private sector.

Also, divisional workshops of the corporation can be used for repair works of both the corporation and the private sectors. The corporation has plans to engage workers on contractual basis to reduce the overhead cost and other permanent financial liabilities.

Manpower Right Sizing

As a public sector organization, manpower rightsizing has always remained a sensitive issue. The corporation had faced non-cooperation from the existing Trade Unions in the past. Manpower rightsizing with respect to GSRTC involves not only rationalizing existing jobs to bring the head count to bus ratio at par with private and the best performing STU, but also to enhance the skill sets of the employees for future usage. Man power planning of the Corporation has to be carried out with tact and due diligence to balance opposing standards. Currently, the head count per bus is 6.2 as opposed 5 heads per bus for private operators. However, against its owned sanctioned strength of 54,663 employees, the corporation is employing 41,374 heads (31.03.2009). This contradiction can be explained, interalia, due to high manpower in non revenue generating areas and vice versa.

Job Role Rationalization: To overcome the job role discrepancy and to circumvent the policy on manpower freeze, the corporation has proposed a new incentive scheme for drivers in conductor-less buses. This initiative focused more on the relative importance of the drivers over conductors and stressed on multi-skilling without affecting the specific competencies. However opposition by a section of the employees abnegated this initiative. Consequently, the corporation took a new initiative to create a new cadre at fixed salary of Rs. 3,500/- and aimed at bridging the driver shortage. This initiative is likely to reduce the yearly wage bill of the corporation to an amount of around Rs. 85 Crores (including bonus and PF contributions) for sanctioned driver strength of 16289 heads. The installation

of Electronic Ticketing Machines (ETMs) shall further reduce the need of conductors, especially in the long distance routes. This initiative, however, is yet to begin. The corporation is clearly looking into deemphasizing non core areas like administration, traffic and conductors which can be substituted optimally through automated systems. This in turn will lead to reduction in overheads as well as pilferages.

Enhancing Staff Skill Sets: GSRTC has undertaken a whole range of activities towards organizational restructuring and turnaround. The corporation has implemented the e-Governance system including "conductor Way Bill Accounting System" in all the 125 depots, Advance booking and Reservation system at district H.Q., deployment of 7700 electronic ticketing machine on all the schedules etc. Besides these, the corporation has also introduced the Stores-Inventory-Management System and in the process of introducing GPS/GIS base online bus tracking system for luxury buses as well as online ticket booking and time table updates. At the lower end, the drivers are to be trained to handle the passengers without the conductors.

The aforementioned activities entail preparing the existing employees to enhance their existing skill sets. The type of skills to be imparted shall vary from basic operating and accounting skills to be imparted to the operating staffs to technical skills to be imparted to the mechanics and leading all the way to managerial skills and perspectives to be imparted to officers and senior admin staffs. The skill enhancement has to be carried out across the organizational hierarchy so that (i) knowledge gets disseminated throughout the organization and (ii) no one is left out of the necessity and privilege of the training process.

The purpose of the training is to enable the employees and specially the officers to appreciate the problems at hand and buffer themselves against present and future challenges. Another important need for skill imparting is to redeploy the personnel who may be rendered redundant due to implementation of e-Governance and automated ticketing and who need not be severed from the corporation due to certain criteria like age, compensation etc. The alternative is to fully outsource the activities which will lead to loss of control and opposition from trade unions. As of now, the corporation has plans to impart necessary skills and training to 5000 crews and technical staffs as part of its capacity building exercise.

Towards Financial Restructuring

GSRTC, for the FY 2008-09 has incurred a loss of Rs. 85.59 Crores (Table T3) and the loss, *ceteris paribus*, shall continue in its balance sheet for another two years. Over and above this loss, the corporation is likely to incur an additional annual burden of Rs. 250 crores with effect from 01.01.2011 on account of 6th Pay Commission revisions. There would also be an arrear payment estimated at Rs. 600 Crores. While the Government values the services provided by the corporation and assists it by way of subsidies and reimbursements, it cannot continue subsidizing an ailing corporation on a year on year basis. The Corporation, on its part, has embarked on certain financial restructuring measures, with others on the anvil, to tide over the crisis. The same are described below.

Augmentation of Non Traffic Income: GSRTC has adopted a multi pronged strategy to augment non traffic income as complementary sources of revenue generation. The elements of this strategy are outlined here.

- **Creation of Additional Cargo Handling Capacity:** GSRTC has planned to create additional cargo handling capacity in its buses. While all the new buses shall have this new feature, the existing buses shall have the option of undergoing refit to augment their cargo carrying capacity. As per the present design, the new GSRTC buses shall have 1.5 cubic metre of space in the left side of the bus and 4.5 cubic metre of space in the rear side. The corporation has plans to auction out the space to third parties where in the third parties shall use them to carry parcels and other merchandise. In terms of financial numbers, a conservative estimate of Re. 1/Km/day shall provide the corporation as additional income of Rs. 7.8 lakhs per day or Rs. 28.47 Crores per year. This is under the assumption that 6.0 cubic meter of space shall translate to 1000 kg (1 ton) and the fleet size of corporation is 1880.
- **Revenue through Advertisement:** The bus bodies act as mobile boards/hoardings for advertisements. The corporation on this account has earned Rs. 4.89 Crores in 2008-09.
- **Sale of Scraps:** With the setting up of the e-governance system, the corporation has implemented the "Inventory Management System" at the Central and all the Divisional Stores. While E-tendering process is in progress, the corporation is into reverse auctioning for sale of scraps which has lead to better price realization.
- **Market Survey of Rural Areas:** Another novel source of revenue generation planned by the corporation is by enabling market survey firms to use the corporation's resources and provide rent in return. On an average, GSRTC buses carry 25 lakhs of passengers per day out of which about 10 lakhs are regular commuters and students. The remaining 15 lakhs are casual passengers. This implies that the corporation physically contacts a group of dedicated or specialized population and another group drawn randomly from the population. This is a rich source of segregated survey data. The corporation plans to (i) provide Market Research agencies the usage of transportation and infrastructure facilities in rural areas, (ii) allow the agents of insurance, mobile and other allied services to sell their products and services directly or the commuters and (iii) if needed, deploy the corporation's employees to sell the services or administer the questionnaire on behalf of external agencies with a fees.

Augmenting Traffic Income: GSRTC has taken steps to increase the traffic revenue and simultaneously cut costs. Some of the measures taken by it are enumerated below:

- **Introduction of incentive schemes:** The Corporation has introduced incentive schemes linked with increased revenue earning and consequent profit sharing. This has lead to marginal increase in revenue earnings.
- **Introduction of Value Added Services:** The Corporation has introduced Sleeper and Air conditioned Volvo buses which are deemed value added in terms of comfort and are charged accordingly. Besides, with e-governance in place, the corporation is also providing SMS based time table which in itself is a value added service.

- **Cost Reduction Measures:** Besides direct attempt to increase the revenue, the corporation has also taken a host of measures to save cost, a few of which have already been said. GSRTC has set up 7700 numbers of Electronic Ticketing Machines which are likely to reduce the cost incurred in employing the conductors. Establishment of electronic system has also enabled the corporation in cutting cost through reverse auctions.

Conversion of Loan to Equity: Another initiative thought through by GSRTC is related to restructuring and converting its existing debt portfolio into promoter equity. During the process of corporatization of Department of Telecom Services (DTS) into BSNL, the Central Government extended loans to the organization which was later converted to promoter equity. Such instances abound with Government of Maharashtra which has recently undertaken similar activities with respect to its STU. The financial benefits to the Government of Gujarat are likely to be more and over an extended period of time through the dividend route rather than interests on debts - which is finite. This is under the assumption that corporation is profitable or becomes profitable as a consequence of the waiver.

Operational Restructuring Measures

GSRTC has envisaged an ambitious plan to augment its operational efficiency by 25% over the next five years. This is to be achieved by a combination of activities which include:

- Induction of diesel buses and phasing out of older and less fuel efficient ones
- Increasing the crew utilization through role rationalization and fixed salary cadre
- Running more scheduled trips and implementing a route rationalization exercise
- Catering to the organic growth in the number of students. The student population is increasing at the rate of 10% p.a. and to address that segment only, the corporation needs 300 new buses annually (equivalent to 1200 trips) dedicated to this population.

The projected outcome of the operational restructuring measures, as planned by GSRTC, is presented in Table T9. It is evident from the table that the corporation envisages an expansion of over 20% (in the next 5 years) in terms of schedules, vehicle numbers and aggregate effective km.

Apart from organic growth in terms of number of buses, GSRTC is also contemplating on reducing cost of operation and beating competition by converting competitors into collaborators. The set of measures taken by the corporation are enumerated below.

Route Auction: One of the primary causes of concern for the corporation is unfair competition from private contract carriages which operate, in practice, as stage coaches - but evades taxes. To address this problem, improvements in efficiency parameters alone will not suffice and the same has to be tackled at the regulatory level.

A strong vigilance aimed at mitigating this problem can be a way out - but requires dedicated resource which is wanting. Therefore converting an illegal operation into legal activity can be another way out. The corporation is contemplating on auctioning out some of its routes,

both lucrative and non lucrative, to private operators with the caveat that the operators shall indicate the number of buses that they are plying and any deviation from the set norms shall attract penal provisions as framed under the auction contract. This measure, it is envisaged, shall have the following advantages:

- It shall generate royalties which can be shared by the corporation and the Government
- It shall reduce the burden on the corporation in terms of operating in less lucrative routes. Here the assumption is that the private entrepreneurial spirit shall identify ways and means of generating revenue even from apparent non-lucrative segments.
- It shall introduce a new set of vigilant eyes - that of the private operators in preventing illegal operations. It is assumed that convergence of interest between the corporation and the legalized private operators shall prevent illegal operations in the auctioned segments.

Route Rationalization: A Trip Wise Analysis of the corporation (Table 2) reveals that over 50% of the Ordinary Trips, of GSRTC, do not cover the operational cost while the same for Express Trips stand at 9%. On the other hand in terms of profits, the Ordinary Trips make only 18% profits while 50% of the Express Trips contribute positively. Therefore it makes eminent sense to rationalize the Ordinary Trips in favour of the Express Trips with an emphasis on Profit Making routes.

This is also consistent with the gradual evolution of the surface transport segment. Ordinary Trips within the three cities where GSRTC operates will continue to witness decline in numbers of bus passengers with increasing prosperity of the commuters. However, the relative inequality in prosperity in the rural and semi-urban areas affords the corporation a way to address their transportation needs through bus service. This is also consistent with the Government's developmental policies to which the corporation stands as a guarantor and receives subsidies for the same.

Another emerging avenue for the corporation is to stress upon inter-state services which has come into being following the activities of National Highway Authority of India in developing and widening the road network. In this segment, the corporation can soon emerge as a viable competitor of the Indian Railways in making long distance travels in reasonable time.

Facility Improvements: GSRTC has undertaken a number of measures at developing and creating new infrastructures including the following:

- New Bus Terminals - GSRTC has made 22 new bus terminals at a cost of Rs. 15.32 Crores along with 39 pickup stands from the local area development funds of the MPs & MLAs
- Upgradation of Stations and Terminals - GSRTC has also upgraded the Gandhinagar Bus Station at a cost of Rs. 2.85 Crores and has also built satellite bus terminals at Krishnanagar, Udhana and Nizampura at an aggregate cost of Rs. 3.00 Crores. Besides macro construction activities, the corporation has set up a whole range of facilities

like pay and use sanitary blocks, waterproofing of bus stations and side wall dado in the bus stations, upgradation of toilet blocks and water rooms, protecting the bus stations with compound walls and powder coating sitting benches, upgrading signages and timetable boards, colouring and rewiring in the stations. Another improvement with respect to the passengers is the revamping of the public address systems, public information centres and public entertainment system at the bus stations. Advertisement revenues will also be generated from the public entertainment systems. The pilot is started at Ahmedabad and shall be extended to district headquarters.

- e-Governance initiatives - GSRTC has extensively employed e-governance to set up 7700 electronic ticketing machines, SMS based time tables, online time table for Express buses, biometric attendance system, core banking systems and e-tendering. It is in the process of implementing online passenger reservation system which will enable it to further restructure its manpower requirements.
- Other operational improvements: the corporation has plans to launch 1000 buses for the tribal areas which are branded as Vanbandhu Buses. GSRTC is in the process of obtaining ISO certification for 6 remaining divisions along with rolling out of Integrated Depot Management System in 25 depots and RFID/Smart card based passes to one lakh of its regular commuters.

Customer Services: Over the years, GSRTC has build up 229 bus stations, 1554 pickup stands, 221 refreshment rooms and 621 drinking water facilities. It has 705 canteens and stalls besides 48 cloak rooms and 293 parcel booking points. It has also set up 72 Sulabh/ Nasa Lavatories. GSRTC essentially operates in the model of a mini Indian Railways so far as commuter convenience is concerned.

Faced with competition and as part of its restructuring process, the corporation has extended several facilities to its regular and special commuters. These facilities mainly centre round providing fare concessions and attendance facilities. The same are enumerated below:

- GSRTC is currently providing 82.5% concession to students and 100% concession to village girl students
- 50% concession to daily travelling passengers
- 100% concession to visually impaired persons and patients suffering from cancer along with one assistant in each case
- 100% concession to eye donors, physically disabled, press and TV reporters (with unlimited travelling within Gujarat) and freedom fighters and their widows.

Besides concessions, the corporation is providing other value added services like Express Time table in website and SMS and mobile phone services in express routes and coin operated phone in ordinary routes. It is also providing special concessions like Monthly Pass, Return Advance booking, group booking and weekly pass. GSRTC has also enhancing the free passenger luggage limits from 15 kg to 25 kg and raised the free travel age of children from 3 years to 5 years. It is also providing local bus fare on express routes up to a limit of 30 kms.

These activities of the corporation may appear redundant expenses especially for a company which is posting losses in its balance sheets. However when viewed from the perspective of social responsibility of a state corporation that is obtaining Government subsidies, the actions make ample sense. Also in this process, the corporation is creating social awareness about itself and seeding the future citizens about its utility in the socio-economic framework. Finally, in terms of psychological impact, costs incurred in good citizenship behaviour have a greater impact than similar costs being incurred through other means like advertisements in electronic media.

Information Technology based Initiatives by GSRTC

The Corporation has extensively implemented e-Governance and has chalked out a road map till 2011-12. The primary purpose of implementing the e-Governance system is to enhance operational effectiveness and administrative control through seamless information flow and real time data transmission. The various initiatives taken by the corporation are stated below:

Integrated Depot Management System: GSRTC has plans to roll out Integrated Data Management System (IDMS) in all of its 126 depots. Currently the pilot testing is carried out at Ahmedabad with roll out at 25 depots. Within the next two years another 50 depots each will be brought under this system. The total project costs Rs. 100 Lakhs and the benefits include paper less working, non duplication of work, automatic maintenance of reports and records and accessibility of MIS from any place and at any time as the system is web based.

MPLS-VPN Connectivity: This is rolled out at 150 locations over a period of 2 years at Rs. 1.5 Crores. Allied to this initiative is the Online Passenger Reservation System at the 125 bus stations as well as through internet and booking agents. The cost of this initiative is Rs. 100 lakhs. It is under implementation and result in benefit of passengers who can buy tickets for any two destinations from Bus Counters, Agents or online. For GSRTC this implies instant revenue and less scope of on board pilferages.

RFID/Smart Card Pass: Currently the corporation has issued 1 lakh cards to daily commuters from 35 depots at the cost of Rs. 100 lakhs. Over the next two years 3 lakh daily commuters and students from all the depots will be covered at an aggregate expenditure of Rs. 7 Crores. These cards have multiple usage including permanent data storage and efficient data generation, easy renewal, prevention of misuse of passes and conversion of the same to Cash Cards at GSRTC buses for the purpose of travelling. This effort is likely to retain the commuters for an extended period of time.

Personal Management System: This is to be implemented in Central Office and all divisional offices at an estimated cost of Rs. 50 Lakhs. This centralizes the personal data of the information and shall minimize transaction costs and eliminate duplication of efforts. All administrative activities would be available to the authorized personnel at any point of time thereby minimizing reporting errors.

Automated Driver Testing Systems: This facility is to be set up at Chandola, Ahmedabad at a cost of Rs. 50 Lakhs. This shall enhance transparency in driver recruitment process, minimize human interferences and shall generate revenue through contracting out the facility

to RTO and other driver training centres. The operating cost for the corporation shall be covered by test fees.

Online Fleet Management and Public Information System (PIS): The pilot is tested out at 100 buses and at 5 PIS for an expenditure of Rs. 15 Lakhs. Over a period of 2 years about 2000 long distance buses shall have the Online Fleet management systems along with PIS at 100 major stations. The total cost incurred is Rs. 4.65 Crores. This is the single most important system which shall effectively and efficiently replace the traffic checkers. This system shall allow online tracking and speed monitoring of the buses, driving habits of the drivers, immediate reliefs in case of breakdowns, monitoring of unauthorized halts and route diversions, details of expected time of arrival and automated announcements at the stations. This shall imitate the tracking system of aeroplanes for GSRTC buses.

Online Vigilance and Surveillance Systems at bus stations and workshops: This is planned for 60 major bus stations, 5 workshops, 16 divisional workshops and 125 depot workshops. The aggregate cost is Rs. 4.95 Crores. This is complementary to Fleet management system for bus stations and workshops. Besides employee surveillance, this shall help in mitigating social crimes like pickpockets, touts and other unsocial activities in bus stations. This shall also increase the efficiency at the workshop.

GSRTC is in the process of extensively using the IT & ITeS infrastructure to turn around and face competition. Its strategic investments in ITeS initiatives is likely to translate into manifold benefits and sustained sources of income, cost savings and means to improve efficiency and effectiveness.

Initiatives towards fair bargaining with Government

GSRTC is dependent on Government subsidies to offset the costs incurred under USO norms. On an average the subsidy comes to around Rs. 361 Crores which however is often irregular and prone to book adjustments against other accounts payable. GSRTC is planning an initiative of linking this subsidy to its performance efficiencies with penal clauses built in for slippages in case of missed targets.

To elaborate, GSRTC plans to propose a 200% penalty for 1% (or equivalent) slippage on any of the parameters that defines its operational efficiencies. The purpose is to ensure that the corporation does not become complacent on receipt of public money and that Govt's continued assistance is subject to continued improvements (in the subsequent parameters) initiated by GSRTC. The parameters identified by the corporation includes fuel efficiency (in kmpl), vehicle productivity (in km per bus per day or kmbd), crew productivity (in kmbd), bus breakdown rate (in absolute numbers per 10,000 km travelled by the bus), fleet utilization as percentage of total number of buses and non tariff income which is a financial measure of alternative scopes of income generated by the corporation. The proposed operational efficiency parameters and related penalties of GSRTC are presented in Table T10.

GSRTC's initiatives are aimed at providing the Government a clear direction and an objectively defined set of criteria to assess its performance and then provide subsidies. It also affords an opportunity to compare the performance of the corporation against the best in the

industry, in the context of the STUs. It is important to compare amongst same category as the constraints present within the same category are likely to be same.

Relative Efficiency Measure of GSRTC vis-a-vis other STUs

The results of the in-house initiatives undertaken by GSRTC become apparent when compared against the better performing peer STUs. The comparison is shown in Table T11. It is evident that in terms of efficiency parameters like Fleet Utilization, GSRTC is behind all the other STUs which may be due to higher percentage of overaged buses (therefore liable to breakdowns) and higher average age of the buses. The same reason can also explain the higher cost of operation - given that older buses are less fuel efficient and are prone to higher maintenance cost.

Similarly, in terms of PAT the loss can be partly attributed to higher Passenger Tax on GSRTC. Support to this can be found with respect to Rajasthan STU which is also incurring loss due to higher tax incidences. A quick comparison of the state wise Passenger Tax (PT) reveals that Tamil Nadu has 0% PT while Karnataka and Andhra Pradesh has 7% and 7.5% PT while both Rajasthan and Maharashtra has 12% PT. Gujarat has the highest PT, pegged at 17.5% and which partly explains a positive PBT and a negative PAT for the corporation.

However, given these shortcomings, GSRTC has shown candour in its fuel consumption efficiency where it scores the highest amongst its peers. Also, in terms of staff efficiency, given the skewed nature of its staffs, it occupies exactly the middle position with respect to its peers. The staff efficiency is likely to increase with the conscious effort to remove the skewness and bring in multi-roles like driver cum conductors.

At the aggregate level, in spite of incurring losses, the corporation is showing signs of recovery and transformation, provided the Government, as the sole promoter of the firm, contributes towards that initiative.

Proposed Government Assistance and Initiatives

The principal impediments for a successful turnaround of GSRTC are four fold namely: the regulatory impediments, the aggregate economic prosperity of the existing commuters, the unfair competition from private operators and its own internal dissonances. The same is represented in Figure F1. GSRTC has taken a number of initiatives (or has planned for the same) to mitigate its internal dissonances and attempt to retain existing and acquire newer commuters. However, it is dependent on the Government to help with respect to regulatory impediments and uneven private competition. Some of the proposed Government initiatives sought by GSRTC are described below.

Equity Divestment of Corporation to Company

Presently GSRTC operates as a departmental endeavour of the Surface Transport Department of Government of Gujarat. It is fully held by the Government and has to comply strictly with the rules and regulations of the department. Its management has limited autonomy and any managerial decision taken by the board of the corporation is subject to bureaucratic approval.

While on the brighter side, decisions are collective and vetted through multiple checks and balances, on the darker side it leads to inordinate delay in responding to dynamic and competitive environment. Even some of the urgent needs of the corporation at the operational level like purchase, recruitment and tariff fixation get delayed by bureaucratic involvement. Table T12(a & b) provides a flavour of the losses incurred by the corporation due to delays in implementing passenger tariffs and non availability of manpower leading to idle/cancelled bus kms.

An alternative to this impasse is through limited divestment of Government's equity holding and registering the corporation as a company under the Company's Act. Limited divestment is likely to bring in market discipline into the corporation and shall enable it to have higher operational autonomy if not full autonomy to formulate strategies and frame policies.

Another advantage of introducing public or institutional share holders (or their representatives) into the board is the importation and cross fertilization of best industry practice into the corporation. Areas of further improvement can possibly be identified and steps initiated to implement them.

Last but not least, equity divestment shall infuse capital into the corporation and at the same time may provide the Government the justification to stop direct subsidies which may not be required if requisite capital infusion takes place post divestment.

Formation of Limited Liability (Subsidiary) Company

GSRTC is a state corporation, instituted by the State Government, with limited transactional power and fully dependent upon the policies of the Government. This creates operational level inflexibilities for the corporation even in terms of competitive responses. One way to overcome this impediment is to create a Limited Liability Company (LLC) as a subsidiary to the corporation, which shall be registered under section 617 of the Companies Act, 1956, thereby giving the Government (through GSRTC) majority stakes in the LLC. However, there has to be substantial public holding to bring in corporate governance culture.

This subsidiary LLC shall be vested with responsibilities of entering and managing risky businesses which had traditionally not been part of GSRTC's core competencies. Thus the LLC shall manage the following:

- Creation and administration of the PPP's that shall come up in the surplus real estate assets of the corporation
- Ensure a steady revenue stream from the non-core projects
- Shall be charged with earning revenues from non traffic operations like Advertisements, Market Survey, New ventures.
- Represent GSRTC in the PPP, thereby dissociating the corporation from the risks of the PPPs.
- Formulate procedures in auctioning out routes to the private players

- The subsidiary can be used in encouraging the competing private transport operators to be equity partners - thereby converting the competitors into collaborators for the corporation as a whole
- Any other venture or spin off projects that the Corporation may contemplate and need to carry out - but without involving the structure of the corporation

The Subsidiary LLC shall be manned by professionals from various functional disciplines and be headed by a professional who is answerable to the management of the corporation.

Financial Revival Package

GSRTC is dependent on Government subsidy to maintain its operations under USO norms. Moreover, the Corporation being obliged to adhere to statutory norms, it has accrued financial liabilities to the tune of Rs. 1731.59 Crores out of which Rs. 648.35 Crores are statutory liabilities like Provident Fund Contributions and its accrued interests @ 12%.

The other dues include Gratuity towards retired employees which stands at Rs. 15.08 Crores, MACT claims @ Rs. 52.75 Crores, Motor Vehicle Tax and Government guarantee fees at Rs. 15.41 Crores and Rs. 11 Crores respectively. However the largest portion constitutes of Passenger Tax and its Arrears which stands at Rs. 339.05 Crores.

The second set of liabilities constitutes of the Employee dues totalling to Rs. 146.00 Crores which included Rs. 48 Crores towards pay commission wages involving 50% merger of DA, and towards medical bills, leave salary and settlement arrears.

The third liability comes from Govt loans which stand at Rs. 850.28 Crores. There is also a debenture bond of Rs. 1.1 Crores @ 11.5% interest. The remaining two groups of liabilities consist of Court matters with respect to different Government departments and lease rental liabilities which stand at Rs. 45.20 and 40.66 Crores respectively. Thus of the total liability of Rs. 1731.59 Crores, more that two-thirds i.e. Rs. 1189.33 Crores is directly related to the Government due to its policies. Table T13 provides a consolidation of the financial liabilities of the corporation.

The fourth and the final set of liability come from the implementation of the 6th Pay Commission Recommendations. Through this recommendation, the corporation has to pay its employees an excess amount of Rs. 250 Crores per year and an arrear payment of Rs. 600 Crores to be paid in 5 instalments beginning 2008 - 09.

Given the above financial obligations, the corporation's liabilities can be classified broadly under two headings namely, one time liabilities (i.e. the loans, employee liabilities including arrear payment) and continuous liabilities viz. the taxes and increased wage payout. Given these financial obligations, the corporation through operational effectiveness par se, cannot turn around. It needs Government interventions. The corporation seeks the following relief from the Government:

Conversion of Debt into Equity: GSRTC expects that the aggregate Government loan of Rs. 850.28 Crores be converted into equity and thus written off from the books of account. Technically, the Government would get interest out of the loan given to the

corporation which it is bound to pay over a finite time horizon. If the loan amount is to be converted to Equity, then the Government, being the sole promoter should get dividends - assuming the corporation starts earning surplus. Historically, all profit making PSUs are known to give dividends in time and dividend rates often exceed the interest rates of loans. Secondly, equity investment is in perpetuity unless the share holder decides to liquidate the shares and cash out. Even then the price realization for a revived company with no or minimal debt would be much higher than highly leveraged firm. Thirdly, if Government decides to divest some of its shares, the returns as stated before would be much higher. Therefore financially also, it makes sense to convert the debt to equity.

Reduction and Waiver of Taxes: GSRTC has taken up the initiative of engaging the Government to reduce the existing 17.5% Passenger Tax to a more manageable level between 5% and 7.5%. This will help reduce the perennial disadvantage which it faces vis-à-vis its private competitors. Therefore it seeks relief on grounds of fair and equitable treatment. With respect to MV Tax and Government Guarantee fees, it wants an exemption as it is part of the Government and such taxes only increase the transaction cost.

Charging of Toll Tax: GSRTC has been paying toll tax without passing the burden on to the passengers. There had been an increase of 281% in Toll Tax from Rs. 8.39 Crores (2003-04) to Rs. 27.01 Crores (2009-10). The estimate for 2010-11 stands at Rs. 32 crores. Toll Taxes have increased at the rate of 14% annually over the past few years. Given that the passengers primarily benefit from usage of Toll Imposed Expressways, the Government allowed GSRTC to impose Re. 1.00 per ticket from the passengers. This however covers only 40% of the cost. GSRTC proposes that the entire burden of Toll Tax should be passed on to the passengers thereby freeing its balance sheet from avoidable expenses.

Disbursal of Past Receivables: Another financial obligation with respect to the Government lies with disbursal of past payments. Thus GSRTC is likely to get Rs. 342.70 Crores as short receipt of subsidies, Rs. 198.92 Crores as current subsidy receivable and Rs. 150 Crores as special financial assistance to aid payment of standing dues. Thus GSRTC is supposed to get Rs. 692.0 Crores from the Government. GSRTC expects that the Government would show expediency in releasing the dues in a timely manner.

Loan adjustment is not advisable as investment (in the form of subsidy receipts) to the Corporation is likely to yield higher returns than that done on a zero balanced budget. Consequently, the corporation's profitability shall also rise with higher dividend payout to the Government.

Tariff Revision, limited Route Denationalization and Capital Infusion: GSRTC proposes to increase the passenger tariff by 9% with effect from October 2010. The additional revenue of Rs. 78 Crores per year shall partly offset the effects of increase in salary.

Further to pre-empt competition from private operators, GSRTC proposes to allow around 1000 contract carriages to operate as stage carriages in routes dedicated for GSRTC. The corporation proposes an increase of 125% Passenger Tax over the existing rates for Contract Carriages - with the corporation retaining 100% of the P Tax as royalty.

Finally, to overcome financial burden out of wage revision, the corporation proposes to create a corpus under the name of GSRTC Revival Capital Fund or a financial corporation

styled Gujarat Transport development Financial Corporation (in line with Tamil Nadu Transport Development Financial Corporation). It expects capital infusion from the Government to the tune of Rs. 600 Crores which is equivalent to the wage arrears under the 6th Pay Commission. Further, it prays a 5 year moratorium on interest payment on this fund. It expects to pay the arrears from this fund extended over 5 years, clear the balance sheet of the losses and start repaying after the moratorium period. The success of this proposal however is fully dependent on the decision of the Government to accept or reject.

The possible effects of these proposed initiatives with respect to Government interventions are presented in the next section in details.

Possible Implications of Government Interventions with respect to GSRTC

Given that GSRTC has shown initiatives towards operational efficiency and effectiveness and given that there are limits to the same in the process of organizational transformation, hence interventions by the Government assumes primary importance. However, the extent of intervention and its outcome is a matter of debate and discussion. A fair estimate of the outcome can be gauged iteratively by modifying the factors and extent of intervention. The factors influencing the financial restructuring decision of the corporation are (i) No Policy Intervention (**NPI**) by the Government i.e. GSRTC can manage on its own, (ii) Wage Revision (**WR**) on account of implementation of 6th Pay Commission, (iii) Debt Equity Swap (**DES**), (iv) Relaxation of Motor Vehicle and Toll Tax (**MVTT**), (v) Reduction of Passenger Tax (**PT**) to either 5% or 7.5%, (vi) Tariff Hike (**TH**) to 9% to compensate for wage increase, (vii) Capital Infusion with 5 years Moratorium (**CILM5**) on loan repayment, and (viii) Partial Route Denationalization (**PRD**).

With these factors, ten options are generated namely: (i) NPI & WR; (ii) DES & WR; (iii) Reducing Passenger Tax (PT) @ 5% & WR; (iv) PT @ 5%, MV & Toll Tax (MVTT) @ 0% & WR; (v) PT @ 5%, MVTT @ 0%, 9% Tariff Hike (TH) & WR; (vi) PT @ 5%, MVTT @ 0%, 9% TH, CILM5 & WR; (vii) PT @ 7.5%, MVTT @ 0%, 9% TH, CILM5, DES & WR; (viii) PT @ 7.5%, MVTT @ 0%, 9% TH, CILM5, PRD & WR; (ix) PT @ 5%, MVTT @ 0%, 9% TH, DES, PRD & WR; (x) PT @ 5%, MVTT @ 0%, 9% TH, CILM5, DES, PRD, WR.

Three of the options namely the first, the fifth and the tenth are presented in **Table T14 (a to c)** over a period of six years from 2009 - 15. The twin objectives of generating the options are (i) the need to clean the losses from the balance sheet of the corporation and (ii) to generate sufficient profit to repay the loan on account of revival funds. The objectives are moderated by the fact that public sector organizations are prone to high degree of exogenous variables and their mandate towards servicing the citizens.

A Framework of Strategic Transformation of GSRTC

The factors impeding the transformation of GSRTC operate at levels that are both endogenous as well as exogenous to the corporation. Although some of the problematic factors are, to some extent, within its control like internal dissonances, some lies in the domain of its holding authority - the Government and over which GSRTC cannot exercise sufficient control. There are yet other factors like economic prosperity of the commuters

over which it does not have any influence. It can at best aspire to match up with the aspiration of the commuters and thereby harvest the economic prosperity of the commuters to its advantage.

However, GSRTC has taken a number of initiatives, of late, to extend its zone of influence to control the internal and external dissonances. It has undertaken extensive restructuring exercises to even out the internal dissonances at the same time control the competitive pressures. For example, GSRTC has undertaken initiatives like Financial and HR Restructuring along with Infrastructural initiatives to tackle internal dissonances and fit with the economic prosperity of the customers. Similarly, it has undertaken administrative and operational restructuring exercises to address competitors and regulatory issues. It has also taken steps in an effort to convince the primary stakeholders of its intents to attain a transformation. This however is insufficient. The corporation needs to mobilize the Government's support in terms of the financial packages to complete its strategic transformation.

We refer to the aforementioned sequence of activities undertaken by GSRTC as the "Hammer and Anvil Strategy" (**Figure 2**) where the restructuring exercises like administrative, operational, financial and human resource restructuring are the foundations or Anvil and the infrastructural initiatives and Government's financial packages are the Hammer. While the Anvil is the foundation which is a necessary prerequisite for the transformation process, the Hammer is the primary mover which makes the Transformation to Work. The Government's Financial Interventions and the IT Implementation (for effective supervision) are therefore the Hammer which will make the Strategic Transformation to happen. The strategic transformation of the corporation, including dealing with its threats, will be complete once the financial package is in place.

Table T1: Segment-wise Concessions

SI. No.	Segment Description	Relief %	Remarks	Opportunity Cost of GSRTC p.m.
01	Students	82.50	Free pass to village girl students	$685000 \times \text{Rs } 10 \times 2 \times 22 \times 0.825 = \text{Rs } 24,86,55,000$
02	Daily passengers	50.00	Monthly/quarterly pass scheme	
03	Visually impaired	100.00	With 1 assistant	
04	Cancer patient	50.00	With 1 assistant	$(44525 \times \text{Rs.} 10 \times 2 \times 22 \times 0.5) \times 2 = \text{Rs. } 1,95,91,000$
05	Eye donor/physically challenged	100.00		$217000 \times \text{Rs. } 10 \times 2 \times 22 \times 1 = \text{Rs. } 9,54,80,000$
06	Press/radio/TV reporter	100.00	Unlimited mileage in Gujarat	
07	Freedom fighter & their widows	100.00	With 1 assistant	

Table T2: Trip-wise Analysis of Profitability and Loss of GSRTC⁴

Financial Parameters	Trip Description (Absolute Numbers)			In percentage
	Ordinary	Express	Total	
Not covering diesel cost	11212	339	11551	27
Not covering operational cost	17723	250	17973	43
Not covering divisional cost	2239	1394	3633	09
Earning above divisional cost	6857	2002	8859	21
Total trips	42016	100		

Table T3: Expenditure Projection of GSRTC for the period (2009-2015)⁵

Particulars	2009- 2010	2010- 2011	2011- 2012	2012- 2013	2013- 2014	2014- 2015
Operating cost (in Rs. crores)						
Staff	630.78	651.64	677.95	713.24	759.45	817.23
Fuel	699.16	742.66	791.52	839.11	891.97	948.16
Tyre tubes	53.97	56.87	60.12	63.23	66.67	70.30
Spare parts	52.28	55.09	58.24	61.25	64.58	68.10
Interest & debts	16.81	34.36	51.91	69.46	87.01	104.56
Passenger tax	237.89	263.21	292.05	322.33	356.71	394.76
MV & toll tax	20.51	21.33	22.18	23.07	23.99	24.95
Other expenses						
Depreciation	83.34	91.30	100.35	109.70	120.26	131.83
Others	73.13	73.68	74.24	74.79	75.35	75.92
Total expenditure	1867.88	1990.13	2128.57	2276.19	2445.99	2635.82
Total income	1852.41	2014.15	2197.42	2389.57	2606.54	2844.88
Margin/deficit	-15.47	24.02	68.84	113.38	160.54	209.07
Interest payable	70.12	73.41	73.69	77.92	71.58	65.23
Margin/deficit	-85.59	-49.39	-4.85	35.46	88.96	143.84

4 Source: GSRTC

5 Source - Internal projections of GSRTC

Table T4: Fleet Position at GSRTC

Year	Fleet Held	% of over-aged bus	New Diesel Bus Inducted	New CNG Bus Inducted	Vehicles Discarded
2000-2001	10048	13.9	700	-	1953
2001-2002	9531	17.3	-	-	1465
2002-2003	9209	24.3	-	-	371
2003-2004	8820	50.9	-	-	303
2004-2005	8164	78.4	10	-	738
2005-2006	8277	80.2	1000	190	420
2006-2007	8046	74.7	700	300	1379
2007-2008	8069	53.1	1000	500	2052
2008-2009	7628	50.1	542	460	477

Table T5: Cost Comparison in Rs. between Diesel and CNG Buses (over 8,00,000 km)

Parameter (Initial Cost)	Diesel Bus	CNG Bus	Difference
Chassis cost	6,70,000	11,70,000	5,00,000
Body cost	5,30,000	5,50,000	20,000
Total cost	12,00,000	17,20,000	5,20,000
Parameter (Recurring Cost)			
Interest cost	3,01,500	5,26,500	2,25,000
Depreciation	5,20,000	10,20,000	5,00,000
Periodical engine oil change/material cost	29,261	1,10,880	81,619
Fuel cost	49,60,870	44,88,163	(-) 4,72,707
Periodical spark/H.T. cable/ L.P.R filter cost	NA	1,39,630	1,39,630
Cat.converter cost	NA	7,40,000	7,40,000
Engine repair cost	48,000	92,000	44,000
Radiator cost	8,000	10,000	2,000
Total			17,79,542

Table T6: ManPower Position in Various Categories at GSTRC⁶

Category	Sanction	Working	Short Fall	% Short fall	Year of Retirement				Total strength by 2012 (% shortfall)
					2009	2010	2011	2012	
Officers	467	198	269	58	19	20	16	16	127 (73%)
Admin	7224	4113	3111	43	201	362	328	334	2888 (60%)
Traffic	1681	1386	295	18	92	70	70	38	1116 (34%)
Mechanic	12778	5941	6837	54	657	629	503	464	3688 (71%)
Driver	16289	15196	1093	7	1030	1168	1061	1130	10807 (34%)
Conductor	16224	14540	1684	10	1137	1086	1092	1059	10166 (37%)
Total	54663	41374	13289	24	3136	3335	3070	3041	28792 (47%)

Table T7: Population to Bus Ratio during Formative Years of Gujarat

Year	Population in Lakhs	Average Vehicles on Road	Ratio (Population/ Bus on Road)
1960-1961	206.00	1174	17547
1970-1971	267.00	2896	9220
1980-1981	341.00	5168	6598
1990-1991	413.00	6733	6134
2000-2001	506.71	8573	5911
2009-2010	624.00	6514	9579

**Table T8: Proposed Administrative Merger of Divisions and Depots
The merger plan of the divisions is as follows:**

Sr. No	Division	To be Merged With
1.	Bharuch	Surat, Baroda
2.	Amreli	Bhavnagar, Junagadh
3.	Jamnagar	Rajkot
4.	Valsad	Surat
5.	Godhra	Vadodara, Nadiad
6.	Palanpur	Mehsana

6 Source - GSRTC's Internal Estimate

Merger Plan of Depots

Sr. No	Depots	To be Merged With	Sr. No	Depots	To be Merged With
1.	Bagasara	Amreli, Dhari, Savarkundla	13	Jasdan	Rajkot, Gondal
2.	Rajula	Una, Mahuva, Savarkundla	14	Bareja,	Dholka, Ahmedabad, Chandola
3.	Rapar	Bhachau	15	Bavla	Sanand, A'bad. Dholka, Chandola
4.	Naliya	Nakhatrana	16	Matar	Kheda
5.	Mundra	Anjar, Mandvi, Bhuj	17	Mahudha	Nadiad, Kheda, Dakor, Kapadvanj
6.	Barvala	Bhavnagar, Dhandhuka, Limbdii	18	Karjan	Vadodara, Bharuch
7.	Botad	Bhavnagar, Dhandhuka, Limbdii	19	Zagadhiya	Rajpipla, Bharuch
8.	Talaja	Palitana, Mahuva, Bhavnagar	20	Prantij	Himatnagar, Dehgam
9.	Dhrol	Jamnagar, Rajkot	21	Bantva	Junagadh, Porbandar, Keshod
10	Jamjodhpur	Jamnagar, Upleta	22	Dhoraji	Jetpur, Upleta
11	Chotila	Rajkot, Snagar, Vankaner, Limbdii	23	Chanasma	Patan, Harij, Mehsana, Bechraji
12	Dhangadhra	Surendranagar, Morbi	24	Kheralu	Vadnagar, Visnagar, Unza

Table T9: Projected Expansion of the Corporation on Operational Parameters

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Schedules	6792	7053	7335	7628	7933	8251
Vehicles	7535	7836	8150	8476	8815	9167
Effective km (in crores)	106.60	111.21	116.41	121.21	126.55	132.12
Vehicle utilisation (km)	421	423	425	427	429	431
Crew utilisation (km)	249	250	251	253	254	255

Table T10: Proposed Operational Efficiencies and Related Penalties

Item Description	Industry Average	Proposed Standard of GSRTC	Current Status	Penalty
Fuel efficiency (diesel bus)	5.15 kmpl	5.40 kmpl	5.39 kmpl	Rs. 2.217 crores
Vehicle productivity	373 kmbd	390 kmbd	389 kmbd	Rs. 6.4 crores
Crew productivity	178 kmbd	173 kmbd	173 kmbd	Rs. 2.76 crores
Bus breakdown	0.15/10000 km	0.32/10000 km	0.33/10000 km	Rs. 36.74 lakhs per 0.01 additional breakdown over 10000 km
Fleet utilisation	95.01%	85.23%	83.23%	GSRTC plans to increase fleet utilisation by 2% y.o.y. for 5 years. Penalty to be imposed after 5th year @ Rs. 75.46 lakhs per slippage percentage
Nontariff income	Rs. 12.31 Cr. ('09-'10)	Rs. 13.54 Cr. (10% increase p.a. y.o.y.)	Rs. 12.19 crores	Rs. 2.70 crores per % slippage from target

Table T I I : Relative Efficiency of GSRTC vis-à-vis other STUs (2008-2009)

Sl. No	Description	Andhra Pradesh	Maharashtra SRTC	Gujarat SRTC	Uttar Pradesh SRTC	Rajasthan SRTC	Karnataka (Aggregate)	Tamil Nadu (Agg.)
1.	Total Revenue (Paise/KM)	1644	2316	1755	1817	1838	1914	1604
2	Total Cost (Paise/KM)	1584	2176	1911	1772	1910	1901	1807
3	Operating Ratio	108	81	94	107	97	106	115
4	PBT in Lakhs (Paise/KM)	42253 (158)	81664 (450)	8779 (87)	28108 (338)	5814 (207)	18714 (48)	-33323 (-134)
5	PAT (Paise/KM)	41	140	-157	46	-72	13	-203
6	Average Numbers of Buses	20375	15695	7628	6831	4537	14411	15372
7	Average No. of Buses on Road	20292	14797	6697	6471	4246	13171	14695
8	% Fleet Utilization	99.6	94.3	83.23	94.7	93.6	91.4	95.6
9	Average Age of Buses (Yrs)	-	4.10	6.89	4.60	5.26	4.07	4.85
10	% of Overaged Buses	-	-	50.11	37	14.81	17.76	15.38
11	% Load factor	72.3	48.6	65.7	63	71.8	65.8	80.1
12	Pass/Bus/day	690	444	358	162	239	403	1010
13	Eff KM/Staff/Day	64.64	50.71	66.46	73.13	79.86	65.19	69.66
14	Fuel Performance (KM/Lt)	5.25	4.93	5.53	5.32	4.98	5.08	5.30
15	No. of Total Fatal Acc.	1019	401	210	295	192	543	1367
16	Estimated Av Price/Liter Fuel	31.02	37.15	36.84	35.95	32.91	38.11	36.18

Table T12 (a): Loss of Revenue Due to Delays in Tariff Implementation

Date of Proposal	Date of Approval	Time Taken in Days	Revenue Loss (Rs. in crores)
21.07. 2005	14.11 2005	116	15.89
10.06. 2006	15.07 2006	35	4.32
09.06. 2008	23.06 2008	14	2.76
22.03.2010	05 05 2010	44	6.82
03 07. 2010	10 08, 2010	38	3.83

Table T12 (b): Revenue Loss Due to Idle/Cancelled km Due to Staff Shortage

Year	Sanctioned Schedules	Sanctioned Crew	Available Crew	Vacancies kms in Lacs	EPKM	Cancelled Kms in Lakcs	Loss of Revenue (Rs. in Crores)
06-07	7125	34350	33897	453	12.11	248.58	30.10
07-08	7010	33208	31794	1414	12.30	298.60	36.73
08-09	6850	32300	29869	2431	13.19	350.87	46.28
09-10	6850	32300	29609	2691	13.42	544.24	73.04
10-11	6850	32300	28155	4145	14.93	194.36	29.02

Table T13: Aggregate Financial Liability of GSRTC

Sl. No.	Item Description	Amount of Liability (Rs. Crores)
	Employee-related liability	
01	Provident fund	Rs. 648.35
02	Gratuity liability	Rs. 15.08
03	Pay commission wages/arrears	Rs. 48.00
04	Medical bills, leave salary, settlement arrears	Rs. 98.00
	Government loans	
05	Government loans	Rs. 850.28
06	Debenture bonds	Rs. 1.1
07	Govt. dept. related court matters	Rs. 45.20
08	Lease rental liabilities	Rs. 40.66
	Government taxes	
09	MACT claims	Rs. 52.75
10	Motor vehicle tax	Rs. 15.41
11	Government guarantee fees	Rs. 11.00
12	Passenger tax and arrears	Rs. 339.05
	Total liability	Rs. 1731.59 Crores

Table T14 (a): Six-Year Projection of Income and Expenditure Under No Policy Intervention and Wage Revision

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Total income in crores	1859.72	2022.43	2206.78	2399.73	2618.44	2859.18
Expenditure						
Staff	880.78	901.64	927.95	963.24	1009.45	1067.23
Arrear payment of Rs. 600 crores to be spread over 5 installments beginning 2008-2009	0.00	360.00	120.00	120.00	0.00	0.00
Fuel	699.16	742.66	791.52	839.11	891.97	948.16
Tyre tubes	53.97	56.87	60.12	63.23	66.67	70.30
Spare parts	52.28	55.09	58.24	61.25	64.58	68.10
Interest & debts	16.81	34.36	51.91	69.46	87.01	104.56
Passenger tax	237.89	263.21	292.05	322.33	356.71	394.76
MV & toll tax	20.51	21.33	22.18	23.07	23.99	24.95
Depreciation	83.34	91.30	100.35	109.70	120.26	131.83
Others	73.13	73.68	74.24	74.79	75.35	75.92
Total expenditure in crores	2117.87	2600.14	2498.56	2646.18	2695.99	2885.81
Margin/deficit in crores	-258.15	-577.71	-291.78	-246.45	-77.55	-26.63
Interest payable	70.12	73.41	73.69	77.92	71.58	65.23
Margin/deficit in crores	-328.27	-651.12	-365.47	-324.37	-149.13	-91.86

Table T14 (b): Six-Year Projection of Income and Expenditure with 5% P Tax, 0% MV+Toll Tax, 9% Tariff Hike and Wage Revision

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Tariff income	1548.87	1712.82	1900.52	2097.55	2321.26	2568.87
Govt subsidy	361.62	369.46	376.85	384.39	392.08	399.92
Total income in crores	1910.49	2082.28	2277.37	2481.94	2713.34	2968.79
Expenditure						
Staff	880.78	901.64	927.95	963.24	1009.45	1067.23
Arrear Rs. 600 crores spread over 5 installment from '08-'09	0.00	360.00	120.00	120.00	0.00	0.00
Fuel	699.16	742.66	791.52	839.11	891.97	948.16
Tyre tubes	53.97	56.87	60.12	63.23	66.67	70.30
Spare parts	52.28	55.09	58.24	61.25	64.58	68.10
Interest & debts	16.81	34.36	51.91	69.46	87.01	104.56
Passenger tax @ 5%	67.97	75.20	83.44	92.09	101.92	112.79

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
MV & toll tax	0.00	21.33	22.18	23.07	23.99	24.95
Depreciation	83.34	91.30	100.35	109.70	120.26	131.83
Others	73.13	73.68	74.24	74.79	75.35	75.92
Total expenditure in crores	1927.44	2412.13	2289.95	2415.94	2441.20	2603.84
Margin/deficit in crores	-16.95	-329.86	-12.58	66.00	272.15	364.95
Interest payable	70.12	73.41	73.69	77.92	71.58	65.23
Margin/deficit in crores	-87.07	-403.27	-86.27	-11.92	200.57	299.72

Table T14 (C): Six-Year Projection of Income and Expenditure with 5% P Tax, 0% MV+Toll Tax, 9% Tariff Increase, Partial Route Denationalisation, Capital Infusion and 5-year Loan Moratorium, Debt Equity Swap and Revision

Particulars	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15
Tariff income	1548.87	1712.82	1900.52	2097.55	2321.26	2568.87
Route denationalisation income @ 7.5% P tax to be collected by GSRTC for 1000 CC buses	18.44	20.39	22.63	24.97	27.63	30.58
Govt subsidy	361.62	369.46	376.85	384.39	392.08	399.92
Total income in crores	1928.93	2102.67	2300.00	2506.91	2740.98	2999.37
Expenditure						
Staff	880.78	901.64	927.95	963.24	1009.45	1067.23
Arrear payment of Rs. 600 crores to be spread over 5 installments beginning 2008-2009	0.00	0.00	0.00	0.00	0.00	0.00
Fuel	699.16	742.66	791.52	839.11	891.97	948.16
Tyre tubes	53.97	56.87	60.12	63.23	66.67	70.30
Spare parts	52.28	55.09	58.24	61.25	64.58	68.10
Interest & debts	16.81	34.36	51.91	69.46	87.01	104.56
Passenger tax @ 5%	67.97	75.20	83.44	92.09	101.92	112.79
MV & toll tax	0.00	21.33	22.18	23.07	23.99	24.95
Depreciation	83.34	91.30	100.35	109.70	120.26	131.83
Others	73.13	73.68	74.24	74.79	75.35	75.92
Total expenditure in crores	1927.44	2052.13	2169.95	2295.94	2441.20	2603.84
Margin/deficit in crores	1.49	50.53	130.05	210.97	299.78	395.53
Interest payable	0.00	0.00	0.00	0.00	0.00	0.00
Margin/deficit in crores	1.49	50.53	130.05	210.97	299.78	395.53

CHART CI: Trend of Bus Procurement by GSRTC

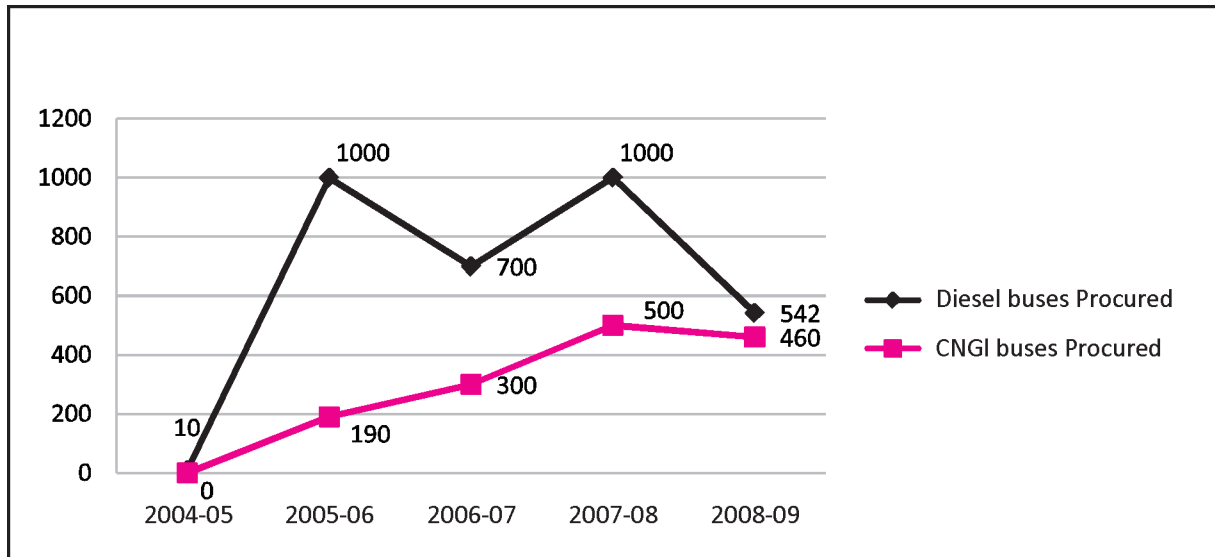


Figure FI: Impediments to GSRTC's Transformation

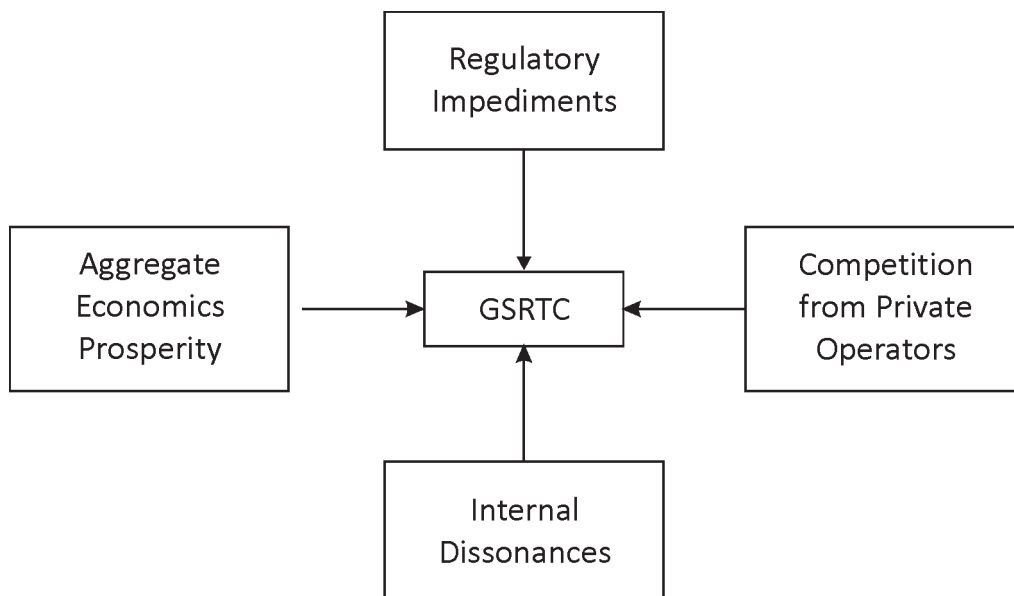
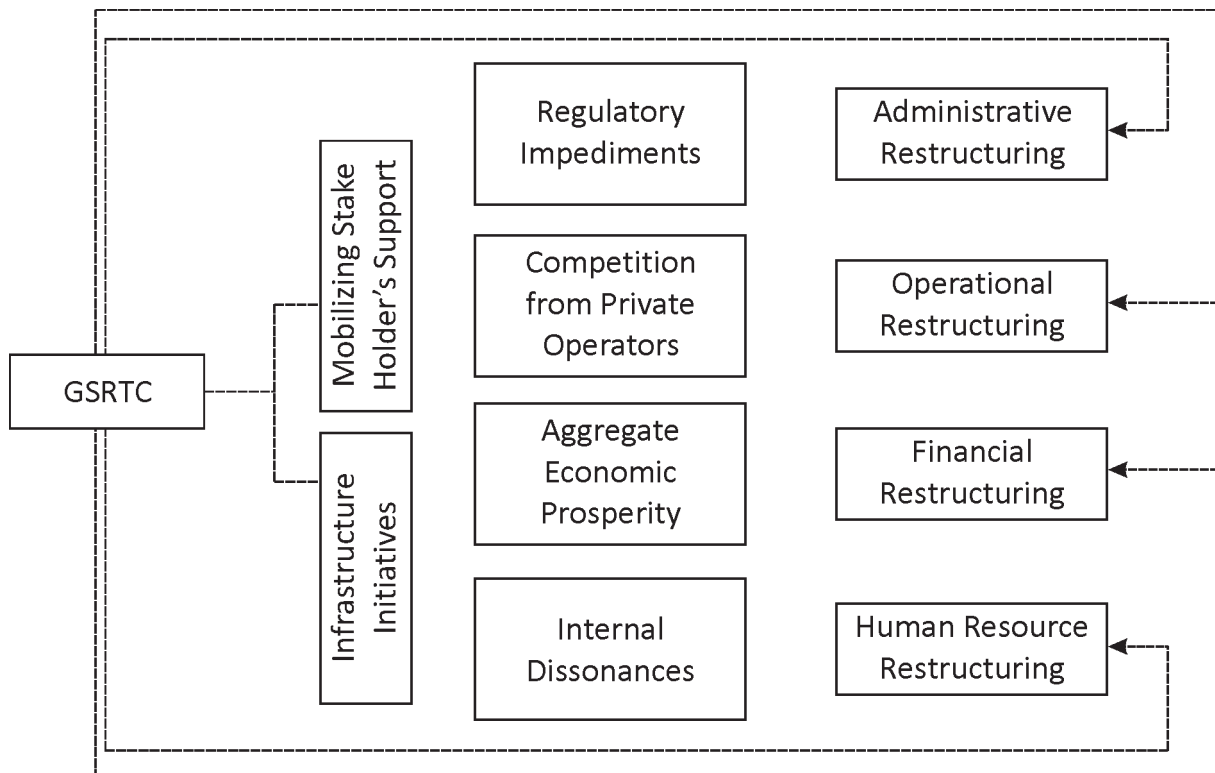


Figure F2: The Hammer and the Anvil Method of Turnaround Strategy



Authors' Profile

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PRESPECTIVES**Text and Context: Or, What is the Role of 'Interpretation' in the Case Method?****Shiva Kumar Srinivasan**

What is the model of interpretation that is presupposed in the case method? While the term 'interpretation' is not used as often in case analysis as in literary analysis, it is not possible to discuss a case without an implicit model of interpretation. The 'words on the page' don't speak for themselves, but must be understood in the context of an interpretation. The term 'interpretation', as students of the humanities know, will vary from one school of thought to another. Since texts generate a number of interpretations, it is important to know how to *situate an interpretation*. Analogously, when we discuss a case as a prelude to making a decision, we are doing something akin to interpretation. The problem, however, is that we often forget that we are engaged in the process of interpretation. We wind up thinking that we are merely analysing the case in the form of a discussion. The assumption here is that there is nothing inherently theoretical about a discussion as opposed to an interpretation. But, in practice, it is difficult to differentiate between a 'discussion' and an 'interpretation', since the former presupposes the latter, and all conversations are forms of 'rule-governed activity'. The rules that govern conversations and discussions are studied in an area of linguistics called pragmatics. An interesting discovery in pragmatics is that all use of language - even those that seem completely spontaneous - follows interesting patterns that can be studied and formalised as theories in pragmatics and discourse analysis. So if conversations and discussions are rule-governed activity, (that is, they are highly structured 'events', although they may seem 'natural'), then the implications of these discoveries about the basic forms of language will help us to think through what happens during a case discussion.

Case Analysis as a Literary Genre

The impression that a case instructor often has at the end of a case discussion, especially if he is teaching a case for the first time, is that the students could have chosen to allocate their time and attention in a number of different ways. It takes time for the novice instructor to recover from the discussion because he was simply not able to anticipate what sort of novel interpretations might be thrown up by the class. But if a particular case is taught repeatedly, then familiar patterns begin to appear. Some of these patterns are anticipated in the teaching notes; some are not. In either case, the patterns of interpretation encompass a set of possibilities ranging from 'anything' to something 'specific'. It is at this point that the implicit patterns emerge in the case discussions both within and between sections where the case is being discussed. The case instructor then begins to understand like the linguist that a case discussion is a rule-governed activity. It can be 'formalised', like linguists do, by studying transcripts of conversations and discussions. The logical structure of a case discussion will also take on forms that are studied by theorists of pragmatics interested in the rules of conversational implicature. So, while a case analysis may not follow all the maxims of conversational implicature that are formalised by the theorists working in this area, it will follow them sufficiently enough to demarcate discrete patterns and regularities. So once

a case has been made for using pragmatics or discourse analysis to study the structure of case discussions like conversations, we can go on to ask what sort of literary genres, if any, are relevant in these discussions. Although a mapping of the structure of a case discussion in the context of pragmatics and discourse analysis will have to wait for another occasion, it is at least possible to establish *prima facie* that a case discussion is not the chaotic thing that it appears to be initially, but a 'rule-governed activity' in the strong sense that is attached to this term in pragmatics and discourse analysis.

Questions of Genre

Although case instructors may not have a formal acquaintance with these areas in linguistics, they do ask themselves questions about the discursive structure of the case method that is similar to the work of linguists. Here, by way of illustration, are a few such questions: What is a case? What are its generic markers? What are the different types of cases? What are the generic differences, if any, between cases in different areas? What are the different parts of a case? What is a case discussion? How should a case be interpreted? What is the time frame in which a case should be situated? What are its boundary conditions? What is a casebook? In what sequence should cases be taught? These then are the types of questions that are studied by theorists in areas such as pragmatics and discourse analysis who are interested in the problem of 'genre'. The term 'genre' is understood to be philosophically problematic because genres evolve over a period of time. In literary analysis, for instance, differentiating rigorously between 'prose' and 'poetry' is much more difficult than may seem initially, since both form and content (the sub-units of genre) affect each other to a point where the definition of any given genre is bound to change rather than stay put in a neat generic typology of literary forms. This is the problem with the definition of a case, and the questions given above, as well. Cases, in a sense, are not static entities, since they can be taught forever. Dashman & Co, for instance, has been around for as long as we care to remember; it is both the 'simplest' case and the 'most difficult' case to teach. This is because a case can be understood as a prose text, a poem, or even as a play. The notion of a play is what is encapsulated in the notion of a role-play that is used to harness the 'performative' dimension of a case. The uses of role-play in teaching decision-making by forcing the case discussant or role player to think through the logic of the argument is a well-demonstrated technique in management development programmes.

Boundary Conditions in Case Analysis

The arguments advanced above pertain to the context of interpretation, but it is also necessary to discuss the textual dimension of interpretation. What, in other words, is the default model of interpretation that is used in case discussions? A simple rule of thumb is to start with boundary conditions. Case analyses proceed through rigorous boundary conditions not only in terms of what sort of additional data, if any, is admissible, but also in terms of the loci that are invoked in the discussion. The time frame is also closed in terms of the data that is being studied. So, for instance, decisions have to be articulated in the context of the assignment question, which, in turn, is calibrated with a particular period in mind to reduce the levels of 'over-determination' built into the case. The default modalities of case analysis used in business schools resemble most closely a school of literary

interpretation called the 'new criticism'. Most of the other schools of interpretation in use in the literary academy in America and elsewhere use the default modalities built into the new criticism as their point of departure in order to allow a greater degree of contextuality than the new criticism will allow. But, nonetheless, all students of literary interpretations will have to work their way through this interpretative framework. To put matters in a nutshell: the new criticism is based on the greater importance of the text rather than the context. This is the default modality of interpretation. The theoretical differences, if any, between the new criticism and other models of literary interpretation are related to the changing relationship between text and context in the practice of literary criticism.

Analogies in Case Analysis

The presuppositions built into the model of case discussion and case interpretation in the case method then are also related to the model of the new criticism, where not only the text is more important than the context, but strict boundary conditions and time frames make it possible to focus on the case at hand. Case analysis, in other words, is built upon a vertical model of in-depth reading, especially in the context of business studies. Although there is a horizontal element here as well, that is of less importance since case instructors know that the quest for background information about a firm is often used as a psychological defence by students to not analyse a case, and merely proffer information in the place of analysis, when it is their turn to speak. So while case instructors do not necessarily discourage students from invoking analogies from other cases that have been discussed in the course, they do not encourage the habit of multiplying texts and/or contexts in the interest of the focus that is necessary to recommend a decision. There is greater room for invoking analogies in the law school system, since a case discussion in a legal conflict has to not only understand the problem of context in the act of interpretation, but also invoke case law to establish equity. This is because the law recognises the role of intangibles such as intentionality, insanity, extenuating circumstances, self-defence, etc., both in the law of torts and in the criminal justice system.

Remedies in torts, for instance, are linked to the court's assessment of the extent of damages; which, by definition, are context specific. Therefore, a case discussion in a law school cannot work with the new criticism model of interpretation that is focused only on the text with a minimal, if any, invocation of context. That is also why the innovations in literary theory and criticism are quickly incorporated into the modalities of interpretation that are permissible in case analyses in the law school system. The existence of a thriving 'law-and-literature' movement in American law schools is a testament to this set of debates and exchanges between the domains of law and literature in the American academy. To summarise: the case method in the law school system has repeatedly tried to break out of the model of interpretation that is synonymous with the new criticism despite the fact that the new criticism continues to be valuable as a point of departure. The generic markers attached to the new criticism, however, remain relevant in the business school system, since the task of teaching decision-making in management is not the same as that in the law. This theoretical discussion, however, is an interesting opportunity to understand where the new criticism is coming from, and why it has had more success in the business school system than in the law school system in the United States and elsewhere.

New Criticism in Business Schools

The new criticism came into prominence in the post-war era when there was a huge increase in college enrollments in U.S. campuses. This increase was linked to a specific piece of legislation that was passed by the U.S. Congress to re-settle soldiers and officers of the armed forces who were returning home from Europe at the end of the war. Congress made the financial provisions necessary through the GI Bill to educate those soldiers who wished to re-settle into civilian life, or who were going to be discharged anyway. A large number of these soldiers-turned-students flooded into undergraduate programmes including those in English studies, or had to do a component of literature as a part of their 4-year degrees in the arts and the sciences. The new criticism which focused on the 'words on the page', as opposed to invoking complex models of historical philology, became quite popular with both students and instructors, since the main pedagogical goal was to make culture available to those who were going to college for the first time. Why was this a challenge to educators? A focus on the text rather than on the context meant that these students could be quickly taught to read and interpret texts. Reading or interpretation, then, in this model of education, becomes synonymous with the process of 'learning' and socialisation. The term 'reading', which, in the first instance, is linked to the problem of basic 'literacy', was necessary but not sufficient. So while these American students were literate, i.e. they could read in the literal sense of the term, they did not necessarily have the family backgrounds and/or the cultural literacy needed to 'read' in the sense of being able to 'interpret' the Anglo-American literary canon, which had until then been the preserve of the literary élite.

New Criticism and Cultural Literacy

What the methodology of the new criticism made possible then was a quick breakthrough for those from humble backgrounds into the mainstream of American high culture. The task of education was to inculcate both basic 'numeracy' and basic 'literacy', but with the value addition that comes from understanding the process of interpretation. The task of a college degree then in the aftermath of the GI Bill was to make it possible for members of the working classes and the lower-middle classes to move from a functional notion of literacy to a middle-class notion of cultural literacy by mastering the skill sets of literary interpretation. Acquainting students with the literary canon then was a way of ensuring that they entered either higher education in graduate schools in the arts and sciences and/or the graduate schools of professional education as a first step towards greater socio-cultural and socio-economic mobility. In this educational framework, which was funded generously by the GI Bill, the onus was not merely on increasing employability but on mobility as well. The new criticism, by redefining the process of 'reading' from a technical model of literacy to a socio-cultural model of 'interpretation', made the rise of these hitherto dis-enfranchised classes almost inevitable. The educational foundations of America's economic resurgence after World War II, then, were laid by the GI Bill. The new criticism was the literary methodology that was to play a major role in this transformation of American society. The method of interpretation followed the simple formula: *Text rather than context*.

The Brandeis Brief

This formulation was however changed to make way for a greater sense of context in literary studies when the socio-cultural changes envisaged in the GI Bill actually came to pass. But, nonetheless, this default programme continues to be of use. There was a time when law schools were as enamored of the text orientation (as opposed to the context orientation) in America. In fact, one of the great achievements of Justice Louis D. Brandeis, as a young attorney in Boston (much before he became a Justice of the U.S. Supreme Court), was to help re-configure the relationship between 'text' and 'context' in American law. Brandeis was the one who pioneered the idea that sociological data could be included in briefs submitted before the Supreme Court, and that judicial decision-making at the highest levels must attend to both form and content, although it is not easy to say, once and for all, what the proportional share of these two categories must be in any given interpretation. It was the 'Brandeis-brief', which was invented much before the world wars, then, that went on to serve as a formal precedent for the invocation of sociological context by Thurgood Marshall and his legal associates before the U. S. Supreme Court in *Brown v. Board of Education*, and the cases that followed in its wake, which outlawed racial segregation in American schools.

Conclusion

The structural relationship, then, between form and content that literary scholars have worried about since Aristotle's *Poetics* is something that is relevant not only to the demands of literary study but to the modalities of the case method as used in business schools and law schools as well. The burden of this perspective essay is not to emulate what happens in American law schools, but to compare methodological differences within the context of the case method, and understand the underlying rationale for these differences through the varied fortunes of a fortuitous pedagogical innovation in literary theory, called the 'new criticism'.

Author's Profile

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BOOK REVIEWS**India and the Global Financial Crisis Managing Money and Finance**Pradyumna Dash

Y. V. Reddy (2009). India and the Global Financial Crisis Managing Money and Finance (New Delhi: Orient BlackSwan), pp. xvi+397, Rs.595.

This review discusses Y. V. Reddy's book India and the Global Financial Crisis Managing Money and Finance. The book is a collection of 23 select speeches which he delivered as the governor of the Reserve Bank of India during September 2003 to September 2008. It gives us a deep understanding of his approaches to some of the policy issues during those years. In particular, he discusses the positive impact of financial sector reforms on the functioning of the market and institutions in India. He also argues that there is a need for some caution in the pace of liberalisation. He explains some of the causes of the recent global financial crisis and how the Reserve Bank of India's policies protected the Indian banking system and minimised vulnerabilities in the Indian economy from the crisis. He also discusses various complexities and dilemmas involved in the conduct of monetary policy in India. It is a very valuable book.

Reddy explores whether various reform measures have been beneficial to India's financial sector. These include deregulation of interest rates, reduction of cash reserve ratio (CRR), liberal entry of foreign banks, broad-based ownership base in domestic banks, inclusion of various microprudential measures, strengthening the processes of regulation and supervision, constitution of the Board for Financial Supervision (BFS), establishment of Clearing Corporation of India Ltd. (CCIL), introduction of debt recovery tribunal and so on. He thinks that these measures have been quite useful with regard to improving the functioning of the markets and institutions. First, the financial markets have seen rapid growth and robustness. It is so because there has been a rapid growth of structured and derivative products, mortgaged, and asset-backed securities. Second, it has led to the emergence of financial conglomerates due to product diversification. Third, it has also reduced the effects of unforeseen shocks on the financial system and so on. In short, the book gives a clear description of the progress made in the direction of promoting a diversified, competitive and efficient financial system in India.

According to Y. V. Reddy, the financial liberalisation in India was done with a lot of caution. He seems to argue that the government used to put pressure to speed up the liberalisation of financial sector to achieve higher economic growth. Although he agrees with the government that financial sector reform is essential for a healthy financial market, which, in turn, leads to a high economic growth, he feels that one has to be extremely careful with the pace at which it should be done and the areas where it should be done. As per the Reserve Bank of India, given the current account deficit, fiscal deficit and volatile nature of capital inflows, there is a need for some caution in the pace of liberalisation of financial markets. He used to put a lot of emphasis on the development of money market, government securities market and foreign exchange market. It has been stated "there was

full agreement on the ultimate objective-the healthy development of financial markets-but the pace of the actions to be taken in that directions and the relative emphasis on the different components were the topics of discussion" (p.10). Looking at his cautionary approach it is not very difficult to imagine what would have happened to the Indian financial system in the recent global financial crisis if he had increased the pace of reforms.

The book also tells that Mr. Reddy was a foresighted regulator. He took a number a policy measures to protect the Indian banking system. For example, he minimised the use of financial instruments called securitisation and derivatives in Indian financial markets. As a result, banks in India were not able to forward loans like that of the United States, as they were not allowed to sell their loan in securitisation. He also increased the capital requirement for banks if they were willing to invest in the construction of commercial buildings and shopping malls. Market participants were not happy with these policy measures. Hence, he writes, "what had been described as 'lazy' banking at the beginning of the decade was being replaced by what could be described as 'crazy' banking, with rapid growth in credit... But that the effort was only to protect the banking system by insisting on additional capital since uncertainties and risks appear to have emerged. The Reserve Bank of India issued guidelines on securitisation, but they were considered conservative at the time they were issued, in 2006" (p.15.) When his policy measures are analysed carefully, it can be seen that they did not allow financial intermediaries to create excess liquidity and they had the incentive to see the loans were paid back. Hence, the Indian banking system was unaffected by the crisis.

We find Mr. Reddy's regulatory approach was quite consistent with what some of the theoretical work in economics suggest. For example, Holmstrom and Tirole (1998) argue that if there is deposit insurance or provision for bank bailout, it may create moral hazard problem. It is so because banks may finance riskier projects. Therefore, unless banks owners - the equity holders - take some of the risks themselves, they won't have the incentive to allocate the savers money responsibly. Hence, they suggest banks are required to infuse more capital if they are financing riskier investment. In another study, Dewatripont and Tirole (1994) argue that since depositors cannot see if their banks investing their money wisely, there is a need for regulation. The regulator must put some restrictions on banks. One among them is to see banks are adequately capitalised; i.e., the leverage ratio should not be high. Looking at the policy measures taken by Reddy, one can conclude that he was a wise regulator of the Indian banking system.

Mr. Reddy seems to argue that the Reserve Bank of India took some measures to prevent the possibility of asset price bubble in India. He argues that although price stability is the most important goals of the monetary policy, it is not at the cost of neglecting other considerations. He seems to think that one among those other considerations is asset price bubble and, hence, took some measures to prevent the asset price bubble. For example, when he sensed the possibility of asset price bubble in India, he made the lending standards stricter. At some point of time, he did not allow banks to finance purchase of raw land. He would grant construction loan only when a developer was about to start construction. It has been stated that, "the RBI conceded that it could not take a view on whether there were asset bubbles or not, but it did note the possibility of such a build-up of bubbles

in the domestic economy. Consequently, to protect the banking system from a possible adverse impact, counter-cyclical regulatory measures were undertaken while the monetary policy was leaning against the wind of excessive growth in credit and money supply"(p. 352).

Was it an appropriate policy stance? As per the conventional wisdom, the Central Bank should not try to prevent asset price bubble because of two reasons. First, it is very difficult to identify an asset price bubble. Second, even if it is identified, there is no guarantee that it would take the economy out of it without deflating it. So the Central Bank should ignore it. But after analysing his policy measures, it is not at all difficult to see some of the consequences. First, no banks in India have failed. Second, there was little requirement of injections of emergency capital. Third, there were no write-downs. So price stability should not be the only goal of the Central Bank. It should also see that the entire financial system is stable.

Mr. Y. V. Reddy also discusses the difficulty of conducting monetary policy in India. According to him, it arises because there are some specific features. First, there is an informal mandate for the Central Bank to maintain an acceptable rate of inflation. There is no explicit mandate for price stability. Second, the monetary policy in India continues to ensure financial inclusion of all segments of the population. It is so because the commercial credit penetration is very low. Third, the monetary management is constrained by the lack of information about the natural rate of unemployment and a comprehensive measure of consumer price inflation and so on. He also writes that besides these constraints, the monetary policy also faces a number of dilemmas. They were due to the public policy with regard to capital inflows, the allocation of credit to some sectors, reduction SLR and so on. Together all these factors resulted in complexities and dilemma in the conduct of monetary policy. So he writes, "the monetary policy has to address dilemmas, which exert conflicting pulls at every stage, and blend the desirable with feasible. We have to recognize that judgments are involved at different stages which call for both knowledge and humility" (p.211).

Looking at the macroeconomic performance of Indian economy, one can conclude that notwithstanding the constraints and dilemmas, the monetary management in India was very successful during his tenure. Compared to many developing countries, India was able to maintain a moderate rate of inflation, dampen the volatility of economic growth and manage exchange rate quite successfully. He managed the economy quite successfully.

In the last part of the book, he explains the causes of recent global financial crisis. According to him, some factors are related to the macroeconomic management and some are related to the regulatory environment in which financial markets were functioning. In macroeconomic management aspect, he argues that some countries, particularly the United States, had large current account deficit and some countries had current account surplus. So the market required the correction. Second, the monetary policy in the United States was extremely accommodative, which created excess liquidity. Such excess liquidity caused speculative activities and asset price bubble. Third, few Central Banks had formal mandate to maintain financial stability. Hence, they gave relatively low emphasis to financial stability and more emphasis to inflation targeting. Four, even though some of the Central Banks perceived underpricing of risks, they did not act or intervene. He writes, "the Central banks

seem to have ignored the economic imbalances and asset bubbles that were building up and thus failed to act in a counter cyclical fashion to moderate, though not eliminate, the boom bust cycle" (p.341). In regulatory environment front, he argues that the regulators did not have adequate skills to cope with complexities of financial market innovations. They failed to tighten regulation when the economy was experiencing an excessive exuberance. They also ignored the developments in the shadow banking system. These are some factors that together caused the crisis.

While explaining the stance of accommodative monetary policy as a reason for creating excessive liquidity and asset price bubble in the United States, he has made no reference to natural rate of interest or Taylor rule. Knut Wicksell developed the concept of natural rate of interest, which is also called neutral rate of interest, in 1898. In its modern form, it is defined as the rate of interest, which is consistent with output at its potential level and actual inflation is equal to the target rate of inflation. If the actual real rate of interest is less than the natural real rate of interest, the monetary policy is accommodative, and if the actual real rate of interest is more than the natural rate of interest, the monetary policy becomes contractionary. Measuring the natural rate of interest has become a very active field of research among central bankers very recently to judge the stance of monetary policy. But the book does not mention about it.

In conclusion, we can say that it is an excellent book to read. It shows Y. V. Reddy's perspectives on a wide variety of issues. In particular, it reflects his regulatory approaches to many issues relating to the financial sector. If someone is interested in knowing the reasons behind the strong and robust financial system in India, he/she must understand the thoughts that were there in Reddy's mind in formulating his stance on various policy issues. It can certainly be achieved by reading this book.

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Decoding Intolerance: Riots and the Emergence of Terrorism in India¹

M. Asharaf Rizvi

Prateep K. Lahiri (2009). Decoding Intolerance: Riots And The Emergence Of Terrorism In India (New Delhi: Roli Books Pvt. Ltd.), pp. 296, Rs. 395. ISBN 9788174367433.

"Log Toot Jate Hain Ek Ghar Banane Mein : Tum Taras Khate Nahin Bastiyan Jalane Mein". This couplet written by the famous Urdu poet Bashir Badr after his house was burnt in a communal riot in Meerut in 1987 reflects the sentiments of a large number of Indians who have suffered communal frenzy in one form or the other. Communal riots have become a part of Indian psyche; we live with it, albeit with a feeling of pain and remorse.

The Allahabad High Court's judgment on the 60- year-old Ayodhya issue on September 24, 2010 may trigger another round of communal frenzy if we do not bury the past and go ahead to make India a developed nation. What is it about communal riots that, six decades on since independence, the country still suffers due to communal frenzy and we are not able to do much about it. Unfortunately, the problem of communal riots has not been resolved with the passing of the years. People are killed, women are raped, children are burnt alive, houses are set ablaze, and the country witnesses it with a sense of loss. The pain is not confined to a single community. Nor is it simply the sufferings of a few individuals or families. It is the pain of the whole nation.

As such, it is important that this recurring and entrenched problem has attracted the attentions of Sri P K Lahiri, who has had a distinguished career in the civil service as an IAS officer spanning thirty-six years with an earned reputation for being upright, fearless, and honest. As Lahiri has several encounters with communal riots during his career as a civil servant, his personal experiences and a sharp sense of social responsibility in dealing with a problem like this has probably led him to explore the subject with great objectivity but with a sense of personal touch. Thus, *Decoding Intolerance: Riots and the Emergence of Terrorism in India* is a very different kind of book that explores a social reality, which needs to be understood, analysed, explained, and faced.

In an exceedingly readable, stimulating, and exciting analysis and discussion, Lahiri presents the reality and explores answers to many startling questions. From an insightful description of the nature of 'communalism' and its 'use' and 'misuse' in India to a dispassionate description of Hindu-Muslim riots with its various dynamics, the book refuses to shy away from the underside of social co-existence, finding even in an inveterate problem a kind of positive hope. It is that supple movement between gloom and sanguinity that makes this loaded display of a social issue a very exciting book. As an insider, he narrates several archetypal Hindu-Muslim riots in an interwoven narrative that is by turns expressive, striking and shocking. The narrative has a human touch and displays the author's concern for human life and dignity but does not shy away from presenting the reality irrespective of how painful

¹ An earlier version of this book review was published in the *Business Standard* on September 24, 2010 under the title 'Why Civilisations Clash in India'

or shameful it is. As a result the reader gets an insight into how these riots happen, how do they spread, and what lessons we can learn from them to deal with them more effectively.

The book is of interest to all kinds of readers: civil servants, academicians, students, professionals, and businessmen simply because it deals with something that is of importance to all of us. The author does not see the problem of communal riots in isolation and recognizes that it is a multi dimensional issue. As a result he attempts to deal with it holistically. The book talks of the struggle between liberalism and fundamentalism in Islam and clash of civilizations, macro issues related to communal conflict in Indian society, and the emergence of terrorism in India. The book, therefore, presents the issue of communal divide between Hindus and Muslims in a broader social framework that helps the reader to understand the issue with all its associated complexities.

The author deplores the myths created by the far-right politicians and political thinkers about India's largest minority of the country. The myths such as 'the demographic danger due to growing Muslim population', 'the dangers posed by the rising population of Bangladeshi infiltrators', 'the immediate need of a uniform civil code for the social well-being of the nation' are not only exposed, they are plainly rejected on the basis of factual data. Lahiri being a rationalist asks fundamental rational questions and provides acceptable answers, which can not be rejected by anyone who sees and believes in truth and honesty.

However, the most striking feature of the book is not the boldness with which he asserts that the Hindutava political movements have by design damaged the Hindu-Muslim fabric like nothing else before by creating an atmosphere of mutual suspicion and hostility nor his bold assertions about the dangers of narrow and sectarian variety of any religion. The most remarkable feature of the book is, in fact, the hope and positivity that he tries to give us by encouraging us to develop a sectarian consensus and make us understand the need to revive and re-establish harmonious relations between Hindus and Muslims for a peaceful India. His observation that despite the large number of killings in communal clashes, communal violence is still an urban phenomenon gives lot of hope and solace. The fact that the communal venom is not as widespread in the country as is generally believed is soothing.

Thus, *Decoding Intolerance: Riots and the Emergence of Terrorism in India* by Prateep K. Lahiri is a book worth reading for several reasons. At places, it touches the heart but most of the time it explores the issue with great objectivity. It raises pertinent social questions but provides satisfactory answers. Moreover, the style is very engaging. The narrations are expressive and striking. We need to read it to know its worth.

Author's Profile

Dr. Ashraf Rizvi is a faculty in General Management Area at Indian Institute of Management Indore. He has taught courses on business communication, negotiation, leadership, and general management in the Institute's PGP, EPGP and executive programmes. In recent years, Prof. Rizvi served as Chair Executive Education in IIM Indore. Rizvi's research focuses on communication and professional effectiveness, and his work has been published in national and international journals. He has also written ten books on these topics. Moreover, he has been consultant and trainer with several organizations, and has designed and conducted a large number of executive education courses.

Profitable Marketing Communications: A Guide to Marketing Return on Investment

Aditya Billore

A.Young, and L. Aitken (2007). Profitable marketing communications: A guide to marketing return on investment (New Delhi: Kogan Page India), pp. 212. Rs. 325.

I chose this book for the review because of its application in the future research I am planning to do. The title of the book "Profitable Marketing Communications: A guide to marketing return on investment" is interesting as it talks about the return on investment (ROI), a financial term in the marketing context. Another reason why the title is attractive is that the expenditure on marketing is often considered to be not quantifiable and hence difficult to measure. Also marketing is considered to be a cost rather than an investment. The title of the book suggests that the book will consist of some thumb rules or strategies to make marketing a profitable investment.

The authors of the book are Antony Young and Lucy Aitken. Antony Young is President of a media agency Optimedia International in the United States. This agency specialises in integrated marketing communication strategies. Moreover, Antony Young has worked with global brands such as Sony, Coca-Cola, McDonalds, HSBC, Procter & Gamble, Toyota and Nokia. His intense experience in the field can be felt with the examples he has used in the book. Lucy Aitken, the second author, is a freelance writer specialising in media and marketing.

The book starts by exhibiting the present scenario in the field of marketing communication. The first chapter talks about why the effectiveness of the mass advertising is declining. This chapter gives a brief history of the advertising industry. The information is useful, and it is put in a very interesting way. Also, the chapter emphasises the changing tastes of the consumer and hence the need for reforms in the marketing communication. The succeeding chapters of the book are dedicated to the definition of Marketing-ROI and related terms. The book also gives many case studies exhibiting how different companies used and calculated the marketing ROI correctly and made enormous profits. The following chapters give some tools to establish relevance of the marketing communication for the profitability of the organisation. Finally the book gives a check whether an organisation is marketing ROI-fit or not.

A book on ROI is expected to have very difficult jargons and calculations. However, this book deals with the ROI in a very practical way, giving examples and cases demonstrating how managers react to a challenge and calculate situational stability of a marketing initiative. There is no mathematics in the book; not even a single calculation is there. The book frankly and strictly says that brand equity and awareness are not much related with the return on investment. What matters ultimately is: whether marketing result in sale and whether the results can & measured and calculated for a marketing campaign. Thus the book gives a practitioner's approach to the marketing. Also the book suggests marketers

not to get confined into theoretical boundaries. This part of the book explaining the mistakes which marketers often do is interesting and is written lucidly. The language used makes comprehension easier to the reader. Even a reader having no marketing background can understand the problems stated in these chapters.

The cases used in the book give different problem situations which are solved by proper marketing strategies. All the cases clearly specify the background, challenge and the solution. Thus not much intellectual effort is expected from the reader's side. The reader can appreciate the work done by Toyota, P&G, O2 or the organisation about which the case study talks.

The book discusses eight tips to profitable marketing communications, and the chapters afterwards deal with implementation guidelines and elaboration of these tips. Each of these tips is illustrated using case studies again where convergent evidence is adduced. Thus the book gives exposure to different real-life situations where marketers made profit out of their marketing strategies. The reader gets a good exposure and an insight to all these situations and how organisations dealt with them.

Finally the book once again comes back to the eight points for managing a profitable marketing communication. Again the importance of ROI is emphasised. Bringing culture supporting Marketing ROI in the organisation and other reforms are suggested.

There is no concrete formulation given in the book to calculate the marketing ROI, but the book demonstrates the various methods used by different successful organisations. The book is written from a practitioner's or marketer's perspective, and hence, despite clear and understandable language marketing students may find the book steering away from their conventional theoretical language. Some concepts given in the book are very difficult to implement and the case studies are situation specific, so generalisation is difficult.

Overall the book presents a well-informed criticism of conventional marketing practices. It recommends frame-breaking, innovative techniques of marketing, exploring new media. The examples and case studies are perfectly placed within the theory and are relevant. The theme of book 'How to bring tangible financial benefits results' is successfully delivered by the book. The book adds value to the skill set of a practitioner and provides better understanding of the contemporary marketing industry to a learner.

Author's Profile

Aditya Billore is currently a Doctoral Student in the area of Marketing Mangement at Indian Institute of Mangement Indore. His areas of interest are Integrated Marketing Communication, Corporate Brandind and Marketing Accountablility. He holds an M.Tech degree in Microelectronics and VLSI Design and has about four years of teaching experience.

Marketing 3.0: From Products to Customers to the Human Spirit

Rajeev Verma

Philip Kotler, Hermawan Kartajaya, Iwan Setiawan (2010). Marketing 3.0: From Products to Customers to the Human Spirit (New Delhi: Times Group Books), pp. 188. Rs. 495, ISBN 13: 9788126526192

The book has been written by legendary marketing sage Philip Kotler and his colleagues Hermawan Kartajaya and Iwan Setiawan. This book moves beyond the product- and consumer-based marketing approach and talks about consumers as multi-dimensional, value-driven people, even as potential collaborators.

The Concept of Marketing 3.0

In the book, Marketing 3.0: Values-Driven Marketing, the authors talk about a world full of consumer disarray. Consumers search for companies that meet their deepest needs for social, economic and environmental justice in their mission, vision and values. Increasingly, consumers are looking for solutions to their anxieties and to make the globalised world a better place. They look for not only functional and emotional fulfilment but also human spirit fulfilment in the products and services they choose. This spiritual value proposition may be in the form of creativity and innovation.

Argument has been built that marketing has moved to its next stage: Marketing 3.0, since its formal inception since industrialisation. The book defines early era as of Marketing 1.0, a product-centric era, marked with the famous saying of Henry Ford, "Any customers can have a car painted any color that he wants as long it is black". When it comes to today's information age where consumers are well informed and can compare several value offerings of similar products, the product value is defined by the consumer. They called it Marketing 2.0 or customer-centric era.

The upcoming age is the rise of Marketing 3.0 or the human-centric era where consumers will be treated as human beings who are active, anxious and creative. They will request more participation in value creation. Marketing 3.0 is a stage when companies shift from consumer centricity to human centricity and where profitability is balanced with corporate responsibility. In short, Marketing 3.0 thinks about consumers as whole humans with hearts, minds and spirits.

Origin of the Concept

The idea of Marketing 3.0 was first conceptualised in Asia back in 2007 when the authors first launched the first manuscript of the book at the 40th anniversary of the Association of Southeast Asian Nations (ASEAN) in Jakarta, Indonesia. Indonesia, being the only G-20 member in Southeast Asia, has come up a long way being a nation where human centricity and the character of spirituality have overcome the challenges of diversity.

Scheme of the Book

The book has been divided into three distinct parts: trends, the strategy and the application consisting of total 10 chapters. The first part (trends) analyses the current situation, building a foundation based on current societal trends. This enables the authors to dig into many of the issues influencing the necessity for change and ultimately suggests revamping many current disciplines of marketing. While Kotler still stresses the importance of the 4P's, he has identified three important factors, namely cocreation, communitisation and character building, and driving marketing towards a new era, fittingly dubbed, Marketing 3.0. It calls attention to a more holistic and more consumer-involved approach to marketing. Further, the age of participation; the age of globalization paradox and the age of creative society reflect current societal trends, which has been clearly evident with the emergence of social media. This leads to three core concepts: identity, integrity and image, the main objectives of Marketing 3.0.

The second part (strategy) tackles how to communicate the Marketing 3.0 concept to various stakeholders: consumers, employees, channel partners and shareholders. Here, the role of the cultural brand is as the one connecting the dots and giving direction owing to the increased awareness and concern in people about larger social issues. Another great thought in the book is about the age of creativity and human spirit marketing. The mention of Maslow realising that his pyramid should have been upside down was a great relief, making the self-actualisation the foremost goal of life. Maybe the West will now understand Gautam Buddha or Swami Vivekananda better.

In the final part (applications), applying the Marketing 3.0 theory, there is continued emphasis on the social responsibility of companies to act as social champions beyond just philanthropy. This ties into the responsibility companies have in acknowledging the need to create more social business enterprises - companies making profit while positively impacting the society in which it operates - to make product and service offering more accessible to the ever-growing low-income population.

Finally, the epilogue chapter summarises the 10 key ideas of Marketing 3.0 with select examples of companies that embrace the concept in their business model. It brings all the concepts together in 10 credos, worth taking note for any (aspiring) marketer. The book will definitely draw the attention towards collaborative marketing and cultural marketing as a way of the future where the framework is defined as that of a starfish with no head but functioning as a group of cells.

Relevance in the Emerging Market

The book has been found highly relevant in the emerging business scenario. It argues that marketers have not truly been listening to the needs and wants of consumers, eventually causing consumers to feel disconnected from product and service offerings. Human needs and wants are becoming ever more complex, thus revamping the hierarchy of needs, used by marketers. For any marketer this is a must-read, and answers the all-important question posed by the authors: "Is it possible to be a human-centric company and still be profitable?"

In the end, I would say that this book may not be the answer to all your questions about the future of marketing but it would definitely trigger some powerful thoughts for understanding the constantly evolving market space and consumer landscape. In short Marketing 3.0 practitioners have bigger missions, visions and values to contribute to the world vis-à-vis existing marketing concepts. Therefore, Marketing 3.0 compliments emotional marketing with human spirit marketing.

Key Issues Addressed

Thoughts have also been shared for implementation of Marketing 3.0 for solving global issues such as wellness, poverty and environmental sustainability and how corporations can contribute by implementing the human-centric business model.

Another key observation is on globalisation as one of the trends that have influenced the emergence of Marketing 3.0. The book calls it the 'Globalisation Paradox' and quotes three instances of the same. First,- is the idea that capitalism does not require democracy, which is exemplified by China - open markets do not mean open politics. The second paradox is explained as unequal distribution of wealth and the case in point is India with 50 billionaires in one hand and 1 billion of the population living with less than a dollar a day, and the third is that the global culture strengthens the traditional culture.

Author's Profile

Rajeev Verma is currently a Fellow Participant in the area of Marketing Mangement at Indian Insitute of Mangement Indore. He has done his Post-graduation in Forest Economics and Management from Forest Research Insitute, Dehradun. Prior to joining, he was working with National Innovation Foundation, Ahmedabad and Indian Institute of Forest Mangement, Bhopal. His research interest lies in exploring Marketing Information System, Product Mangement, Rural Development and Inclusive Growth, Customer Experience Management and Marketing Engineering. One of his paper was awarded with best paper award at International Marketing Conference, MARCON 2010 held at IIM Calcutta.

The Art of Strategy - A Game Theorist's Guide to Success in Business and Life

Krishna Chandra Balodi

Avinash K. Dixit & Barry J. Nalebuff (2010). The Art of Strategy - A Game Theorist's Guide to Success in Business and Life (New Delhi: Viva Books Private Limited), pp. 504, ISBN- 978-81-309-1544-9

Avinash K. Dixit and Barry J. Nalebuff are the world-renowned experts on game theory. Prof A K Dixit is the John J. F. Sherrerd University Professor of economics at Princeton University. Prof B. J. Nalebuff is the Milton Steinbach Professor at the Yale School of Management. The book's target audience could be CEOs and management professionals, academics and students of management.

Game theory teaches how to think strategically and win while facing competitive situations. The game theoretic approach of decision-making is applicable in various aspects of life, and the authors state their intent of writing the book as "we hope that you will emerge a more effective manager, negotiator, athlete, politician, or parent" which also subtly implies the intended broad audience of the book.

Game theory (GT) was first formalised by John von Neumann and Oskar Morgenstern in their book Theory of Games and Economic Behaviour in 1944. A game represents a situation of interdependence, where the final outcome depends on the actions and choices of two or more players. If the players' interests are directly conflicting, one's gains will be the other's loss - such types of games are called zero-sum game. The moves in a game may be sequential or simultaneous (Chapter 2). The book uses examples; the most famous is the prisoner's dilemma (Chapter 3), and others from business, sports, politics, negotiations and popular culture to explain the key concepts with minimal use of mathematics

Authors start with an aim to revise their earlier work Thinking Strategically to incorporate latest development and accumulated teaching experience. The present book is an interesting introduction to game theory, offering readers a view of the discipline without assuming a prior knowledge of economics or mathematics. The book has been written in three parts and 14 chapters. Introduction has been titled as 'How should people behave in society?' It envisages all as strategists and life as a stream of constant decisions, and defines GT and describes its various applications. Chapter 1 begins with examples of the art of strategic thinking, showing how issues arise in a variety of decisions. It incorporates 10 tales of strategy including Pick a number, Hot hand, Here I stand, Think Strategically etc. The authors point out effective, less effective and bad all three types of strategies used in these real-life games. Chapter 2 is on sequential games which can be solved by backward reasoning using decision trees. The mantra for Chapter 2, Look forward and reason backward, means to anticipate where your initial decisions will lead you and then use this information backward to calculate about choice. Chapter 3 focuses on Prisoner's dilemma, while Chapter 4 focuses on A beautiful equilibrium (Nash Eqb.) recognising that there may not be a dominant strategy at all and there may be multiple Nash equilibria. In the chapters 2-4, the authors build the

basis for the science of game theory using examples, each of which brings out some principle as detailed below - Rules of Strategy and Nash Equilibrium.

- Look forward and reason backward. (Chapter 2)
- If you have a dominant strategy, use it. (Chapter 3)
- Eliminate from consideration any dominated strategies and strategies that are never best responses, and go on doing so successively. (Chapter 4)
- Look for an equilibrium, a pair of strategies in which each player's action is the best response to the others. (Epilogue I)
- In a game of pure conflict (zero-sum game), it would be disadvantageous for you to let the opponent see your actual choice in advance, and you benefit by choosing at random from your available pure strategies. The proportions in your mix should be such that the opponent cannot exploit your choice by pursuing any particular pure strategy from the ones available to him; i.e., you get the same average payoff when he plays any of his pure strategies against your mixture. (Chapter 5)

Chapter 5 talks about Choice and Chance in the actor's strategies and to avoid patterns in decisions. Chapter 6 talks about Strategic Moves - actions that change the game to ensure better outcome for the player taking it; it involves establishing credibility through commitment, threat and promise. This chapter explains each of these terms and its application. Chapter 7 talks about making strategies credible for which eight options are classified into three rules - change the payoff, limit one's ability to back out, and use others (teams, agents) to help. Chapter 8 focuses on Information - integration and manipulation through use of signalling, signal jamming and screening. It is also important to understand that the amount, type and quality of information or knowledge with each player also affects a player's move (Chapter 8). Chapter 9 is about cooperation and coordination between actors. The authors note that earlier focus of the game theory was on zero-sum games but John Nash, who developed Nash Equilibrium, extended it to combine conflict and cooperation (Chapter 9).

Nalebuff (1996) coined the word and wrote a book called Co-opetition, which transcended the evident tendency to compete to look beyond for cooperation with competition among players. However, there may be games with multiple equilibria or multiple potential solutions. It is also important to understand that the amount, type and quality of information or knowledge with each player also affects a player's move (Chapter 8). The authors explore the implications of game theory to some real-life problems with strategic stakes such as auctions, bidding and contests (Chapter 10). These auctions may use different systems such as the English, Japanese or Dutch. The chapter explains, for example, in the "T-BILLS" US treasury auction section how the auction was changed by the government to the uniform price rule. Chapter on bargaining (Chapter 11) brings to fore various issues involved in the negotiations and various bargaining tactics such as BATNA. This will hurt you more than it hurts me. Chapter on voting (Chapter 12) is used to propose a voting system that encouraged people to play straight. Any way of adding up votes is bound to be flawed. In practical terms, it means that people will always have an incentive to vote strategically.

Thus, election will be determined by the process just as much as by the voter preferences. Chapter on incentives (Chapter 13) highlights the lack of adequate workers and managerial incentives as the primary reason for failure of socialist economic systems. In contrast, a market economy has a better natural incentive mechanism, namely the profit motive. Each employee or manager is not fully exposed to competition in the market; however, top management devises its own internal carrots and sticks to obtain the desired standards of performance. The authors develop the components required for a smart incentive scheme through a series of examples. A final chapter on cases (Chapter 14) is included towards the end of the book. The case studies are similar to the ones used in classes. Each case sets out a particular set of circumstances and invites reader to apply the principles discussed in that chapter to find the right strategy for that situation. Some cases are open ended; at times there is no clearly correct solution, only imperfect ways to cope with the problem.

Closer look at the game theory reveals the use of common sense which can be mastered by developing a new way of seeing the world. Using different case studies the authors show how nearly every interaction with mutually conflicting self-interests has a game-theory element to it. The book contains many questions that readers can work out, with answers at the back. The authors claim that using game theory approach to competitive situations will make readers more successful in business and life. The authors write "some of the most exciting new insights have come from the recent advances in behavioural game theory, which incorporates human psychology and biases into the mix and thus adds a social element to the theory. As a result, game theory now does a much better job dealing with people as they are, rather than as we might like them to be. We incorporate these insights into our discussions....game theory is too interesting and important to leave to the academic journals."

To conclude, game theory provides but one particular view of the world. It is not the only one, nor the best. Game theory has its limitations. Neither is it a recipe for, nor a guarantee of, success. This book proves that game theory is interesting and important. The book teaches an entirely new and very artful approach to making decisions. The book builds on the experiences of authors and advances in relevant literature since the duo's earlier book, *Thinking Strategically*. The book aims at helping reader become better at recognising, even anticipating, strategic situations and knowing how to respond. The book is hailed, perhaps justly so, as the bible for developing winning strategies in business and in the game of life.

Author's Profile

Krishna Chandra Balodi is a participant of Fellow program in Management (Doctoral Degree) in Strategic Management Area at Indian Institute of Management Indore. He had done the Master of Management Science from Lucknow University, Lucknow. He has about 6 years of teaching experience at graduate and postgraduate level in university and management institutes. His broad research interests include organic and inorganic growth of firms, Internationalization of firms, Entrepreneurship, Top management teams and Emerging multinationals.

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