

Sankalpa means Decision,
Determination that a true manager or leader must make every day...



SANKALPA

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SANKALPA : Journal of Management & Research

aims at bringing out the intricacies of Management perspectives, concepts, and applications. The focus is on Indian Management and its interplay with Global Management knowledge, best-practices and research.

This issue is sponsored by : Dr. Satendra Kumar, Professor & Head, Ph.D Research Center, SMJV's CKSVIM



SMJV CENTENARY
1915 - 2015



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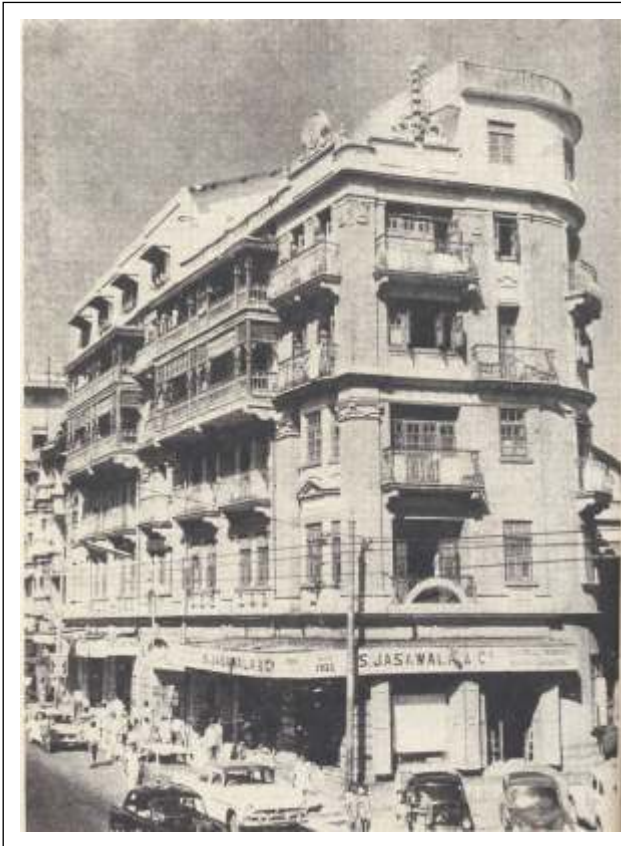
पंजाब केसरी आचार्य
श्रीमद् विजय वल्लभसूरिस्वरजी म.सा.

SHRI MAHAVIRA JAINA VIDYALAYA

H. O. , MUMBAI, INDIA.

Centenary Celebration (1915 – 2015)

Memories of Golden Jubilee of SMJV Trust (1.3.1968)



"Devkaran Mansion", SMJV Trust Original Head Office,
Princess Street, Mumbai, India.

With the inspiration of **Pujya Acharyadev Shri Vijay Vallabhsurishwarji Maharaj**, Shri Mahavira Jaina Vidyalaya had been established. SMJV had celebrated their Golden Jubilee (50 years) from 21st to 28th January, 1968 in Mumbai.

On the occasion of Golden Jubilee Celebration, SMJV had decided to do two things: 1. **To collect Rs. 21 lakhs – Golden Jubilee Contribution** and 2. **SMJV Vikaskatha (Vidyalaya's story of progress) was to be published in two volumes.** It was a pleasure to announce that they had accomplished it.

The first volume of **"Vidyalaya ni Vikaskatha"** (Vidyalaya's story of progress) was published on 27th January, 1968 at Mumbai by Rector Prof. Shri Govardhanbhai Parikh of Mumbai University, and the second volume of **Vikaskatha** was published on 26th February, 1968 at Ahmedabad by Sheth Shri Sumatilal Popatlal Shah.

SMJV had decided to publish the **"Vidyalay ni Vikaskatha"** with all the details of 50 years journey and that they had circulated among their students and members.

The second volume of **Vikaskatha** was authored by Shri Ratilal Desai for the benefit of the society and he had tried to justify it.

SMJV was thankful to Vadilal & Co. , Ahmedabad (Publishers) for their kind support.

(Excerpts from **"Vidyalay ni Vikaskatha"**, written by Shri. Ratilal Deepak Desai, Published by Shree Mahavira Jaina Vidyalaya, Mumbai. Compiled by Ms. Anjali Bhadsavle, Admin Officer)

From the Heart of Editor-in-Chief...

Global Accreditation. Local Application

The year 2014 is a mark of truly Global beginning for us.

Welcome to the distinguished Professors on the newly formed International Board of Scholar-Reviewers at SANKALPA Journal of Management & Research. We are both thankful and proud of all of you from around the world.

A good news for the Research Scholars around the world; SANKALPA is now an Indexed Research Journal with an Impact factor of 2.372 from ISRA-JIF. I thank all the Reviewers, and the authors whose articles are published in this issue after double-blind review. Quality is our Hallmark, and yours.

Iron Lady Anandiben Patel, Honorable new Chief Minister of Gujarat (2014-2019) wrote a special Message to us published here. The world is going to watch the momentum of Gujarat State and INDIA, the largest Democracy in the world, set in motion by **Honorable Narendra Modi, the new Prime Minister of INDIA (2014-2019)**; how positive steps are taken to educate and skill 65% young out of its 1.2 billion population, and how business, Industry and CSR is going to be promoted (not harassed!) in order to claim its rightful place in the increasingly active SAARC, BRICS, EU, UNSC etc. INDIA's time is *now*! Do you see an opportunity?

I just returned from Chicago after speaking in the Thought Leader Session and participating with a Global Group of 1,002 Deans, Professors, Heads and Educationists from 30 countries in 2014 ACBSP Annual Conference. ACBSP is Accreditation Council for Business Schools and Programs based in Kansas, USA with 1200+ B-School and University members from 58 countries, 900+ of which are accredited as on June 2014. Global Accreditation will change the way IIMs and Top Business Schools will operate in India and worldwide in the next 25 years. See my Presentation on cksvim.edu.in

I am pleased to serve ACBSP on its various Committees in Region 10 (SouthAsia-Pacific) and The US based Global Head Quarters to help promote Accreditation, Scholarly Publication and Business & Industry Relations. *Read My Report* as a lead story in this issue. Visit www.acbsp.org

CKSVIM was Awarded 'Candidate for Accreditation' in 2012, and is in the final stage of Global Accreditation which we expect in **June 12-15, 2015 ACBSP Annual Conference at Philadelphia, USA**. May be more to see if I shall be alive in **June 2039** to see the Time Capsule which ACBSP sealed with member donated items including my US\$ Note with Doug and my name!

CKSVIM becomes first academic institution from INDIA to have signed an Agreement with International Trade Centre (ITC), WTO, Geneva, Switzerland to offer a special elective course on 'WTO and its Impact on Business & Industry' to MBA students as well as SME Owners and Managers in INDIA, beginning July 2014 at CKSVIM Vadodara Campus. Gujarat's 85 MBA Colleges shall benefit by offering this new elective course approved by Gujarat Technological University. We shall train the Faculty.

CKSVIM Business School also hosted 17 German Students with Prof. Dr. Ramesh Shah from DHBW Cooperative University, Stuttgart (Head Quarter of Mercedes Benz and Porsche Family), Prof. Dr. Manuel Teschke and Prof. Dr. Natalie Bartholomaeus from Business Management and Health Care Faculty, FH Bielefeld University of Applied Sciences, Germany visited CKSVIM Vadodara. Prof. Dr. Samo Bobek, Dean, Faculty of Management, University of Maribor, Slovenia, signed an MOU with CKSVIM. Federation of Gujarat Industries (FGI) signed an MOU with CKSVIM under Industry-Institute Partnership (IIP) Cell at CKSVIM, sponsored by AICTE, Ministry of HRD, Government of INDIA with a Grant of Rs. 500,000 for 2013-2015. Thanks FGI and AICTE.

Welcome to scholarly reading....



Rajesh Khajuria, PhD, CMC, FIMC

Director, SMJV's CKSVIM, INDIA

Hon. Secretary, Region 10

Member, Scholar-Publisher Committee

Business & Industry Relations Committee, ACBSP, USA

Member, CII, FGI, VCCI, ISTD, BMA, AIMS, SEAA

Email : director@cksvim.edu.in

श्रद्धावाँल्लभते ज्ञानं तत्परः संयतेन्द्रियः । ज्ञानं लब्धा परां शान्तिमचिरेणाधिगच्छति॥

“One who has faith and who with controlled senses is devoted to
attaining this wisdom is successful in his/her endeavour.
With wisdom and knowledge, he/she quickly attains the supreme peace.”
- Bhagvad Gita

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APPEAL TO THE AUTHORS AND CONTRIBUTORS

The present issue (Volume 4, Issue 2) is the July-Dec 2014 Issue, which contains research papers / articles in various areas of Management and Research. The bi-annual Journal 'SANKALPA' portrays our strong conviction to disseminate the thinking of academicians and practitioners in the field of Business Management discipline, which they communicate through their 'Reporting' in the form of research papers, articles, study reports, case studies, original conceptualizations with logical vigor and vision.

The members of the Editorial Board appeal to all the academicians and practitioners to communicate their 'Reporting' to the Editor-in-Chief for publication in our subsequent issues, through the e-mail ID : **publications@cksvim.edu.in**

Please See **Guidelines for Authors & Contributors**
Call for Case Studies

Subscription Form and Rates : (See last page)

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Dt. 19-06-2014

Snehi Shree Rajeshbhai,

Namaskar.

Gujarat has established its unique identity across the globe through its ongoing journey towards development. This achievement is a matter of pride for every citizen of the state. Remaining as a front runner on the path of progress, Gujarat today has become the torch bearer for the nation contributing the share to the essence of development for all with the co-operation from all - “सब का साथ सब का विकास” (*SAB KA SAATH SAB KA VIKAS*) Gujarat’s pride has become the pride of the whole nation.

It is a matter of pleasure to receive your letter expressing best wishes for Gujarat to move continuously ahead on the path of development.

I express my gratitude with the feeling that may the path of progress for Gujarat be enlightened, with the collective and inclusive efforts by all.

(Anandiben Patel)

To,
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Anandiben Patel

Chief Minister, Gujarat State



Ph.D. Research Centre Dr. Satendra Kumar, Prof. & Head

Ph.D. (Management), MBA, B. Tech (Hon.)- I.I.T. Kharagpur



Dr. Akshai Aggarwal, Hon. Vice Chancellor, Gujarat Technological University inaugurated Ph.D Research Centre on 26 February 2011.

The main objective of the Centre is to create and preserve the awareness among the Teaching Community about the "Role of Research" in the process of Knowledge – acquisition, processing, and storage of existing knowledge on one hand and on the other hand, in the process of generation and dissemination of newer knowledge driven by the acquisition of existing knowledge.

Mission of Ph. D. Research Centre :

- To promote 'Research Activities' at SMJV's C K Shah Vijapurwala Institute of Management, Gujarat Technological University and in other Institutions in the State of Gujarat and India.
- To promote Research Environment in CKSVIM capable of sustaining all kinds of research activities needed for the generation and dissemination of newer knowledge on a long-term sustainable basis.

Activities of Ph. D. Research Centre

1. The Center (Research Center) helps the Institute (C. K. Shah Vijapurwala Institute of Management) in the publication of its '**SANKALPA: Journal of Management & Research**', an International numbered (ISSN : 2231-1904) peer reviewed bi-annual (January and July) research journal, in print and electronic media.
2. The Center may get the recognition from The Gujarat Technological University (GTU), Chandkheda, Ahmedabad as approved Research Center of the University for helping those who are pursuing their Ph.D. Research under GTU.
3. The Institute has following four Faculty who are recognized by G.T.U. as Ph.D. Supervisor :

Ph. D. Supervisor ▶	Dr. Rajesh Khajuria	Dr. Satendra Kumar	Dr. Kerav Pandya	Dr. Kunjal Sinha
Research Scholars ▶	Ms. Ranjita Banerjee Mr. Subas Gantayat Mr. Samir K Rohadia Mr. Vinod J Danani	Ms. Preeti Nair Ms Savitha K. Mr. Prakash Patel Ms. Rupal Khambati Ms. Avni Jariwala Ms Darshana Desai	Mr. Snehal J.Bhatt	Doctoral Progress Committee (DPC) Member for Ms. Rupal Khambati

4. The Faculty Members at the Institute are Members of the Doctoral Progress Committee (D.P.C.) of the Research Scholars seeking supervision under other Ph. D. Supervisors.
5. Besides, The Research Centre has been conducting Faculty Development Programme for the benefit of Research Scholars in the relevant areas of Research Methodology, namely; How to conduct Literature Survey and to identify a Research Problem, Design of Questionnaires and its integration with the Data Analysis Methods, How to Develop Sampling Design for a Research Study and How to write a Ph.D. Thesis
6. We use SPSS 18.0 Software in our Computer Lab.

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2014 ACBSP Conference, Chicago, USA Brief Report

2014 ACBSP Silver Jubilee and Annual Conference, Chicago, USA, June 26–30.

Report by Dr. Rajesh Khajuria, Director, SMJV's CKSV Institute of Management, and Hon. Secretary-Treasurer,
Region 10 (Asia-Pacific), ACBSP, USA

: Excerpt :

Dr. Rajesh Khajuria was invited and had participated as a Speaker in the 'Thought Leader' Session, Business Advisory Council, organised by Accreditation Council for Business Schools & Programs (ACBSP) in their Silver Jubilee Annual Conference at Chicago during 26 to 30 June, 2014. He was one of the three experts invited on Business Advisory Council of ACBSP, USA this year. Read the Report in the author's own words!



ACBSP stands for **Accreditation Council for Business Schools and Programs**. **ACBSP** is one of the leading such Councils in The USA engaged in Global Business Schools Accreditation.

ACBSP's vision: Every Quality Business Program worldwide is Accredited.

In its Silver Jubilee year 2014, it was the largest ever Annual Conference of ACBSP in its history with **1002 attendees from 30 countries** including Sport Registrants (I had said 1000 attendees from 30 countries before a month in India!) Day 1 and day 2 half: About 75 Deans and Professors including me received Training for Mentors and Evaluators, conducted by highly experienced and committed trainers: **Diana Helluierd**, Asst Director (Accreditation), supported by a Panel of Experts consisting of **Ron DeYoung**, Executive Liaison to Baccalaureate / Graduate Degree Board of Commissioners, **Larry Zachrich**, Executive Liaison to Associate Degree Board of Commissioners, and other experts.

First Impression about the Conference:

Excellent, highly qualified and well-prepared speakers addressed a variety of topics on Teaching Excellence, engaging Students in the Digital Age, Accreditation process, Business and Industry Relations Self-Managing Boards, and many more in parallel sessions. Large banquet was organized for 1,000 plus seating capacity covering several large round tables with 14 chairs each in the pillar-less **Chicago Ball Room (Hall) on 5th Floor of Meridian Magnificent Mile Hotel** located on Michigan Street, the best area of Chicago, USA.

Speakers spoke for 10 to 15 minutes max, key note speakers for 20 to 25 minutes. Question-Answer after each session, except keynote.

Thought Leader Session:

I was one of the three speakers **Jim, Dan** and me in Thought Leader Session on Saturday morning during 10.30 to 12.00 noon, just before the first Keynote Speech in the Grand Banquet. **Jim** and **Dan** spoke very well about best practices in innovation and teaching-learning engaging students in the Digital world. About 300 Deans and Professors and ACBSP Veterans listened attentively the three of us for 20 minutes each, followed by Question-Answers for 30 minutes.

I started with 'Ohm' chanting for 3 times, my chanting followed by the attendees, many of whom liked it and told me later! **CKSVIM INDIA Institute Dossier** (Brochure) was kept in **International Information Exchange Area, picked up by many interested Deans**.

Five major Best Practices in Business Management Education :

My presentation and speech in the Thought Leader Session focussed on 5 Best Practices.

1. **Gujarat Technological University**, Ahmedabad, **Dr. Akshai Aggarwal**, Hon. Vice Chancellor and his team, and how it is growing as International Innovative University with collaborations with universities in **Canada, Germany, USA and China**.
2. **The Legacy of SMJV Trust (1915-2015)** based in **Mumbai, INDIA**, now entering its **Centenary Year 2014-15**.

3. **The Business School CKSVIM** based in Vadodara, Gujarat State, which is In Western India and one of the most Developed State, and our Motto : Education - Ethics - Enterprise.
4. **Focus on Quality : Excellence Committees** consisting of Faculties and Staff working for last 4 years, obtaining ISO 9001 : 2008 from BVQI, formed in the year 2010 even **before applying for ACBSP Accreditation** or National Accreditation like **NAAC** or **NBA** in **India**. (National Assessment and Accreditation Council / National Board for Accreditation). This was my major highlight.
5. **Industry Relations** : Industry-Institute Partnership Cell (IIPC) which won an **Award (Grant) of INR 500,000** from **All India Council for Technical Education (AICTE), Ministry of HRD, Government of India** for outstanding work on two-way working with business and industry- membership of eight (8) industry and academic associations and my self and our faculty sitting on various industry boards to serve them, and engaging industry managers and leaders with students for doing projects, training and jobs from the Campus before students complete their MBA program, resulting in close to 100% Placement of students. This was another major highlight, which turned out to be the Theme for the next **2015 ACBSP Annual Conference at Philadelphia, USA during 12-15 June**.

Many attendees took my ideas of Industry Relations and Engagement, as well as instituting '**Leadership Awards**' to **Industry Association Leaders** on our **Annual Day celebrations** for last two years, back home in **Vadodara**. Thanks to the Presidents and members of CII, FGI, VCCI, BMA, ISTD, HEF, AIMS, IMCI and SEAA with whom we are working closely.

Charles Beem, outgoing President, and **Anthony Negbenebor** Incoming President of ACBSP spoke very well, with **Anthony** showing a great sense of humour!

Peregrine's Mr. Parrot with whom I had signed agreement at New Delhi in 2013 will also be coming to Pune; I have invited him to start testing CKSVIM's 120 / 240 MBA students, with **Thothathri Raman** on **23-24 August, 2014**. Invite GTU Deans and Directors to half day seminar on ACBSP and Peregrine with possibly SEAA Trust.

I attended six committees meetings, and was proposed (later appointed) as a **Member of Scholar-Publisher Committee, as well as Business and Industry Relations Committee**.

A Time Capsule on last day was sealed, which will be opened in the Golden Jubilee year ACBSP Annual Conference in June 2039 somewhere in the world! (I put 1 \$ note with Douglas Viehland, ED and Rajesh Khajuria, barley written).

Business Meeting (AGM) was successfully organised, which I attended.

Banquet Dinner to Award Accreditation Certificates to about 20 new and 10 Reaffirmations after 10 year.

Quality Assurance (QA) Report to be submitted every 2 years after removing conditions if any, or at least showing improvements in Learning Outcomes.

Breakfast meeting and Thanks speeches by all 14 Past Presidents who attended the conference, one of whom attended all 25 past Annual Conferences, all were felicitated.

Closing with announcement to meet in the 2015 Annual Conference at Philadelphia on June 12 – 15.

Visited three Business Schools in Chicago with ACBSP Delegation :

Roosevelt University School of Business, Chicago State University School of Business, and City College, Chicago (all three ACBSP Accredited) and learnt many new best practices, some of which we are following.

Thank You, Thanks to Douglas and Team ACBSP !

2015 ACBSP Annual Conference, Philadelphia, USA.
Theme : 'Engaging Business and Industry for Student's Success'



2014 ACBSP Conference, Chicago, USA Photo Gallery



(By Invitation)

Measuring Sustainability of Companies with Enterprise Sustainability Planning Solutions (ESP)

Prof. Dr. Samo Bobek : Dean, Faculty of Economics and Business, University of Maribor, Slovenia. Email : samo.bobek@uni-mb.si

Dr. Kirti Sharma : Management Development Institute, Gurgaon, Haryana.

Abstract :

Sustainability has become a strategic topic for companies, so several standards and management solutions were developed to evaluate and report the sustainability performance of companies. The IT market has also followed this trend and as a result, software companies now offer a wide range of sustainability reporting tools. New players offering specialized BI solutions have entered the market and various suppliers of ERP packages offer new add-ons for sustainability reporting. In the paper state of these developments has been presented and the solutions from two major software providers of ERP solutions have been discussed.

Introduction

Modern information systems such as Enterprise Resource Planning (ERP) and Business Intelligence (BI), concepts which emerged in 90's, became over years not only more mature, elaborated but also diversified. Traditional Enterprise Resource Planning (ERP) solutions are not good at tracking the majority of factors inherent in doing business that impact the environment, nor do they provide a model for describing the processes involved in creating the impact (Sternad, Bobek, Deželak & Lampret, 2009). As well as ERP solutions (Aberdeen, 2008; Aberdeen, 2009) are also BI solutions (Bobek & Sternad, 2012) primarily focused in efficiency of companies and yet need to shift to effectiveness, including sustainability and social responsibility.

In recent years, sustainability has become a strategic topic for companies. In over these years, more than a hundred standards and management solutions were developed to evaluate and report the economic, social, environmental and sustainability performance of companies. These tools provide information of a qualitative, quantitative and economic nature and influence the interactions between a firm and its stakeholders.

The IT market has also catered to this trend. As a result, software companies now offer a wide range of sustainability reporting tools. New players have entered the market and various suppliers of ERP packages offer new add-ons and tools for sustainability reporting. Beside specialized software companies also big players on ERP market are entering this segment expanding their ERP solutions with sustainability functionality which enables

measuring sustainability of the companies. So measuring sustainability is not limited to the big investment projects and/or regions but is more and more often presented in companies.

In the paper concepts of corporate sustainability measuring and reporting is discussed from ERP and BI point of view, state of the art of the market of information solutions have been presented and the solutions from two major software providers of ERP solutions worldwide – SAP and Microsoft – have been analyzed.

Measuring corporate sustainability

Sustainable development has offered the world new perspective on how protect environmental systems for the present as well for the future generations (Gibson, 2006). Sustainable development paradigms emerge at various levels – national/regional economies, environmental projects, organizations/companies etc. Sustainability assessment frameworks emerged as a policy tools whose fundamental purpose are to direct planning and decisions making in all levels towards sustainability. Their foundations lie in well-established practices such as project environmental impact assessment (EIA) and the more recent strategic environmental assessment (SEA) applied to policies, plans and programs. In the areas of economies and big environmental projects two broad forms of sustainability assessment can be distinguished that reflect different origins (Integral Sustainability). In parts of Western Europe sustainability assessment follows SEA framework with planning focus – i.e. well established sustainability appraisal process in the UK. In some other parts where development is driven more by major infrastructure projects such as Canada, sustainability assessment follows more EIA principles.

On the other hand, corporate sustainability can be considered as 'a broad approach that includes various characteristics, in particular relating to the contextual integration of economic, environmental and social aspects' (Schaltegger & Burritt, 2005, p. 189). In more detail, according to the definition given by Account Ability (1999, p. 94), 'sustainability is the capability of an organization to continue its activities indefinitely, having taken due account of their impact on natural, social and human capitals'. A sustainability-oriented company is one that develops over time by taking into consideration the economic, social and

environmental dimensions of its processes and performance. Therefore, financial and competitive success, social legitimacy and efficient use of natural resources are intertwined according to a synergetic and circular view of the company's aims. From this point of view, a company creates value when it adopts a managerial approach, which is sustainability oriented. In this perspective, value creation processes are broad and shared and meet, in different ways, the stakeholder expectations.

According to these impacts on companies measuring corporate sustainability is a big challenge for companies. Published research reports about many approaches and analyzed experiences (Perrini & Tencati, 2006). The balanced scorecard, the GRI Sustainability Reporting Guidelines (GRI, 2004) and the Sustainability Integrated Guidelines for Management (SIGMA Project, 2003) are instruments available to companies. The GRI (2004) recommends seeing the sustainability reporting process not as the final purpose, but seeing it as a 'tool of change' - sustainability reporting is a living process and tool, and does not begin or end with a printed or online publication. Reporting should fit into a broader process for setting organizational strategy, implementing action plans, and assessing outcomes. Reporting enables a robust assessment of the organization's performance and can support continuous improvement in performance over time. It also serves as a tool for engaging with stakeholders and securing useful input to organizational processes.

The usual annual report of a company includes the profit and loss account, the balance sheet and the statement of cash flows. Ratios and indicators should be included in order to check the corporate competitiveness in the finance, marketing, operations, technology and quality fields. Such reporting system is not suitable for sustainable companies and has to be extended with sustainability and social responsibility reporting.

The social report measures the impact of the company and its activities on the different stakeholder groups. According to the SERS approach, it is composed of the ethical policy, the value-added statement and the analysis of stakeholder relationships. In general, the corporate environmental report is a tool a company uses to manage and control corporate activities and support communication with stakeholders, especially those interested in environmental issues (Perrini & Tencati, 2006). Although a single, definitive model of environmental report does not yet exist because of the special features of the tool (still prevailing voluntary approach, focus on the national, industrial, corporate specificities etc.), companies can attempt to define the boundaries that should characterize a comprehensive environmental information system. According to the nature of the environmental information (physical data or financial items) and the object that these measurements refer to (processes or products), it is possible to classify the principal methodologies

developed up to now to monitor the relationships between corporate activities and natural capital (Perrini & Tencati, 2006).

The environmental reporting framework within SERS aims to include all the methodologies identified and combine an accounting system collecting physical data with the measurement of (internal) costs and benefits related to the environmental management choices made as regards processes and products (Burritt, Hahn & Schaltegger, 2002). According to this approach, the environmental report comprises input-output analysis, life cycle assessment (LCA) and cost-benefit account related to environmental management of products/processes.

Therefore, two important kinds of information flow are the object of the environmental reporting system: flows related to physical data – energy and materials accounting; flows related to financial items – monetary environmental accounting. Energy and materials accounting (Hallay, 1990; Beck, 1993) collects information regarding the environmental impact of company activities. Input-output analyses gather and organize the information on energy and material consumptions and the related emissions caused by the operations.

Life Cycle Assessment (LCA) is a standardized method for estimating the environmental impacts of products and services. Ecobalances LCA measure the environmental impact of the main products of the firm in terms of resources consumption and pollution along their entire life cycle (from-cradle-to-cradle approach). Therefore material and energy flows occurring along the whole life cycle are counted in relationship to the product output (Klöpffer & Grahl, 2009, 1-4). LCA is not explicitly concerned with management structures or environmental plans (Krcmar, Dold, Fischer, Strobel & Seifert, 2000, 15-16). However, an LCA can provide a prerequisite for environmental management, i.e. by identifying crucial factors for environmental improvements. Within LCA there is often a lack of information regarding material and energy flows. While an enterprise may get specific data for some of its own activities, the environmental impacts of other own activities as well as impacts of upstream product chains have to be estimated with the help of generic background data (Klöpffer & Grahl 2009, 125-134).

On the other hand monetary environmental accounting (US EPA, 1995) is a method designed to determine the financial costs/benefits borne by the company and associated with the environmental management activities carried out by the firm itself and represents the second important dimension in developing a corporate environmental report. They are specific indicators developed in relationship with the corporate information requirements. The aim is to provide a tool to continually monitor an organization's performance trends. Key performance indicators (KPIs) are used in the overall reporting system and in

order to define them the company should carry on stakeholder engagement activities. Number and types of measures should be defined on the basis of real corporate needs. In this way the key performance indicators (KPIs) represent a dashboard of sustainability (IISD, 2001) supporting management decision-making processes. Sets of indicators proposed by many organizations, such as GRI (2002, 2004, 2006), the World Business Council for Sustainable Development (WBCSD, 2000, 2003), Eurostat (2005) and the European Environment Agency (EEA, 2002, 2003), can be used in drawing up an organization's specific measurements, but they cannot limit the corporate choice. Indicators can focus on the financial, operating, marketing, environmental, social, cross-cutting – i.e. with regard to the eco-efficiency and the socio-efficiency of the organization (Schaltegger & Burritt, 2005) - aspects of business management.

Sustainability reporting systems

Sustainable companies need information systems which will imbed suitable reporting systems according to the sustainability measurement concept used. By definition this should be functionality derived from Enterprise Resource Planning (ERP) solutions and form Business Intelligence (BI) solutions which support reporting, analysis and decision support.

ERP solutions should imbed necessary functionality and data in transactions connected with the flows of materials and energy throughout the company. Once these flows are modelled, company can calculate the impact that these flows have on the environment by collecting data about your organization's consumption, production, and waste levels. The central challenge of integrating environmental assessment appears to be expanding the ERP master data. Normally ERP does not contain any environmental information at all. Furthermore data is often not as detailed as necessary for environmental assessment (Eul & Rey, 2000; Isenmann & Rautenstrauch, 2007).

Various studies have presented how environmental data could be integrated into ERP systems. Some are general models (Lang-Koetz & Heubach, 2007), some concrete case studies on systems like infor:COM (Eul & Rey, 2000) and SAP (Kuhre, Feickert, Stocker and Melk, 2008; Funk, Gómez, Niemeyer & Teutenberg, 2010). However, none of these studies pay close attention to the source of environmental data. Often a vague explanation is given that data have been supplied by an EMIS, a web service or manual input. This problem is in companies usually solved by systems integration allowing to integrate ERP solution with one or more other solutions. Such approach assumes that the ERP is the leading corporate information system and thus also responsible sustainability issues such as LCA. Supporting systems like Ecoinvent (Severith & Hilty, 2012)

are integrated with the help of a service-oriented architecture (SOA). Severith and Hilty (2012) argue that the ERP can determine all relevant activities occurring throughout the life cycle of the given product; however, the environmental impacts of the activities remain unknown for the ERP.

Mixing sustainability data into ERP systems is worth this level of investment because ERP systems can enable companies to look at their businesses holistically and make decisions using information integrated company-wide: accounting, manufacturing, sales, marketing, distribution and customer relations.

While SAP and other companies structure environmental modules so that the components tie into existing ERP systems, this is still a long way from full integration of all relevant environmental data into ERP systems. Majority of companies cannot tell how much energy, carbon or water is embedded in individual products. ERP systems track how much a company pays the utility each month for electricity, but not how many kilowatt hours it used or what the source and carbon footprint of the power is. Companies have always tracked financial resources, human resources and capacities – these were resources ERP solutions were about (Sternad & Bobek, 2012; Sternad, Gradisar & Bobek, 2011). ERPs were seldom used to track energy, water, wood or any other type of natural resource but it is possible to apply ERP concepts and management in these areas as well.

All of which explains why a December 2010 study of middle-market to large manufacturers, conducted by IFS North America and Affinity Research Solutions, found very few companies that gave high ratings to their ERP systems' ability to handle environmental data. According to the study (Wharton, 2009), "Manufacturing professionals were asked how helpful their enterprise software solution is in terms of its ability to help manage green supply chain initiatives. Slightly over half rated their current enterprise solutions unfavourably in its ability to assist with their green supply chain requirements. Only 5% rated their enterprise software as excellent in this area."

But ERP providers are not sitting still - environmental modules are being integrated deeper and deeper into the core ERP offering. It might take several years, but in future the environmental add-ons will be so integrated into the core ERP and they will not be just add-on's. When that happens ERP will become ESP, or Enterprise Sustainability Planning (Wharton, 2009).

After imbedding sustainability issues in workflows of business processes which are supported by ERP solutions reporting scenarios in companies have to be solved. Business reports in companies are delivered by another group of solutions - Business Intelligence (BI) solutions. When BI became mature,

in-depth research on its quality of support provided for managers emerged.

This means that BI became more diversified and elaborated. The term BI maturity, research area of several researchers is in the literature explained by several models. Very often used is the Six-stage BI maturity model by TDWI (2005) which defines six stages and for each defines architecture characteristics, analytics ability and focus of the stage. According to that model an up-to date BI system is in Adult (fifth) stage where Enterprise data warehouse is used, dashboards and cascading scorecards are implemented and the focus of the BI systems is not only in insight but more in support for action. Some companies adapt hybrid strategy where they for BI use OLAP tools as well as BI modules provided by ERP vendor (Bobek & Sternad, 2012). This strategy tends to be presented in big companies while in smaller and medium sized companies more and more companies simply adopt BI modules provided by ERP vendor. This is, on the basis of their experience, because of limited knowledge about OLAP tools and lack of own IT/IS specialists and on the other hand because their business process is not sophisticated to that level that use of OLAP tools will enable development of functionalities not implemented in the BI modules of ERP vendors. ERP vendors started to imbed BI several years ago and recently nearly all of them offer one or even more BI modules within their ERP systems. Such BI systems are referred as ERP add-on's or as Bradford (2008) stated as bolt-on's.

Quite same approach can be and is used for Business Intelligence (BI) dealing with sustainability issues – Sustainability reporting solutions. In general, sustainability reporting software can be divided into standalone packages (focusing on a dedicated solution for sustainability reporting) and packages that are part or a module of a larger ERP system (focusing on an integrated solution including sustainability). An in-depth analysis of this segment of Business Intelligence about sustainability – Sustainability reporting solutions have been prepared by KPMG (2012). In the long run, it is expected that the trend towards integrated reporting will also be a driver towards integrated solutions. Currently, however, many organizations still find it tough to define a proper business case for an integrated solution and therefore tend to select dedicated solutions.

KPMG (2012) market review focuses on software packages that cover sustainability reporting features in addition to standard financial reporting functionalities. The solutions offer standard sustainability functionality, such as annual assessments (for example on carbon footprint) and reporting. Nearly all systems offer the possibility to implement a range of indicators and accompanying data. More than half of them offer specific functionalities, such as supply-chain analysis and carbon offsetting. There are many other reporting topics, such as

economic, environmental, social, human rights, social and product responsibility. Although the Global Reporting Initiative (GRI, 2002) is the leading standard output format and CDP is also commonly used, not all solutions are equipped to report on all the standard disclosure indicators.

Measuring sustainability in SAP solutions

The SAP® Sustainability Performance Management analytic application helps companies track and communicate sustainability performance, set goals and objectives, and target business improvement opportunities – while reducing the time and cost for collecting data and compiling disclosures. It builds on proven processes for managing and improving corporate performance, delivering a dynamic user experience with a traceable, auditable environment for internal and external disclosures (SAP, 2012). Management can efficiently gather sustainability data and disclose performance and therefore improve disclosure auditability and reliability by defining and prioritizing initiatives for business improvement. Management can also easily monitor progress in achieving strategic objectives concerning sustainability. SAP Sustainability Performance Management centralized manage sustainability data, reporting frameworks, and KPIs and guide processes to define, prioritize, assign, and track sustainability initiatives. It provides functions to analyze, communicate, and execute strategies and it facilitates integration with business data, operational information, and performance management processes.

Main features of SAP Sustainability Performance Management are:

- Shift from reactive reporting to proactive performance management
- Reporting about social, environmental, and economic performance
- Efficient collecting of necessary data from multiple business users
- Manage sustainability programs to drive business improvement
- Use of analytics to turn data into actionable information
- Ability to integrate with other software
- Enhance proactive sustainability performance management

SAP Sustainability Performance Management helps companies tailor their sustainability strategies to a particular industry and business context. They can concurrently model and manage multiple sustainability reporting frameworks – both internal, management-focused frameworks and external, disclosure-focused frameworks. The software helps them to focus on the social, environmental, and economic metrics that will be most

useful for their stakeholders. They can choose these metrics from a central library of qualitative and quantitative key performance indicators (KPIs), including those based on Global Reporting Initiative (GRI) standards. Additionally, business users can create and update their own sustainability metrics based on other standards, multiple tiers of sub-indicators, and calculations of multilevel KPIs. Data in the central KPI library can be searched and filtered to facilitate the sharing and reuse of key sustainability information. Companies are faced with large amounts of sustainability-specific data required by reporting frameworks such as the GRI. SAP Sustainability Performance Management is the first solution to be certified by the GRI Certified Software and Tools Program. Additionally, integration touch points with other SAP solutions are available for 85% of the out-of-the-box GRI quantitative KPIs available in SAP Sustainability. This can help company significantly reduce the cost of integrating sustainability reporting with other operational systems.

SAP Sustainability Performance Management supports automated KPI data collection from source systems as well as efficient, repeatable, and guided manual collection from multiple business-process owners and contributors. Workflow, data requests, validation, and approval processes facilitate collection of qualitative and quantitative data – either on flexible schedules or via ad hoc requests from business process owners, customers, suppliers, financial institutions, and community stakeholders. Companies can set flexible reminders of when information for a data request of a KPI is due. They can forward surveys to others who have more knowledge related to a specific KPI request. The software lets them make adjustments centrally at period close to deal with missing and anomalous data. Audit-trail functionality maintains a searchable record of every action taken to provide transparency and enforce high-integrity reporting. Data collection is designed to work for small, centrally man-aged sustainability efforts as well as large, delegated, and globally distributed activities.

SAP Sustainability Performance Management Performance management can help to improve financial performance by aligning key sustainability indicators with corporate, business strategies, risk management, and process improvements. Reports prepared in such way can be published following the reporting guidelines specified by the Global Reporting Initiative (GRI) and can incorporate environmental, social and economic metrics. It also uses detailed graphics and interactive dashboards that allow anyone to review, for example, the company's greenhouse gas footprint, in absolute terms from desired year to year, both in total and by segment (everything by business activities). It also gives users the option of drilling down to get more detail - for instance, one can examine the same data by employee, by region etc.

Measuring sustainability in Microsoft solutions

The environmental sustainability features of Microsoft Dynamics ERP AX 2012 help company to model the flows of materials and energy throughout the organization and their organizational relationships (Microsoft, 2012). Once modelled, company can calculate the impact that these flows have on the environment by collecting data about company's consumption, production, and waste levels. Finally, using reporting and analytics, they can explore how changes to their organizational practices might alter their environmental impact and plan accordingly. The environmental sustainability features of Microsoft Dynamics AX 2012 are organized into three major areas (Microsoft, 2012):

- Modelling of business processes and relationships.
- Collecting relevant data through existing processes or from automated systems.
- Reporting and analysis of organizational performance.

Microsoft Dynamics AX 2012 provides a comprehensive mechanism to measure the flows of material and energy through and between organizations. Using these features enables company to gain insight into areas of improvement throughout their organization and their supply chain.

Based on life cycle assessment (LCA), Microsoft Dynamics AX 2012 allows company to model complex process relationships and environmental impacts. They can provide the following input:

- Describe the environmental attributes of materials (for example, recycled content) and their relationship with items in inventory.
- Specify the processes involved in the life cycle of the products of the company and their relationships with other entities in Microsoft Dynamics AX 2012, such as customers and vendors.
- Define conversions or emissions factors for CO₂, toxicity, and other impact categories.

After the company has defined their model, they can collect data through their existing business processes which are supported by workflows and transactions of ERP. This helps improve data quality as well as the timeliness of their collection and reporting.

After the company has defined their model and collected data, they need to report on the results. Microsoft Dynamics AX 2012 provides a number of tools to facilitate reporting. These tools include:

- An environmental manager's Role Center that displays energy consumption and greenhouse gas emissions data.
- An online analytical processing (OLAP) cube with Key Performance Indicators (KPI) for materials consumption,

recycled content of materials, water consumption, energy consumption, greenhouse gas emissions, solid waste, and liquid waste.

- The ability to run “what-if” scenarios to explore the potential impacts of reduction efforts or changes to existing processes.
- The Environmental sustainability dashboard helps you determine your organization's environmental footprint. By using the dashboard they can track the raw materials and energy that they consume. They can then calculate and record the flow of finished products to customers, and the flow of hazardous emissions into the environment. When they adjust the way that the organization views consumption, they can take the following steps:
- Evaluate organization's current effect on the environment.
- Identify opportunities to reduce organization's environmental footprint.
- Calculate and record the flow of potentially hazardous substances into the environment.
- Implement environmentally sustainable practices.
- Maintain the status as a preferred vendor for customers.

Company can use the reporting frame work of the Global Greenhouse Protocol (GGH) and the Global Reporting Initiative (GRI) to help report on the acquisition and emission of multiple types of substances.

Conclusion

Studies show that most large enterprises, including the vast majority of the world's largest companies, now disclose information on sustainability performance. With greater focus on social, environmental, and economic sustainability and higher expectations for transparency and performance improvement, companies must manage large amounts of data for diverse groups of stakeholders. The usual annual report of a company which includes the profit and loss account, the balance sheet and the statement of cash flows is not sufficient for doing business in new environmental conscious economy. Such reporting system is not suitable for sustainable companies and has to be extended with sustainability and social responsibility reporting.

On the other hand published research reports about many approaches – Life cycle assessment (LCA), the GRI Sustainability Reporting Guidelines, sustainability balanced scorecard (BSC) – which are methodological tools available to companies, but which are not suitable for all types of companies, and all require formal procedures imbedded in business processes and necessary computer support in sense of suitable information solutions.

Enterprise Resource Planning (ERP) solutions used for support of business processes are still not fully adapted to new requirements. But ERP providers are trying to integrate new sustainability functionalities into the core ERP offering. It might still take several years, but in future the environmental add-ons known today, will be so integrated into the core ERP and they will not be just add-on's. When that happens ERP will become ESP, or Enterprise Sustainability Planning solutions.

Another change needed in the area of computer support is addition of new sustainability functionalities into Business Intelligence (BI) solutions which are used for support of managers. These solutions will be in future more integrated in ERP solutions and will have sustainability reporting features – sustainability dashboards.

The arena of providers of sustainability reporting solutions is still fragmented – KPMG included 20 major providers of specialized sustainability solutions in their market review and there are some more major providers not included in this analyses – but is consolidating. Major ERP providers became very active and it is expected that there will be changes in near future.

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Cost Effective & Ecology Friendly Socio-Economic Rehabilitation of five Devastated Himalayan Frontier Districts of Uttarakhand

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(This submission is dedicated to Rakta Beeja Mardani Koti-Maheshwari, To restore the...Pancha Tatva...and serve the cause of the Pancha Kedar, Pancha Badari, Pancha Prayag. Note: Sanskrit expressions are to convey the deeper thoughts behind the process.)

Executive Summary

The submission is for Organizations to live up to respective names (*yato naam tato gunah*). By stretching its Purpose, Process and People, an organization can create a comprehensive rehabilitation role-model with 3E (Enunciate, Encourage, Empower), 3M (Men, Method, Money), etc., for like-minded others to Cooperate and Collaborate with a Coordinator (3C) in a Professional (with Transparency, Accountability and Probity) and Business-like operational structure/platform to optimize respective time/cost gains.

This is especially for Governments' stated use of Science & Technology is for Socio-Economic 'development' as 'means' to meet its Human-Nature sustainability obligations.

Uttarakhand Integrated Holistic Disaster Rehabilitation being complex, and a logistic challenge, the proposal thinks big to start small with medium scale outcome/ output scope, scale and time/cost activity frame. This is also considered to present an opportunity with an 'environment' to test an alternative ancient socio-economic norms based system catalyst. The submission's focus paradigms in this are:

- Rehabilitation relates to holistic Ecology and local/ regional/ national Economy.
- Development Process is to sustainably meet a Purpose for People.
- Effectiveness and Efficiency are mutually compatible.

All Economy, Ecology and Ethics focus items can be enunciated to give an effective socio-economic rehab start with 'soft technology (Team-work, Motivation techniques, etc.).

The intent is holistic transformation of pilot locals as rest of India rehabilitation catalysts.

This submission is to enable those heeding Swami Vivekanand's '*uttishtha, jagruta, prappya parannibodhya cha*'.

Role of the Civic Society

Rehabilitating Himalayan Ecology is not only for India's economy but also its existence. With access to its ancient wisdom lineage,

Indian civic society needs to realize the outcome of being made to tow the lines of Keynes (Thomas Maynard) Economy model and test Gandhian Economist JC Kumarappa (Economy of Permanence) output and outcome. Like ancient Indian nihilist Charvaak/ Vachaspati (*rinam kritva, ghritam pivot* - borrow to spend liberally).

Uttarakhand Himalaya's Rehabilitation Challenges

The challenge is complex for regions' geographic inaccessibility, perfidious system's lack of socio-economic focus and techno-commercial shenanigans, politico social fault lines, etc. Considering development paradigm forced on the people for national, regional and local interest lead to the disaster, rehabilitation needs to be sensitive to local socio-religious/spiritual, ecological, geological and economic peculiarities in the disaster affected areas.

Objective delivery must therefore be forethought (planned) and designed holistically to integrate and stop those set in their ways to revert the recently set uncertainty mired patterns.

The concept fundamentals for ecology friendly socio-economic rehabilitation include features that can lead to effective and efficient implementation by recognizing that:

- Sustainable Ecology leads to a symbiotic relationship with Sustainable Economy.
- Ethics and/or dharma simply mean, let live and live, for all.
- Ultimate success is in building locals' Confidence, Commitment and Character.
- A Watershed presents a comprehensive location/ environment to incubate Mahatma Gandhi/ Acharya Vinoba Bhave's GramSwarajya-Sarvodaya model.
- An experiment needs to be conducted to test;
 - Commercial viability of a Transformative (*Aavartansheel, i.e., no damage to a resource*) Economy (*Arthashastra*) Management (*Rajya-Vyawastha*) model.
 - A development paradigm that includes intangible outcome to tangible output.

The Choice to accomplish the tasks can be done to make a lasting impact with efficiency or as tokenism. While the first is a challenge (as all have an opinion on how others ought to run things), out-of-the-box methodologies and bench-marks get tested in unique settings.

Meeting the Rehabilitation Challenge

This primarily calls for the support network to integrally :

- Enunciate the core Objective, Aims and Functional Fundamentals to providers of the capital, professionals, volunteers, executives, agencies & agents, the affected, etc.
- Encourage all involved to put their best Professional and (non commercial) Business-like efforts to the task-in-hand, and
- Empower locals to Cooperate, Collaborate and Coordinate delivery activities by...

Mobilizing the following within a pre-planned time, resource and effort inputs;

- Men (a gender neutral term for all levels), especially the motivated ones. It is useful to know that while Abraham Maslow of Classic HRM School studied J Krishnamurthy, Peter Senge from Post Modernism School of HR Development at MIT delved deeper into the Upanishads and Buddhist Sutras. Functionally, this will call for a methodical recruit, assess, train and retain approach for team based organization structure.
- Methodology/ Mechanism/ Modus-operandi require an evolutionary approach to macro manage its functional operations with basics of a strategy-driven structure. Academics from the West, senior Indian Administrators, financial institutions (Indian and International) agree to the need of testing an alternative approach and find Himalayas as a place to test a suitable model.
- Money, considered to be the prime-mover of human efforts and endeavors, is taken as last but not in any way the least important factors. With the society being admittedly threatened the most by the 'Tyranny of Money', it is now for the civic in the society (civic society) to also invest to create a **Catalytic Seed Capital** to explore solution for the people as key stakeholders.

Following are the outlined parameters that include an agreement to enhance local:

- Economy**, leading to holistic wealth creation by transformational value addition. A five year purchase support can restore it to its less than half a century old Democratized Economy (Nobel Economist Joseph Stiglitz term) form. A customized Market and Management base to nurture local dairy, agri/ herbi/ horti-culture with Micro, Small and Mini Manufacturing/ processing, Enterprises (MSME), etc., is planned.

- Ecology**, in terms of restoring the natural streams, flora and fauna. This *pancha vriksha* (Fruits, Fodder, Fibre, Furniture and Fire-wood / Oil yielding trees) social forestry concept use with indigenous species will also help recharge the aquifers.

- Ethics**, also called probity, relates to damages due to the loot & scoot picnic tour 'culture' promoted by all pervasive graft & bribe oriented State system. The pseudo secular education system has made the youth consider self-employment as the last resort. Left with no skills, self-respect, self confidence and enviro-cultural ownership, the youth provided alternative to multi-skill/ task by an opportunities 'environment'.

To set in motion a creative role-model, one of the badly affected Rudraprayag District watershed can be taken to deliver sustainable output as it presents an 'environment' for conceptual embryo 'incubation'.

Embryo/ Pilot Objective : Integrated Rehabilitation of two to three village clusters.

Project Rehabilitation Aims

(as detailing will need tomes, matter below is 'indicative')

1. Economy :

- Livelihood; entirely nature dependent.
- Income source till 15 June 2013 was mostly from serving Kedarnath yatries, picnic-tourists as priests, petty-shop/ dhaaba owners, muleteer/ workers, etc. In near penury, the region needs its income to be rehabilitated. Best if it is done to instill dignity and professionalism (last but not the least) with aplomb.

2. Ecology:

- Prithvi**: Region's large swaths of land is suited for herbiculture (vegetables, spice, etc.), horticulture, animal husbandry, honey, etc.

Himalayan Uttarakhand (3-5 % in frontier Uttarkashi and Chamoli districts) only is with its natives.

As the Centre recently announced allowing up to 2.5 hectare land for public good, with 1000+ acre agricultural land lost, and compensation norm for the affected being 2.5 acre, those from 'sunk' or 'sinking' villages can be encouraged to reclaim their usurped community assets and convert especially the pine/ mono-culture forests to poly-culture *pancha-vriksha* jungle.

Rehabilitation groups/ volunteers can facilitate the transfer, etc. with money, logic, intellectual and other assistance knowing that village women of generally multi skilled and in Uttarakhand, also multi-task with a smile.

(The identified 'site' is Approx 1x1km land sinking with all around 3+ meter 'tear'.)

Under state-sponsored 'development' agenda and collective myopia, early June 2013 cluster of organic farms with 2+ hectare poly-houses can be set with local seed capital, pilot Corpus, State/ other FIs un-secured loans, etc., as hybrid-cooperatives.

- b. **Jal:** Water from the streams is abundant and can be channelized for irrigation, micro/ mini hydel, etc. Flow from regions' stream appears to have reduced over a score of years.
- c. **Agni:** Energy of the renewable variety can be tapped from water, air and sun for captive use in own micro and small ventures, and grid sale.
Sacrificial *homa*, a pristine energy source, has been reduced due to vested interests' sought selective PIL orders, little realizing its ill affect on local economy.
- d. **Vayu:** Air in the region is pollution free. Wind-mill banks can be laid with locals in the cooperative.
- e. **Aakash:** Space for and from subtle life forces, this author believes, is regions' most valuable asset, getting under increasing threat/ pressure from National policies and State (willing or unwilling) compliance to commercialization. Where possible, *aakaasha* be rehabilitated with indigenous material style and skills.

3. Ethics:

a. Traditional

- Social: Inter and intra community bonding was the mainstay of the region where traditionally land, milk, education and healthcare were non-trade items. It is still customary for village women and girls to go in group to weed or winnow their farms and help each other finish respective tasks and return home, together. A '*saha na vavatu.....*' spirit can be restored by setting up women led integrative hybrid cooperatives for farm produce, animal husbandry, food-processing, etc.
- Trade and commerce sector: Rehabilitating traditional spirit of cooperation can be done by a redesigned hybrid cooperative focused functional management system to meet growing market for handmade organic products (cosmetics, toiletries, under garments, outer-wear, etc.) – setting up of integrated operational supply chains.
- Spiritual practices of Himalayan Uttarakhand resemble those of other primordial (Celts, Hopis, Aztecs, Incas, etc.) faiths and their higher energies' communion is of a junior to senior partner mutuality. This can be 'experienced' in the *jagar/* invocation séances.

Rehabilitation of spirituo-religious practices and people following it in good-faith therefore becomes more important than possible

'misuse' (Bhagavad Gita 4/39-40 *agyanshchaashraddhanascha.....*) as a 'technology' (being a 'tool') can be put to good or bad applications. If needed, intent (cause) can be modified and technology (traditional processes) re-established.

- Interactivity, that is inter and intra community activity in the region was a mix of *jaati/* cast and social hierarchical (uncle/ brother) relationship, giving other the benefit of doubt and good-faith (*atmavat sarva bhooteshu*) guided transaction with strangers. Protocols can be set under this plan to encourage people to 'performance-related-pay' to (in 1 to 3 years) rehabilitate their 30 years old cooperative community structure.

b. Social aspects to be rehabilitated being varied, the effort can be aimed particularly those that affect India in general. One such attempt can be made on rehabilitating Self Respect, Self Confidence and Sense of pride on ancient practices and traditions.

Theology Transcending Values Proposed to be inculcated under rehabilitation programme

- *Yajna* (paraphrasing Swami Dayanand definition in techno-commercial/ professional jargons): a *yajna* is a collective/ collaborative body undertaking (*yajana*) for social/ universal welfare with those committed/ involved (*yajamaana*) making necessary material (*savidha*) contributions and remain to take their share of the yield (*yajna phala* – output & outcome) and preventing the obstructionists (*dasyu*) from benefits (not yielding/appeasing nuisance makers–*shathey shathyam samacharayet*).
- *Daana* (accompanied by *dakshina* whereas a *bhiksha* is akin to Christian Charity where 'the left hand must not know what the right hand does').
- *Tapas*, striving towards higher-value end results
- *Karma*, as conscious and conscientious action done by the self, others induced to action, and done on behalf of external entities, and,
- *Swadhyaya* (practice what you preach – walk the talk).

Modus Operandi for fulfilling the Objective and meeting the Aims

In broad terms, to set up a basic retail market ready five Pilot units processing / value-addition cluster for the following organic (within 5 years);

1. Agriculture – from cereals, kitchen ready and value added.
2. Herbiculture – includes vegetables, MAC herbs, and food preserves.
3. Dairy – eventually, all value addition.

4. Horticulture

5. Handicraft.

The proposal is to set up a mini food-park by rehabilitating a vulnerable 150+ acre site in 5 years and handing over de-facto and de-jure control and ownership to locals within 25 years.

Estimated 5 year (excluding lease-rent) cost is INR 5 Crores. This is to:

- Involve up to 60 people (5 x 9 + 9 + 3 + 3) on retainer plus performance basis.
- Site accommodation, boarding and lodging, transportation and communication, etc.
- Tools, equipments and technical infrastructure.
- Micro processing units.
- Techno-commercial expertise.

The land utilisation is suggested to be made equally for following purpose:

- Boundary securing with native trees and plants.
- Horticulture – *Sunderlal Bahuguna pancha vriksha* (meeting 5 needs).
- Herbiculture – with 40% on high-tech-poly houses.
- Dairy

All material is to be local, locals' basic needs to be met on non-charitable basis.

Providers of tested equipment and technology to be compensated on PrP basis.

Ideas from those capable of raising 40% capital only need to be taken.

A Nasik based farmers' group offers high quality pomegranate & grapes, and buy-back the organic produce.

An INR 2.5 Core coprus needs to be banked for credibility on funds accessibility.

For mountains in Rudraprayag a chunk can be taken for rehabilitation. The proposal has come with promoters to underwrite two Western UP (Mathura & Meerut) Pilot project costs.

Shubh-Laabh oriented *Apaurusheya Lakshyami* proposed negotiating fundamentals;

1. Whole is greater than sum of the parts
2. There is enough on this earth to meet every body's needs but not enough to meet even one person's greed.
3. What's in it for me?

- There 'aint nothing like a free lunch
- Idea follow up *mana = tana x dhana*.
- *Shata hasta sangraha, sahastra hasta sangkeerah...*

Way Forward

The esoteric *Karmic* principles and Corporate Governance basics of Ray Cadbury (following Bearing Bank collapse) say that good management is about Business-like Accountability, operational Transparency and Probity/ Ethics (Professionalism).

Rig Veda's hymn to creation explicitly sums up the Creator's process as one by design and not default/ evolution (...*yatha poorvam cha akalpayat*). Management Guru Peter Drucker warns 'the only thing that happens on its own is chaos and mismanagement' and recommends 'with **some** plan you reach **somewhere**, with **no** plan where do you reach'?

The 5-fold management structure designed to deliver the Rehabilitation Outcome therefore incorporates integrated functional processes with output linked rewards.

Strategy

Considering its holistic focus, Kautilya Arthashastra logical implementation sequence as:

- i. Ethics/ Dharma for pervasive tranquil happiness,
- ii. Economy for Ethics,
- iii. System management for a fair and just economic order,
- iv. Humility, a trait necessary for implementer/ manager (Professionalism).
- v. Manager/ professionals to regularly seek the *discipline* experienced advice, etc.

Objective

- Sustainable economy and ecology development (*Paryavaran drishitgat satat aarthick Vikaas*) with a *vaikalpic vyawastha* (alternative model) to the one imposed 200 years ago.
- The logic to partially help people beyond identified location is to extend the influence area if needed, create pressure groups to encourage state efficiency and discourage sloth.
- For transformational 'strategy' elements consider– 'bottleneck is in head of the bottle'

The Aims

- Formally, to rehabilitate Economy and Ecology with Ethics.
- Redeem locals' sense of self-confidence, self-respect and pride in own traditions.
- Equitably fair rewards to all stake holders.

- Commercial viability of all funded projects and schemes.
- Create and value output and outcome balance.

Functional Management

Innovation in Management is not of doing different things, but of doing 'things' differently.

Whereas all aim to gain the most (output) by doing the least (input), tasks that need a group to work over a long period with uncertainties has following action sequences;

- Foremost is to set up a body to undertake the tasks as an organisation.
- To break activities down in a sequence and assign individuals to execute them.
- Finally, to compensate all for their time, efforts, capital and intellectual investments.

An alternative to existing Men, Methodology/ Modus-operandi/ Mechanism and Money/ Corpus (3M) issues therefore is an area to test an innovative approach.

The Rehabilitation Prototype is based on Methods and Methodology (soft technology) used by successful organisations world-wide and now also in India. Whereas classic ancient texts mention such principles being a norm in the past, the proposal is to set-up such a venture by design and with prudence, especially in niche market operations.

Apaurusheya Lakshyami pariyojana sanchalan (project services' - ALPs) is the proposed modus operandi to Manage (Strategy & Functional) dynamic complexities due to political, economic, social and technology related changes.

A five-year incubation is expected to provide the exposure to 'fine-tune' elements for 'team-work' fundamentals in organisation operations with equity/profit linked to outcome and output; compliance with Investments and legal norms, responsibility and integrity, etc., to select the transformational steps, etc. for achieving a near 2-sigma operational 'band'.

Capital Risk in ALPs' incubation phase estimated is expected to be within a + 10% band.

Business Risk in the incubation phase in case is near Zero.

The Objective is to facilitate *rozgaar* to *swarozgaar* (employment to self employment) mind-set transition by introducing Equity and Empowerment based hybrid-cooperatives.

The transition methodology aims to:

- Stretch a bit more of the People Purpose and Process with judicious phase-in of Enunciate, Encourage & Empower from Control, Command & Communicate.

- Rehabilitate Men with and in and Nature....
- Consult the locals to address their issues within available/ raise-able corpus.
- Re-establish in Indian business and psyche;
 - a. The (now) globally accepted fundamentals of professionalism.
 - b. The art of business negotiation (in place of brinkmanship oriented 'bargain' cause of Mahabharata battle in India's historic defeats!).
- Reinstatement socio-ecological, techno commercial influence and impact upon economic strategies....

Focus Aspects

1. Operations: Macro, meso and micro, is proposed to be limited to guide-lines. The macro plan is to nurture local, national and international retailing, land and water conservation, civil construction, bid etc., leaving micro-hybrid cooperative and other SBU venture micro-management to respective leads especially in following areas:

- Agriculture/ herbiculture / horticulture cum social forestry, poly-house.
- Animal husbandry, vermi-compost, wool & other fibre value addition
- Dairy, for value added products, especially for medicinal use.
- Handicraft/ handmade items such as for Ayurveda, Yog, *pooja samagri*, etc.
- Organic food products, manufacture, etc.
- Renewable energy for captive use and grid sale.

The process suggested has sanctions from HH Swamingal Jayendra Saraswati, Swami SatyaMitranand Ji and others for respective undertakings.

All operations are to be professional (Transparency, Accountability and Probity), business-like (Out-put and Out-come focused) and non-judgmental. Following three issues need to be addressed at the earliest for operational direction (modus-operandi):

- Work methodology, especially retainer (there is enough to meet every body's needs but not enough to meet even one person's greed) and performance related motivation enhancing reward criteria (*shata hasta sangraha, sahastra hasta sankeerah*).
- Money/ corpus, seed to external inputs and out-put/ out-come performance criterion.
- Men, volunteers, non volunteers and professionals.

The activity can be considered a *Dharma Karma Yajna* (for universal welfare, where the Purohit organises the resource needed for), for a non-homogeneous society where people also reciprocate – good for good.

2. Finance and Accounts: The access may be limited and on 'need to know' basis.

Money – Corpus

This submission is to those able and committed to create a seed Corpus (as Angel Finance/ Venture Capital) to test a prototype of what contributed to India's pre 19th Century socio-economic and moral/ ethical/intellectual eminence. In spite of 800 years of it being in a state of constant sectarian/ religious wars, the archived 16th to 19th Century East India Company records show that Indian ships to be the best made, the finest Damascus steel swords were actually from India, Indian textiles were the finest and her wealth disparity about 1:5.

While India's last alien culture rulers sabotaged its indigenous governance system by design, post independence India's struggling economy has been surrendered to herald pseudo prosperity at cost to its natural and human resources since early 1990s.

The corpus raised and support received is to be considered as *daana* (with *dakshina*) for its sanctity elevates the sense of obligations, importance, etc.

3. Marketing and Sales: This has to be the key focus area. On the sales side, the structure is to be designed to reduce the soil-to-retail link intermediaries to 3 (as in developed economy) in place of 5 to 7 (a norm in developing economies like India).

The commerce platform with fair-trade to safeguard interest of the vulnerable elements (non-unionised/ locals, like ecology, traditions, etc.) will need 5 years to incubate with highest possible local value addition meeting market expectation. A 5+ year moratorium on strategy/ tactical information disclosure is needed to develop this Business USP.

4. Human Resource Management and Development.

The Aim is to build men that can build an economy and society of their own choice.

The Organization structure therefore is to comply with State rules and follow latest in management culture (endorsed by ancient and shastric texts). Accordingly,

- For a team-approach, teams are built by design and not by default. NASA Apollo Missions – put 3 to 6 month for its highly trained astronauts to 'gel' into a Team.
- Consensus one sees is often from compulsion, pay or unprincipled gains.
- The team-building outcome in Aapadagrasth Uttarakhand can find use in other activities of participant organisations'.
- Those volunteering/ offering to get involved on the ground will need to be ready to unlearn prevalent short-cut/ tricks-of-the-trade methods to learn team fundamentals.
- Those offering unsolicited advice may be invited to 'walk-the-talk'.
- Check on temptation to thrust 'favourites' that lack experience or skill in positions to assume authority is strongly advised.
- The calamity justifies the validity of following ancient Sanskrit couplet;

Ayogya yat puruskritey, yogya yat titriskritah;

....with undeserving rewarded and deserving derided

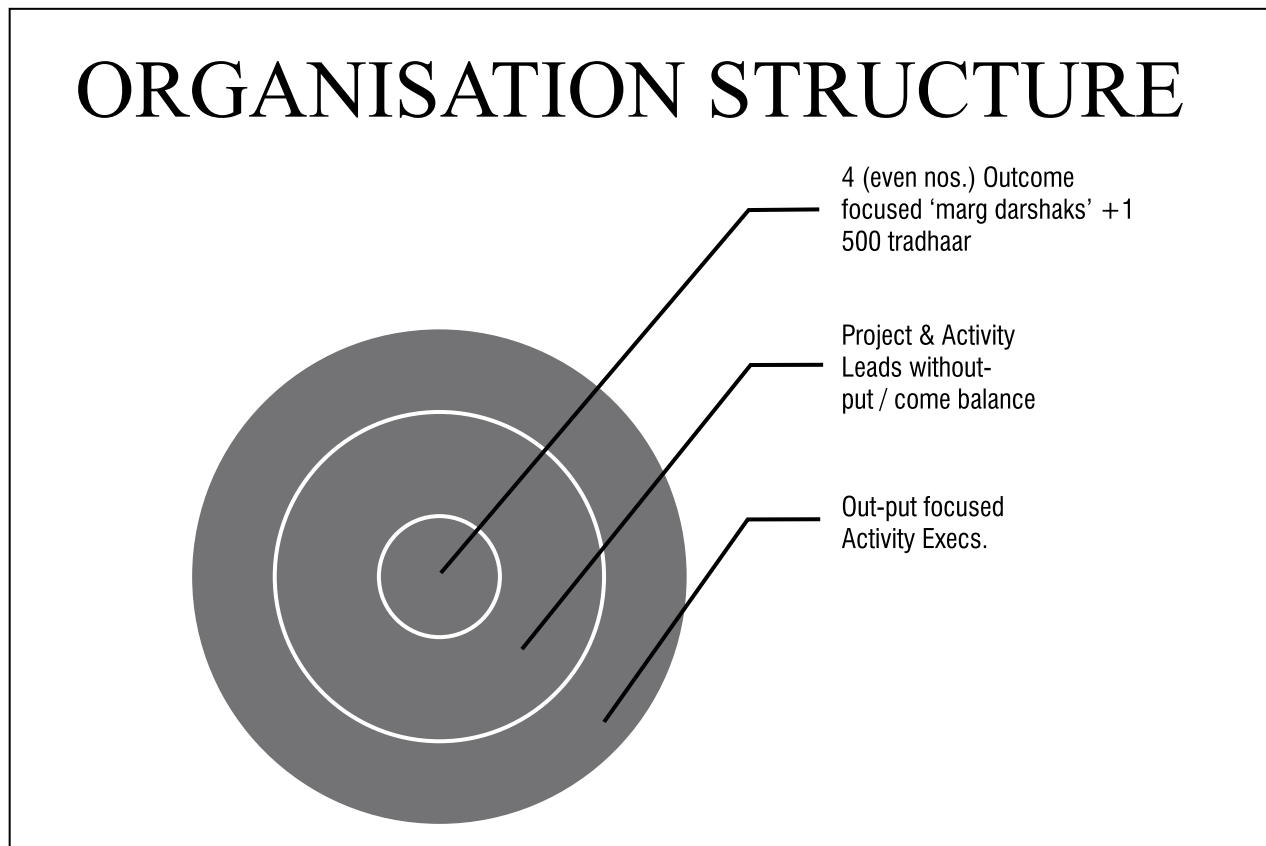
Treeni tatra bhavishyanti, durbhiksham, maranam bhayam.

...three outcomes manifest; famine, accidental deaths and apprehension/ fear.

- Gender and age ratio is proposed at 2:1 favouring females and youth (age 18 to 42).
- To those open to lead may need time is to overcome three key hurdles;
 - apprehension/ vulnerability of their own position/prominence;
 - the extent to extract 'mileage' (at others cost) and finally,
 - the risk to reputation and/ or capital gains.

ALps' proposed 3 tier concentric form is structured to stretch the rehabilitation idea, vision, plans, seed corpus, etc., for judicious, efficient and cost effective mentoring. **Overall principle, all actions taken must enhance wealth or social welfare; as expressed by Acharya Kautilya are : *Yo na dharmartho vivardhati, sa kamah.***

Figure 1: Organization Structure



(Source : Author's compilation)

'Marg-Darshak' board of 5 - 9 nominated professionals as conscience keepers responsible to ensure outcome inclusion in strategy implementation and as grievance redressors.

- Entry by invitation.
- Desired to have academics, industry experts and one philanthropic investor.
- Granted veto,
- Can be withdrawn only when 80% stake-holder votes.
- Should divest all material interest from operations.

The Sootradhaar is to be the CEO/COO, principle - link between the *Marg-Darshaks* and activity leads. For the 'lead' to not go 'out-of-pocket', classic traditional way is to place him/ them as *Purohit* (*pur-hita*) *archaks* under 'Sankalpa', Executive motivation can get throttled when forced to become a *yaachak* to meet their legitimate socio economic inspirational needs.

The *sootradhaar's* principal role in conventional corporate is that of CEO/ COO preparing and being responsible to the macro plans with other Executive Directors (1 + 4 as the least/ critical nos.). Accordingly he guides takes inputs from fellow *purohits* for meso plans from various aspects and operations of the Strategic Business Units or Project/ activity leads.

Project and Activity leads: to create profit centres (positive out-put) and instil the values (out-come) by Enunciating, Encouraging/ hand-held awareness raising and Empowering.

In affect their roles are to be that of an '*archak*' responsible for day-today micro-planning and its execution. These are to be fully

supported by the 'system' with a share in overall performance, but also responsible for welfare of others in the 'system'.

Activity Executives reporting to respective project leads on retainer + Performance Related Pay. These can also be non-locals brought on commercial terms with rewards based on;

- Whole is greater than sum of the parts (nature and the ancients have a 'share').
- There is enough to meet every body's needs but not enough to meet even one person's greed.
- *Shata hasta sangraha, sahastra hasta sankeeraha*.

Profit Utilisation and distribution:

- The net (cost of corpus/ capital at RBI PLR + 1%) profit is suggested to be shared between capital providers, CSR & Organization development Corpus, managers-executives, local participants, etc.
- The Corpus providers exit by selling their shares to the locals in a non- biased manner.

All above are in affect the key *Apaurusheya Lakshyami* Components.

Way Forward

The implementation challenge (as suggested process and methodology is unprecedented) can be met with advice of local traditional knowledge and wisdom keepers, technologists with domain expertise and experience, administrators, economists, social scientists, pro-actively creative civic society support, State/ Central Departments, Financial Institutions, donors, collaborators like IITs, etc., under a comprehensive five- year highly mentored and monitored rehabilitation package.

On the ground in the identified location area, to provide following transformation enabling assistance;

- (*Vidya-daan*) Provide educational assistance to school-goers. Providing vocational apprenticeship for a few years and become self-employed will help.
- (*Kanya daan*) To assist girls of marriageable age in the affected families of two villages (or more) with marriage funds.
- (*Gau daan*) Provide the affected locals livestock cows and milk buffalo/ goats/ sheep, etc., to rear and multiply for livelihood.
- (*Anna daan*) Provide and/ or assist to reach food (flour, rice, lentils, cooking oil, salt and basic spices) to those needing for 1 year.
- (*Gau daan*) Provide the affected locals livestock cows and milk buffalo/ goats/ sheep, etc., to rear and multiply for livelihood.
- (*Anna daan*) Provide and/ or assist to reach food (flour, rice,

lentils, cooking oil, salt and basic spices) to those needing for 1 year.

- (*Bhavan daan*) Adopt two villages for providing homes that meet local environment conditions with ecology friendly material, etc. requirements its youth regaining and regaining their livelihood from the land within 5 years.

Since it may be 3+ years for the *yatra* flow to reach its 2007 levels, the priest community at Shonitpur, Devprayag, BamaniGaon, Kharsali, etc., can be assisted to reset *DEV BHUMI* into its past foundation in contrast of neo *ASURA BHUMI* it turned into ("Vidyam cha avidyam cha, sa vedobhyam sah, avidyam mrutyum tirtva, Vidya amrutam ashnute").

- (*Jeevan/ Maan/ sanskar daan*) Collaborate, Cooperate and (if needed) to Coordinate activities with/ for all those committed to assist native local youths with:

a. Capabilities development – i.e., skills for self-employment with sustainable local resources (agriculture, dairy, horticulture, tapping water, wind, sun and bio-fuel energy, spiritual/ ecology/ adventure tourism, home-hospitality, spirituo-religious services, social-forestry, etc.). As most *esote ric gramya/ aranya sangeet* skills (e.g. spiritual invocation with percussion, string, wind musical instruments, etc.) skills have fallen to disuse for lack of commercial application, it is possible to judiciously revive/ promote them in the 21st century world for economic gains.

b. Capacity to scale up the scope and scale of operations for commercially viable critical mass under a model tri-partite (Investor – providing Corpus/ *kosh* for processing and service units under angel finance/ Venture Capitalists mode with a clear intent to exit in 15 years or less, with de-facto and de-jure Empowerment through Equity sale and/or transfer; strategy and functional management experts and locals') hybrid cooperative arrangement for micro and small scale processing units, captive power for self use and grid sale, etc.

c. Heed (on his 150th anniversary) Swami Vivekananda call to infuse youth with moral/ spiritual capacity to assist his/ her community regain self-respect, self-confidence and pride in their ancient faith and its traditional rites & rituals.

d. Aim at a big unprecedented canvas and plan to start small with resources available.

e. The sense of health, hygiene, aesthetics and ethics in all temple-worship activities by the local priests to be raised to high bench-marks for the common people to follow.

While the implement-ability is techno- commercial, the unprecedented-ness part is for contextual re-interpretation of ancient/ Vedic wisdom in *sutras* and *shlokas*. So, the assistance to those 'signing-up' living and work related costs is to be met

kind (minimum cash) as needed/ appropriate.

The scope and scale of integrated rehabilitation activities depend on corpus availability and suit think big start small and think global, act local.

On small/ local, Ukhimath block's Identified location can be a successful piloted with seed corpus to support raw material supply for a 'critical-mass' of five FPO and GMP compliant MSME units for local herbal, agriculture and dairy produce. The process will need 6 to 60 months under a tri-partite (investors, market & management coordinators and proactive local self-help-groups) hybrid cooperative to manifest the model hybrid-cooperative.

In this body incorporated Trust – HIFEED combine can;

- Outline a proposal and possibility of expanding the same (or fixing the 'limit') within the designated/ identified region.
- Share the geological, environmental, social and other specificities with the participant.
- Negotiate the scope and scale of the parameters subject to specificities.
- Set-up progress/ reporting parameters, etc.
- Assist to 'identify' with other activity/ scope/ scale interconnected members.

The basic premise is that the organizations providing relief to a few households, a village or a cluster of villages is for up to 5 years adopt 'tokenism' transcending Corporate Social Responsibility agenda. The 'scale economy' will help reduce the cost of managing short, medium and long term relief plans.

Having visited the two areas in March 2013, the author of this paper confirms the region is rich in natural resources like, perennial rivers/ streams, flora & fauna, minerals, etc. with probity the sponsors can gain following;

- Meeting their CSR obligations in letter and spirit.
- Making the sites as their soft-skills training centres.
- The regions, brimming with high value medicinal herbs & plants, musk-deer, etc., can yield good returns to health and life-style related businesses.

The targeted output is for each unit to become self supporting within 48 months of going on-stream and begin reimbursing the Corpus by 60 months. The executives, project initiators/ leads and the managers can then begin drawing agreed performance related bonuses.

Summing up

It is here and now (*uttpanneshu cha karyeshu*) that we need to come to core 'understanding' (*pustakeshu cha ya Vidya, parahasteshu yata dhanam*) is gravely felt and STRETCH.

The last Rig-vedic Richa (*samano va aakooti...*) is the inspiration to manifest. Techniques mentioned are indicative and are to bond and band people into effective, efficient and dynamic teams for highly coherent and motivated task-forces.

The proposal made with fore-knowledge of situational complexity seeks professionalism (*jimmedari*) with transparency, accountability and probity; and business-like (*imaandaari*) non-commercial outcome and commercial output, assistance in stages and phases.

Likely costs to the sponsors and supplementing the corpus.

The proposal is based on figures and outcome directions received in New Delhi on 1st July 2013 as the sums available and also that can be raised within five years. Seeing the goodwill and also the felt needs of all for an alternative system (to existing Government and non-Government initiatives), an exponential growth has therefore been indicated.

Focused on do-ables, this paper avoids speculative scenario discussions.

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Mutual fund: Its acceptance level, intention of investment and preference of organization among rural households

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Abstract

The present empirical research aims to study the role of Mutual Funds (MFs) in the rural areas as regards acceptance level of MFs, investment of MFs, purpose of investment in MFs and preference of Mutual Fund (MF) organization. In this study primary data has been collected from rural households (respondents) of various villages of Madhuranthagam Taluk in Kancheepuran District of Tamil Nadu State. The data was collected through questionnaire-cum-interview schedule and 340 valid respondents were included in this study. The research finds that more than 3/5th of the respondents have medium level acceptance of MFs. Personal factors like educational qualification and number of earning members in the family of the respondents in the rural areas are associated with their acceptance level of MFs. Further, 2/3rd of the respondents have invested in MFs and 36.31% of the respondents in the rural households invested between Rs.25,001 to Rs.50,000 because of gender, age group, educational qualification, occupation, earning number of family members, family income of the respondents associated with their amount of investment in the rural areas.

Key Words: Mutual Funds, Acceptance, Investment, Personal Finance

Introduction

The Mutual Fund (MF) is a trust that pools the savings of a number of investors who share a common financial goal. The money thus collected is then invested in capital market instruments such as shares, debentures and other securities. The income earned through these investments and the capital appreciation realized is shared by its unit holders in proportion to the number of units owned by them. The Mutual Funds (MFs) normally come out with a number of schemes with different investment objectives which are launched from time to time. A MF is required to be registered with Securities and Exchange Board of India (SEBI) which regulates securities markets before it can collect funds from the public. Indian Mutual Fund Industry (MFI) has total net assets under MFs USD 29800 million in 2003 which has reached to USD 130284 million in 2009 at an average growth of 28 percent. Thus a MF is the most suitable investment for the common man

as it offers an opportunity to invest in a diversified, professionally managed basket of securities at a relatively low cost. Further, it has convenient administration, regular return potential, liquidity in nature, transparency, flexibility, affordability and choice of several MF schemes. Asset Management Companies (AMCs) are registered under Association of Mutual Fund in India (AMFI) and this organization is monitoring AMCs. Presently, 45 AMCs are registered in AMFI and these AMCs managed Assets Under Management (AUM) of INR 6400 Billion.

Major Mutual Fund (MF) Organizations- An Overview

United Trust of India (UTI) MF: The sponsor of UTI MF is both public sector banks viz., State Bank of India, Bank of Baroda and Punjab National Bank as well as LIC of India. UTI Mutual Fund has a track record of managing a variety of schemes catering to the needs of every class of citizens. It has a nationwide network consisting 149 UTI Financial Centres (UFCs) and UTI International offices in London, Dubai and Singapore.

State Bank of India (SBI) MF: SBI MF is the first bank sponsored MF became in the second phase of MFI evolution as well as it is first non-UTI MF of the nation. In the financial year 1987-1988 SBI MF mobilized net resources of Rs. 1.31 billion and it grew to Rs. 5.25 billion in 1990-1991. This was particularly true in SBI MF where net resources mobilized grew from Rs. 6.59 billion in 1999-2000 to 42.42 billion in 2010-2011 an average annual rate of 17 percent during that period.

Canbank MF: Canbank MF was setup on 19th December 1987 with sponsor of Canara bank but Canbank Investment Management services Ltd incorporated on 2nd March 1993 is the AMC. Canbank AMC has been mobilized net resources grew from Rs. 1.40 billion in 2000-2001 to Rs. 31.30 billion in 2009-2010 an average annual rate of 47 percent.

Life Insurance Corporation (LIC) MF: LIC of India setup LIC MF on 20th April 1989 and the AMC was incorporated on 20th April 1994 under The Companies Act, 1956, which commenced business on 29th April 1994 and the fund was governed by a Board of Trustees earlier and is governed with effect from 8th April 2003 by LIC MF Trustee Company Pvt. Ltd.(Trustee Company) on its incorporation under The Companies Act, 1956. The Trustees of the LIC Mutual Fund have appointed Jeevan Bima

Sahayog Asset Management Company Limited (AMC) as the Investment Managers to LIC MF. The LIC MF has mobilized net resources grew from Rs.21.12 billion in 2005-2006 to Rs.48.71 billion in 2009-2010, equivalent to an growth rate of 23 percent. Trustee Company and AMC entered into a joint venture with Japan's leading financial services conglomerate Nomura Asset Management Strategic Investments Pte. Ltd. (Nomura) on 18th January 2011 and thus LIC MF became LIC Nomura MF with its investment manager, renamed as LIC Nomura MF AMC Limited and Trustees as LIC Nomura MF Trustee Company Pvt. Ltd.

General Insurance Corporation (GIC) MF: GIC MF constituted as trust in accordance with the provisions of the India Trusts Act, 1882. GIC MF sponsored by GIC of India and four public sector General Insurance companies like National Insurance Company Ltd (NIC), The New India Assurance Company Ltd (NIAC), The Oriental Insurance Company Ltd (OIC) and United India Insurance Company Ltd.

Reliance MF: Reliance MF was established as Trust under Indian Trusts Act, 1882 through the sponsor of Reliance Capital Limited. Today, Reliance MF has its average AUM of Rs. 90,636 Crores and an investor count of over 58.42 and 64.53 Lakh as of Oct to Dec '2012. Reliance Capital Trustee Company Ltd. Registered on 30th June 1995 as Reliance Capital MF which was changed on 11th March 2004. Reliance MF offers investors a well-rounded portfolio of products to meet varying investor requirements and has presence in 179 cities across India.

ICICI Prudential MF: The ICICI Prudential AMC Ltd. is the joint venture between ICICI Bank, a well-known and trusted name in financial services in India and Prudential Plc. The Prudential Plc one of UK's largest players in the financial services sectors and the ICICI Prudential AMC was incorporated in 13th October 1993. Today, ICICI Prudential is the third largest asset management company in the country, contributing significantly to the growth of the Indian MFI.

Sahara MF: Sahara MF was setup on 19th December 1987, sponsored by Sahara India Financial Corporation Limited, (SIFCL) but Sahara AMC Pvt. Ltd. Incorporated on 31st August 1995. Today, Sahara MF Manages ten equity-oriented and six debt-oriented schemes

Tata MF: Tata MF was setup on 30th June 1995 and sponsored by Tata MF are Tata Sons Ltd and Tata Investment Corporation Ltd. The Tata AMC Ltd incorporated on 15th March 1994. Today, Tata MF manages around 19,897 crores (average AUM for the quarter of January – March 2013) worth of assets.

Baroda Pioneer MF: Baroda Pioneer AMC Limited is a joint venture between two large and well-established financial services companies - Bank of Baroda (BoB) and Pioneer

Investments. BoB MF was established on 30th October 1992 under the sponsorship of BoB. But it is incorporated on BoB AMC 5th November 1992. Pioneer Global Asset Management SpA (Pioneer Investments) a global asset manager with 82 years of experience and AUM of € 154 billion (as on December 2012), acquired 51% of the shareholding of Baroda Pioneer Asset Management Co. Ltd. (earlier known as BoB AMC Limited) and became the co-sponsor of Baoda Pioneer AMC Ltd. Baroda pioneer MF has been mobilized net resources of Rs. 12.88 billion in 2009-2010. Currently Baroda Pioneer MF manages Average assets of about ` 5,405.68 crores for the quarter Oct - Dec 2012.

HDFC MF: The HDFC AMC Company Ltd was incorporated under the Companies Act, 1956, on December 10, 1999 head quartered in Mumbai. But, HDFC MF was setup on 3rd July 2000 with sponsors of Housing Development Finance Corporation Ltd and Standard Life Investments Ltd.

Deutsche MF: The MF division of Deutsche Asset & Wealth Management was established in 2002, Deutsche Asset Management (India) Pvt. Ltd., covers marketing, client servicing and fund management. Today, Deutsche provide wide range of equity and debt schemes with average AUM of Rs.18,037 crore last quarter period of 2012.

Franklin Templeton MF: In India office was set up in 1996 as Templeton Asset Management India Pvt. Limited. It flagged off the MF business with the launch of Templeton India Growth Fund in September 1996, and since then the business has grown at a steady pace. In July 2002, Franklin Templeton India acquired Pioneer ITI, another leading fund house in India.

Axis MF: The First scheme of Axis MF launched in October'2009 sponsored by Axis Bank and it has average AUM of Rs.10,951 crore on 31st August 2012. The Axis MF ranked 15th amongst 44 MFs in India as on June 2012 and It provides totally 29 schemes like 4 Equity, 22 Debt, 1 Hybrid, 1 Gold FOF & 1 Gold ETF

Kotak Mahindra MF: Kotak Mahindra Asset Management Company Ltd (KMAMC) is subsidiary of Kotak Mahindra Bank Ltd (KMBL) and this company present in 76 cities and has 79 branches across the country. KMAMC started its operations in December 1998 and has over 10 Lakh investors in various schemes. Kotak Mahindra MF offers schemes catering to investors with varying risk-return profiles and was the first fund house in the country to launch a dedicated gilt scheme investing only in government securities.

Growth of Gross Mobilization of Funds by MFs in India

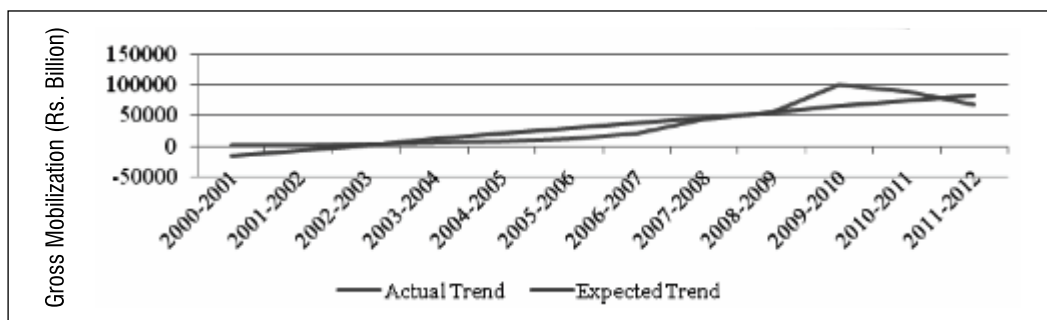
The gross funds mobilized under MFs have grown at an average rate of 48 percent for the for the twelve-year period from 2000-01 to 2011-2012. The actual amount of mobilization of funds by MFs during 2009-10 was at Rs.100190.22 billion compared to

Rs.54263.54 billion during the previous year (2008-2009) indicating an increase of 84.63 percent over the year of 2008-2009. But, decreasing trend of gross mobilization on 2010-2011 and it shows Rs. 88595.15 Billion as well as Rs.68196.79 Billion on 2011-2012. The actual amount of gross mobilization of funds by MFs in India continuously increased every year during the study period from 2000-2001 to 2009-2010. The actual and expected growth of fund mobilization in the MFI explained that, actual growth of funds mobilized by MFs was less than the expected growth during the study period from 2003-2004 to 2008-2009 and 2011-2012. On the other hand, actual growth of funds mobilized by MFs was greater than the expected growth during the periods of 2000-2001 to 2002-2003, 2009-2010 and 2010-2011. Finally, predicts the future growth of gross mobilization of funds by MFs which will reach around or more than Rs.150,000 billion on 2019-2020 with the average growth of 11 percent during the periods from 2011-2012 to 2019-2020.

Assets Under Management (AUM) of Mutual Fund Industry (MFI) in India

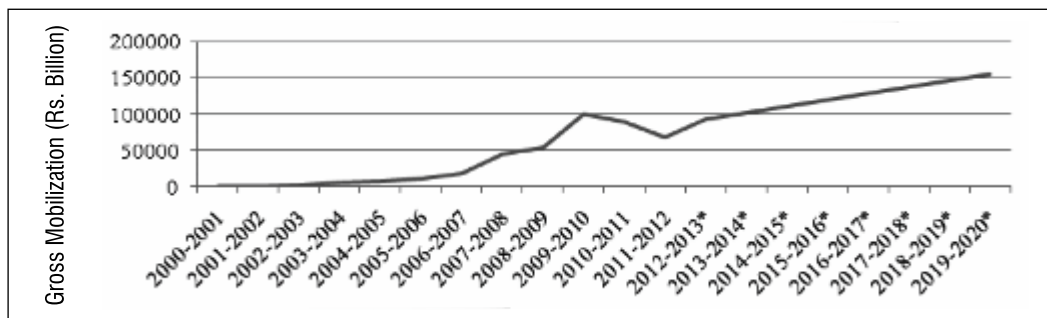
The MFI has grown at an impressive pace in terms of AUM with average annual growth of 22 percent for the eight year periods from 31st Mar' 2005 to 31st Mar' 2012. The AUM in the MFI has shown continuous growth from 2005 to 2008. In 2020, MFI in India has attained is AUM of MFs to more than Rs. 12,000 billion.

Figure 1: Comparison of Actual and Expected Trend Pattern of Gross Mobilization of MFs



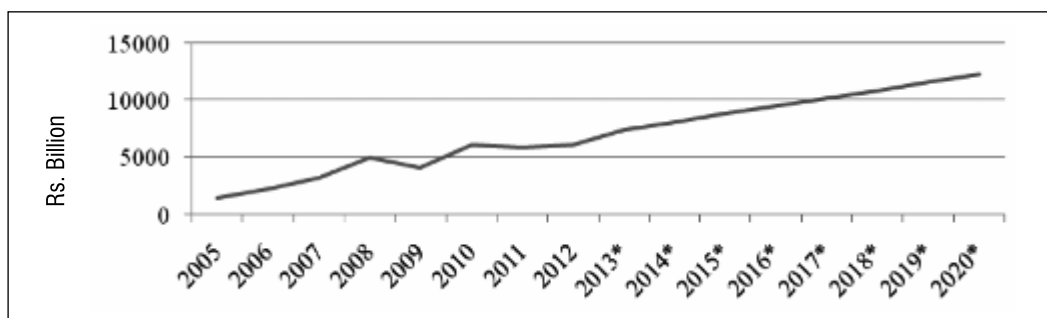
(Source: Securities and Exchange Board of India)

Figure 2: Prediction of Growth of Mutual Fund Industry in India



(Source: Securities and Exchange Board of India; * forecast)

Figure 3: Asstes under Management of Mutual Funds (As on 31st March)



(Source: Securities and Exchange Board of India; * forecast)

Performance of Mutual Fund Industry (MFI) around the World

The performance of MFI around the world studied through the net assets of American Countries, European Countries, Asia and Pacific countries.

Total Net Assets of MFs in American Countries

The growth rate of net assets studied among American countries during the period from 2001-2011 is shown in Table 1 and it is reported that the seven countries that are members of the American Union witnessed an increase in their total MF assets from 2001-2011. Among American member countries, Chile and Brazil recorded the highest growth rate at 20 percent, followed by Mexico at 11.07 percent, Canada at 10.28 percent and Argentina & United states, all with growth rates of around 5 percent.

Table 1: Net Assets of MFs (US\$Million) and Average Annual Growth Rates in American Countries

Member Country	Available Years	2001	2011	Growth Rates
Argentina	2001-2011	3751	6112	5%
Brazil	2001-2011	148189	952039	20.44%
Canada	2001-2011	267863	712720	10.28%
Chile	2001-2011	5090	33117	20.60%
Costa Rica	2002-2011	Not Available	1435	-2.11%
Mexico	2001-2011	31723	90662	11.07%
United states	2001-2011	6974913	11052166	4.71%

(Source: Securities and Exchange Board of India)

Total Net Assets of MFs in European Countries

In the European countries total net assets of MFs grew from USD 3167965 million in 2001 to 7043209 million in 2009. Among European member countries, Romania recorded the highest growth rate at 74 percent, followed by Liechtenstein at 27.5 percent and Russia at 26.67% and then Hungary, Ireland, Norway, Poland and Slovakia, all with growth rates of around 20 percent. On the other hand, average growth rate of net assets in Germany, Greece, Italy, Netherlands, Portugal and Slovenia negatively growing during the last decades of 21st century (Refer Table 2).

Table 2 : Net Assets of MFs (US\$Million) and Average Annual Growth Rates in European Countries

Member Country	Available Years	2001	2011	Growth Rates
Austria	2001-2011	55211	86446	4.59%
Belgium	2001-2011	68661	86310	2.31%
Czech Republic	2001-2011	1778	4931	10.74%
Denmark	2001-2011	33831	83893	9.51%
Finland	2001-2011	12933	63442	17.24%
France	2001-2011	713378	1458840	7.42%
Germany	2001-2011	213662	29965	-17.83%
Greece	2001-2011	23888	6399	-12.34%
Hungary	2001-2011	2260	9532	15.48%

Ireland	2001-2011	191840	1019346	18.18%
Italy	2001-2011	359879	201696	-5.63%
Liechtenstein	2002-2011	NA	34353	27.54%
Luxembourg	2001-2011	758720	2302232	11.74%
Netherlands	2001-2011	79165	79115	-0.01%
Norway	2001-2011	14752	80497	18.49%
Poland	2001-2011	2970	20318	21.20%
Portugal	2001-2011	16618	8354	- 6.65%
Romania	2001-2011	10	2502	73.71%
Russia	2001-2011	297	3159	26.67%
Slovakia	2003-2011	NA	3794	17.27%
Slovenia	2006-2011	NA	2329	-1.28%
Spain	2001-2011	159899	206315	0.03%
Sweden	2001-2011	65538	171403	0.10%
Switzerland	2001-2011	75973	277111	0.14%
Turkey	2002-2011	NA	15609	11.20%
United Kingdom	2001-2011	316702	785318	0.10%

(Source: Securities and Exchange Board of India)

Total Net Assets of MFs in Asia & Pacific Countries

Among Asian & Pacific member countries, Hong Kong recorded the highest growth rate at 30 percent, followed by Philippines at 26.67 percent and then Australia and New Zealand, all with growth rates of around 15 percent. This is followed by Hungary, Ireland, Norway, Poland and Slovakia, all with growth rates of around 20 percent. On the other hand, China shows that the negative growth of net assets (Refer Table 3).

Table 3 : Net Assets of MFs (US\$Million) and Average Annual Growth Rates in Asian & Pacific Countries

Member Country	Available Years	2001	2011	Growth Rates
Australia	2001-2011	334016	1362998	15.10%
China	2007-2011	NA	319975	-7.34%
Hong Kong	2001-2007	170073	NA	29.93%
Japan	2001-2011	343907	751510	8.13%
Rep. of Korea	2001-2011	119439	223805	6.48%
New Zealand	2001-2011	6564	22431	13.08%
Pakistan	2006-2011	NA	2560	3.42%
Philippines	2001-2011	211	2244	26.67%

Taiwan	2001-2011	49742	51829	0.41%
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(Source: Securities and Exchange Board of India)

Statement of the Problem

Sixty percent of India's population is without access to formal financial services/education even after 65 years of independence. Achieving full-fledged financial inclusion has been a long cherished dream of Indian government particularly rural India. The education of financial matter plays a pivotal role in rural areas compared with urban areas. Rural areas is the backbone of India but 72,825 financially excluded villages available because lack of financial education. So, the financial education is important to both the security of individuals and their families, security of nations. So, current economic situation's focus on financial inclusion should not only be limited to banking services, but also other financial services including MFs. This is the only way to ensure participation of all categories of investors in the financial of the economy as a whole. The above issue helps to undertake this research entitled "Mutual Fund: Its Acceptance Level, Intention of Investment and Preference of Organization among Rural Households" with the following objectives.

Objectives of the study

1. To assess and analyze the acceptance level of MFs among rural households.
2. To study the relationship of investment in MFs among rural households.
3. To find out the purpose of investment in MFs among rural households.
4. To study the preference of MFs organization and influencing factors on selection of MFs organization among rural households.

Hypotheses of the study

- H_{01} : There is no significant relationship of acceptance level of MFs among various groups of the rural households.
- H_{02} : There is no significant relationship of investment in MFs among various groups of the rural households.

Research methodology

This study has used both primary and secondary data. The secondary data has been collected from websites of AMFI, SEBI, RBI, Association of National Mutual Fund, European Fund and Asset Management. It helps to discuss the theoretical parts about current position of Mutual Fund Industry (MFI) in India and some other countries in the world. The primary data helps to study the role of MFs like acceptance level of MFs (<59 low acceptance; ≥ 59 to ≤ 77 medium acceptance; ≥ 78 high acceptance), investment of MFs, preference of MFs organization and responsible factors on selection of MFs organization in the rural households. Questionnaire-cum-Interview schedule was used to collect primary data and 340 valid rural households (respondents) were selected from various villages of Madhuranthagam Taluk of Kancheepuram District using multi-stage sampling method. The primary data was collected during the period from September to December 2013. Percentage analysis, Chi-square test (χ^2), One-way ANOVA, t-test and Garret's ranking technique was used to draw the inference.

Review of literature

Mukhopadhyay (2004) reports that higher age group of people prefer less risky investment while the youngsters are aggressive in risky investments in the city of Kolkata. Walia and Kiran (2009) found that majority of individual investors don't consider MFs as highly risky investment and also reported that there is a significant relationship of interdependence between income level of investors and their perception for investment returns from investment of MFs. Veena, et.al., (2010) in their study aims to ascertain the significance of financial institutions in mobilizing financial saving of rural/ semi-urban households. A hierarchical regression carried out on this study and identified that the membership of financial institutions, specifically that of banks, insurance and informal financial institutions explains significant proportion of the variation in the rural household financial saving because it took efforts to increase the household income, to reduce the dependency ratio and to increase the number of financial institutions can prove to be fruitful in mobilizing rural household saving into the economy's financial system. Devasenathipathi (2011) investigated the performance of public and private-sector MFs for the period of 2005 to 2007 as the sample of Life Insurance Corporation (LIC) MFs and Reliance MFs. Binod Kumar Singh (2011) in his research paper studied the impacts of various demographic factors on investors' attitude towards MF. This study concluded that demographic factors like, gender, income and level of education have significantly influence the investors' attitude towards MFs. Santhi and Balanaga Gurunathan (2011) in their study aim to analyze the investor's attitude towards their investment on

Tax saving MFs. Authors report that the participation of investors in Tax saving MFs is comparatively less than insurance, Postal deposit schemes and fixed deposits.

Analysis and discussions

This part discusses on the role of MFs in the respondents of rural households through the application of various statistical tools.

Demographic Factors of the Respondents

Distribution of the respondents based on their demographic factors like gender, age group, marital status, educational qualification, occupation, earning members, family income and proportion of saving are given in the Table 4 and it shows that majority (68%) of the respondents were male and the remaining 32% of the respondents were female. This is followed by little more than 7/10th of the respondents who belonged to the age group of above 45 years, 3/4th of the respondents were married and the remaining 1/4th were unmarried. Majority (50%) of the respondents have completed higher education, 41% of the respondents are working in private companies and more than 2/5th of the families have one earning member whereas 62% of the respondents' family earn more than Rs. 20,000 per month. Majority of the respondents' family proportion of saving is > 20% out of total income per month.

Table 4 : Demographic Factors of the Respondents

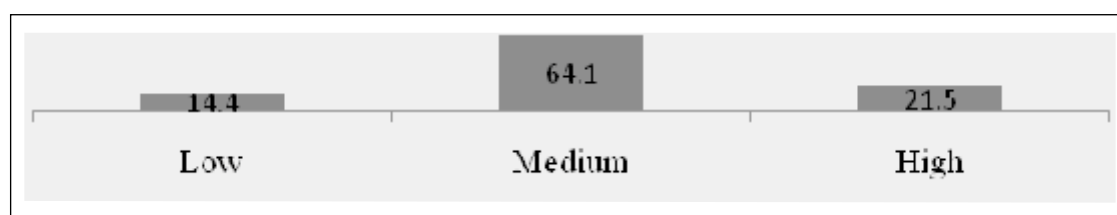
Profile	Attribute	No. of Respondents	Percent
Gender	Male	231	68
	Female	109	32
Age group (In Years)	Upto 25	39	11
	26-45	60	18
	Above 45	241	71
Marital status	Married	256	75
	Unmarried	84	25
Educational qualification	Primary education (I-VIII)	26	8
	School education (IX-XII)	67	20
	Higher education	164	48
	Technical education	83	24
Occupation	Government employee	52	15
	Private employee	140	41
	Professional	38	11
	Businessman	56	16
	Agriculturalists	36	11
	Others (Student, homemaker, Weavers, etc.)	18	5
Earning members (In Nos. Per Family)	1	144	42
	2	134	39
	3	62	18

Family Income (Rs. Per Month)	Upto Rs.10, 000	25	7
	Rs.10,001 - Rs. 20,000	104	31
	Above Rs. 20,000	211	62
Saving Per Month (In %)	Upto 10	99	29
	11 –20	83	24
	Above 20	158	46

(Source : Field data)

Acceptance Level of MFs

According to the Mean $\pm$ SD technique assessment of acceptance level among the respondents is shown in the figure below.

Figure 4 : Acceptance Level of MFs (In %)

(Source: Field data)

It is observed from Figure 4, that 64.1% of the respondents come under medium level acceptance of MFs and 21.5% of the respondents belong to high level acceptance of MFs and the remaining 14.4% respondents are at low acceptance level of MFs.

Relationship of Acceptance level of MFs among various groups of the Respondents

- H_0 : There is no significant relationship of the acceptance level of MFs among the various groups of the respondents' gender, age group, marital status, educational qualification, occupation, earning number of family members, family income and proportion of saving.
- H_{01} : There is a significant relationship of the acceptance level of among the various groups of the respondents' gender, age group, marital status, educational qualification, occupation, earning number of family members, family income and proportion of saving.

Table 5 : Relationship of Demographic factors and Acceptance of level MFs

Characters	χ^2	df	T.V.	Result
Gender and Acceptance level	1.840	2	5.99	Accept H_0 & Reject H_{01}
Age group and Acceptance level	1.710	4	9.49	Accept H_0 & Reject H_{01}
Marital status and Acceptance Level	0.771	2	5.99	Accept H_0 & Reject H_{01}
Educational qualification and Acceptance level	25.853**	6	12.53	Accept H_{01} & Reject H_0
Occupation and Acceptance level	13.967	10	18.31	Accept H_0 & Reject H_{01}

No. of earning family members and Acceptance level	24.023**	4	13.23	Accept Ho ₁ & Reject Ho
Family Income (Rs. per month) and Acceptance level	12.036*	4	9.49	Accept Ho, & Reject Ho
Proportion of saving and Acceptance level	4.863	4	9.49	Accept Ho & Reject Ho ₁

(** Sig. @ 1% & * Sig. @ 5% level)

(Source: Field data)

It can be inferred from Table 5, that the value of χ^2 concluded that there is no significant relationship between gender, age group, marital status, occupation, proportion of saving of the respondents and their acceptance level of MFs. On the other hand, there is a significant relationship between educational qualification, earning number of family members, family income of the respondents and their acceptance level of MFs.

Difference on Acceptance of MFs among various groups of the Respondents

- Ho: There is no significant difference on acceptance level of MFs among various groups of the gender, age group, marital status, educational qualification, occupation, earning number of family members, family income and proportion of saving of the respondents.
- Ho₁: There is a significant difference on acceptance level of MFs among various groups of the gender, age group, marital status, educational qualification, occupation, earning number of family members, family income and proportion of saving of the respondents.

Table 6 : Difference on Acceptance of MFs among various groups of the Respondents

Factor	Character	N	Mean	SD	df	f/t	Result
Gender	Male	231	68.71	9.39	338	0.467	Accept Ho & Reject Ho ₁
	Female	109	68.17	11.07			
Age group (In years)	Upto 25	39	68.62	10.18	339	0.282	Accept Ho & Reject Ho ₁
	26-45	26	68.69	9.99			
	Above 45	41	67.44	9.58			
Marital Status	Married	256	68.01	9.92	338	1.703	Accept Ho & Reject Ho ₁
	Unmarried	84	70.13	9.9			
Educational Qualification	Primary education(I-VIII)	26	65.69	5.61	339	7.113**	Accept Ho ₁ & Reject Ho
	School education(IX-XII)	67	65.88	11.04			
	Higher education	164	68.07	9.16			
	Technical education	83	72.47	10.48			

Occupation	Government employee	52	70.04	9.16	339	1.675	Accept Ho & Reject Ho ₁
	Private employee	140	68.23	10.46			
	Professional	38	68.58	8.12			
	Businessman	56	69.68	11.51			
	Agriculturalists	36	64.67	8.48			
	Others (Student, homemaker, Weavers etc.)	18	70.01	7.61			
No. of earning family members	1	144	69.07	7.76948	339	2.498	Accept Ho & Reject Ho ₁
	2	134	67.14	10.1723			
	3	62	70.27	13.2097			
Family Income (Rs. per month)	Upto Rs.10, 000	25	64.20	8.84	339	2.891	Accept Ho & Reject Ho ₁
	Rs.10,001 - Rs. 20,000	104	68.26	11.18			
	Above Rs. 20,000	211	69.18	9.31			
Proportion of saving (Per Month)	Upto 10	99	67.37	11.96	339	1.041	Accept Ho & Reject Ho ₁
	11-20	83	68.63	7.42			
	Above 20	158	69.21	9.71			

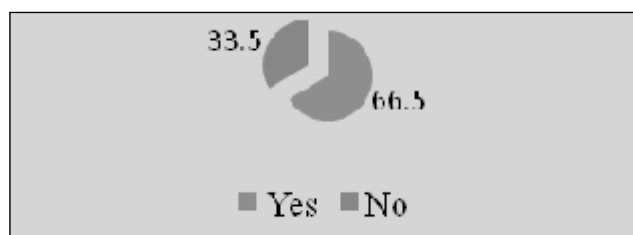
(** Sig. @ 1% & * Sig. @ 5% level)
(Source: Field data)

The calculated value of f/t in the Table 6, reported that there is no significant difference on acceptance level of MFs among various groups of the gender, age group, marital status, occupation, earning number of family members, family income and proportion of saving of the respondents. On the other hand, there is a significant difference on acceptance level of MFs among various groups of the educational qualification of the respondents.

Respondents' Investment in MFs

Distribution of the respondents with respect to their investment in MFs is shown in the Figure 5 and it is reported that 2/3rd of the respondents have invested in MFs and remaining 1/3rd of them never invested in MFs.

Figure 5 : Investment in MFs (In %)



Relationship of Demographic Factors of the Respondents and Investment in MFs

- Ho: There is no significant relationship between gender, age group, marital status, educational qualification, occupation, earning number of family members, family income, proportion of saving of the respondents and their investment in MFs.
- Ho1: There is a significant relationship between gender, age group, marital status, educational qualification, occupation, earning number of family members, family income, proportion of saving of the respondents and their investment in MFs.

Table 7 : Relationship of Demographic factors of the Respondents and Investment in MFs

Characters	X ²	df	T.V.	Result
Gender & investment in MFs	0.145	1	3.84	Accept Ho & Reject Ho ₁
Age group and investment in MFs	6.718*	2	5.99	Accept Ho ₁ & Reject Ho
Marital status and investment in MFs	0.002	1	3.84	Accept Ho & Reject Ho ₁
Educational qualification and investment in MFs	27.960**	3	11.34	Accept Ho ₁ & Reject Ho
Occupation and investment in MFs	17.055**	5	15.09	Accept Ho ₁ & Reject Ho
No. of earning family members and investment in MFs	19.442**	2	9.21	Accept Ho ₁ & Reject Ho
Family Income (Rs. per month) and investment in MFs	14.464**	2	9.21	Accept Ho ₁ & Reject Ho
Proportion of saving and investment in MFs	11.022**	2	9.21	Accept Ho ₁ & Reject Ho

(** Sig. @ 1% & * Sig. @5% level)

(Source: Field data)

Table 7 concluded that with the help of χ^2 value there is no significant relationship between gender, marital status of the respondents and their investment in MFs. On the other hand, there is a significant relationship between age group, educational qualification, occupation, earning number of family members, family income, proportion of saving of the respondents and their investment in MFs.

Amount of Investment in the MFs

Distribution of the respondents based on their amount of investment in MFs is shown in the table below.

Table 8 : Amount of Investment in MFs

Amount (In Rs.)	No. of Respondents	Percent
Upto Rs. 25,000	71	31.4
Rs. 25,001- 50,000	82	36.3
Above Rs. 50, 000	73	32.3
Total	226	100

(Source: Field data. The values in brackets are percentages)

It is observed from Table 8 that 71 (31.4%) respondents made investment in MFs upto Rs. 25,000, 82 (36.3%) respondents made investment in MFs between Rs. 25,001 to 50,000 and remaining 73 (32.3%) respondents invested in MFs above Rs.50,000.

Relationship of Demographic Factors of the Respondents and Amount of Investment in MFs

- Ho : There is no significant relationship of the amount of investment in MFs among various groups of the gender, age group, marital

status, educational qualification, occupation, earning number of family members, family income and proportion of saving of the respondents.

- Ho1: There is a significant relationship of the amount of investment in MFs among various groups of the gender, age group, marital status, educational qualification, occupation, earning number of family members, family income and proportion of saving of the respondents.

Table 9 : Relationship of Demographic factors of the Respondents and Amount of Investment in MFs

Characters	X ²	df	T.V.	Result
Gender & Amount of investment in MFs	6.854*	2	5.99	Accept Ho ₁ & Reject Ho
Age group and Amount of investment in MFs	11.391**	4	13.23	Accept Ho ₁ & Reject Ho
Marital status and Amount of investment in MFs	0.377	2	5.99	Accept Ho & Reject Ho ₁
Educational qualification and Amount of investment in MFs	34.819**	6	16.81	Accept Ho ₁ & Reject Ho
Occupation and Amount of investment in MFs	48.246**	10	23.21	Accept Ho ₁ & Reject Ho
No. of earning family members and Amount of investment in MFs	16.237**	4	13.23	Accept Ho ₁ & Reject Ho
Family Income (Rs. per month) and Amount of investment in MFs	20.209**	4	13.23	Accept Ho ₁ & Reject Ho
Proportion of saving and Amount of investment in MFs	7.738	4	9.49	Accept Ho ₁ & Reject Ho

(** Sig. @ 1% & * Sig. @ 5% level)

(Source: Field data)

It could be collected from Table 9 with the help of χ^2 values, that there is a significant relationship of the amount of investment in MFs among various groups of the gender, age group, educational qualification, occupation, earning number of family members and family income of the respondents. Whereas, there is no significant relationship between marital status, proportion of saving of the respondents and their amount of investment in MFs.

Purpose of Investment in MFs Schemes

Nine different factors related to purpose of investment in MFs placed to the respondents and collect response through ranking form i.e., most purpose of investment getting first rank and least purpose of investment getting last rank. Thereafter, Garret's Ranking Technique can be used and purpose of investment of the respondents decided. In this technique highest mean score getting first rank and so on.

Table 10 : Purpose of Investment in MFs Schemes

Purpose of Investment/ Rank	Garret's Score	No. of Respondents	Mean	Rank
To provide for retirement	10485	226	46.39	8
Children education	11938	226	52.82	3
Security of original capital	13340	226	59.03	1
Marriage purpose	11801	226	52.22	4
To construct house	12221	226	54.08	2
Wealth maximization	11315	226	50.07	5

Meet contingencies	9258	226	40.96	9
Tax reduction	10752	226	47.58	6
Earn return	10590	226	46.86	7

(Source: Field data)

Table 10 reported that security of the original capital is a major purpose of investment in MFs because its mean score of 59.03. This is followed by construct house (54.08), children's education (52.82) is the second and third purpose of investment in MFs respectively. On the other hand, earning income (46.86), retirement purpose (46.39) and meeting contingencies (40.96) are getting least preferred purposes of investment in MFs.

Preference of MFs Organization of the Respondents

To study the respondents' preference of MFs organization through the Garret's Ranking Technique. Ten different MFs organizations placed the respondents and collected response through ranking from i.e., most preferred of MFs organization getting first rank and least preferred MFs organization getting least rank. Thereafter, Garret's Ranking Technique can be used to find out the most preferred MFs organization among several organizations.

Table 11: Preference of MFs Organization

MFs Company	Garrett's Score	No. of Respondents	Mean	Rank
UTI	14520	226	64.25	II
RELIANCE	13725	226	60.73	III
SBI	15605	226	69.05	I
ICICI	11520	226	50.97	IV
HDFC	9818	226	43.44	VIII
FRANKLIN	10490	226	46.42	V
BIRLA SUNLIFE	9184	226	40.64	IX
KOTAK	9890	226	43.76	VI
IDBI	9833	226	43.51	VII
HSBC	8329	226	36.85	X

(Source : Field data)

It could be seen from Table 11 that "SBI" was the most preferred MFs organization compared with others because its mean score is 69.05. This is followed by "UTI" is ranked second with a score of 64.25, "RELIANCE" MFs organization is ranked third (60.73) and "ICICI" are ranked fourth (50.97) based on the Garret's ranking technique. On the other hand, "HSBC", BIRLA SUN LIFE & HDFC is the least preferred MFs organizations of the respondents.

Influencing Factors on Selection of MFs Organization

To study the influencing factors on selection of MFs organizations through the Garret's Ranking Technique and results are shown in Table 12.

Table 12: Influencing Factors on Selection of MFs Organization

Factors	Garrett'sScore	No. of Respondents	Mean	Rank
Past satisfactory experience in a company	11386	226	50.38	5
Reputation of the company	11128	226	49.24	8
Performance during high volatility	11850	226	52.43	3
Well agency network	11696	226	51.75	4
Transparency of a company	12326	226	54.54	1
Marketing strategy	12003	226	53.11	2
Nature of schemes launched	9979	226	44.15	12
Well developed research infrastructure	11167	226	49.41	7
Availability of innovative funds	10584	226	46.83	11
Strict adherence to SEBI regulations	11246	226	49.76	6
Quantum of fund mobilization of a company	10905	226	48.25	10
Investor services	11104	226	49.13	9

(Source: Field data)

It is observed from Table 12 that 'transparency of a company' was the most influencing factor for selection of MFs organizations with a score of 54.54. Then, 'marketing strategy of MFs schemes' of the organizations is the second influencing factor for selection of MFs organizations with mean score of 53.11. On the other hand, 'nature of schemes' (44.15), 'availability of innovative funds' (46.83) were the least influencing factors for selection of MFs organizations.

Conclusion

The research work concludes that 64% of the respondents in the rural households come under medium level acceptance of MFs and only 21.5% of respondents belong to high level acceptance of MFs in the rural areas. This is followed by 2/3rd of the respondents in the rural areas have invested in MFs schemes because several factors like, age group, educational qualification, occupation, number of earning family members, family income and proportion of saving influenced investment in MFs. SBI is the most preferred MFs organization among the respondents in rural areas and transparency of a company, marketing strategies of MFs schemes are the most preferred factors on selection of MFs organization.

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Decadal Analysis of Investment Climate in the District of Kachchh

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Abstract

There is now almost universal consensus that a sound investment climate is critical for private sector led economic growth. A good investment climate provides opportunities and incentives for firms- from micro enterprises to multinationals- to invest productively and create jobs. The investment climate shapes the costs and risks of doing business, as well as barriers to competition, all of which strongly influence the role and impact of the private sector in social and economic development, economic growth and poverty reduction. The investment climate in recent years has become a key issue in international policy discussions on promoting private sector development.

The paper consists of initial research findings and research analysis of the data collected from the survey from the investors in the district of Kachchh to come to the conclusion for the factors affecting the investment climate in the district of Kachchh, Gujarat.

Introduction

The investment climate is a broad concept and on the widest definition can comprise all factors external to firms, including the policy, legal and regulatory framework; external trade policy; governance and institutions; physical security; the social and cultural context of business; macroeconomic policies; access of firms to financial and business services; and the availability of physical and social infrastructure services. The breadth and complexity of the investment climate, and different views on what it should comprise, poses inherent difficulties in attempts at measurement, or to compare the quality of investment climates between different countries.

Over the past decade, improved data collection methodologies have contributed to an increased understanding of what elements constitute a good investment climate and how these elements vary in relative importance. The first comprehensive study was the World Bank sponsored Regional Program on Enterprise Development (RPED), which carried out a number of surveys in various countries between 1992 and 1995. The surveys covered approximately 200 firms over a period of three years, thereby producing panel data¹. In the late 1990s, the World Bank established Investment Climate Surveys (ICS) and the World

Business Environment Survey (WBES), which were oriented towards investment climate issues and concentrated on cross-section data. Over time, many other surveys or assessments have been created by a number of institutions. Generally speaking, investment climate assessments help identify the aspects of the investment climate that matter most for productivity, private sector development and income growth. They also help in tracking changes of these aspects over time and in facilitating the comparison of data between countries, regions, sectors etc.

Conceptualizing investment climate

First step in the discussion of the investment climate study is the definition of Investment Climate; various researchers have tried to define the term as the location specific characteristics attracting the investment.

As per the definition mentioned in the World Bank Development Report (2005) "A better investment climate for everyone", investment climate is the set of location specific factors shaping the opportunities and incentives for firms to invest productively, create jobs, and expand. Government policies and behaviours exert a strong influence through their impact on costs, risks, and barriers to competition

The investment climate reflects the many location- specific factors that shape the opportunities and incentives for firms to invest productively, create jobs, and expand. A good investment climate is not just about generating profits for firms—if that were the goal, the focus could be limited to minimizing costs and risks. A good investment climate improves outcomes for society as a whole. That means that some costs and risks are properly borne by firms. And competition plays a key role in spurring innovation and productivity and ensuring that the benefits of productivity improvements are shared with workers and consumers.

Investment climate in the district of Kachchh, Gujarat

After the earthquake, the Government of Gujarat's industries and mines department developed the "Incentive Scheme 2001 for Economic Development of Kachchh district". The scheme was intended to make the economic environment of Kachchh district alive by encouraging new investment in the region. Industrial

development was also promoted by ministers from the Government of Gujarat at a number of trade fairs and at the "Resurgent Gujarat" event of 2002.

The Incentive Scheme offered both excise and sales tax concessions for new industrial units commencing production in Kachchh before the end of 2005 for a period of five years. It is because of constant care and some purposeful nourishment that the district gained momentum in respect of basic civil amenities like water, electricity, telecommunications etc. The entire industrial map of Kachchh district was changing constantly and rapidly. It was during the post earthquake period, that the district has become an attraction for the new investors to have their investments here. This has obviously resulted in accelerating rate of growth as far as production, employment and income is concerned.

Magnitude of investment in the district

Perhaps the first company to invest in Kachchh after the earthquake was the Euro Group of Companies. They invested Rs. 250 Crores in two plants. One makes vitrified ceramic tiles and the other CDs and DVDs in the Kachchh unit. Key inputs for making vitrified ceramic tiles- China Clay and Bentonite are available aplenty in Kachchh. Today, both units put together provide employment to at least 500 villagers of Bhachau taluka.

In a paradox, Kachchh took a leap out of an agriculture-based region to an area based on manufacturing and services. Since local people were largely reliant on agriculture, the industrialists were asked to set up their production units in Kachchh, for gaining tax benefits and at the same time produce alternative sources of income for the local people. Increased investment increased the demand for talent, which increased the demand for skilled labour. Adoption of a local industrial training institute (ITI) started to train students according to industry's requirements.

Suzlon, the wind energy major, has put almost 1200 windmills all across the Kachchh coastline. Tata, Jindal, Mahashakti Coke, JayPee Cements, Welspun and Adani Power have another reason for being in Kachchh. It has large reserves of lignite coal and the Government of Gujarat has allowed villagers to burn the babool plant (considered a nuisance) and convert it into coal. By 2012, Kachchh will produce almost 10,000 megawatt of power.

Its location on the far western edge of India has resulted in the commissioning of two major ports Kandla and Mundra. These ports are near the Gulf and Europe by the sea route. The proximity to the two ports Kandla and Mundra has also helped in boosting the services economy. The large part of the growth of Kachchh came after tax relief was provided by the government as part of 2001 earthquake relief. Many import and export driven industries set up their units in Kachchh to benefit from this tax holiday. Kachchh also attracted a lot of investments in power sector, since it has a long coastline that can be tapped for wind power.

Kachchh is mineral rich region with very large reserves, of lignite, gypsum and lot of other minerals. This district got tax break for industries for 15 years after the major earthquake in January 26, 2001. Lignite is mined only by Gujarat Mineral Development Corporation (GMDC) at its 2 mines in Panandhro and Mata-No-Madh. The Panandaro mines have now been reserved for GEB and GMDC power plants and GMDC has stopped supply to other industries from here.

Kachchh also houses Sanghi Industries Ltd's Cement Plant. It is the India's single largest Cement Plant. The company is now planning to increase the capacity at its Abdasa location from 3-9 million tons per annum. By 2015, the company plans to produce 20 million tons. Kandla port is also in Kachchh. It is considered Gateway to India's North. It is managed by the Kandla Port trust. The state government along with the Union government supported the 4000 MW Ultra Mega Power Project (UMPP) worth Rs.20,000 Crores. The Sanghi group set up another 1200 MW power plant, with both projects adding more than 2500 MW to Gujarat's kitty. Kachchh also houses one of the largest windmill farms concentration and produces 70% salt of India, and is also known as the '**silver corridor of India**'. Kachchh is world famous for Handicraft and Embroidery. Bunni - Embroidery and Bhujodi village are famous for handicrafts and shawls. The major industries in Kachchh are Import-Export, Transportation and Cargo Handling, Cement, Mining, Ports, Salt, Tourism, Agriculture, Animal Husbandry, Timber, Real Estate, Retail and lot more. Kachchh boasts of being the world's largest maker of Submerged Arc Welded (SAW) pipes, it has the largest single unit making vitrified tiles (by ORPAT) in Samakhiali.

Table 1: Table Land allocation for industries in Kachchh

Sr. No.	Name of Ind. Area	Land acquire (In Hectare)	Land Developed (in Hectare)	Prevellin grate per sq. m.(in Rs.)	No of plots	No. of allotted Plots	No. of plots Utilised (including vacant)	No. of Units in production
1	Anjar	21.05.46	14.73.82	275	199	199	11	188
2	Bhuj	30.75.00	2043.46	275	121	120	3	117

3	Mandvi	19.93.98	13.68.78	265	100	100	60	40
4	Nagor	6.47.67	4.30.59	200	30	30	1	29
5	Dhrub	44.92.00	40.94.20	415	157	157	29	128
6	Makhel	8.66.03	6.19.80	265	64	57	57	00
7	Mithirohar-I	41.73.35	29.67.15	550	162	162	25	137
8	Mithirohar-II	128.43.92	109.61.91	550	57	56	9	47
9	Nakhatrana	4.47.17	3.71.39	265	39	39	39	00
10	Gandhidham	10.61.47	6.48.79	3440	84	84	1	83
11	Madhapar	2.12.33	1.27.92	210	14	14	0	14
12	Mundra	1.35.55	0.98.59	200	8	8	2	6
13	Motichirai	131.59.62	104.42.82	Yet to be planned				

(Source: GIDC, Bhuj-Kutch)

Looking at Table 1 it is clearly found that investors have focused their attention to Anjar area - in comparison with other talukas. The four talukas which were reported to have severe damage were able to attract 71.26% of total new investment. It is equally important to know that there has been an increase in employment opportunities in this area. Anjar taluka is otherwise known for agriculture, but the post disaster trend indicates clear swift towards industries. The same is the trend more or less found in case of ventures to be established.

Table 2 : Industrial Units Under Production -A in the District (No of Units, Investment and Employment taluka wise)

Sr. No.	Taluka	No of Units	Investment in Crores	Employment
1	Gandhidham	13	865	789
2	Bhachau	20	597	1673
3	Bhuj	8	453	1199
4	Abdassa	3	177	658
5	Mundra	10	1792	2839
6	Anjar	25	3057	6931
7	Lakhpat	1	35	100
	Total	80	6976	14189

(Source: District Industries Centre, Bhuj)

Table 3: Industrial Units Under Production -B in the District (No of Units, Investment and Employment taluka wise)

Sr. No.	Taluka	No of Units	Investment in Crores	Employment
1	Gandhidham	14	1088	665
2	Bhachau	13	23222	1415
3	Bhuj	10	3008	6330
4	Nakhatrana	1	2	20

5	Mundra	12	8829	3195
6	Anjar	12	3861	1448
7	Lakhpat	4	3694	1475
8	Mandvi	6	7187	2140
	Total	72	299926	16688

(Source: District Industries Centre, Bhuj)

However, all the large scale units under implementation are found to have concentration in Mandvi and Mundra which were very less affected by earthquake. It is because of the earthquake that Government declared some special motivations, and in follow-up leading investors have tried to seize an opportunity in this respect. In 2000- '01, in Kachchh district, in aggregate there were 26 large scale units walking with fixed investment of Rs 47094 Lakhs. The total production was Rs 171695 Lakhs. Employment in large scale units was only 5124, out of which 3328 were skilled employees. As against the total investment in 2005 march it was 6976.43 Crores and employment was 14189.

Decadal analysis of investment climate in the district of Kachchh, Gujarat

This study was based both on primary and secondary data. The secondary data was acquired through World Bank Development Reports, World Economic Forum Reports, World Financial Forums Report, CII publications of India, Doing Business Reports and government publication, Industry publication and published financial and annual reports of the selected World Banks, Gujarat Government, Reports of Lead Bank in the district and DIC etc. The period of study was of ten years i.e., 2001-02 to 2009-10. The Primary data was a comprehensive survey from senior managers to address the desired set of research questions. The survey was designed with the help of Internet online service of Survey Monkey.com. An online survey link was sent to 80 firms in the district out of which 50 industrial firms' senior manager responded. The respondents were asked to rate 64 criteria across 11 factors or variables of investment climate on a scale of 1 to 5, 1 for very poor and 5 for excellent importance. Also the survey asked respondents to suggest the overall impression of the investment climate.

Perception About Investment Climate in the District

The evaluation of the perception about the investment climate used a five-point scale: 1 = Very Poor, 2 = Poor, 3 = Fair, 4 = Good and 5 = Excellent. Table 5 shows a total average rating of fair for the evaluated parameters in the district of Kachchh within the five zones of the study. As per the average ratings of the evaluated parameters as per Table 5 the 'Transportation' ranks first with the average rating of 4.09 and followed by 'Procurement of raw material from foreign infrastructure facilities' with the average score 4.07 and 4.02 respectively. Also the percentage classification in Table 5 shows that most of the evaluated parameters of the investment climate are perceived very good and good.

**Table 4: Average rating on Parameters of Investment Climate in the district
(1 = Very Poor, 2 = Poor, 3 = Fair, 4 = Good, 5 = Excellent 6 = Don't Know)**

Investment Climate Study Variables in the district (Kachchh)			
Sr. No	Variable	Mean	Rank
1	Macro Economic Stability	3.88	5
2	Governance	3.76	8
3	Regulatory Framework	3.88	5
4	Infrastructure	3.90	4
5	Labor in District	3.63	12
6	Land	3.70	9
7	Finance	3.88	5

8	Market (Domestic)	3.63	11
9	Market (Foreign)	4.02	3
10	Procurement of Raw Material by Location (Domestic)	3.64	10
11	Procurement of Raw Material by Location Foreign	4.07	2
12	Transportation	4.09	1

(Source: Based on primary survey)

Form Table 4 the major factors affecting the investment climate in the district are transportation, infrastructure and tax policy and availability of land. They play the major role in the district for the formation of investment climate in the district. Based on the survey data the following Hypothesis were tested for further analysis:

Hypothesis:

1. All the factors are correlated to each other.
2. Availability of the land is the broadest component of the investment climate in the district of Kachchh.
3. Macroeconomic and political stability and governance and regulatory framework are the basic and critical elements of the investment climate in the district.
4. Transport and infrastructure are the important components of the investment climate in the district.
5. All the factors have an equal importance in the investment climate of the Kutch district.

Hypothesis Testing:

Hypothesis 1: All the factors of the investment climate are correlated to each other.

H_0 : All the factors are correlated to each other.

H_a : All the factors are not correlated to each other.

The multiple correlations were carried out for the survey data, that is the factors like Macroeconomic Stability, Political Stability, Governance, Regulatory Framework, Labor in the District, Land, Market (Domestic), Market (Foreign), Procurement of Raw material (Domestic) and Procurement of Raw material (Foreign) and Transportation with the help of statistical tools of Microsoft excel and following result was obtained.

Multiple correlations among the observed variables/factors of investment climate was carried and based on the observed output as shown in the Table 5 The factors like Macroeconomic Stability, Political Stability, Governance, Regulatory Framework, Labor in the District, Land, Market (Domestic), Market (Foreign), Procurement of Raw material (Domestic) and Procurement of Raw material (Foreign) and Transportation are inter correlated that is all the observed factors have the correlation coefficient near to $r = 1$.

Thus the H_0 : 'All the factors are correlated to each other' is accepted and H_a : 'All the factors are not correlated to each other' is rejected. Thus it can be concluded that all the studied factors have the importance in the investment climate in the district of Kachchh, Gujarat and all the factors are correlated with each other. This means the studied factors lead to strong investment climate in the district.

Hypothesis 2 : Macroeconomic and political stability and governance and regulatory framework are the basic and critical elements of the investment climate in the district.

H_0 : Macroeconomic and political stability and governance and regulatory framework are the basic and critical elements of the investment climate in the district.

H_a : Macroeconomic and political stability and governance and regulatory framework are not the basic and critical elements of the investment climate in the district.

Multiple correlations among the observed variables/factors of investment climate to the Overall Investment Climate Perception in the District was carried and based on the observed output as shown in the Table 6, The factors like Macroeconomic Stability, Political Stability, Governance, Regulatory Framework, Labor in the District, Land, Market (Domestic), Market (Foreign), Procurement of Raw

material (Domestic) and Procurement of Raw material (Foreign) and Transportation to Overall Investment Climate in the district are not equally correlated to the perception of Overall investment climate but the factor Land has the highest correlation coefficient $r = 0.99$ with the Overall investment climate in the district.

Thus H_0 : 'Availability of the land is the broadest component of the investment climate in the district of Kachchh' is accepted and H_a : 'Availability of the land is not the broadest component of the investment climate in the district of Kachchh' is rejected. From this it can be concluded that the availability of the land was the broadest component in the investment climate. As it's also a general belief that the district Kachchh is the largest district in Gujarat in terms of land area. The observed values too indicate that the availability of the land is broadest and the most important component in the investment climate in the district.

Hypothesis 3: Macroeconomic and political stability and governance and regulatory framework are the basic and critical elements of the investment climate in the district.

H_0 : Macroeconomic and political stability and governance and regulatory framework are the basic and critical elements of the investment climate in the district.

H_a : Macroeconomic and political stability and governance and regulatory framework are not the basic and critical elements of the investment climate in the district.

Multiple correlations among the observed variables/factors of investment climate to the Overall Investment Climate Perception in the District was carried and based on the observed output as shown in the Table – 5, The factors like Macroeconomic Stability, Political Stability, Governance, Regulatory Framework, Labor in the District, Land, Market (Domestic), Market (Foreign), Procurement of Raw material (Domestic) and Procurement of Raw material (Foreign) and Transportation to Overall Investment Climate in the district are not equally correlated to the perception of Overall investment climate but the factor Macroeconomic and political stability and Governance and Regulatory framework are the basic and critical elements of the investment climate in the district has the correlation coefficient $r = 0.98$ with the Overall investment climate in the district. Thus H_0 : Macroeconomic and political stability and Governance and Regulatory framework are the basic and critical elements of the investment climate in the district is accepted and H_a : Macroeconomic and political stability and Governance and Regulatory framework are not the basic and critical elements of the investment climate in the district. is rejected. From this it can be concluded that the Macroeconomic and political stability and Governance and Regulatory framework are the basic and critical elements of the investment climate in the district.

Table 5 : Correlation Matrix of the Factors of the Investment Climate in the District (based on mean data)

Factors of Investment climate	Stability	Governance	Regulatory Framework	Infrastructure	Labor in District	Land	Finance	Market (Domestic)				
Macro Economic Stability	1.000											
Governance	0.959	1.000										
Regulatory Framework	0.934	0.937	1.000									
Infrastructure	0.907	0.971	0.895	1.000								
Labor in District	0.971	0.919	0.834	0.886	1.000							
Land	0.958	0.981	0.967	0.944	0.906	1.000						
Finance	0.887	0.927	0.787	0.965	0.918	0.868	1.000					
Market (Domestic)	0.938	0.933	0.808	0.939	0.972	0.886	0.983	1.000				
Market (Foreign)	0.930	0.982	0.917	0.996	0.908	0.967	0.955	0.942	1.000			

Procurement of Raw Material by Location (Domestic)	0.925	0.799	0.753	0.743	0.958	0.791	0.804	0.896	0.772	1.000		
Procurement of Raw Material by Location Foreign	0.853	0.748	0.664	0.765	0.928	0.722	0.859	0.917	0.775	0.951	1.000	
Transportation	0.956	0.969	0.930	0.981	0.937	0.967	0.946	0.950	0.990	0.835	0.835	1.0

(Source: Based on Survey Data)

Hypothesis 4 : Transport and Infrastructure are the important components of the investment climate in the district.

H₀: Transport and Infrastructure are the important components of the investment climate in the district.

H_a: Transport and Infrastructure are not the important components of the investment climate in the district.

Multiple correlations among the observed variables/factors of investment climate to the Overall Investment Climate Perception in the District was carried and based on the observed output as shown in Table 5, the factors like Macroeconomic Stability, Political Stability, Governance, Regulatory Framework, Labor in the District, Land, Market (Domestic), Market (Foreign), Procurement of Raw material (Domestic) and Procurement of Raw material (Foreign) and Transportation to Overall Investment Climate in the district are not equally correlated to the perception of Overall investment climate but the factor Transport and Infrastructure are the important components of the investment climate in the district has the correlation coefficient $r = 0.96$ with the Overall investment climate in the district.

Thus **H₀:** Transport and Infrastructure are the important components of the investment climate in the district are accepted and **H_a:** Transport and Infrastructure are the important components of the investment climate in the district are rejected. From this it can be concluded that the Transport and Infrastructure are the important components of the investment climate in the district.

Hypothesis 5: All the factors have an equal importance in the investment climate of the Kutch district.

H₀: All the factors have an equal importance in the investment climate of the Kutch district.

H_a: All the factors do not have an equal importance in the investment climate of the Kutch district.

To critically evaluate and analyze the above hypothesis, the observed values from the based on the survey data were analyzed by the statistical method ANOVA –single factor of analysis was carried.

Factor analysis

Factor analysis is used to find factors among observed variables. In other words, if our data contains many variables or factors, we may use the factor analysis to reduce the number of variables. Factor analysis groups variables with similar characteristics together. With factor analysis we can produce a small number of factors from a large number of factors which is capable of explaining the observed variance in the larger number of variables. The reduced factors can also be used for further analysis.

Objectives of Factor analysis:

- To identify underline dimensions or factors that explain the correlation among a set of variables.
- To identify a new, smaller set of uncorrelated variables to replace the original the set of correlated variables in subsequent multivariate analysis
- To identify a smaller set of salient variables form a larger set for use in subsequent multivariate analysis

Factor pattern

An important output from the factor analysis is the factor matrix also called the factor pattern matrix. The factor matrix contains the coefficients used to express the standardized variables in terms of factors. These coefficients, the factor loading, represents the correlation between factors and variables a coefficients with large absolute value indicates that the factor and the variable are closely related, thus factor pattern matrix can be used to interpret the factors.

Table 6: Factor pattern

	F1	F2	F3	F4	Initial communality	Final communality	Specific variance
Macro Eco	-0.745	0.307	-0.257	0.396	1.000	0.872	0.128
Govern	-0.334	0.709	-0.096	0.295	1.000	0.711	0.289
Reg Fram	-0.017	0.638	-0.470	-0.145	1.000	0.649	0.351
Infrastruc	0.695	-0.274	-0.393	0.280	1.000	0.790	0.210
Labor	0.750	-0.254	0.339	0.088	1.000	0.750	0.250
Land	0.802	0.250	0.352	0.099	1.000	0.839	0.161
Finance	-0.158	-0.594	0.426	0.424	1.000	0.739	0.261
Mrkt (D)	-0.478	-0.699	-0.203	0.379	1.000	0.902	0.098
Mrkt (F)	0.299	0.230	-0.313	0.777	1.000	0.844	0.156
Raw (D)	0.719	0.335	-0.490	0.024	1.000	0.871	0.129
Raw (F)	0.166	-0.626	-0.663	0.131	1.000	0.877	0.123
Transport	-0.050	-0.441	-0.612	-0.563	1.000	0.889	0.111

(Values in bold correspond for each variable to the factor for which the squared cosine is the largest)

Form Table 6 the factors 1, 2, 3 and 4 with bold values against the variables show the correlation between the studied variable as indicates that macro-economic factor has also correlation with variables infrastructure, labour, land, raw data demand etc.

Table 7: Correlations between variables and factors

	F1	F2	F3	F4
Macro Eco	-0.745	0.307	-0.257	0.396
Governance	-0.334	0.709	-0.096	0.295
Reg Fram	-0.017	0.638	-0.470	-0.145
Infrastruc	0.695	-0.274	-0.393	0.280
Labor	0.750	-0.254	0.339	0.088
Land	0.802	0.250	0.352	0.099
Finance	-0.158	-0.594	0.426	0.424
Mrkt (D)	-0.478	-0.699	-0.203	0.379
Mrkt (F)	0.299	0.230	-0.313	0.777
Raw (D)	0.719	0.335	-0.490	0.024

Raw (F)	0.166	-0.626	-0.663	0.131
Transport	-0.050	-0.441	-0.612	-0.563

(Source: Based on survey data analysis)

Table 8: Factor pattern coefficients

	F1	F2	F3	F4
Macro Eco	-0.413	0.184	-0.179	0.311
Governance	-0.185	0.424	-0.067	0.232
Reg Fram	-0.010	0.381	-0.327	-0.114
Infrastruc	0.386	-0.164	-0.273	0.220
Labor	0.416	-0.152	0.236	0.069
Land	0.445	0.150	0.245	0.078
Finance	-0.088	-0.355	0.296	0.333
Mrkt (D)	-0.265	-0.418	-0.141	0.297
Mrkt (F)	0.166	0.137	-0.218	0.610
Raw (D)	0.399	0.200	-0.341	0.018
Raw (F)	0.092	-0.374	-0.462	0.103
Transport	-0.028	-0.264	-0.426	-0.442

(Source : Based on survey data)

Factor analysis results

Based on the above factor analysis the conclusion can be derived that the variables which have really played an important role in the investment climate are macroeconomic stability, infrastructure, labour and land and raw material demand as a one factor. Second factor was the factor including variables governance, regulatory framework, availability of finance and market. Thirdly the factor included variables raw material and transport, fourth factor was consisting of foreign market and its connectivity. Overall impression can be derived as that all the studied factors have played a role in the investment climate but few of the above stated in the factors have played a vital role in the investment climate.

Conclusion

- Hypothesis testing, factor analysis and mean values of the studied variables lead us to some positive variables of the investment climate like macro-economic stability, regulatory framework, infrastructure and availability of transportation in the district; also the availability of land and labour had some positive impact on the investment climate. In terms of labour the availability was not the only remark for investment but the labour policies and its implementation and less conflicts was a strong reason to be included in the investment climate.
- Infrastructure facilities or both physical and social infrastructure has played an important role in the investment climate.
- Some of the studied factors like raw materials availability in the district was the reason for investment in the district; also the raw material from foreign can be easily demanded due to availability of ports.
- Government attitude and the regulatory policy regarding the industries has the most important role in the investment climate.
- Transportation facility and the truck business have lead to investment in the district.

- Road and railway connectivity in the district has lead to investment in the district.
- Power supply and power production and distribution and rates for the industries are supporting the investment.
- Availability of the raw material like minerals based industries have come in the district and also the foreign availability of raw material can also be made possible.
- People in the district are more cooperative and supportive towards industrialization and less union disputes in the district.
- Local politicians and people have less objections or rejection of the investment in the district.
- Tax holiday and tax regimes have also played an important role in the district.

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Understanding Simultaneity among Different Indian Stock Indices Using Vector Auto Regression (VAR) Approach

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Abstract

This paper intends to study the interdependence between CNX Nifty, NSE Midcap, BSE Sensex and BSE Midcap using structural VAR methodology. An effort has been made to create best VAR model among these stock indices considering Lag Order Selection, Wald Coefficient Test, Normality Testing of Residuals. The analysis will be useful for investors and stock brokers. This study is also useful to forecast future index by applying VAR model to historical index values.

Key Words : Simultaneity, Vector Auto Regression (VAR)

Introduction

After the introduction of two depositories in India namely NSDL (National Securities Depository Limited, 1996) and CDSL (Central Depository Securities Limited, 1999) financial markets have become increasingly global. The introduction of sophisticated technology and liberalization in regulatory barriers of Indian Stock Exchanges has called for new market structures and practices. There is no dearth of literature in response to these developments to establish the interdependence among these different stock indices. Moreover due to the dematerialization of stocks and telecommunication technologies any piece of information transmits at much faster rate. As a consequence, linkages between different stock indices have been detected. According to Sims (1980), if there is simultaneity among a number of variables, then all these variables should be treated in the same way. In other words there should be no distinction between endogenous and exogenous variables. Therefore, once this distinction is abandoned, all variables are treated as endogenous. This means that in its general reduced form each equation has the same set of regressors which leads to the development of the VAR models. As per Sims (1980) equation to estimate large macro models as unrestricted reduced forms, treating all variables as endogenous is as below:

Consider a bivariate $Y_t = (y_t, z_t)$, first-order VAR model:

$$\begin{aligned} y_t &= b_{10} - b_{12}z_t + \gamma_{11}y_{t-1} + \gamma_{12}z_{t-1} + \varepsilon_{yt} \\ z_t &= b_{20} - b_{21}y_t + \gamma_{21}y_{t-1} + \gamma_{22}z_{t-1} + \varepsilon_{zt} \end{aligned}$$

The two variables y and z are endogenous.

The error terms (structural shocks) ε_{yt} and ε_{zt} are white noise with standard deviations Y and Z and a zero covariance.

Stock ε_{yt} affects y directly and z indirectly.

Review of literature

Many studies have been carried out to measure nature and extent of interdependence among macroeconomic indicators. Patnaik (2010) uses a Cointegrated Vector Autoregression Approach to study the interdependence among Consumer Price Index (CPI) which is the measure of inflation, the Index of Industrial Production (IIP) (this represents the volume of demand in the economy), the Reserve Money (RM) which is a measure of money supply in the economy, and the Import Index (IMP), which will measure the external influences on the domestic prices. CPI has been used because the WPI includes only the wholesale prices, and it is in fact the producer's price index. The study implies that inflation in India in the post liberalization era is not due to external factors. Stabilization policies should be proactive by focusing on the demand management policies on a long term basis, and supply management policies keeping in mind their short term impact on inflation.

Ersoy (2013) investigated the interaction between energy consumption and stock exchange index in Turkey. Ceteris paribus, economic growth with the increase of energy consumption, the growth of the economy impact will also affect the stock exchange which is accepted as the barometer of the economy (vice versa). The interaction between the BIST National 100 index, BIST National Industrial Index and energy consumption is investigated by Johansen Cointegration Test, Granger Causality Test tests based on VAR for the period of 1995-2011. Unidirectional causality relationship is detected from BIST 100 Index and BIST Industrial Index towards energy consumption. In recent times focus of study has shifted to the modelling of how information is compounded in national stock indices (Becker, Finnerty and Gupta, 1990; Eun and Shim, 1989; and Koch and Koch, 1991), there exist lead and lag relationship between national stock markets due to which there is the transmission mechanisms existing between these markets giving rise to interdependence and simultaneity (Akgriray, 1989; Hamao, Masulis and Ng, 1990; King and Wadhwani, 1990; and

Lin, Engel and Ito, 1991). The findings of this literature mainly revealed that stock markets had become more interdependent; the transmission of information between markets prevented the existence of arbitrage opportunities.

Research Methodology

Objective of the study

The primary objective of this paper is to study simultaneity among CNX Nifty, NSE Midcap, BSE Sensex and BSE Midcap using structural VAR methodology. The researcher has tried to develop the best VAR model among these stock indices considering Lag Order Selection, Wald Coefficient Test, Normality Testing of Residuals.

Period of the study

The purpose of this study is to determine the interaction between CNX Nifty, NSE Midcap, BSE Sensex and BSE Midcap using structural VAR methodology. Data of stock indices (CNX Nifty, NSE Midcap, BSE Sensex, BSE Midcap) is collected for five years (April 2008 to March 2013)

Sources of data

For the purpose of the above study data has been collected from National Stock Exchange Official Website (www.nseindia.com).

Hypothesis of the study

The hypothesis considered for this study is:

H_0 : There is no simultaneity among different indices of stock market.

H_1 : There is simultaneity among different indices of stock market.

Model Selection

According to Sims (1980), if there is simultaneity among numerous variables, then all these variables should be treated in the same way. In other words there should be no difference between endogenous and exogenous variables. Therefore, once this difference is abandoned, all variables are treated as endogenous. This means that in its general reduced form each equation has the same set of regressors that lead to the development of the VAR models. One of the good features of VAR models is that they permit to test for the direction of causality (the ability of one variable to predict the other. Suppose that there are two variables, y_t and x_t , affect each other with distributed lags. The relationship between these variables can be captured by a VAR model. As a result, it is possible to have that (a) y_t causes x_t , (b) x_t causes y_t , (c) there is a bi-directional feedback (causality among the variables), and finally (d) the two variables are independent (Asteriou and Hall, 2007). Here we assume that all the series are stationery and not co integrated at level so that researcher can employ VAR Model. It can be tested by estimating

the following VAR model:

$$NSE_t = \sum A_i NSE_{t-i} + \sum B_i NMID_{t-i} + \sum C_i BSE_{t-i} + \sum D_i BMID_{t-i} + \epsilon_{1t} \dots \dots \dots (1)$$

$$NMID_t = \sum E_i NMID_{t-i} + \sum F_i NSE_{t-i} + \sum G_i BSE_{t-i} + \sum H_i BMID_{t-i} + \epsilon_{2t} \dots \dots \dots (2)$$

$$BSE_t = \sum I_i BSE_{t-i} + \sum J_i NMID_{t-i} + \sum K_i NSE_{t-i} + \sum L_i BMID_{t-i} + \epsilon_{3t} \dots \dots \dots (3)$$

$$BMID_t = \sum M_i BMID_{t-i} + \sum N_i NMID_{t-i} + \sum O_i NSE_{t-i} + \sum P_i BSE_{t-i} + \epsilon_{4t} \dots \dots \dots (4)$$

Equation (1), (2), (3) and (4) is the standard form of VAR model that contain four-variable, k lag values of NSE_t , $NMID_t$, BSE_t , and $BMID_t$. Here, ϵ_{1t} , ϵ_{2t} , ϵ_{3t} and ϵ_{4t} are white-noise process. VAR models stated that independent variables are affected by past values of its own lags and the lags of the other variables. Here returns of all the above series are considered for analysis. Here, researcher has considered daily stock returns.

Various Indices considered for the research

The daily stock returns for the selected indices are calculated as follows:

$$R_t = \ln(P_t/P_{t-1}) * 100$$

where $\ln$ is the natural logarithm, R_t is the daily return on the respective index for the day t , P_t is the closing value of the same for day t and P_{t-1} is the closing value of the index for the day preceding t . The variables used for analysis in our Vector Auto Regressive Model are:

1. The CNX Nifty (NSE) is a well-diversified 50 stock index accurately reflecting overall market conditions. CNX Nifty Index is computed using free float market capitalization method, wherein the level of the index reflects the total free float market value of all the stocks in the index relative to particular base market capitalization value. For a stock to qualify for possible inclusion into the CNX Nifty, have traded at an average impact cost of 0.50% or less during the last six months for 90% of the observations, for the basket size of Rs.20 Million.

2. The NSE Midcap (NMID) is being increasingly perceived as an attractive investment segment with high growth potential. The primary objective of the NSE Midcap Index is to capture the movement and be a benchmark of the midcap segment of the market. NSE Midcap Index represents about 77% of the total market capitalization of the Mid-Cap Universe and about 75% of the total traded value of the Mid-Cap Universe (Mid-Cap Universe is defined as stocks having average six months market capitalization between Rs.75 crores and Rs.750 crores).

3. The BSE SENSEX (BSE) first compiled in 1986, was calculated on a 'Market Capitalization-Weighted' methodology of 30 component stocks representing large, well-established and financially sound companies across key sectors. The base year of S&P BSE SENSEX was taken as 1978-79. S&P BSE SENSEX today is widely reported in both domestic and international markets through print as well as electronic media. It is scientifically designed and is based on globally accepted construction and review methodology. Since September 1, 2003, S&P BSE SENSEX is being calculated on a free-float market capitalization methodology.

4. BSE (BSMID) introduced the new index series called 'S&P BSE MID Cap' index and 'S&P BSE Small Cap' index to track the performance of companies with relatively smaller market capitalization. S&P BSE-500 Index - represents more than 93% of the listed universe. Companies with large market capitalization bias the movement of S&P BSE 500 index. This necessitated construction of a separate indicator to capture the trend in companies with lower market capitalization. To get qualify for the S&P BSE Mid Cap the scrip should have been traded on 60% of the trading days in the last three months.

Results and discussions

Table 1 shows the lag length criterion for selecting optimum lags in our model. In every column there is sign of *, which gives no. of lags to be selected according to indicators. According to LR, there are six no of lags selected, Final prediction error (FPE) and Akaike information criterion (AIC) give six no. of lags. Schwarz information criterion and Hannan-Quinn information criterion give two and three number of lags respectively.

Table 1: Vector Autoregressive Lag Order Selection Criteria

VAR Lag Order Selection Criteria						
Endogenous variables: NSE NMID BSE BMID						
Exogenous variables: C						
Date: 04/08/13 Time: 19:50						
Sample: 4/01/2008 3/28/2013						
Included observations: 1231						
Lag	LogL	LR	FPE	AIC	SC	HQ
0	18750.06	NA	6.97e-19	-30.45664	-30.44002	-30.45039
1	18872.36	243.6006	5.86e-19	-30.62934	-30.54623*	-30.59808
2	18905.21	65.21933	5.70e-19	-30.65672	-30.50712	-30.60044*
3	18928.82	46.72232	5.63e-19	-30.66908	-30.45299	-30.58779
4	18947.41	36.67228	5.61e-19	-30.67330	-30.39071	-30.56698
5	18960.29	25.31236	5.64e-19	-30.66822	-30.31915	-30.53689
6	18981.13	40.84125*	5.59e-19*	-30.67609*	-30.26053	-30.51975
7	18993.54	24.22350	5.63e-19	-30.67025	-30.18820	-30.48889
8	19004.96	22.23126	5.67e-19	-30.66281	-30.11427	-30.45644

* indicates lag order selected by the criterion
 LR: sequential modified LR test statistic (each test at 5% level)
 FPE: Final prediction error
 AIC: Akaike information criterion
 SC: Schwarz information criterion
 HQ: Hannan-Quinn information criterion

Table 2: Ordinary Least Square

Dependent Variable: NSE
Method: Least Squares
Date: 04/08/13 Time: 20:05
Sample (adjusted): 4/09/2008 3/28/2013
Included observations: 1233 after adjustments
NSE = C(1)*NSE(-1) + C(2)*NSE(-2) + C(3)*NSE(-3) + C(4)*NSE(-4) + C(5)*NSE(-5) + C(6)*NSE(-6) + C(7)*NMID(-1) + C(8)*NMID(-2) + C(9)*NMID(-3) + C(10)*NMID(-4) + C(11)*NMID(-5) + C(12)*NMID(-6) + C(13)*BSE(-1) + C(14)*BSE(-2) + C(15)*BSE(-3) + C(16)*BSE(-4) + C(17)*BSE(-5) + C(18)*BSE(-6) + C(19)*BMID(-1) + C(20)*BMID(-2) + C(21)*BMID(-3) + C(22)*BMID(-4) + C(23)*BMID(-5) + C(24)*BMID(-6) + C(25)

	Coefficient	Std. Error	t-Statistic	Prob.
C(1)	-0.448662	0.245231	-1.829550	0.0676
C(2)	0.161599	0.246151	0.656503	0.5116
C(3)	-0.103371	0.246561	-0.419249	0.6751
C(4)	0.377336	0.246261	1.532261	0.1257
C(5)	-0.241102	0.244743	-0.985122	0.3248
C(6)	-1.005793	0.243090	-4.137537	0.0000
C(7)	-0.138773	0.157533	-0.880917	0.3785
C(8)	-0.003321	0.157411	-0.021100	0.9832
C(9)	-0.038467	0.157617	-0.244055	0.8072
C(10)	-0.387308	0.157127	-2.464934	0.0138
C(11)	0.084771	0.157190	0.539288	0.5898
C(12)	-0.062523	0.157563	-0.396815	0.6916
C(13)	0.585463	0.231001	2.534455	0.0114
C(14)	-0.256239	0.232197	-1.103540	0.2700
C(15)	-0.030215	0.232179	-0.130138	0.8965
C(16)	-0.319499	0.232048	-1.376866	0.1688
C(17)	0.133628	0.230209	0.580463	0.5617
C(18)	0.863327	0.229420	3.763087	0.0002
C(19)	0.023152	0.155075	0.149295	0.8813
C(20)	0.120867	0.154857	0.780506	0.4352
C(21)	0.193313	0.155227	1.245356	0.2132
C(22)	0.270720	0.154971	1.746910	0.0809
C(23)	-0.002324	0.154781	-0.015016	0.9880
C(24)	0.130415	0.151582	0.860358	0.3898
C(25)	0.000444	0.000479	0.928234	0.3535

From Table 2 it can be interpreted that C(6), C(10), C(13) and C(18) are significant at 5% level of significance. The variables which are significantly affecting NSE are NSE(-6), NMID(-4), BSE(-1) and BSE(-6) which means that sixth lag value of NSE, fourth lag value of NSE midcap, first and sixth lag value of BSE have significant impact on today's value of Nifty. From above selected variables which have impact on dependent variable, researcher estimated equation using least square method. It was found in Table 3 as constant (C) and NMID(-4) have p-value of 0.5340 and 0.3176 respectively, so they have no significant impact on dependent variable NSE. The sixth lag value of NSE, first lag value of BSE and sixth lag value of BSE are significant as their p-values are less than 0.05 which means that they are significantly affecting NSE.

Table 3 : Ordinary Least Square

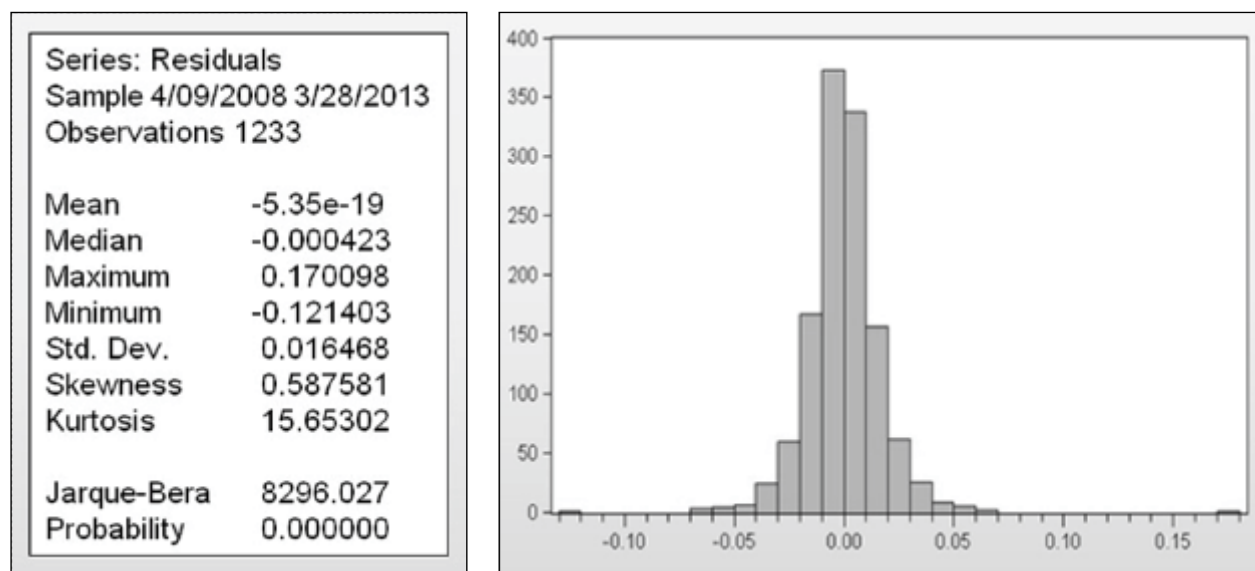
Dependent Variable: NSE				
Method: Least Squares				
Date: 04/08/13 Time: 20:13				
Sample (adjusted): 4/09/2008 3/28/2013				
Included observations: 1233 after adjustments				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	0.000296	0.000476	0.622084	0.5340
NSE(-6)	-0.994431	0.229644	-4.330312	0.0000
NMID(-4)	-0.032096	0.032102	-0.999814	0.3176
BSE(-1)	0.062116	0.027691	2.243191	0.0251
BSE(-6)	0.926687	0.225067	4.117386	0.0000
R-squared	0.022116	Mean dependent var		0.000294
Adjusted R-squared	0.018930	S.D. dependent var		0.016884
S.E. of regression	0.016724	Akaike info criterion		-5.339955
Sum squared resid	0.343442	Schwarz criterion		-5.319204
Log likelihood	3297.082	Hannan-Quinn criter.		-5.332149
F-statistic	6.943026	Durbin-Watson stat		2.001170
Prob(F-statistic)	0.000016			

Table 4: Wald Coefficient Test

Wald Test: Equation: Untitled			
Test Statistic	Value	df	Probability
F-statistic	8.295579	(3, 1208)	0.0000
Chi-square	24.88674	3	0.0000
Null Hypothesis: C(6)=C(13)=C(18)=0 Null Hypothesis Summary:			
Normalized Restriction (= 0)	Value	Std. Err.	
C(6)	-1.005793	0.243090	
C(13)	0.585463	0.231001	
C(18)	0.863327	0.229420	
Restrictions are linear in coefficients.			

Wald coefficient test is used to know that independent variables are jointly influence dependent variables or not. From above Ordinary least square method, NSE(-6), BSE(-1) and BSE(-6) have significant impact on CNX Nifty. For jointly impact of NSE(-6), BSE(-1) and BSE(-6), coefficient of this variables are taken equal to zero as a null hypothesis. Here, p-value is less than 5%, so null hypothesis is rejected, it means NSE(-6), BSE(-1) and BSE(-6) jointly influence today's value of CNX Nifty. After estimating the equation, it is to be tested for residuals. If the residuals are normally distributed then the model is considered to be good one. From Table 5, it can be interpreted that as p-value is 0.00, so null hypothesis is rejected which means that residuals are not normally distributed. As residuals are not normally distributed it is not a good sign for the estimated equation.

Table 5: Normality of residuals



Similarly, regression equation was estimated considering dependent variables as BSE, BMID and NMID. The summary of the result is given in Table 6.

The best estimated equation is:

$$BSE_t = -0.696NSE_{t-1} - 0.961NSE_{t-6} + 0.744 BSE_{t-1} + 0.893BSE_{t-6}$$

Findings

The major findings from the above research are:

- There are six number of lag used to estimate Vector Autoregression which is found out by Final prediction error (FPE), Akaike information criterion (AIC) and LR criterion.
- By estimating Vector Autoregression model, Akaike AIC value of third model is high (-5.3007) than others. This model is better than other models and in this model BSE Sensex is dependent variable.
- In all four models, the residuals are not normally distributed because p-value is less than 5%.
- By taking CNX Nifty as dependent variable, sixth lag value of CNX Nifty and BSE Sensex and first lag value of BSE Sensex have significant impact on today's Value of CNX Nifty.
- By taking NSE Midcap as dependent variable, sixth lag value of CNX Nifty and BSE Sensex and first lag value of CNX Nifty and BSE Sensex have significant impact on today's Value of NSE midcap.
- By taking BSE Sensex as dependent variable, sixth lag value of CNX Nifty and BSE Sensex and first lag value of CNX Nifty and BSE Sensex have significant impact on today's Value of BSE Sensex.
- By taking BSE Midcap as dependent variable, sixth lag value of CNX Nifty and BSE Sensex and first lag value of CNX Nifty and BSE Sensex have significant impact on today's Value of BSE Midcap.

Table 6 : Summary

Dependent variable	Significant lags	Wald test	Assumption of normality	AkaikeAic	R ²	Adj.R ²
NSE	6 th of NSE 1 st and 6 th of BSE	Significant	Rejected	-5.335	0.021	0.019
NMID	1 st and 6 th of NSE, 1 st and 6 th of BSE	Significant	Rejected	-5.613	0.052	0.049
BSE	1 st and 6 th of NSE, 1 st and 6 th of BSE	Significant	Rejected	-5.300	0.026	0.024
BMID	1 st and 6 th of NSE, 1 st and 6 th of BSE	Significant	Rejected	-5.596	0.064	0.062

(Source: Compiled by author)

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A Study on Camel's Framework as a Performance Measurement Tool with respect to Nifty Banks

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Abstract

The economic importance of banks in the developing countries may be viewed as promoting capital formation, encouraging innovation, influence economic activity and facilitator of monetary policy. Banking sector is one of the fastest growing sectors in India. This study attempts to evaluate the performance of banking sector through a CAMEL model. CAMEL rating has been considered as one of the widely used tools for judging dimensions such as capital adequacy, asset quality, management capacity, earnings ability and liquidity. This paper examines the comparative performance of twelve nifty banks (as on December 2013); namely Axis Bank, State Bank of India, Bank of Baroda, Punjab National Bank, IndusInd Bank, Kotak Mahindra Bank, ICICI Bank, Bank of India, Canara Bank, HDFC Bank, Yes Bank, Union Bank of India; over a period of three years i.e. 2011 to 2013; through CAMEL rating. As per the findings, on an average IndusInd Bank was at the top position followed by HDFC and YES Bank as far as the performance is concerned while the State Bank of India was at the last position.

Key Words : CAMEL, Capital Adequacy, Liquidity, Asset Quality, Management Capacity, Earnings Ability

Introduction

Banks play an active role in the economic development of a country. Their ability to make a positive contribution in igniting the process of growth depends on the effective banking system. The banking sector reforms were aimed at making banks more efficient and viable (Srinivas and Saroja, 2012). The Indian banking sector has been working in a more open and globalize environment for two decades since liberalization. The liberalization process of Indian economy has made the entry of new private sector banks possible and allowed the foreign sector banks to increase their branches in the banking sector (Prasad, 2012). With increase in the competition, each bank needs to maintain and enhance its performance to sustain. CAMEL model is one such rating tool used to evaluate the efficiency of the banking sector as measured by the financial performance.

In the early 1970s, federal regulators in USA developed the CAMEL rating system to help structure the bank examination process. In 1979, the Uniform Financial Institutions Rating

System was adopted to provide federal bank regulatory agencies with a framework for rating financial condition and performance of individual banks (Kabir and Dey, 2012).

As per the recommendations of the Narsimahan Committee, RBI directed the banks to follow the norms of capital adequacy, asset quality, provisioning for NPAs, prudential norms, disclosure requirements, acceleration of pace and reach of latest technology, streamlining the procedures and complying with accounting standards and making financial statements transparent (Sangmi and Nazir, 2010). Because of this, analysts and researchers started to analyze, evaluate, measure and finally manage the financial performance of the Indian banks. In backdrop of this, the present study tries to evaluate the financial performance of 12 major banks constituting the Nifty banks. Such financial performance of banks is assessed by using the CAMEL Model.

Literature Review

Since 1970s, several studies have been made by the academicians and researchers on the subject of CAMEL model in different perspectives and in different periods. Some of these studies conducted in Indian context have been reviewed in the following section.

Desai (2013) evaluated performance of two private (HDFC, Axis) and three public sector (BOB, SBI, BOI) Indian banks by applying CAMEL model. As per the composite rank findings, SBI ranked first followed by HDFC, BOI and BOB. Lakhtaria (2013) made a comparative study among public sector banks such as BOB, SBI, and PNB for three years (2010-2012) through CAMEL Model. As per the findings, SBI is in top position followed by BOB and PNB. Srinivas and Saroja (2012) evaluated performance of HDFC and ICICI Bank through CAMEL model. They concluded that as far as assets quality, earning quality and management quality are concerned, HDFC has an edge upon ICICI. Though there is no significant difference between the ICICI and HDFC Bank's financial performance, ICICI Bank performance is slightly less as compared to HDFC.

Mishra et al. (2012) analyzed the performance of 12 public and private sector banks over a period of eleven years (2000-2011) in the Indian banking sector through a CAMEL model. As per the

findings, private sector banks are better sound as compared to public sector banks. The findings of this study confirm to the study by Dash and Das (2009). Prasad and Ravindra (2012) applied CAMEL model to nationalized banks in India. Their findings revealed that on an average Andhra Bank was at the top most position followed by Bank of Baroda, Punjab and Sindh Bank. It is also observed that Central Bank of India was at the bottom most position. Khurana and Singh (2010) studied confined to all new private sector banks of India, viz., Axis Bank Ltd., Centurion Bank of Punjab Ltd., Development Credit Bank Ltd., HDFC Bank Ltd., ICICI Bank Ltd., IndusInd Bank Ltd., Kotak Mahindra Bank Ltd. and Yes Bank. The study was confined to examine the state of non-performing assets in the new private sector banks during the period from 2003-04 to 2007-08. They concluded that though there was significant improvement in the asset quality in non-priority sector, banks need further improvement in the recovery mechanism.

The extant literature on CAMEL model shows that the researchers have conducted several studies to evaluate and compare the financial performance of public, private and foreign sector banks through the application of CAMEL model. Present study is not an exclusive one but tries to extend the findings of the previous studies. Further, the researchers could not find application of CAMEL model on banks in Nifty. Hence, this research will add to the existing literature and will provide a more comprehensive picture of financial performance of Nifty Banks.

Research Objectives

1. To analyze the financial performance of the 12 Nifty based banks under the study.
2. To measure the financial performance of selected banks as per CAMEL model across criteria such as Capital adequacy, Assets quality, Management Efficiency and Liquidity.
3. To compare the performance of these banks across the above mentioned criteria and to rank them accordingly.
4. To compare the performance of public and private sector banks across various parameters of CAMEL model with application of Independent sample t test.

Research Methodology

The study describing the financial performance of the banks has been based upon descriptive research design. Sampling element mainly consisted of Bank Nifty index. Sampling unit comprised of those public and private sector banks constituting the Bank Nifty index. This index comprises of 12 banks namely, Axis Bank, Bank of Baroda, Bank of India, Canara Bank, HDFC Bank, ICICI Bank, IndusInd Bank, Kotak Mahindra, Punjab National Bank, State Bank of India, Union Bank and Yes Bank as on December 2013. Out of these 12 banks six were public sector and the rest were

private sector banks. The Secondary information with respect to various parameters of CAMEL model such as Capital adequacy, Assets quality, Management efficiency and Liquidity have been collected from Money Control, Capital line, Money rediff etc. The information with respect to the above mentioned criteria was collected from the year 2011 to 2013. There are 2 to 5 ratios under each of the parameters of CAMEL model. The constitution of the same is described in Table 1.

Table 1: Composition of CAMEL Model

CAMEL's Parameters	Ratios
C – Capital Adequacy Ratios	Capital Risk Adequacy Ratio
	Debt Equity Ratio
	Total Advance to Total Assets
	Government Security to total Asset
A - Asset Quality Ratios	Gross NPV to Total advances
	Net NPV to Total advances
M - Management Quality Ratios	Total Advance to Total Deposit
	Business per Employee
	Profit per Employee
E - Earnings Quality Ratios	Return on Assets
	Operating profit to Average working fund
	Net profit to Average Assets
	Interest Income to Total Income
L - Liquidity Ratios	Liquid Assets to Total Assets
	Government Security to Total Assets
	Approved Security to Total Assets
	Liquidity Assets to Demand Deposit
	Liquidity Assets to Total Deposit

(Source: Author's compilation)

Thus, the total 18 ratios have been used for the present study. For comparison of the financial performance of the banks across CAMEL criteria, first of all the average ratios (average for a period of three years) for the respective parameters have been calculated and the banks are ranked accordingly. Then average group rank was calculated for the set of ratios belonging to a particular component of the parameter such as C,A,M,E and L.

Finally, the composite ranking of average group rank was considered for the data analyzed for 12 banks over a three years period, to evaluate the performance of the bank based on CAMEL Model. Banks were ranked in the ascending or descending order based on the individual sub-parameter.

Further, to compare the performance of public and private sector banks across various parameters of CAMEL model, independent sample t test has been used.

Data Analysis and Findings

Capital Adequacy

It reflects the overall financial condition of banks and also the ability of management to meet the need of additional capital. It indicates whether the bank has sufficient capital to bear unexpected losses in the future and bank leverage. The ratios such as Capital Risk Adequacy Ratio, Debt-Equity Ratio, Advances to Total Assets and Government Securities to Total Investment measure the capital adequacy.

Table 2: Composite Capital Adequacy Ratios (2011-2013)

Banks	CRAR		Debt-Equity		Advances/ T.Assets		G.Sec/ T. Investment		Group Rank	
	%	Rank	Times	Rank	%	Ranks	%	Rank	Avg.	Rank
AXIS BANK	14.44	6	9.08	5	58.37	9	2.65	10	7.50	10
BOB	14.16	7	14.45	9	62.67	5	84.58	2	5.75	3.5
BOI	11.71	12	16.93	11	63.11	4	84.08	3	7.50	10
CANARA	13.85	8	15.52	10	61.36	6	85.39	1	6.25	6.5
ICICI	18.92	1	4.24	1	53.05	11	52.44	12	6.25	6.5
SBI	12.92	9	12.99	7	64.61	2	80.55	5	5.75	3.5
HDFC	16.51	4	8.21	3	58.47	8	76.63	7	5.50	1.5
YES	17.57	3	11.38	6	52.41	12	56.71	11	8.00	12
PNB	12.59	10	13.39	8	64.19	3	82.56	4	6.25	6.5
KOTAK MAHINDRA	17.80	2	4.85	2	58.36	10	76.27	8	5.50	1.5
UNION	12.08	11	16.94	12	66.18	1	79.03	6	7.50	10
INDUSIND	15.03	5	8.50	4	59.86	7	75.70	9	6.25	6.5

(Source: Author's compilation)

It may be observed from Table 2 that all banks have higher CRAR ratio than prescribed level by Reserve Bank of India i.e. As on March 31, 2015-7% and as on March 31, 2017-9% (Retrieved as on December 15, 2013 from http://www.rbi.org.in/scripts/BS_CircularIndexDisplay.aspx?Id=8677). It was found that the ICICI Bank secured the top position with highest average CRAR of 18.92% followed by Kotak Mahindra Bank (17.80%), YES Bank (17.57%). Bank of India had a least average of CRAR of 11.71%. ICICI Bank had minimum **Debt-equity ratio** (4.24 times) while Union Bank had the highest average Debt-equity (16.94 times). In case of **advance to assets**, Union bank was at first position with the highest average of 66.18%, followed by State Bank of India (64.61%), Punjab National Bank (64.19%). Yes bank had the lowest Total advance to Total Asset ratio of 52.41%. In the

Government security to Total Investment ratio Canara Bank stood at top position with the highest average of 85.39% followed by State Bank of India (84.58%), Bank of India (84.03%). ICICI Bank had the lowest Government security to Total Investment ratio of 52.44%.

On the basis of group averages of four sub-parameters of capital adequacy, HDFC Bank and Kotak Mahindra Bank was at the top position with group average of 5.5, followed by bank of Baroda and State Bank of India (5.75) while Yes Bank stood at the last position with the average of 8.

Asset Quality

The quality of assets is an important parameter to judge the strength of any bank. The basic objective behind measuring the assets quality is to ascertain the component of non-performing assets as a percentage of the total assets. The ratios necessary to assess the assets quality are Gross NPA to Total Advances and Net NPA to Total Advances.

Table 3: Composite Asset Quality Ratios (2011-2013)

Banks	Gross NPA to Total Advances		Net NPA to Total Advances		Group Rank	
	%	Rank	%	Rank	Avg.	Rank
AXIS BANK	1.13	4	0.30	4	4	4
BOB	1.77	6	0.77	7	6.50	6
BOI	2.52	8	1.65	11	9.50	11
CANARA	1.92	7	1.58	9.5	8.25	7
ICICI	3.24	11	0.73	6	8.50	8
SBI	4.26	12	1.85	12	12	12
HDFC	1.01	2.5	0.19	2	2.25	2
YES	0.22	1	0.03	1	1	1
PNB	2.99	10	1.57	8	9	9
KOTAK MAHINDRA	1.27	5	0.57	5	5	5
UNION	2.79	9	1.58	9.5	9.25	10
INDUSIND	1.01	2.5	0.28	3	2.75	3

(Source: Author's compilation)

As per Table 3, for **Gross NPA to Total Advances ratio** and **Net NPA to Total Advances ratio**, Yes bank was at the top position followed by HDFC and IndusInd Bank, while these ratios were observed to be highest for State Bank of India. The findings were the same for the group averages of these ratios measuring the asset quality.

Management Efficiency

Management efficiency is another important element of the CAMEL Model. The ratio in this segment involves subjective analysis to measure the efficiency and effectiveness of management. The ratios used to evaluate management efficiency are Total Advances to Total Deposit, Business Per Employee and Profit Per Employee

Table 4: Composite Management Efficiency Ratios (2011-2013)

Banks	Total Adva. to Total Deposit		Business Per Employee		Profit Per Employee		Group Rank	
	%	Rank	Lacs	Rank	Lacs	Rank	Avg.	Rank
AXIS BANK	76.78	8	1285.67	5	14.42	2	5	1.5
BOB	72.93	11	1461.33	2	11	4	5.67	3
BOI	75.09	9	1408.67	3	6.35	11	7.67	9.5
CANARA	70.46	12	1330.00	4	8.31	8	8	12
ICICI	98.14	2	726.	10	11.67	3	5	1.5
SBI	83.70	3	832.	8	5.20	12	7.67	9.5
HDFC	78.94	5	685.67	11	8.50	7	7.67	9.5
YES	74.10	10	1914.03	1	20.78	1	6	4.5
PNB	77.86	6	1105	7	8.28	9	7.33	7
KOTAK MAHINDRA	98.87	1	611.33	12	9.03	5	6	4.5
UNION	77.76	7	1109.33	6	7.01	10	7.67	9.5
INDUSIND	80.27	4	824.31	9	8.67	6	6.33	6

(Source: Author's compilation)

It may be seen from Table 4 that for **Total Advances to Total Deposit ratio**, Kotak Mahindra Bank stood at first position with grouped average of 98.87% followed by ICICI bank (98.14%) and State Bank of India (83.70%). Canara Bank had the minimum advances to deposit ratio of 70.46%. Yes Bank had maximum average **Business per employee** of 1914.03 lacs followed by Bank of Baroda (1431.33 lacs) and BANK OF INDIA (1408.67 lacs). Kotak Mahindra Bank had minimum of business per employee. In terms of **Profit Per Employee**, Yes Bank again occupied number one position with an average of 20.78 lacs followed by Axis and ICICI Bank with an average of 14.42 lacs and 11.62 lacs respectively. State Bank of India was stood at last position with an average of 5.20 lacs.

On the basis of group averages of sub-parameters, Axis bank and ICICI banks stood at top position with equal group average of 5.00 each followed by Bank of Baroda with an average of 5.67. Canara Bank stood at last position with an average of 8.00.

Earning Quality

The quality of earnings is a crucial parameter that determines the ability of a bank to earn consistently. It basically determines the profitability of bank and explains its sustainability and growth in earnings in future. The quality of earnings is measured by Return on Assets, Operating profit to Average Working fund, Net Profit to Average Total Assets ratio, Net profit to Average Total Assets and Interest income to Total income.

Table 5: Composite Earning Quality Ratios (2011-2013)

Banks	R.O.A		Operating profit to Avg. Working fund		Net profit to Avg. Total Assets		Interest income to Total income		Group Rank	
	%	Rank	%	Rank	Times	Ranks	%	Ranks	Avg.	Rank
AXIS BANK	1.69	2.5	3.05	2	1.62	3	79.13	12	4.88	3

BOB	1.16	8	2.13	10	1.16	9	89.64	3	7.5	9
BOI	0.73	12	1.78	11	0.73	12	89.39	5	10	12
CANARA	1.06	9	1.58	12	1.18	7	90.79	1	7.25	7.5
ICICI	1.52	5	2.49	7	1.47	6	81.37	11	7.25	7.5
SBI	0.82	11	2.21	8	0.84	10	86.56	7	9	11
HDFC	1.69	2.5	3.19	1	1.69	2	83.22	10	3.88	2
YES	1.50	6	2.55	5	1.50	5	87.17	6	5.5	5
PNB	1.18	7	2.54	6	1.17	8	89.57	4	6.25	6
KOTAK MAHINDRA	1.80	1	2.91	3	1.84	1	86.00	8	3.25	1
UNION	0.88	10	2.19	9	0.81	11	89.77	2	8	10
INDUSIND	1.55	4	2.75	4	1.54	4	83.73	9	5.25	4

(Source: Author's compilation)

It may be observed from Table 5 that in case of **Return on Assets** Kotak Mahindra Bank occupied first rank with an average of 1.80% followed by Axis bank and HDFC bank with same average of 1.69%. Bank of India was at last position with an average of 0.73%. In terms of **Operating profit to Average Working fund**, HDFC bank stood at first position with an average of 3.19% followed by Axis Bank and Kotak Mahindra Bank with an average of 3.05% and 2.91% respectively. Canara Bank was stood at last position with an average of 1.58%. As per the **Net Profit to Average Total Assets ratio**, Kotak Mahindra Bank was stood at number one position with an average of 1.84% followed by HDFC and Axis Bank with an average of 1.69% and 1.62% respectively. Bank of India was at last position with an average of 0.73 times. In terms of **Interest income to Total income**, Canara Bank occupied first rank with an average of 90.79% followed by Union Bank and Bank of Baroda with an average of 89.77% and 89.64% respectively. Axis Bank stood at last position with an average of 79.13%.

On the basis of group averages, Kotak Mahindra Bank got first rank with a group average of 3.25 followed by HDFC Bank and Axis Bank with an average of 3.88 and 4.88 respectively. Bank of India stood at last position with an average of 10.

Liquidity

Bank has to take a proper care to hedge the liquidity risk; at the same time ensuring good percentage of funds are invested in high return generating securities, so that it is in a position to generate profit with provision liquidity to the depositors. The liquidity is measured by ratios such as Liquid Assets to Total Assets, Government Security to Total Assets, Approved security to Total Assets, Liquid Assets to Demand Deposit and Liquid Assets to Total Deposit

Table 6 Composite Liquidity Ratios (2011-2013)

Banks	Liquid Assets to Total Assets		Govt. Security to Total Assets		Approved security to Total Assets.		Liquid Assets to Demand Deposit		Liquid Assets to Total Deposit		Group Rank	
	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	Avg.	Rank
AXIS BANK	6.56	10	20.00	7	0.12	3	45.12	11	8.58	8	7.8	10
BOB	14.63	1	17.13	11	0.03	12	225.63	2	17.02	1	5.4	4.5

BOI	10.59	2	19.27	9	0.04	10	228.24	1	12.58	4	5.2	2.5
CANARA	8.36	4	23.21	2	0.04	10	182.86	3	9.61	7	5.2	2.5
ICICI	7.84	7	17.07	12	0.16	2	104.74	4	14.48	2	5.4	4.5
SBI	8.22	5	18.70	10	0.05	7.5	98.08	5	10.67	5	6.5	6
HDFC	7.90	6	21.04	5	0.06	6	54.04	10	10.64	6	6.6	7
YES	4.97	11	22.16	3	0.17	1	74.41	8	6.99	12	7	8
PNB	6.60	8	21.75	4	0.04	10	93.56	6	8.00	9	7.4	9
KOTAK MAHINDRA	4.42	12	25.66	1	0.07	4.5	43.37	12	7.50	11	8.1	11
UNION	6.57	9	19.60	8	0.05	7.5	83.64	7	7.70	10	8.3	12
INDUSIND	9.26	3	20.62	6	0.07	4.5	74.11	9	13.06	3	5.1	1

(Source: Author's compilation)

As it can be seen from Table 6 that for **Liquid Assets to Total Assets ratio**, Bank of Baroda got first rank with an average of 14.63% followed by Bank of India and IndusInd bank with an average of 10.59% and 9.26% respectively. Kotak Mahindra Bank got last rank with an average of 4.42%. In case of **Government Security to Total Assets ratio** Kotak Mahindra Bank occupied first rank with an average of 25.66% followed by Bank of India and IndusInd Bank with an average of 10.59% and 9.26% respectively. ICICI bank stood at last position with an average of 17.07%. In terms of **Approved security to Total Assets**, Yes Bank stood at first position with an average of 0.17 followed by ICICI and Axis Bank with an average of 0.16 and 0.12 respectively. Bank of Baroda was at last position with an average of 0.03. As per the **Liquid Assets to Demand Deposit**, Bank of India with an average of 228.24% followed by Bank of Baroda and Canara Bank with an average of 225.63% and 182.86% respectively. Kotak Mahindra Bank was at last position with an average of 43.47%. In terms of the **Liquid Assets to Total Deposit**, Bank of Baroda was at first position with an average of 17.02% followed by ICICI bank and IndusInd Bank with an average of 14.48% and 13.06% respectively. Yes Bank got last position with an average of 6.99%.

On the basis of group averages of the sub- parameters, IndusInd Bank stood at first position with group average of 5.1 followed by Bank of India and Canara Bank with same group average of 5.2. Union Bank was at last position with an average of 8.3.

Overall Composite Ranking of CAMEL Model
Table 7 : Overall Composite Ranking of CAMEL Ratios (2011-2013)

Banks	C	A	M	E	L	Mean	Rank
AXIS BANK	7.50	4	5	4.88	7.8	5.840	5
BOB	5.75	6.50	5.67	7.5	5.4	6.160	6
BOI	7.50	9.50	7.67	10	5.2	7.970	10
CANARA	6.25	8.25	8	7.25	5.2	6.990	8
ICICI	6.25	8.50	5	7.25	5.4	6.480	7
SBI	5.75	12	7.67	9	6.5	8.180	12
HDFC	5.50	2.25	7.67	3.88	6.6	5.180	2
YES	8.00	1	6	5.5	7	5.500	3
PNB	6.25	9	7.33	6.25	7.4	7.250	9

KOTAK MAHINDRA	5.50	5	6	3.25	8.1	5.570	4
UNION	7.50	9.25	7.67	8	8.3	8.140	11
INDUSIND	6.25	2.75	6.33	5.25	5.1	5.140	1

(Source: Author's compilation)

It may be observed from Table 7 that the group ranking of the twelve banks nifty for the period of 2010-2011 to 2012-13, IndusInd Bank was at the first position with overall composite average 5.140 followed by HDFC Bank (5.18) and Yes Bank (5.5). State bank of India was at the bottom most position with composite average of (8.18).

Inferential Statistics

As discussed earlier, there are six public sector and six private sector banks in this study. In order to compare the financial performance as per CAMEL model among these two categories of the banks, an independent sample T test has been applied. Before the application of this parametric test, the data distribution was checked for normality with the following hypothesis.

H₀1: The composite ranking for the parameters of CAMEL model i.e. Capital Adequacy, Asset Quality, Management Efficiency, Earnings Quality and Liquidity for the twelve banks is normally distributed.

Table 8 : Test Statistics for Normality of Data

Parameters of CAMEL Model	Asymp. Sig. (2-tailed)
Capital Adequacy	.312
Asset Quality	.757
Management Efficiency	.542
Earning Quality	.966
Liquidity	.530

(Source: Author's compilation)

From the test statistic (Table 8), it may be said that the data distribution for the various parameters of CAMEL model did not deviate significantly from the normal distribution ($p > 0.05$).

Hence, Independent sample t test was applied with the following hypothesis.

H₀2: There is no significant difference between composite rankings of public and private sector banks for Asset Quality, Management Efficiency, Earnings Quality and Liquidity.

Table 9 : Test Statistics for CAMEL parameters as per Independent Sample T Test

Parameters	Mean of Pub. Sec. Banks	Mean of Pvt. Sec. Banks	T	Mean of Pvt. Sec. Banks	Sig.	Significance	Reject/Not reject H ₀
Capital Adequacy	6.5	6.5	.000	6.5	Not Applicable as mean are equal for both the groups		
Asset Quality	9.08	3.92	3.966	3.92	.003	Significant	Reject
Management Efficiency	7.34	6.00	2.516	6.00	.031	Significant	Reject
Earning Quality	8.00	5.00	3.810	5.00	.003	Significant	Reject
Liquidity	6.33	6.67	-.457	6.67	.658	Not Significant	Not Reject

(Source: Author's compilation)

T Test statistics as per Table 9, revealed a significant difference for Asset Quality, Management Efficiency and Earning Quality between public and private sector banks at 95% confidence level as the p values for all these parameters were found to be less than 0.05. However, for liquidity, t test failed to reveal a significant difference i.e. $t(10) = .457, p = .658, \alpha = .05$. Hence, it may be concluded that for Asset Quality, Management Efficiency and Earning Quality, public sector banks financial performance was better as compared to private sector banks for the period under study i.e. 2011-13, while the liquidity of the private sector banks was found to be better for the same period.

Conclusion

The study analyzing the efficiency of the banks for a period of 2010-13 as per CAMEL model revealed that Kotak Mahindra Bank and HDFC Bank had a sound **Capital Adequacy ratio**. Yes Bank led all other banks in terms of **Asset Quality**. Axis Bank and ICICI Bank ranked higher for **Management Efficiency ratio**. In the context of **Earnings Quality ratio**, Kotak Mahindra Bank was ranked first. For **Liquidity ratio**, IndusInd Bank secured top position. In the overall composite of CAMEL ranking, the top five banks in the list comprised of IndusInd Bank, HDFC Bank, Yes Bank, Kotak Mahindra Bank and Axis Bank while the five banks in bottom position based on CAMEL model's composite ranking were Canara Bank, Punjab National Bank, Bank of India, Union Bank of India and State Bank of India. Further, public sector banks performed better under the period of the study for Asset Quality, Management Efficiency and Earning Quality during 2011-13 while the liquidity of the private sector banks was high for the same period. The major limitation of the study was that more banks could have been taken for study and time horizon could have been expanded further.

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Annexure 1: Composition of CAMEL

CAMEL's Parameters	Formulas	Evaluation Criteria
C – Capital Adequacy Ratios		
Capital Risk Adequacy Ratio	$\frac{\text{Tier I Capital} + \text{Tier II Capital}}{\text{Total risk weighted Assets}}$	Higher is better.
Debt Equity Ratio	$\frac{\text{Borrowing}}{\text{Share Capital} + \text{Reserves}}$	Lower is better.
Total Advance to Total Assets	$\frac{\text{Total Advance}}{\text{Total Assets}}$	Higher is better.
Government Security to total Asset	$\frac{\text{Government Security}}{\text{Total Investment}}$	Higher is better.

A -Asset Quality Ratios		
Gross NPV to Total advances	$\frac{\text{Gross NPA}}{\text{Total Advances}}$	Lower is better.
Net NPV to Total advances	$\frac{\text{Net NPA}}{\text{Total Advances}}$	Lower is better.
M - Management Quality Ratios		
Total Advance to Total Deposit	$\frac{\text{Total Advance}}{\text{Total Deposit}}$	Higher is better.
Business per Employee	$\frac{\text{Total Income}}{\text{No of Employee}}$	Higher is better.
Profit per Employee	$\frac{\text{Profit after Tax.}}{\text{No of Employee}}$	Higher is better.
E - Earnings Quality Ratios		
Return on Assets	$\frac{\text{Net Profit}}{\text{Total Assets}}$	Higher is better.
Operating profit to Average working fund	$\frac{\text{Operating Profit}}{\text{Average working fund}}$	Higher is better.
Net profit to Average Assets	$\frac{\text{Net Profit}}{\text{Average Assets}}$	Higher is better.
Interest Income to Total Income	$\frac{\text{Interest Income}}{\text{Total Income}}$	Higher is better.
L - Liquidity Ratios		
Liquid Assets to Total Assets	$\frac{\text{Liquid assets}}{\text{Total Assets}}$	Higher is better.
Government Security to Total Assets	$\frac{\text{Government Security}}{\text{Total Assets}}$	Higher is better.
Approved Security to Total Assets	$\frac{\text{Approved Security}}{\text{Total Assets}}$	Higher is better.
Liquidity Assets to Demand Deposit	$\frac{\text{Liquidity Assets}}{\text{Demand Deposit}}$	Higher is better.
Liquidity Assets to Total Deposit	$\frac{\text{Liquidity Assets}}{\text{Total Deposit}}$	Higher is better.

Frauds reported by banks to RBI in the year 2008 compliment with survey

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Abstract

Fraud is a traditional phenomenon. Fraud examination became a hot cake in USA after the mishap of 9/11, whether it may be regarding to the findings of terrorist or findings of sub prime causes. While if focus is only made towards banks than it can be said that very few banks in India treat their client as sons-in-law, rolling out the red carpet from day one, for providing day to day banking services. Whereas some clients joke that most of banks still did not treat them properly. This is because as there are very few banks to assist them and to take utmost care of not to impair clients either negligently or deliberately. Thus managing money of clients is a complex task that needs access to various resources, asset classes and constant monitoring. As client base increases, the needs evolve; from plain vanilla reactive evaluating strategies to adopt active and sharp scrutinizing strategies.

Thus, it becomes a challenge to know first of all the causes of frauds in banking sector in order to provide guidelines to protect clients' hard earned money by keeping a watchful eye on each and every activities.

In the paper after talking about the introduction and objectives of the study, a case study has been discussed which helps to learn causes of frauds, types of frauds, region which reported frauds highly in India and most famous instrument for frauds in banking sector. This follows by the survey of banks to check whether what all remedies suggested in case studies already exists in banks as a precautionary step to prevent fraud or not and if yes than how efficiently it helps to prevent fraud. Non probability snow ball and non probability convenience sampling is being used to collect opinions from banks through questionnaire.

Study reveals that term loan and house loan is the instrument which is most vulnerable to fraud. While forgery cases were issued in large number by RBI in year 2008. Whereas most of the cases depict the negligence on the part of bank which further gives rise to fraud. Similarly southern India is the region which reported highest number of fraud cases to RBI.

This study is helpful to banks not only to learn causes and preventions measures of fraud but they also come to know where they are standing and what step they need to take for further improving their services. The last part of this study consists of

findings and recommendations.

Key Words : Frauds, instruments, Banks' awareness, securities

Introduction

Managing money of clients is a complex task that needs access to various resources, asset classes and constant monitoring. As client base increases, the needs evolve; from plain vanilla reactive evaluating strategies to adopt active and sharp scrutinizing strategies.

Losses sustained by banks as a result of frauds exceed the losses due to robbery, dacoit, burglary and theft--all put together. Unauthorized credit facilities are extended for illegal gratification such as case credit allowed against pledge of goods, hypothecation of goods against bills or against book debts, fraudulent removal of goods with the knowledge and connivance of bank staff, pledging of goods belonging to a third party.

Thus it becomes a challenge to know first the causes of frauds in banking sector in order to provide guidelines to protect client's hard earned money by keeping a watchful eye on each and every activity.

Table 1: Frauds in the Banking Sector (Amount in Rs. crore)

Year	All frauds		Large Value frauds	
	No.	Amount	No.	Amount
2001-02	2,035	556	76	486
2002-03	4,056	502	82	375
2003-04	6,853	776	76	421
2004-05	10,450	779	96	461
2005-06	13,914	1,381	194	1094
2006-07	23,618	1,194	150	840
2007-08	21,247	1,059	177	659

(Source: RBI bulletin)

Classification of Frauds and Action required by the Banks

- Cheating (Section 415, IPC)
- Criminal misappropriation of property (Section 403 IPC).
- Criminal breach of trust (Section 405, IPC)

- Forgery (Section 463, IPC)
- Falsification of Accounts (Section 477A)
- THEFT (Section 378, IPC)
- CRIMINAL CONSPIRACY (Section 120 A, IPC)

Review of Literature

Boer (1992) reported that the UK was currently experiencing a record number of insolvencies and bankruptcies, a majority of which are accounted for by small firms. When analyzed sector-wise, it was found that the hotel and catering industry had the second highest rate of bankruptcy.

Cheah Chor Sooi (2002) reported that many SMEs fail to secure loans, not because their businesses are viable or they do not have collateral, but for the fact that they engaged the wrong consultants. He also found that many SMEs employ consultants to prepare loan applications incorporating business plans that are submitted to the banks, but they themselves are not always clear about the content.

Fergal Bryne (2003) reported that while banks are the largest providers of finance to SMEs in general, bank finance is effectively unavailable to most early stage and growing businesses, as they are unable to provide the necessary security for a loan.

Louberge and Schlesinger (2005) aim to propose a new method for credit risk allocation among economic agents. Their paper considers a pool of bank loans subject to credit risk and develop a method for decomposing the credit risk into idiosyncratic and systematic components. The paper shows that how financial contrast might be redesigned to allow for banks to manage the idiosyncratic components for their own account, while allowing systematic components to be retained, passed off to capital market or shared with borrowers.

Bandyopadhyay (2006) aims at developing an energy warning signal model for predicting corporate default in emerging market like India. He also presented the method for directly estimating probability of default using financial and non-financial variable. For predicting corporate bond default multiple discriminate analysis is used and logistic regression model is employed for estimating probability of Default.

Gaps in the Study

The researcher has gone through many studies which were under taken in banking sectors. But studies related to banking sectors frauds is yet scarce. The author collected 197 cases related to banking sector which are reported to RBI during year 2008 and has analyzed these cases by setting objectives and hypothesis. The researcher also conducted a survey to compliment the case analysis.

Research Objectives

Primary Objectives

1. To study the circulars of frauds containing frauds cases which were issued by RBI in the year 2008 and to suggest the remedies for plugging the system loopholes.
2. To find out whether the recommendation suggested already exist or not and if yes than, how effectively it is being followed by banks by conducting survey on the basis of case study.

Secondary Objectives

1. To find out the causes, types, and instruments in which such fraud had occurred by and large from all cases issued by RBI in year 2008 and to recommend bank for the same.
2. To know which region reported the highest number of cases of fraud to RBI.
3. To conduct the survey and to know opinions of bank related to causes and mechanics to prevent frauds.
4. To know general view of banks on the implementation of RBI and KYC norms.
5. To identify how many banks has been victim of fraud and to know whether they have policy to fight against fraud.
6. To study if there is any staff involvement negligently/ deliberately or non-deliberately.
7. To understand the procedure with regard to verification of the authentication of documents.
8. To know existing practice prevailing or their use with regard to fortification of fraud.

Hypothesis of the Study

- There is no relation between types of bank and victim of fraud.
- There is no relation between types of bank and employees receiving training.
- There is no relation between types of bank and having policy fraud.

Data Collection Plan

Primary Data

Primary data have pertained to characteristics of bank where attitude and opinion of managers, their awareness and other similar aspects are considered. The method, which is used, for obtaining primary data is **personal interview** which is a part of **survey technique**.

Secondary Data

Cases have been studied to know the actual knowledge of various modus operandi which are a part of secondary data for some of

theoretical aspects data mining is being done on internet to know about types of frauds and types of frauds as per RBI.

Research Methodology

Sampling Data Collection Tool

In context of this study the survey is done by **non probability convenience non-probability snow-ball sampling method** where respondents are selected as per convenience as well as through reference. Thus research type is non-probability convenience and non-probability snow-ball sampling.

Sampling Media

Sample media is concerned with how sampling units are approached for obtaining the desired information. We had constructed questionnaire for sampling media.

In the present research study the **questionnaire** contains **administrative question** which reveals the researcher's identity, **target questions** related to the research objective. The questionnaire has a **structured** as well as **unstructured format** in which some questions are open ended while some are close ended.

Sample Size

The sample size of research study for Primary Data is 19 Banks of Surat City.

The Sample Size of research study for Secondary Data is 197 Cases of frauds which are reported to RBI during the year 2008.

Target Population

The target population is banks of Surat city.

Measurement Scale

For gathering primary data **Personal** Interview was conducted. For personal interview unstructured as well as structured questionnaires were prepared. In this research use of rating and scale was done. As per requirement questionnaire contains various measurement scales.

Rating Scale

In context to this research utilization of simple category scale (dichotomous), multiple choice single response scale, multiple choice multiple response likert scale, numerical scale was used.

Data Analysis Plan

- The collected responses along with various case studies have been recorded in table for analysis and for better understanding.
- To have clear picture of various parameters **cross tabulation and sample mean** is being used.
- To know the association of different variable, statistical tool

such as **chi-square and weighted average** has been used, so that judgment can be made that whether the difference is significant or insignificant.

Testing of Hypothesis, Data Analysis and Results

Testing of Hypothesis

Ho: There is no relation between types of bank and victim of fraud.

H1: There is a relationship between types of bank and victim of fraud

Table 2: Type of Bank and Victim of Fraud

		Victim of fraud		Total
		YES	NO	
Types of bank	Private	1	2	3
	Public	3	8	11
	Foreign	0	1	1
	Co-op /others	1	3	4
Total		5	14	19

(Source: Survey)

Table 3: Chi-Square Tests

	Value	Degree of freedom (dof)	Tabulated value	Asymp. Sig. (2-sided)
Pearson Chi-Square (5% LOS)	0.442(a)	3	7.815	0.931
(1% LOS)			9.488	

(a) 7 cells (87.5%) have expected count less than 5. The minimum expected count is 0.26.

Since the calculated value is less than tabulated value at both 5% as well as 1% level of significance, we will accept null hypothesis to reject alternative hypothesis. Thus we can say that there is no relationship between types of bank and the chance of being victim of fraud.

This might be possible as some of the banks were hesitant to give proper answer or may be because some of banks of each and every category really performed well.

Ho: There is no relation between types of bank and employees receiving training.

H1: There is a relationship between types of bank and employees receiving training.

Table 4 : Type of Bank and Attainment of Fraud Awareness session

Types of bank	Attend Fraud awareness Programme		Total
	Yes	No	
Private	3	0	3
Public	9	2	11
Foreign	1	0	1
Co-op/others	0	4	4
Total	13	6	19

(Source: Survey)

Table 5 : Chi-Square Tests

	Value	Degree of freedom	Tabulated value	Asymp. Sig. (2-sided)
Pearson Chi-Square (5% LOS)	11.427(a)	3	7.815	.010
(1% LOS)			6.251	

a- 7 cells (87.5%) have expected count less than 5. The minimum expected count is 0.32.

Since the tabulated value is less than calculated value we reject the null hypothesis at 5% level of significance. But if check the same at 10% level of significance than also calculated value is less than tabulated value and thus we reject null hypothesis and accept alternative hypothesis which says that there is a relationship between types of bank and employees receiving training.

As from the analysis only it comes to picture that co-operative bank does not have any training programme.

Ho : There is no relation between types of bank and having policy fraud.

H₁ : There is a relationship between types of bank and having policy fraud.

Table 6 : Type of Bank and Mechanism of Fraud

Types of bank	Mechanism of Fraud		Total
	Yes	No	
Private	3	0	3
Public	11	0	11
Foreign	1	0	1
Co-op/others	1	3	4
Total	16	3	19

(Source: Survey)

Table 7: Chi-Square Tests

	Value	Degree of freedom	Tabulated value	Asymp. Sig. (2-sided)
Pearson Chi-Square (5% LOS)	13.359(a)	3	7.815	.004
(1% LOS)		3	6.251	

a- 7 cells (87.5%) have expected count less than 5. The minimum expected count is 0.16.

Since the tabulated value i.e 7.815 is less than calculated value 13.359 we reject the null hypothesis at 5% level of significance. But if check the same at 10% level of significance than also calculated value is less than tabulated value and thus we reject null hypothesis and accept alternative hypothesis. Thus we can say that there is relationship between types of bank and written policy against fraud of bank.

Table 8: Sample Mean of all mechanisms used for prevention of fraud.

	N	Mean
Good recruitment procedure	19	2.4737
Employee training	19	2.2632
Job knowledge, and work skill of employees	19	2.3158
Internal control	19	1.9474
Competent and proficient legal panel/ valuer	19	2.5263
Customer due diligence	19	2.3158
Upgrading of circulars issue by RBI	19	2.0526
Issuing of statement and updating of pass book regularly	19	2.0526
Vigilant environment	19	2.0526
TOTAL	19	

(Source: Survey)

As mean is same mean in almost all the factors are nearby to 2 we can say that most of the bank has rated their mechanics as either very or good. which indicates that most the bank are in opinion that all the mechanics either are good or very good as the mean of all of them are falling between 2-3. While the sample mean of internal control is least which shows that mechanic is mostly have excellent to very good rating from banks.

Table 9: Types of Bank and Staff Involvement in fraud

Types of bank	Staff Involvement			Total
	Yes	No	Sometimes	
Private	2	1	0	3
Public	2	6	3	11
Foreign	0	1	0	1
Co-op/others	0	3	1	4
Total	4	11	4	19

(Source: Survey)

Cross Tabulation**Table 10: Types of Bank and Availing Service of Message Alert**

Types of bank		Message alert		Total
		No	Yes	
1	Private	0	3	3
2	Public	5	6	11
3	Foreign	0	1	1
4	Co-op/others	3	1	4
Total		8	11	19

(Source: Survey)

Table 11: Types of Bank and Re-assessment of Risk Category

Types of bank		Reassessment of risk				Total
		Quarterly	Semi Annually	Annually	Monthly	
1	Private	1	0	2	0	3
2	Public	5	1	3	2	11
3	Foreign	1	0	0	0	1
4	Co-op/others	3	0	1	0	4
Total		10	1	6	2	19

(Source: Survey)

Table 12: Types of Bank and their opinion towards recruitment procedure

Types of bank		Good recruitment				Total
		Excellent	Very good	Good	Average	
1	Private	0	0	2	1	3
2	Public	3	3	4	1	11
3	Foreign	1	0	0	0	1
4	Co-op/others	1	0	2	1	4
Total		5	3	8	3	19

(Source: Survey)

Table 13: Victim of Fraud and Employees Involvement

Victim of Fraud		Staff Involvement			Total
		Yes	No	Sometimes	
1	Yes	3	0	2	5
2	No	1	11	2	14
Total		4	11	4	19

(Source: Survey)

Some Facts and Figures from Cases**Table 14: Magnitude of frauds occurred in different types of instruments in the year 2008**

Category	Total
Cheque	32
Term loan	52
House Loan	42
CC/ OD	28
DD/ PAY ORDER	11
FD/ STDR	8
Saving account	12
Credit card	5
Banking guarantee	5
Bill of Exchange/LC	2
Total	197

(Source: Circular issued by RBI)

Table 15: Frequencies of place/ region in India from where frauds are reported.

	NORTH	SOUTH	EAST	WEST	CENTRE
Cheque	5	6	2	4	2
Term loan	2	13	3	4	2
House Loan	6	4	2	3	2
CC/ OD	2	7		1	1
DD/ PAY ORDER	3	3		1	
FD/ STDR	0	1		2	
Saving account	2	4		2	
Credit card	1	1		1	
Banking guarantee	1	2		18	
Bill of Exchange/LC	1	1			
Total	23	42	7	36	7

(Source: RBI Bulletin)

Table 16: Types of Frauds

Type of Fraud		Frequency
1	Cheating	53
2	Forgery	58
3	Criminal conspiracy	38
4	Falsification of account	6
5	Misappropriation of property	6
6	Criminal breach of trust	21
7	Theft	15
Total		197

(Source: RBI Bulletin)

Table 17: Types of Fraud and Types of Instruments – Cross Tabulation

		Types of Instruments										Total
Types of Fraud		Cheque	Term loan	House Loan	CC/OD	DD/PAY ORDER	FD/STDR	Saving account	Credit card	Bank guarantee	Bills of Exchange/LC	
1	Cheating	3	17	15	14	1	0	2	0	1	0	53
2	Forgery	12	18	9	4	7	1	2	0	3	2	58
3	Criminal conspiracy	2	9	17	6	0	2	1	0	1	0	38
4	Falsification of account	2	1	0	0	1	0	2	0	0	0	6
5	Misappropriation of property	2	0	1	2	0	0	1	0	0	0	6
6	Criminal breach of trust	3	6	0	2	1	4	4	1	0	0	21
7	Theft	8	1	0	0	1	1	0	4	0	0	15
Total		32	52	42	28	11	8	12	5	5	2	197

Findings

Two types of findings are mentioned below one from cases studies and the other from questionnaire.

(a) Finding from Questionnaire

- Only **one bank out of 19 banks** is such which **do not entertain any facility to walk-ins**. While only 2-3 banks provide cheque book and balance statement only to authorized person. This might be proving harmful in near future.
- From the study we can say that out of 19 banks hardly **10 banks verifies the credit worthiness with local municipality** and from other bank as well in case if client has an account with other bank especially in case of guarantors.
- Most of the banks verify the authentication with original, while some of banks go for IT documents and spot visit for verification of authentication

- One amazing fact comes to notice from research that although **being a RBI rule, out of 19, 18 banks do not send the statement through the post** to clients address in case if client do not turn up to collect them.
- 10% out of 19 banks think that bank risk should be reassessed monthly while **52% are in opinion for reassessment bank risk quarterly**.
- From the survey it was found out that only **26%** i.e. 5 banks out of 19 banks were **being victim of fraud**. Whereas 84% i.e. 16 banks has an internal policy to fight against fraud.
- **68.4% and 52.6% of bank are in opinion that they have a good internal policy** along with good employee's awareness for protection against fraud.
- All of the **19 banks** were in the opinion that the **efficiency of all mechanics** mentioned in questionnaire does fall between the **ratings of excellent –good**. Whereas very few banks have rated job skill, legal competent policy, updating of RBI circulars and internal control as mechanics to prevent fraud on moderate scale.
- **57% of banks** were in opinion that they had **never found employees in any fraud case** either negligently or deliberately. This is a good sign.
- From the study it comes to notice that almost **80% of bank have a confidence above 50% regarding staff awareness, CIBIL successfulness and about implementation of RBI norms**. While RBI norms implementation got the highest rating in all three factors. Whereas CIBIL successfulness got least rating among there on 9 rating scale. But the difference of rating is very minor
- On the contrary 63% of banks i.e. 12 banks feel that whatever **information is provided by CIBIL is sufficient** for checking creditworthiness.
- A very pleasant fact was found from study that **all the 19 banks are very much satisfied with KYC norms**. But although banks are satisfied with norms than also they fail to implement it fully, which further results in fraud.
- It was found from the research that out of 19 banks only **13 banks' manager got the training regarding fraud, whereas 3 banks' managers did not get any training and in remaining 3 banks their staff got training**. While periodicity of receiving such last training mostly lies between last 6 months to 2 years.
- The most astonishing result was found when out of 19 banks **8 banks reveals that RBI norms are implemented properly**. In that also many managers feared to opt for no option because of seriousness of topic and because of some official

obligations, even though they were not willing to do so.

- In the opened-ended question bank managers revealed that for better quality control they either go for following of norms set by RBI as well as internal bank norms. While some of were in the opinion that their staff as well as environment is very vigilant.
- Banks manager present their views in order to fight against fraud by suggesting for verifying documents very carefully, by following RBI norms, by using latest technology and software.
- When tests were applied it came to picture that there is no significant difference between types of bank and victim of fraud as well as types of bank and policy to fight against fraud. Whereas a significant difference was found between types of bank and receiving training regarding fraud.
- From cross tabulation it was found that in **private banks staff involvement in fraud is highest**. Similarly message alert service provided by private bank is also highest. The latter one is good sign of preparing oneself to fight against fraud.
- It was found from research that **out of 11 public limited banks 3 banks have rated their recruitment procedure as excellent** which is highest compared to all other banks.
- From the survey it was found that **in total 5 banks** out of 19 banks were **being victim of bank** and in that 5 bank **3 banks feel the involvement of employee**.

(b) Findings from Case studies

- Through the case studies it was noted that with **26.4% term loan** is type of instrument in which highest number of fraud is reported by banks to RBI in all the 197 case studies. While frauds in cheques are also reported in large number after loan; cash credit and Demand draft follows cheque, term loan and house loan.
- **South India** is the region from where highest number of fraud was reported to RBI in year 2008 i.e. **43.30% of 97 cases out of 197 cases** in which name of the place is revealed by the reporting bank. While on the other hand report of fraud is least reported from Central and Eastern region of India; whereas Northern and Western region come at second and third position after southern region with regard to reporting of fraud.
- If correlation is done between the **instrument and the region** from where fraud was reported by banks in year 2008 then it is found that **house loan in north and east, term loan in south and cheque and loan equally in west and central** is being used by fraudsters for cheating purpose.
- If focus is made on types of fraud than **forgery is the type of fraud** which was **mostly** done by the fraudsters where either

fake document is submitted or fake signature is done by fraudsters in order to cheat the banks. While cases of cheating and criminal conspiracy was also reported in large number in last year.

- While as in **term loan and house loan nearly 35% cheating** cases were reported by bank. Whereas in **cheque and term loan nearly 36% of forgery** cases were reported.
- One important findings arrive from cases that **whatever circulars are issued by the RBI, its impact is only for a short period of time**. This is so because, suppose a circular issued by RBI in month of May describing highest number of fraud in cheques and that through forgery than in immediate next circular the number of frauds cases in cheque will be reduced as compared to previous circulars but after issuing of 2 to 3 circulars again the case of fraud in cheques increases.

From the cases, a large number of frauds in the area of Housing loans / Mortgage and other loans & advances, cash credit limit, overdraft facility against the security of immovable properties have been observed. The main causes are as under:-

- The **borrowers have submitted fake/fabricated /forged title deeds** for the purpose of availing loan. In some cases **multiple finances** were availed by the borrowers against the **same security** from other banks also.
- **Loan** amount paid to sellers / builders were got **encashed through opening of fictitious accounts** with other banks.
- In some cases **borrowers were not in possession of the property** against which the Bank made finance. In a few cases, the **description of the property** made by the borrower/s while applying the loan was **altogether different than the one shown** as constructed. In some cases, there existed a plot only.
- A search made at the Sub-registrar's office revealed that the **area of the property** as given in certain sale agreements **had been altered** subsequent to the registration of the deeds.
- **Valuation** of the property was also **inflated**.
- In some cases, the borrowers fabricated multiple sale deeds by **forging the signatures of the sellers** and got the same registered **with the Sub-registrar** and availed multiple finance against the same security.
- In some cases the sale deeds had been prepared using forged seals and signatures of the Registering Authority.
- An investigation by the Bank revealed that one of the **properties** mortgaged to the Bank was **under litigation**.

- In some cases, the **branch officials did not make independent visits** for verification of the properties as such the mortgaged property could not be identified during post visits.
- **Preliminary examination** of the title deeds was **not done with due diligence** at branches to ensure that all the title deeds in original are **available with the owner of the property**.
- The branches **relied on reports of advocates** for genuineness of title deeds and **did not ascertain the genuineness** of the title deeds at their own despite the fact that advocates mentioned in their report that only photocopies of title deeds were produced for seeking opinion and branches were required to verify original.
- These frauds were mainly caused **due to non-observance of KYC norms**, not verifying the credentials of prospective borrowers, guarantors, and builders, laxity in conducting due diligence of borrower / guarantors/builders, absence of pre-sanction spot visit and lack of post disbursement supervision.
- System **mess and absolute system default** as one officer is leaving his place ideal without closing his ID while on the other side fake papers are mixed up with other new scheme paper.

While in case of cheque, DD, saving bank account, and ATM card following causes were found through studies.

- Most of fraud in cheque is done due to forge signature by fraudster and bank of verifying the signature.
- While in some cases **cheque book was issued to whosoever who presented the requisition slip** without any authorization. Bank also issued book to staff clients relatives without any authority.
- Frauds also occurred **because to theft of cheques, DD, ATM cards, PIN number of ATM**. While this theft occurred either on the part of bank negligence or due to customer due diligence. Whereas in some theft cases employees was also found to be culprit.

Conclusion

It was a nice experience from both, knowledge as well as practical aspects, to prepare the paper. The banking industry is still in growing phase in India. As they are targeting mainly a larger part of market there is a need to create diligence on the part of clients as well as employees among bank regarding accessibility of such services.

The savings market in India still reflects the facts that the fortune of banks is going to be pretty good. The reason behind this can be traced to the fact that Indian people have been fed on diet of relatively high fixed returns along with smooth running of day to

day transactions. Bank is a place from where both regular incomes are also earned as well as day to day payment is also made and thus such an organization being at fault is not readily acceptable.

From the research it comes to notice that there are some loopholes in the banking system. The root and ultimate cause of fraud in banking system is the negligence on the part of the bank both in terms of proper implementation of norms as well as a vigilant environment.

Although all the precautionary measures are being suggested by RBI but there are excuses on the part of banks of why all banks lack behind its 100% implementation. Staff involvement is also one of the reasons where bank has to suffer. Most of the forgery and cheating cases are reported where staffs are either negligent or have been deliberately involved in fraud.

Similarly sometimes due to burden of work and sometimes due to negligence if burden is not there, bank lethargic and laxity proves to be harmful with regard to verification of documents. This laxity further gives boost to fraudsters.

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Co-integration of Indian stock market with emerging stock markets and developed stock markets

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Abstract :

In a country like India where stock market is undergoing significant transformation with liberalization measures, there seems to be linkages of Indian Stock market with emerging stock markets and developed stock markets. The study investigates the co-integration of Indian stock market returns with emerging stock market returns and developed stock market returns for the time period of seven years from the year 2005 to 2011. The emerging stock markets comprise stock markets from Brazil, Russia and China and developed stock markets comprise stock markets from US, UK and Japan. Descriptive statistics like mean, median, standard deviation, co-efficient of variation and kurtosis are used to find out the general picture of the returns of each stock market. Inferential statistics like Pearson's Correlation Coefficient, Granger Causality test and Engle Granger Cointegration test is used to find out the relationship and linkages of Indian stock market with emerging stock markets and developed stock markets. To check the stationarity of each time series data Augmented Dickey Fuller test and Philips-Perron test is used. The result of the study reveals that there is a short run relationship of Indian stock market with emerging stock markets and developed stock markets but Indian stock market does not share any long run relationship with the emerging markets and developed markets.

Key Words : Causality, Cointegration, Developed Stock Markets, Emerging Stock Markets and Stationary.

Introduction

Cointegration of stock market means interdependence, combination and linkages of global stock market. The global stock markets have become integrated due to globalization, new technological innovation and financial integration (Stiglitz, 2006). The existence of strong economic and trading links, major initiatives in liberalization activities by the governments, advancement in international trade and finance, rapid developments in telecommunication and trading systems and formation of common trading blocs such as NAFTA, European Union and ASEAN have added some more momentum to such integration.

Integrated financial market is assumed to be of immense

significance as it is of great importance for promoting domestic savings, investment and economic growth (Mohan, 2004, 2005) and fostering the necessary condition for a country's financial sector to emerge as an international financial centre (Reddy, 2003, 2006). The liberalization of financial markets also resulted in regional economic integration, greater co-movement in the stock prices and foreign investments.

The recent global financial crisis has focused more attention on the linkages among the stock markets of Asian countries. India has made tremendous strides in the global economy since opening up of the economy and subsequent economic and political reforms. The outcome being integration of various segments of capital market, strengthening competition, financial deepening with innovative instruments, easing of restrictions of foreign capital flows, lowering transaction costs and enhancing liquidity.

In a country like India where the stock market is undergoing significant transformation with liberalization measures, integration with other developed and emerging markets would give an idea of the possible gains to be reaped out of portfolio diversification from Indian market. The globalization of financial systems and the acceleration of information transmission have increased the risk of financial crises, as a crisis in one country can spread to other countries and bring about worldwide crises.

Review of Literature

Evidence about the link between financial integration and volatility is inconclusive (Rogoff et al 2006). What seems clear is that countries with well-developed financial systems are less vulnerable to crisis, but it is also true that financially developed countries are usually financially integrated with rest of the world (Lane and Milesi-Ferretti 2006). More specifically, vulnerability is especially high if certain institutions and policies are not in place before a country liberalizes its financial system (Demirgüç-kunt and Detragiache 1999). The string of international financial crises in the 1990's demonstrated that eliminating barriers to the international movement of certain types of financial capital might induce volatility if countries do not have strong institutions and sound macroeconomic policies. Some have also suggested that minimizing the risks requires the existence of well functioning

domestic financial markets (Alfaro et al 2005).

According to Markowitz (1952), investors can improve the performance of their portfolios by allocating their investments into different classes of financial securities and industrial sectors that would not move together in the event of valuable new information. Numerous studies beginning with Taylor and Tonks (1989), Chowdhry (1997) and Masih and Masih (2001) are among other researchers who have utilized Granger (1969) and Johansen Juselius (1990) techniques to assess international stock market co-integration in their studies. Noted that, majority of the studies focuses on the developed equity markets until recently, the equity markets of emerging economies has arouse remarkable interest among researchers. Examples of these studies are Ibrahim (2005), Yusof and Majid (2006), Majid et. al (2008) and Majid and Kassim (2009). They documented that United State (US) market is the most influential market in leading other equity markets.

Among other emerging economies that received much attention are BRICs countries. Jim O'Neill of Goldman Sachs who coined the acronym expects that over the next 50 years, Brazil, Russia, India and China - the BRICs economies could become a much larger force in the world economy. Bhar and Nikolova (2009) who explored the level of co-integration of the BRIC with their respective regions and the world in the post-liberalization period has found that India has the highest level of integration on a regional and world level amongst the BRIC countries followed by Brazil, Russia and lastly China. The study also suggested the existence of diversification opportunities for China, given its closed nature of the financial system.

Another study on co-movement among selected stock market conducted by Modi et. al (2010) found that the correlation of BSE (India) with BVSP (Brazil), MXX (Mexico), FTSE100 (UK), DJIA and NASDAQ (US) is low. Therefore, these combinations provide attractive portfolio diversification opportunities for Indian investors. Besides, the author also conducted Granger causality test which revealed that MXX, Dowjones and Nasdaq are least dependent on other markets, whereas Dowjones is the most influential market for the period July 1, 1997 to June 30, 2008 of study. Aloui et. al (2011) who also evaluated on the co-movements between the BRIC markets and the US during the period of the global financial crisis indicate that dependency on the US is higher and more persistent to Brazil-Russia than for China-India. In their study, the author paired Brazil and Russia - countries which are highly dependent on commodity prices and China-India whose economic growth is largely influenced by finished-products export-price level.

Using weekly and monthly index returns of the US and BRIC stock markets, Lian and Brown (2010) conducted the study simply

using unit root and co-integration test for the period of study; October 13 1995 to October 13 2009. Their findings indicate that there is no evidence of co-integration on pair markets US-Brazil, US-Russia and US-India. However, there is some co-integration between US-China market pair and some co-integration between the US and the BRIC indexes altogether.

Chittedi (2009) who utilized the Granger causality, Johansen co-integration test and Error Correction Modelling (ECM) in the study has found the co-integration relationship between BRIC countries and developed countries namely US, UK and Japan. The author also indicates that US and China leads other markets during the period of study, 1998-2008. India to a great extent is far less integrated with the global markets and is fortunate in its leadership at the policy level.

Following Chittedi (2009), this study extends the line of research by comparing the co-movements of emerging stock market returns and some traditional developed stock market returns. The outcome of this study is expected to shed the lights on the international portfolio diversification. The present study also contributes to the related literature in that it provides a general framework for addressing the extent of extreme interdependences and contagion effects between emerging and developed market.

Research objectives

1. To study the linear relationship of Indian stock market with emerging stock markets and developed stock markets for the time period of 7 years from 2005 to 2011.
2. To study which stock markets under study influences the Indian stock markets and which stock markets under study are being influenced by the Indian stock market during the period from 2005 to 2011.
3. To examine the co integration of Indian stock markets with emerging stock markets and developed stock markets during the study period from 2005 to 2011.

Research hypothesis

1. H_{01} : There is no significant linear correlation between Indian stock markets and Emerging stock markets from 2005 to 2011.
2. H_{02} : There is no significant linear correlation between Indian stock markets and developed stock markets from 2005 to 2011.
3. H_{03} : The returns of Indian stock market does not granger cause the returns of emerging stock markets.
4. H_{04} : The returns of emerging stock markets does not granger cause the returns of Indian stock market.

5. H_{05} : The returns of Indian stock markets does not granger cause the returns of developed stock market.
6. H_{06} : The returns of developed stock markets does not granger cause the returns of Indian stock market
7. H_{07} : There is no co-integration between Indian stock market and emerging stock markets.
8. H_{08} : There is no co-integration between Indian stock market and developed stock markets

Research methodology

The present study is Descriptive Research because in this study co-integration of the Indian Stock Market with the emerging stock markets and developed stock markets is examined using the daily stock index returns from the year 2005 to 2011. The existence of relationship among the stock markets is studied but what are the reasons behind this relationship is not studied. The daily closing data for seven indices were collected for seven years from the year 2005 to 2011 from yahoofinance.com and returns were calculated using the formula as mentioned below. Some observations were deleted because of different holidays and after matching the daily closing index returns of all the selected stock markets there were 1383 observations. The indices considered for the present study are Sensex of India, Bovespa of Brazil, RTS of Russia, SSE Composite of China, DowJones of US, FTSE of UK and Nikkei of Japan.

$$\text{Returns} = \frac{P_t - P_{t-1}}{P_{t-1}} \times 100$$

P_t = Daily closing data of index at time t

P_{t-1} = Daily closing data of index at time t-1

Descriptive statistics like mean, median, standard deviation, coefficient of variation and kurtosis are used to find out the general picture of the returns of each stock markets under study. To study the linear relationship between the Indian Stock Market with the emerging stock markets and developed stock markets Karl Pearson Correlation test is applied. The correlation was calculated pair-wise for each stock market index return under study with Indian stock market index return. To examine the co-integration of the Indian Stock Market with the emerging stock markets and developed stock markets Granger Causality test and Engle Granger Cointegration test is used. This test can be conducted only if the data series is stationary. So to check the stationary of data series Augmented Dickey Fuller test and Philips- Perron test was applied.

Karl Pearson Correlation

Correlation is a statistical technique that can show whether and how strongly pairs of variables are related and it computes

measures of similarity and distance. It is a technique for investigating the relationship between two quantitative, continuous variables. The first step in studying the relationship between two continuous variables is to draw a scatter plot of the variables to check for linearity. The correlation coefficient should not be calculated if the relationship is not linear. In the present study the relationship between the variables is linear. According to Karl Pearson 1896 the Pearson correlation above 0.75 indicates a strong relationship and that below 0.50 is adopted as a weak relationship. The Pearson coefficient between 0.50 and 0.75 is considered as a moderate relationship.

Unit Root Test or Stationary Test

A test of stationarity (or non stationarity) that has become widely popular over the past several years is the unit root test. It will first be explained, and then illustrated and then some limitations of this test will be considered.

The starting point is the unit root (stochastic) process, it starts with

$$Y_t = \rho Y_{t-1} + u_t - 1 \leq \rho \leq 1$$

Where, u_t is a white noise error term.

It is known that if $\rho = 1$, that is, in the case of the unit root, becomes a random walk model without drift, which we know is a non-stationary stochastic process. This is the general idea behind the unit root test of stationarity.

Augmented Dickey Fuller Test

In conducting the DF test, it was assumed that the error term u_t was uncorrelated. But in case the u_t are correlated, Dickey and Fuller have developed a test, known as the **augmented Dickey-Fuller (ADF) test**. This test is conducted by "augmenting" the preceding equation by adding the lagged values of the dependent variable ΔY_t . The ADF test here consists of estimating the following regression:

$$\Delta Y_t = \beta_1 + \beta_2 t + \delta Y_{t-1} + \sum \alpha_i \Delta Y_{t-i} + \epsilon_t$$

Where, ϵ_t is a pure white noise error term and

$$\Delta Y_{t-1} = (Y_{t-1} - Y_{t-2}),$$

$$\Delta Y_{t-2} = (Y_{t-2} - Y_{t-3}), \text{ etc.}$$

The number of lagged difference terms to include is often determined empirically, the idea being to include enough terms so that the error term is serially uncorrelated. In ADF it will still be tested whether $\delta = 0$ and the ADF test follows the same asymptotic distribution as the DF statistic, so the same critical values can be used.

Philips - Perron Test

When the data is not normally distributed PP Unit Root Test gives

a better and accurate result compared to ADF test. Therefore present study also undertakes PP test to check the stationarity of the data as the data is not normally distributed. An important assumption of the DF test is that the error terms u_t are independently and identically distributed. The ADF test adjusts the DF test to take care of possible serial correlation in the error terms by adding the lagged difference terms of the regressand. Phillips and Perron use nonparametric statistical methods to take care of the serial correlation in the error terms without adding lagged difference terms. Since the asymptotic distribution of the PP test is the same as the ADF test statistic.

Granger Causality Test

The existence of a relationship between variables does not prove causality or the direction of influence. But in regressions involving time series data, the situation may be somewhat different because, as one author puts it time does not run backward. That is, if event A happens before event B, then it is possible that A is causing B. However, it is not possible that B is causing A. In other words, events in the past can cause events to happen today. This is roughly the idea behind the so-called Granger causality test. But it should be noted clearly that the question of causality is deeply philosophical with all kinds of controversies. The econometrician Edward Leamer prefers the term **precedence** over causality. Francis Diebold prefers the term **predictive causality**.

There are several things that need to be noted before conducting Granger causality test:

- It is assumed that the two variables are stationary.
- The number of lagged terms to be introduced in the causality tests is an important practical question. As in the case of the distributed lag models, the Akaike or Schwarz information criterion may be used to make the choice. But it should be added that the direction of causality may depend critically on the number of lagged terms included.
- It is assumed that the error terms entering the causality test are uncorrelated.
- Since the present study is interested in testing for causality, one need not present the estimated coefficients of models.

Engle Granger Test

Two non stationary series are co-integrated if they tend to move

together through time. In time series, each series is said to be integrated of order 1" or I(1). If the two non-stationary series move together through time then it is said that they are co-integrated. Economic theory would suggest that they should be tied together via arbitrage, but that is no guarantee. In this context, testing for Cointegration amounts to a test of the substitutability of these assets.

The basic test is very simple. Regress one I(1) variable on another using least squares. If the series are co-integrated, the residuals from this regression will be stationary. This is verified using Augmented Dickey-Fuller test (ADF). The null hypothesis is that the residuals are non stationary, which implies that the series are not co-integrated. Rejection of this leads to the conclusion that the series are co-integrated. The co-integration function in Gretl carries out each of the three steps in this test. First, it carries out a Dickey-Fuller test of the null hypothesis that each of the variables listed has a unit root. Then it estimates the co-integrating regression using least squares. Finally, it runs a Dickey Fuller test on the residuals from the co-integrating regression. This procedure, referred to as the Engle-Granger Cointegration test.

Result and discussion

From descriptive statistics as shown in Table 1 it can be interpreted that during the whole study period from 2005 to 2011 an investor gained higher returns from emerging markets especially India and Russia. India gave highest average returns to an investor but if the investor was ready to undertake risk then he could get maximum returns from Russia. The median return of all emerging countries was higher than the developed countries during the whole study period from 2005 to 2011. Amongst all the emerging and developed markets Russia was more risky followed by Brazil, China and India. The standard deviation is lowest in US and it also offers very minimal average returns of -0.01 compared to emerging countries. The coefficient of variation indicates that the markets of emerging countries show high volatility compared to developed countries. Kurtosis indicates a height or peakedness of the returns. Table 1 shows higher kurtosis in Russian market because the difference in the minimum and maximum returns is highest in Russia. The developed markets of US, UK and Japan performed the worst with negative returns reflecting the downturn in these economies in the near past.

Table 1: Descriptive statistics from the year 2005 to 2011

Variable	Mean	Median	Minimum	Maximum	Std. Dev.	C.V.	Kurtosis
India	0.0724	0.09916	-10.9564	17.3393	1.76339	24.327	9.0141
Brazil	0.0400	0.01673	-11.3931	13.4262	1.87884	46.963	5.0214

Russia	0.0253	0.13759	-19.1031	22.3896	2.45172	96.724	11.220
China	0.0401	0.07060	-8.84069	9.45491	1.85279	46.186	3.2261
US	-0.011	0.04361	-7.87328	10.8779	1.31666	115.52	7.7330
UK	-0.007	0.01088	-7.85294	8.83811	1.33150	171.67	5.8720
Japan	-0.014	0.01464	-11.4064	14.1503	1.64791	110.03	9.1850

ble shows correlation between the return of India stock market with emerging stock market and developed stock market at 5% level of significance. The p-value and t-test statistics are 0.05 and 0.05 respectively. The hypothesis is rejected at 95% confidence level. The correlation between India stock market and emerging stock market and correlation between India stock market and developed stock market is significant. It can be depicted that the correlation between India stock market and emerging stock market is weak and developed stock market is weak. Lower the correlation the more it is for the investor to take advantage of portfolio diversification (Spiegel & Pappas 1992). The correlation between India stock market and China (0.235) and India stock market and US (0.235) is weak. This indicates that the investors of USA and China are not more interested in investing in India and vice versa. The correlation between India stock market and Russia is highest at 0.428 followed by India stock market and UK at 0.402. This implies that the investors in Russia and UK could reap as much benefit from India as the investors of China and UK.

Table 2 : Pair-wise Correlation of India with other countries

Variables	Correlation	Significance	Strength
India-Brazil	0.279	0.000	Weak
India-Russia	0.428	0.000	Weak
India -China	0.235	0.000	Weak
India-US	0.235	0.000	Weak
India-UK	0.402	0.000	Weak
India-Japan	0.379	0.000	Weak

The stationary test in Table 3 reveals that for the rate of return of India, Brazil, Russia, China, US, UK and Japan at (Level) it can be seen that ADF test statistics is statistically significant. In this case alone intercept is not statistically significant. In case of both intercept and trend co-efficient together are statistically not significant. For none, Akaike Information Criterion & Schwarz Criterion are minimized at a time and series is considered as stationary. There is no need to go for I(1) & I(2) as series is stationary at I(0). So for the whole study period from 2005 to 2011 the time series data of returns of all the stock market under consideration is stationary at level I(0). The result of Philips-Perron test is similar to ADF test.

Table 3 : Augmented Dickey Fuller (ADF) Test from 2005 to 2011

India at I(0)	ADF	P-value	AIC	SC
Constant	-15.13646	0	3.970316	3.996891
Constant and Trend	-15.19484	0	3.970549	4.00092
None	-15.04401	0	3.970714	3.993492
Brazil at I(0)				
Constant	-23.77134	0	4.098216	4.113375
Constant and Trend	-23.82716	0	4.098085	4.117034
None	-23.75486	0	4.097382	4.108751
Russia at I(0)				
Constant	-6.7165	0	4.627194	4.70758
Constant and Trend	-6.826899	0	4.627558	4.711772

None	-6.715552	0	4.625767	4.702325
China at I(0)				
Constant	-17.97949	0	4.067911	4.090676
Constant and Trend	-17.99787	0	4.068832	4.095391
None	-17.95992	0	4.067013	4.085984
US at I(0)				
Constant	-42.08339	0	3.375081	3.382652
Constant and Trend	-42.07089	0	3.376455	3.387811
None	-42.09536	0.0001	3.373722	3.377508
UK at I(0)				
Constant	-29.50124	0	3.404053	3.415416
Constant and Trend	-29.49683	0	3.405336	3.420486
None	-29.51035	0	3.402647	3.410222
Japan at I(0)				
Constant	-30.21843	0	3.822809	3.834171
Constant and Trend	-30.25218	0	3.823077	3.838227
None	-30.22483	0	3.821481	3.829056

Table 4: Philips-Perron (PP) Test from 2005 to 2011

India	PP	P-value	AIC	SC
Level				
Constant	-36.55278	0	3.972914	3.980485
Constant and Trend	-36.58141	0	3.973312	3.984668
None	-36.50468	0	3.973199	3.976984
Brazil	PP	P-value	AIC	SC
Level				
Constant	-38.94104	0	4.10083	4.108401
Constant and Trend	-39.09087	0	4.101002	4.112358
None	-38.91568	0	4.099879	4.103665
Russia	PP	P-value	AIC	SC
Level				
Constant	-35.12573	0	4.631094	4.638665
Constant and Trend	-35.14748	0	4.63093	4.642286
None	-35.13781	0	4.629743	4.633528
China	PP	P-value	AIC	SC
Level				
Constant	-38.85552	0	4.072019	4.07959
Constant and Trend	-38.86084	0	4.073001	4.084357
None	-38.84898	0	4.071072	4.074857
US	PP	P-value	AIC	SC
Level				
Constant	-42.11299	0	3.375081	3.382652
Constant and Trend	-42.10084	0	3.376455	3.387811
None	-42.1246	0.0001	3.373722	3.377508

UK	PP	P-value	AIC	SC
Level				
Constant	-38.83657	0	3.411865	3.419435
Constant and Trend	-38.83166	0	3.41317	3.424526
None	-38.8497	0	3.410449	3.414234
Japan	PP	P-value	AIC	SC
Level				
Constant	-41.72346	0	3.829192	3.836762
Constant and Trend	-41.7899	0	3.829641	3.840997
None	-41.73188	0	3.82784	3.831626

The Granger Causality test is conducted to find out as to which stock market influences the returns of the other considered stock markets during the whole study period from 2005 to 2011 with 1383 observations. The test is conducted pair wise for the returns of all considered stock market with India and of India with other considered stock market. The null hypothesis of all the pairs is as shown in Table 5. In whole study period the optimal lag length found out by the Vector Auto Regression (VAR) lag order selection method is 23 for all considered stock market. On the basis of this the results of test are shown for each pair in the Table-5. Thus in case of emerging stock markets India influenced Brazil and Russia, and India was being influenced by Brazil, Russia and China. In case of developed stock market India influenced US and Japan and India was being influenced by US and UK. Therefore from result of granger causality it is clear that there exist short run co-integration of Indian stock market with emerging stock markets and developed stock markets in the whole study period from 2005 to 2011.

Table 5 : Granger Causality Test VAR System Maximum Lag Order 23

Null Hypothesis	Obs	Lag	F Statistics	P value	Inference
Ret_Brazil does not Granger Cause Ret_India	1372	11	8.78826	0.00000	Reject
Ret_India does not Granger Cause Ret_Brazil	1372	11	2.65274	0.00230	Reject
Ret_Russia does not Granger Cause Ret_India	1368	15	2.39342	0.00202	Reject
Ret_India does not Granger Cause Ret_Russia	1368	15	2.08848	0.00848	Reject
Ret_China does not Granger Cause Ret_India	1378	5	3.18367	0.0073	Reject
Ret_India does not Granger Cause Ret_China	1378	5	1.6121	0.15374	Accept
Ret_US does not Granger Cause Ret_India	1377	6	2.85565	0.00909	Reject
Ret_India does not Granger Cause Ret_US	1377	6	26.7726	0.00000	Reject
Ret_UK does not Granger Cause Ret_India	1381	2	21.834	0.00000	Reject
Ret_India does not Granger Cause Ret_UK	1381	2	1.18049	0.30744	Accept
Ret_Japan does not Granger Cause Ret_India	1378	5	1.82622	0.10473	Accept
Ret_India does not Granger Cause Ret_Japan	1378	5	11.2283	0.00000	Reject

The Engle Granger test is conducted to find out co-integration of the returns of Indian stock market with emerging stock markets and developed stock markets. The basic requirement of the co-integration test is that each time series variable should be stationary at first level difference or order 1 denoted as $I(1)$. But the data series in the present study are stationary at level 0 denoted as $I(0)$. So the Engle Granger co-integration test could not be conducted because variables of same order and at order 1 can only co-integrate each other. Thus in present study the time series data of each stock market return cannot co-integrate each other. Hence there is no co-integration of Indian stock market returns with the emerging stock market returns and developed stock market returns.

Conclusion

The main objective of the study was to examine the co-integration of Indian stock market with emerging stock markets and developed stock markets. First Karl Pearson Correlation test was conducted to find out the strength of relationship of all the considered stock market returns with Indian stock market returns. The results revealed that there exists very weak correlation between India and emerging countries and India and developed countries. Weak correlation indicates that investors can take advantage of portfolio diversification by investing in either of the markets and earn returns. The result of Granger Causality test shows that there is bi-directional granger causality between India-Brazil, India-Russia and India-US. There is unidirectional granger causality between India-China, India-UK and India-Japan. Thus there is short run relationship of Indian stock market with emerging stock markets and developed stock markets during the study period. The Engle Granger co-integration test result revealed that there is no co-integration of Indian Stock Market with emerging stock markets and developed stock markets which indicates that there is no dependence of either stock markets on each other. Absence of a co-integrating concludes that in the long-run, stock prices are not driven by a common international risk factor in all markets.

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Green Finance

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Abstract

Concept of green finance can be regarded as innovative in the field of Finance. The term describes a broad range of funding for environment-oriented technologies, projects, industries or businesses. The principal objective of this paper is to study what green finance is all about and would verify if this concept is feasible in India for balancing the ecological depreciation due to adjustment of carbon gases in atmosphere. Green finance is a core part of low carbon green growth because it connects the financial industry, environmental improvement and economic growth and all these are essential for country like India to sustain in the long run. Along with this green growth is an economic growth paradigm that simultaneously pursues growth and improvement of environment by driving growth and job creation through R&D in clean energy and green technology, conserving and efficiently using energy and resources and mitigating climate change and environmental degradation. Green Finance is market based investing or lending program that factors environmental impact into risk assessment, or utilizes environmental incentives to drive business decisions. In general, three broad, related drivers and trends are behind the emergence and growth in "green" product and service demand, they are, environmental knowledge and media coverage; environmental awareness and public opinion; and environmental regulation and legislation which needs to be duly taken care off. Through this paper, the authors have tried to explain the concept with detailed exposure to Indian framework. In India, SIDBI has taken various initiatives to promote lending for green and efficient technologies in MSME sector.

Key Words : Green finance, green technology, green finance interface, environmental incentives

Prologue to green finance

There is no internationally agreed definition of green finance. The term describes a broad range of funding for environment-oriented technologies, projects, industries or businesses. A more narrow definition of green finance refers to environment-oriented financial products or services, such as loans, credit cards, insurances or bonds. Green investing recognizes the value of the environment and its natural capital and seeks to improve human

well-being and social equity while reducing environmental risks and improving ecological integrity. Other terms used to describe green finance include "environmentally responsible investment" and "climate change investment".

Green Finance is a market-based investing or lending program that factors environmental impact into risk assessment, or utilizes environmental incentives to drive business decisions. In India, SIDBI has taken several initiatives to promote lending for green and energy efficient technologies in MSME sector. SIDBI has been operating focused lending schemes for promoting investment in clean production and energy efficient technologies or production process under bilateral Lines of credit from Germany and Japan. These focused schemes have two pronged approach, i.e. concessional lending to encourage investment in green or energy efficient technologies and launching of cluster specific information dissemination.

Since the global financial crisis and economic recession, green growth has been drawing global attention as one of the new economic growth engines, which can achieve both environmental protection and economic development. In this respect, green finance is the core instrument to support green growth. In general, green finance is future-oriented, which pursues economic growth, environment protection, and financial industry's development. Particularly, the green finance is one of "targeted financing" since it is focused on green economic activities such as export financing, financing for small and midsize firms, and financing for the IT venture industry. The green finance can be divided into two parts:

- The finance to supporting green growth
- The finance to prevent environmental costs.

Objectives of Green Finance

- Establish and secure funding for green industries and green growth
- Support low carbon green growth by developing new financial products
- Attract private investments to build and sustain green infrastructure

- Strengthen corporate disclosure of green management practices and expand financial support for those businesses that apply them
- Set up markets for environmental goods and services, such as carbon markets featuring carbon credits.

Objectives of the paper

1. To understand the concepts of Green financing and its implications in India.
2. To understand the various policy options that can improve the regulatory landscape to overcome investment challenges in green financing.
3. To understand through case-based study, the implications and experience of implementing green finance.

Green technology

Green Technology is the technology to support green growth by conserving energy and resources in various social and economic activities with environment enhancement. i.e. Green House Gas reduction technology that minimizes GHG pollutant emission, energy efficiency technology, clean energy production technology, resource recycling, and eco-friendly technology (including relevant convergence technology)

How it works

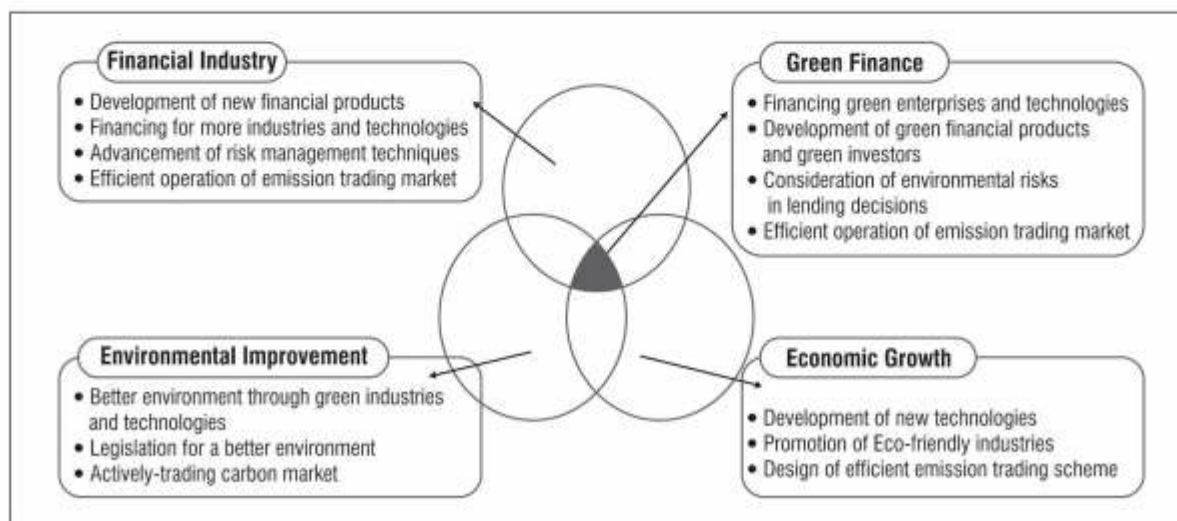
Green industries and technologies are all at different levels of maturity, thus, requiring different levels of funding from different sources of capital. There are generally three sources:

- Domestic public finance
- International public finance &
- Private sector finance

Domestic public finance refers to the direct funding by a government while international public finance refers to funding from international organizations and multilateral development banks; private sector finance consists of both domestic and international funding sources. Green financing can be packaged in different ways through various investment structures.

Green finance is a core part of low carbon green growth because it connects the financial industry, environmental improvement and economic growth (Figure 1): "One missing link between 'knowing' and 'doing' in the transition to green industry is 'green finance'. All green industrial propositions cost money, and many green industry business models are more often than not untested or unconventional. Therefore, traditional finance may find it difficult or commercially unattractive to finance these green industrial propositions."

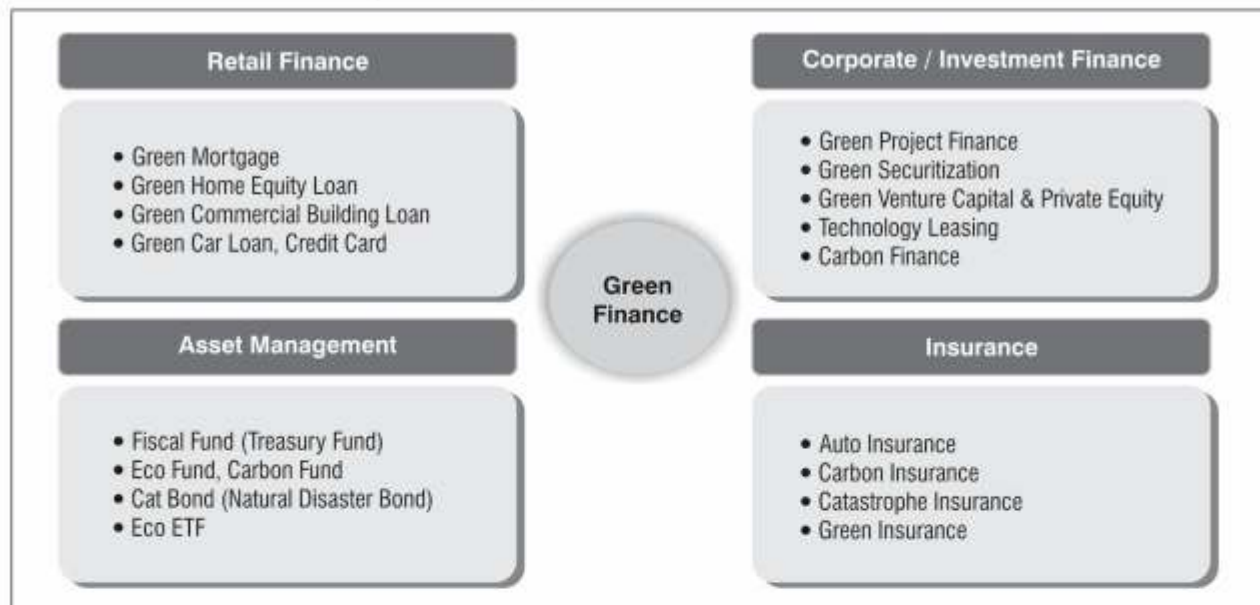
Figure 1: Green Finance Interface



(Source: Jin Noh Hee, Financial Strategy to Accelerate Innovation for Green Growth, 2010)

Green Financial Products in Developed Countries

Figure 2 : Wide Spectrum of Green Financial Products



(Source: Jin Noh Hee, Financial Strategy to Accelerate Innovation for Green Growth, 2010)

Green finance spans many sectors and products (Figure 2). Three categories for green finance are:

- Infrastructure finance
- Financial assistance for industry or firms
- Financial markets.

Green financing related to climate change includes mitigation and adaptation investments. Many private investors perceive the risks of environmentally sustainable projects as not justified by the expected returns. Public financing mechanisms can tilt this balance in favour of perceived profitability; for example, by offering soft loans or guaranteeing loans from private banks. Public funding can help spur private investment.

Even if public investment is small relative to private funds, it can catalyze corresponding private-sector activities. Direct government financing for green growth can also take place through sustainable public procurement and eco-efficient investment in public buildings and enterprises.

Generally, Government of India can pursue the following objectives through green financing measures:

- Establish and secure funding for green industries and green growth.
- Support low carbon green growth by developing new financial products.
- Attract private investments to build and sustain green infrastructure.
- Strengthen corporate disclosure of green management practices and expand financial support for those businesses that apply them.
- Set up markets for environmental goods and services, such as carbon markets featuring carbon credits.

Strengths of green finance

- **Promotes technology diffusion and eco-efficient infrastructure:** Investment in environmentally sound technologies, such as clean energy may help bring down their costs and expedite wider technology diffusion. Developing countries can avoid the development model of "grow first, clean up later" because a great part of the green investment flows into infrastructure. This situation provides the opportunity for a country to leap ahead to eco-efficient infrastructure. The responsibility then falls on

governments to develop infrastructure that will result in better long - term management of resources, which will in turn increase a country's competitiveness and channel private-sector capital into domestic green markets.

- **Creates comparative advantage** : Low carbon green growth may inevitably change from the current voluntary nature to a mandatory strategy in response to the rising pressures emanating from climate change and other environmental and economic crises. Expanding green finance today will mean a comparative advantage once environmental standards become stricter.
- **Adds value**: Businesses, organizations and corporations can add value to their portfolio by enhancing and publicizing their engagement in green finance. Thus they can give their business a green edge and thereby attract more environmentally conscious investors and clients alike.
- **Increases economic prospects** : Governments promoting green finance help buffer their societies against the time when resources become scarce by establishing and promoting domestic markets for alternative resources and technologies. They increase their economic prospects further by dipping into the new markets that possess great potential for employment generation. Because governments are primarily interested in maximizing the welfare of multiple generations, green financing mechanisms are particularly appealing in that they foster projects and developments that bear sustained benefits, especially in the medium and long terms.

Challenges to green finance

- **Present and projected Competitiveness**: Private investment in green growth in developing countries is constrained by both activity-specific and country-specific barriers that adversely affect the attractiveness of such investments, both in terms of investment returns and risk management. Increasing private investment in green growth will depend on the extent to which these investments become attractive relative to other opportunities, both domestically and internationally. Because international investors can look across different countries for opportunities, governments may need to implement a series of public interventions to make green investment opportunities more attractive.
- **Mispricing and no pricing of risks** : The overall investment and policy environment of a country contributes to its effectiveness in attracting private investors. The capital markets in some countries are not effective in pricing green growth-related risks. The extent to which the market misprices these risks or refuses to price them represents a barrier. In general, these risks include those associated with new technologies or

processes that are not well understood and those related to the design, stability and transparency of domestic policies.

- **Market distortions and shortcomings** : As long as subsidies for fossil fuels and the failure to internalize environmental externalities continue to distort the market price of energy, investment in green energy will have a hard time yielding attractive returns for investors. Adding to that is the limited number and diversity of green finance products and respective markets in which they can be traded.
- **Competing objectives** : While private investors aim to maximize the risk-adjusted returns for their investments, public green finance providers seek to achieve the highest possible environmental improvement and host-country policymakers are interested in achieving the best development prospects.
- **Limited capital and limited awareness** : Many small and medium-sized businesses are characterized by limited liquidity and access to capital, which hinders their participation in the green financing sector. The prevailing myopic time horizon of business strategies, which ignore benefits of green industries that lie in the far future, is another fundamental hurdle to private investments. Adding to that is the lack of experts who understand the complex relationship between environmental issues and financial markets.
- **Regulatory gaps** : Another barrier to the expansion of green finance is the gap in adequate regulatory and technical infrastructure to measure, assess and analyze green business strategies and financing.

Implementing strategies

Although there is no single best solution for the various situations and projects that demand green financing, there exist a number of interventions and measures that may be appropriate for common constraints and levels of development. In general, when businesses compare enabling environments for trade and investment, they look for: macroeconomic stability, potential for conflict and the degree of good governance, among other factors. Public interventions must address these topics and be applied in a manner that is transparent, long lasting and consistent if they want to stimulate private investment.

The following describes the various policy options that can improve the regulatory landscape to overcome investment challenges:

- **Information-building policy** : Consumers, producers and investors all need to understand the positive economic and environmental effects of low carbon green growth. It is important they realize that this strategy poses an opportunity rather than a burden and that it will most likely transform from a voluntary path to a mandatory one in the long run. To improve the transparency

needed for promoting a green financial market, impetus along the lines of corporate social responsibility needs to be expanded, such as the Carbon Disclosure Project or the UN Principles for Responsible Investment. It is also important to adopt stringent verification schemes for green technologies and green businesses to avoid confusion among consumers, to ensure that only those companies benefit from the green industry image that are truly part of it and to provide investors with the necessary information to make prudent investment choices.

- **Environmental regulations** : Environmental regulations include pollution standards and controls, public disclosure of information about environmental impacts, elimination of implicit subsidies for environmentally harmful or unsustainable growth (such as land use controls, building standards, land use planning, protection of natural buffer zones and water management and pricing) and improved sector governance and monitoring.

- **Markets for green finance products and environmental goods and services** : An often-cited example of a green market launched and developed by governments is the carbon market. In many countries so far, an emissions trading scheme was set up first; this included usually the enacting of legislation to govern membership, trading conditions and market surveillance for emissions trading. To ease the transition, governments can introduce pilot projects or voluntary trading schemes first and then slowly move to a mandatory trading system, encompassing lessons learnt from the pilot phase, a legal base shift to "cap and trade" and the diversification of traded products.

- **Public financing**: Because the cost of green investment projects, such as a renewable energy facility, is generally higher than conventional projects, governments should subsidize a portion in order to attract investors. Financing mechanisms include public competitive bidding, public procurement and public loans, grants or funds, like venture capital funds. In 2009, the carbon funds around the world held a total of US\$16.1 billion in assets, which meant a 20 per cent increase compared with the previous year.

- **Government support targets only the early stages of development** : Due to the risks associated with the use of new technologies and their relatively weak stance against the well-established brown technologies, which externalize environmental costs and profit from a fitting infrastructure system and well-developed supply chains, green businesses need government support, especially in the initial stages of their development. However, governments should aim to attract and empower other financial institutions to take over their role as active facilitators of green businesses once they enter a mature stage.

Case summary

Country experience : Green Investment Bank in the United Kingdom

In 2010, the UK Government announced that it would create a Green Investment Bank that will invest in the green infrastructure projects that the market currently cannot adequately accommodate due to fear of the perceived associated risks. In March 2011, the UK Government published a report on several structures and models for a Green Investment Bank. The report notes that the UK Government committed 3 billion pounds in 2011 to fund the bank until 2015. The Green Investment Bank will help accelerate additional investment in the green economy by complementing other green policies already set up by the government. Investments will be made in various sectors, such as renewable energy, transport, waste and water. The Green Investment Bank aims to reach a "double bottom line of both achieving significant green impact and making financial return." The institution is still in its preparation phase and will begin operating in April 2012.

(Source: House of Commons, European Scrutiny Committee, Second Report of Session 2010–11, 2010).

Green finance scheme for industries in India

With a focus on promoting green industries as per the government's new policy, the 12th Kerala Budget has set aside Rs 639.40 crore for various industries, which also includes one-time central grant of Rs 23.44 crore.

To encourage environment-friendly industries, the government will launch a Rs 100-crore 'green finance scheme' for which Rs 10 crore has been allotted initially. The Budget also includes plans to develop an international furniture hub to ensure global standards and international participation in the furniture production units operating in the suburbs of Ernakulam. Rs 6.50 crore has been set aside towards this. Thrust will be on developing traditional industries, handicrafts and industrial parks with investment promotion activities.

Further, to set up a caustic soda plant at Travancore Cochin Chemicals Ltd, Rs 10 crore has been allotted in the Budget as initial support. To develop basic infrastructure for Kinfra projects, Rs 148.79 crore has been offered in this fiscal. They include new projects like Mattannur Industrial Park, Ernakulam Green Field Electronic Park, Palakkad Non-Conventional Energy Park, Eco Industrial Park and Global Ayurveda Village, and the development of basic amenities and land banks for industries in Kochi, Kozhikode and Kannur.

(Source: Times of India "Green Finance Scheme for Industries" 25th January 2014)

Suggestions

The green economy is the way of future which is then becomes inevitable for every country to sustain our planet and to mitigate the effect of global warming. Adopting the green finance requires proactive approach in assimilating international best practices in green financing. The Green agenda includes challenges in strengthening managerial capability, creation of awareness on economic values of technologies and benchmarking quality up to global standards. Here, the bank would likely be required to play an active role as a change agent and engage in activities aligned to government's national priorities which have been initiated by SIDBI in India.

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In the field of retail, who will blow the trumpet: The mighty elephants or the aggressive cubs?

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Abstract

The objective of this study is to understand how the traditional and organised retailers' retail operations can influence the consumption behaviour in the context of the evolving Indian retail industry. The paper attempts to correlate the various store attributes as perceived by Indian consumers in patronising both the types of retail outlets. Through this general review paper one gets to embark on a brief journey during the evolution that has taken place in the retail sector. This will help one to comprehend on how with the entry of the established retailers and their customised product and service offerings, the traditional mom-n-pop stores were also compelled to re-organise themselves so as to not lose out to competitors. In the process, the consumers' are in a win-win situation with each category of retailer stretching himself in an attempt to satisfy their targeted customers' needs better than others. In the paper, through various studies we will be able to gauge an understanding of the existing store attributes inducing positive buying behaviour, likely consumer trends and what strategies need to be adopted by the retailers to meet the expectations of the different segments of customers. This paper seeks to provide insights into the store choice influences on consumption behaviour at different types of retail outlets which can of interest to those in academics as well as managers.

Key words: Retail evolution, organised retailer, traditional retailer, consumer trends.

Introduction

The Indian retail market has been attracting a lot of interest from across the world since the past many years. The market is huge and growing and distinctly structured with the co-existence of both the traditional (un-organised) and organised (modern) retailers. The traditional retailers, who have been running the local mom-n-pop stores are evolving and re-inventing themselves to take on the onslaught of the established organised retailers. Whereas, the modern (organised) retailers are using their might and various formats like supermarkets, hypermarkets etc. to woo the customers. The current economic climate with global repercussions has resulted in financial constraints affecting retail investments as well as consumer spending across many industries including retailing. Yet the debate continuous on who

will blow the trumpet of victory, the mighty (elephants) established organised retailers or the aggressive traditional retailers who are modernising themselves (cubs when compared to mighty modern retailers) all vying for a bigger share of the retail market. This paper examines the Indian retail scenario from the earlier times to as it exists today. Through discussions on the traditional and modern retail operations an attempt is made to develop an understanding of how these could influence consumers' purchase behaviour.

A brief overview of the Indian retail Scenario

In India, the field of retailing has been in existence since ancient times. The early beginning of retailing practices have been traced and mentioned in Kautilya's '*Arthshastra*', during the medieval times some time during 150 AD. In medieval India, trade was a controlled process and commodities and products could be sold only at certain designated markets (Byramjee., 2005). Texts such as *Manusmriti* and *Arthshastra* provided the necessary guidelines on how to deal with customers, location of stores for specific products, the tax structure for retail and wholesale transactions and so on (Sinha and Uniyal., 2013). The barter system was also practised and is considered to be one of the oldest forms of retail trade. In India we have the concept of holding weekly haats', a big market place where buyers and sellers buy and sell things through the process of bartering. In fact, 'haats' along with 'melas' (fairs) and the 'mandis' (a typical market set up by the state governments) continue to operate in many parts of India even today.

Apart from the above there have been many traditional and established retail formats such as the kirana stores (local mom-n-pop stores), convenience / departmental stores, Paan/ beedi shops along with other established organized retail outlets like the Public Distribution System (PDS) outlets, Mother Dairy Fruit and Vegetable Limited (MDF and V), Safal, Khadi and Village Industries Cooperative institutions (KVIC), amongst others that have been carrying out retailing activities since a long time (Bajaj, et.al., 2009). These traditional retail outlets used to follow the 'counter service' concept as 'self service' was not feasible. Boyd and Westfall had commented that during the 1960s not a single supermarket outlet was existing in India (Sengupta, A., 2008).

Subsequently, over a period of time, many counter service stores came up across India and by the turn of the century the number of such outlets reached about 12 million (ibid.p.6). However, a unique aspect of Indian retail is the co-existence of both the traditional (un-organised) retail outlets such as the kirana stores, neighbourhood stores, wet markets, street vendors etc. along with the established organised retail outlets.

Growth of the Organized Retail in India

Today India is seen as an emerging economy and an attractive destination for retailers across the world. Realising the huge market potential in the field of retailing has induced many well known business houses such as the Future Group, Reliance Group, Aditya Birla Group, ITC Group, Godrej Group, J. Raheja Group amongst others to become a part of the organized or modern Indian retail. These organised retailers have adopted various models such as single- format, multi-format or integrated urban-rural model depending upon the target market they are catering to. According to Sengupta's study (2008), the impetus for the growth and evolution of the organised retail in India can be credited to the roles played by the manufacturers, retailers and consumers. This study reveals that between the late 1970s and 1998s due to increase in competition, the unorganised retailers were pressurized by the manufacturers to stock more number of SKUs (stock keeping units). This drove retailers to weigh options on how to make productive usage of the available shelf space, the obvious solution being to switch over to the 'self service' format. The retailers felt that by moving over to the self service format, they are able to utilize the available space to stock and display more items, giving consumer the freedom to browse and purchase products and brands of his choice, resulting in consumer satisfaction and increase in sales. Evolving shopping behaviour displayed by consumers who have huge disposable income but face paucity of time, preferring to make purchases at outlets where they get value added and quality products with a touch-n- feel factor , show a preference to shop at modern (organized) outlets which permits this.

In India, the expansion in the organised retail has been visible through the emergence of modern large scale formats such as supermarkets, speciality stores, chain stores, department stores, hypermarkets, factory outlets, discounters and malls. A unique distinction of the mall culture as it exists in India is the combination of high value outlets as well as mass brands outlets under the same roof (mall) to cater to various categories of customers. Nevertheless, even though many malls are coming up across the country, the long term sustainability will greatly depend upon whether they are able to satisfy Indian consumers' value- for- money proposition (Srivastava, 2008).

Although the retail market in India is highly fragmented and un-

organised, in the twentieth century, infusion of some of the western concepts by certain retailers brought about structural changes more in line to the organised format. For example, traditional retail chains like Nilgiris (in South India) and Akbarallys (in Western India) started operating in the supermarket concept format. The other initiatives included the emergence of shopping centres/ complexes (similar to the malls of today) which became popular shopping destinations for consumers. The government set up the public distribution systems (PDS) outlets to sell subsidised food items and the Khadi Gram Udyog to sell clothes made out of cotton fabrics (Dun & Bradstreet, 2009).

D&B India developed retail insights based on data collected from 123 respondent companies and various secondary sources (Dun & Bradstreet, 2009, 'Retail Insights'). The study revealed that though the organized retail market was dominated by apparel and textile segments, other categories such as food , grocery and beverages, home decor and furnishing, footwear, jewellery, consumer durables, electronics, health , beauty and pharmaceuticals to name a few, it also attracted retailers who wanted to taste economic prosperity. The target market of the organized retailer's typically belonged to the working population (in the age-group of 15-49 years of age), who were more dynamic when compared to the earlier generation, thriving on lifestyle products and whose consumption pattern is more driven by wants than needs.

The Indian retailing scenario is at an interesting phase today. The consumer is enjoying and delighted when required to select from a plethora of choices while the retailer has to work towards building the 'brand', which in turn will depend on the customers' preferences. Certain key trends (India Retail Trends, 2014), likely to impact the India Retail sector in 2014 are given below:

- Of the total retail market, only 8-10 % is occupied by organized retailers. Added to this, 200+ million urban consumers with purchasing power are proving to be an additional inspiration for many global retailers who are aspiring to be a part of the growing retail sector.
- Annual household income has been increasing, in 2005 this was \$ 2632, which is estimated to rise to \$ 3823 by 2015 and further increase to \$ 6790 by 2025.
- Falling communication costs, increase in internet and broadband penetration, rise in credit card and debit card usage with higher value limits of spending.
- Wider acceptance of online transactions (purchases) with the availability of cash payment on delivery.

For over a decade, the Indian organized retail market has been witnessing a consistent growth phase, maintaining a share of about 30 per cent of the GDP at the current prices (India Retail

Report, 2011,). The change in the organized market scenario from 2006-2007 periods onwards is presented in Table 1.

Table 1: The Changing Indian Retail Market Scenario

At Market prices	2006-07	2007-08	2008-09	2009-10	2010-11 (estimated)	2011-12 (estimated)
Indian Retail Market (in Rs. crore)	1309764	1504502	1731743	1948916	2221764	2555029
Growth (in percent)		14.9	15.1	12.5	14	15
Indian Retail Market (as percent of private consumption)	52.9	53.3	53.7	53.3	53.7	53
Organized Retail Market (in crore)	78300	90000	105000	126680	158603	206500
Growth (in percent)		14.9	16.7	20.6	25.2	30.2
Organized Retail Market (as percent of GDP at market prices)	1.8	1.8	1.9	2.1		
Organized Retail Market (as percent of private consumption)	3.2	3.2	3.3	3.4		
Organized Retail Market (as percent of total retail market)	6	6	6.1	6.5	7.1	8.1

(Source : IRIS primary research, India Retail Report 2011, p.25)

The organized retail market, which is said to be around 8 percent of the total retail market is expected to grow much faster than the unorganized market and gain a larger share (20 percent) of the whole market by the year 2020 (India Retail Market, Deloitte, 2013). It is seen that in spite of the growth of the organized or modern retail sector, its share only marginally rose in the total retail, from 6% in the 2006-08 period to 6.5% in the 2009-10 period (Table1). This can probably be attributed to the slowdown generally impacting the retail sector which in turn affected the projected estimations.

The India Retail Report 2013 has indicated that the India retail market showed growth during the 2010-12 periods. This report reveals that the Indian retail industry experienced a growth of 10.6% between 2010 and 2012 and is expected to increase to USD 450 billion by 2015. It is likely that with economic growth more of the Indian population will get included into the consuming classes and thus organized retail will be able to attract more consumers into its fold. McKinsey Report (2008), states that with over 300 million shoppers likely to patronize organized retail, by 2015 a five-fold growth i.e. a 14-18 % of the total retail market can be expected.

Experts and analysts associated with the retail industry have a universal opinion that organized retailing has arrived here to stay and will evolve in a big way in the future. It is a dynamic and fast paced industry contributing about 10 per cent to the country's GDP and generating around 8 per cent of employment. The growing appetite for consumption and the increasing aspiration levels of the Indian population is likely to trigger a higher growth path for retail. (Gokhale, 2011). Of course, certain issues related to FDI (foreign direct investment), a strong backward infrastructure and supply chain management need to be addressed, for these can have an impact on the industry.

Unorganized retail market

The Indian retail sector is highly fragmented with a major proportion of business being carried out by unorganised retailers such as the neighbourhood stores or the traditional family run stores. Of the total retail market about 92 per cent is still dominated by the unorganised retailers (Deloitte, 2013). This unorganised market consists of a large number of small retailers typically the local kirana shops, owner manned general stores, chemist shops, footwear shops, apparel shops, paan and beedi shops, street hawkers, push carts or mobile vendors etc. Many of these unorganised retailers operate their shop in less than 500 square feet of area. Unorganised retailers do not pay taxes and many of them are not even registered for sales tax, income tax or VAT. The unorganised retail outlets generally sell unbranded merchandise. These local kirana shops are popular among consumers because of being conveniently located, offer local produce and merchandise with personalized service. The unorganised retail sector has been able to generate employment to a large number of people across the country. A retail outlet in an unorganised sector is able to feed about six to seven members of a household and is the lifeline of scores of people in semi urban and urban India.

As already mentioned earlier the Indian retail industry has seen phenomenal growth since 2001 with the onset of the organised retailers adopting various formats such as supermarkets, hypermarkets, discount stores, and so on. However, this does not mean the end of the un-organised sector. In fact, the popularity of the unorganised sector will ensure that they continue to co-exist along with the organised retailers.

Expected consumer trends in future

Given below are few studies which will throw light on the changes occurring in the Indian consumer behaviour towards retailing.

- PwCs Global and Retail and Consumer Practice in conjunction with the International Survey Unit (ISU) had administered a global survey to analyze consumers shopping behaviors and the usage of different retail channels across 15 territories across the world including India This survey (Nath and Verma, 2014), involved 1000 respondents each from every territory. The Indian retail sector has come a long way from neighborhood stores days to co-exist with organized retailers and today with online retailing gaining popularity, consumers are happy and comfortable indulging in multichannel shopping. A majority of the respondents when asked the reason for shopping with their favourite retailer or brand in- store, stated that loyalty in the true sense took place because of the element of 'trust' which was developed with the retailer. This trust factor is closely followed by price, merchandise and the location of the stores, says the study.
- A study was carried out by RAI (Retailers Association of India) and KPMG of India to identify the key emerging consumer segments and what moves are to be taken by retailers to successfully target and tap these consumer targets. The study broadly identified seven emerging consumer segments: First time users, Bottom of Pyramid, Time starved, Emerging affluent, Value conscious, Online consumers and Rurban consumers.

Table 2 : Emerging Consumer Trends, Drivers and Retailer Strategy

Emerging consumer trends	Drivers of consumption	Retail strategy to influence
First time users	High aspiration value and significant input from influencers.	Keep aspiration value alive and generate word of mouth publicity, to maintain 'attractiveness' quotient.
Bottom of pyramid	Increase in media penetration and brand exposure resulting in growing aspiration.	Adopt a pull strategy, introduce customized offerings to match the BoP segments needs.
Time starved	Rapid urbanization, lifestyle changes, seeking value from quality of service.	Emphasis on better service and value 'convenience'.
Emerging affluent	Need to 'stand out' and be 'served differently' from masses.	Offer high quality, variety and exclusive brands.
Value conscious	Less brand conscious, purchase in bulk and actively look out for deals.	Targeted marketing, promotions and sales discounts.

Online consumers	1) Evolving purchase basket, driven by value consciousness and convenience. 2) Growing aspirations, incomes and increase in internet penetration in smaller cities.	1) Offer the right value proposition in various categories 2) Ensure time delivery and timely refunds to enhance customer satisfaction.
Rurban (*)consumers	Growing aspirations of the underserved Rurban market, growing brand consciousness, adopting newer channels of purchase.	Cater to 'strong' local tastes by suitably modifying the product, marketing and supply chain.

(Source: RAI-KPMG in India survey, 2014).

(*Rurban markets refer to locations other than top tier cities that are largely untapped and home to a majority of the Indian market.)

In an emerging market like India, 'Income' becomes the most important driver for consumption (McKinsey & Co. Report, 2008). This study identified five distinct consumer segments based on real annual disposable income.

- **Globals:** The richest people in the country who can afford a global lifestyle and are earning a disposable income of over Rs. 1 million per annum.
- **Strivers :** Highly successful people in cities, towns and villages with an annual disposable income of Rs. 500,000 to Rs. 1 million per household.
- **Seekers :** This segment consists of the most varied economic group including newly recruited (fresh out of college) employees, traditional white collared employees, mid level government officials, medium scale businessmen and traders. This group have an annual disposable income of Rs. 200,000 to Rs. 500,000 per household.
- **Aspirers :** People belonging to this segment have an annual disposable income of Rs. 90,000 to Rs. 200,000 per household and spend about half their earnings on basic necessities. This segment includes small shop keepers, farmers and low skilled workers from industries.
- **Deprived :** This group consists of the poorest households in the country, with each household earning less than Rs. 90,000 as annual disposable income and barely able to make their two ends meet.

This McKinsey study contended that only the top three consumer segments- globals, strivers and seekers comprising of about 14 million households (in 2006), have the income, attitude and confidence to become potential shoppers and patronise organised retail.

The unorganised versus the organised retailers

One has to take into consideration consumers' choice of store decision to understand the 'why' of him having decided to purchase from an unorganised retail outlet or from any of the organised format stores.

- Store choice behaviour of shoppers is classified by researchers as a cognitive process (Sinha, Banerjee and Uniyal, 2002). Shopper's decision to purchase from a particular store is influenced by the location, the level of pre-purchase information and the self confidence the customer has regarding the store -about the nature and quality of product and service he is likely to receive at the store. Consumer's familiarity with the store can also help in the reduction of the perceived risk that is likely to occur due to an erroneous purchase and the importance of the product category to the customer (ibid, p.14). According to this study the main drivers for consumers' store choice are: proximity of the store (location), merchandise (availability of many brands to choose from) and service provided by the store. Further, the type of product, age and gender of the shopper can also influence their selection of store. The study found that grocery stores were chosen more on the basis of proximity and long term association with the merchandise and service, consumer durables stores are selected based on merchandise, personal referrals and ambience, while stores selling apparels, books and music are preferred purely on the basis of the ambience.
- A study was carried out to identify major drivers of store (traditional and modern formats) choice behaviour in various product categories, in the context of the evolving Indian retail industry (Sinha and Banerjee, 2004). From the study the researchers wanted to examine :
 - (a) the drivers of choice across various kinds of stores and
 - (b) the important characteristics of the stores they remember post their visit.

The researchers observed that across all categories of stores the drivers of store choice was more basic in nature i.e. utilitarian in comparison to the general impression they formed about the significant features of the stores after they visited the outlet. For instance, the major drivers for selecting the grocery store are closeness to one's residence and the comfort level or personal touch they shared when dealing with the shopkeeper. However, product variety and convenient timings of the store are the primary impressions that they carried away post the visit. Such variance was observed in store choice drivers and post visit impressions in other categories of stores also. The findings of the study in general found that dimensions such as in-store service, trustworthiness, the entertainment value and store design did not impact the store choice. In certain product categories, in store ambience was the only store environment parameter to influence the choice of store, while for all the other dimensions, the utilitarian benefits played significance. This implied that both traditional and new retailers need to note this important parameter in order to build up footfalls to their stores in the future.

- In developed countries almost 80 % of the retail market belongs to organized retailers. However, in India organized retail trade accounts for only 8% of the total market. This clearly indicates the tremendous opportunity for retail sector growth in India. Expected continuous economic growth, changing consumer expectations, demographics mix are all drivers of retail growth and this is witnessed in the transition from traditional retail to organized retailers (Indian Retailing Industry Report, 2012). This holds true more for the younger generation which appreciates the convenience of shopping choices (multi channel stores) coupled with entertainment available at malls, social networking etc. Thus, the organized retail sector is poised to grow in future.
- India has a fast growing market which is large but the basket sizes are small. I.e., Indian shoppers will embrace foreign and westernized brands but are not likely to let go of shopping at the traditional mom-n-pop or un-organized retail outlets (McKinsey & Co. Report, 2008). So, though organized retailers will expand rapidly, the unorganized retailers are also going to make all efforts to hold on to the market and compete alongside with the established modern retailers. India, for some time now has been recognized as one of the most promising and fast growing economy across the world attracting many of the global organized retailers to set up outlets here.
- A majority (about 87 per cent) of India's 640,000 villages have population clusters of 2000 or less. Even though roughly there are about 3.6 million rural retail outlets there is a lack of active marketing or distribution in these small villages owing to the dearth of 'economical' last mile logistics (Shukla

,2006). These rural markets are totally dominated by local and un-organized retailers. This clearly implies the ample opportunities for modern retailers to open outlets to cater to the needs of the rural market.

- Goswami and Mishra, (2009), attempted to study whether the foray of large organised grocery retailing would lead to the closure of millions of kirana shops? The study findings indicated that kirana stores have major disadvantages on all consumer perception scores except location. In the short run since these scores are less important determinants of patronage when compared to location, customers may continue to favour kirana shops. However, in the long run, if they do not focus on factors such as cleanliness, quality, offers, trustworthy sales people etc., they stand to lose out on customer loyalty.

Conclusion

The Indian economy has not been much impacted in spite of the global slowdown and the market is continuing to show positive consumption behaviour. This aspect has caught the attention and interest of many business houses that are aspiring to be a part of the organised retail. This review paper on the Indian retail market revealed that the consumers of today are being pampered with multiple choices of formats to cater to their needs by the established organised retailers, on one side. At the same time, the existing traditional and un-organised retailers are upgrading and modernising their stores and offerings to compete and counter the moves made by the organised retailers. In the current retail market scenario the consumer is truly the 'King and Queen' with both the categories of retailers going all out to woo them. The Indian retail sector is in the growing phase and as competition and competitive moves intensify in the future only time will tell who is forging ahead in the field of retail- the mighty organised retailers or the traditional mom-n-pop stores who have been upgrading their outlets and service offerings.

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An Empirical Study on Consumer Preference for a Supermarket (with special reference to Vadodara city)

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Abstract

Indian retail is witnessing a tremendous growth with the changing demographics and increase in income and quality of life of urban people. With the growth of malls, multiplexes and hypermarkets, the customer is being exposed to a new kind of shopping experience and services that are surely redefining the expectations from shopping. The share of organized retail in total retail market in India is growing. Many domestic as well as global players have already entered in this market. Competition among the organized retailers is high. Organized retailer's focus is on creating consumer preference for the retail stores. This paper, presents an exploratory analysis of the consumer's preference for choosing a retail supermarket in the Vadodara City.

Key Words: Consumer Preference, Organized Retail, Supermarket.

Introduction

One of the major developments that has taken place after liberalization is the entry of organized retail stores, specially supermarkets in different parts of India. This is well supported by researchers and journals, who pointed out that the size of organized retail in India, remained at 3% and there is enormous scope for improving the share of organized retail in the market. The country witnessed the entry of a number of big retail stores, established by some of the leading Indian industrial houses like Reliance and Tatas. The organized retail food and grocery stores make constant efforts to induce customers to visit the store by discount offers. Most of these stores believe in creating not just a marketing activity with its customers, but rather favor relationship building with them so as to convert first time customers into regular clients. They provide better parking facilities to customers and the facility to examine the product. They also offer a wide range of payment options to customers. India is currently the twelfth largest consumer market in the world. According to a study by McKinsey Global Institute, India is likely to join the premier league of the world's consumer markets by 2025 improving its position to the fifth. But this growth is not going to happen in a smooth way. Any change always comes up with some friction and Indian retail sector may witness the same friction. Indian retail sector is still in its nascent stage, if we

consider its full potential.

Literature Review

Martineau (1958) categorized store attributes in two main categories: functional and psychological. The functional category includes attributes like location, assortment of products and store layout. The psychological category represents the feelings generated by the functional elements of the store. The former category has gained more attention in the subsequent research into store choice than the latter.

Doyle & Fenwick (1975) proposes that price, product variety, one-stop shopping, quality, location of the store, advertisement, general appearance of the store and convenience are some major attributes looked upon by the consumers while evaluating a grocery store.

Seth (1981) explained the competitive structure of the retail markets, the corporate image of the retailers, and the marketing activities influence the retailer's accessibility.

Brennan (1991) in his view on strategies adopted by the retailers opined that providing specialized services, offering better quality products and improved customer services were the most successful strategies, on the other hand increasing sales and promotions, lowering prices and increasing advertising were least successful.

Shaw et al (1992) in their opinion on the retailers and customer purchases stated that buyers use only a subset of product requirements to decide among many retailers when making an actual purchasing decision.

Brennan & Lundsten (2000) in their study on the consumer shopping habits identified that consumers shop at discount stores for low prices and for large variety and unique items which they cannot find elsewhere.

Problem identification

In the present era of economic uncertainty and decreasing margins, retailers must improve their approach to driving traffic and sales. With increased mobility and always-connected capabilities, shoppers today can easily research competitive offerings, even while standing in a store walkway. As such, they

are less likely to remain loyal to a brand and more likely to be swayed by factors like price, availability and the opinions of others in their social networks. This condition creates a situation for the retailers to create some attractive factors in their retail stores, so that customer can prefer retail stores in comparison to any other mode of shopping.

Objective

The aim of the study is

1. To identify the factors affecting consumer preference related to shopping at Supermarkets of Vadodara city.
2. To understand the importance of factors for creating customer preference.

Research Methodology

Research Instrument

A questionnaire was developed with the help of the factors of customer preference from literature review. It consisted of 21 close ended questions which consisted related factors the customers see in the retail outlets. A five-point likert scale ranging from Least Important (1) to Very Much important (5) was developed for each identified attribute.

Data Collection

Data was collected outside 5 major retail outlets of Vadodara city. Retail stores were Big Bazaar, More Mega Store, Reliance Fresh, Spencer's and D-Mart. These were selected due to their high growth in the city. The consumers who have just shopped at this retail outlet were able to generate an appropriate response.

Sampling Method : Non-Probability convenience sampling method.

Sample size : Intercept method was used for data collection. Five retail stores were taken into account and sample size were 80 consumers from selected retail outlets due to time and money constraints.

Target Population People shopping from Retail supermarkets.

Data analysis

The Tables 1, 2, 3 and 4 indicates the Demographic Profile of the respondents.

Table 1 : Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Male	28	35.0	35.0	35.0
	Female	52	65.0	65.0	100.0
	Total	80	100.0	100.0	

Table 2 : Age in Year

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	18-30	70	87.5	87.5	87.5
	30-42	10	12.5	12.5	100.0
	Total	80	100.0	100.0	

Table 3 : Family Size

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	1-2	2	2.5	2.5	2.5
	3-4	70	87.5	87.5	90.0
	5 & more	8	10.0	10.0	100.0
	Total	80	100.0	100.0	

Table 4 : Family Income

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Below two lakh	12	15.0	15.0	15.0
	Two to five lakh	36	45.0	45.0	60.0
	above five lakh	32	40.0	40.0	100.0
	Total	80	100.0	100.0	

From the respondents surveyed maximum respondents agreed that shopping pattern is changing these days. They prefer organized retail formats, as compared to traditional retail formats.

Table 5 : Do you think that shopping/ buying pattern of the Consumers is changing

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	76	95.0	95.0	95.0
	No	2	2.5	2.5	97.5
	Can't say	2	2.5	2.5	100.0
	Total	80	100.0	100.0	

Table 6 : Do you agree that consumers are preferring organized retail formats (supermarkets), than the traditional ones (Near-by small stores)

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Yes	62	77.5	77.5	77.5
	No	8	10.0	10.0	87.5
	Can't Say	10	12.5	12.5	100.0
	Total	80	100.0	100.0	

Table 7 : Who influences your choice of choosing a supermarket

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	You	24	30.0	30.0	30.0
	Spouse	8	10.0	10.0	40.0
	Children	4	5.0	5.0	45.0
	Parents	34	42.5	42.5	87.5
	Others	10	12.5	12.5	100.0
	Total	80	100.0	100.0	

Table 8 : From which market you buy groceries

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	D-mart	52	65.0	65.0	65.0
	Big-Bazaar	14	17.5	17.5	82.5
	Reliance fresh	8	10.0	10.0	92.5
	More Mega Mall	2	2.5	2.5	95.0
	Spencer's	4	5.0	5.0	100.0
	Total	80	100.0	100.0	

Table 9 : How many times in a month you generally visit this supermarket

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	less than two times	40	50.0	50.0	50.0
	two to five times	38	47.5	47.5	97.5
	more than five times	2	2.5	2.5	100.0
	Total	80	100.0	100.0	

(Source: Primary data)

Inference: The Tables 1 to 9 indicates:

- Females prefer supermarket shopping over males.
- Younger generation (below 30 year) prefer supermarkets for shopping.
- Small families (up to 4 members) prefer supermarkets for the shopping.
- Middle-income families (annual income is more than two lakh) prefer supermarkets as compared to lower income families.

- Indian customers are preferring supermarkets as compared to traditional-retail stores nowadays.
- Major influence of buying from the supermarket comes from parents' and self wish.

There are many factors (from the literature review) which influence customer preference for choosing the supermarket, but all of them are not equally important. So for the present study factor analysis is performed on the 15 statements of the customer's preference for the supermarkets to know the major factors which creates the customer preference. The responses of the respondents for these statements were measured on a continuum ranging from one to five (1 - Least important to 5 - Very much important).

KMO test for sampling adequacy : The KMO measure of sampling adequacy is an index used to examine the appropriateness of factor analysis. The data has KMO statistic as .591 (Table 10) , which is greater than 0.5 . Hence, this value is acceptable and justifies the factor analysis.

Table 10 : KMO and Bartlett's test

Kaiser-Meyer- Olkin Measure of Sampling Adequacy		.591
Bartlett's Test of Sphericity	Approx. Chi-Square	429.061
	df	105
	Sig.	.000

Communalities: Communality is the amount of variance a variable can explain with all the factors being considered.

Table 11: Communalities

	Raw		Rescaled	
	Initial	Extraction	Initial	Extraction
Is price competitiveness important ?	1.101	.943	1.000	.856
Is ambience of the store important ?	.810	.670	1.000	.826
Is distance of the store important?	.433	.254	1.000	.587
Is safety of the vehicle is important?	.496	.308	1.000	.621
Is brand name of the store important?	.779	.715	1.000	.918
Is sales promotions schemes of the store important?	.809	.717	1.000	.885

Is variety of brands maintained by store important?	.314	.189	1.000	.601
Is availability of the products in store important?	.301	.081	1.000	.268
Is good shopping experience important?	.456	.303	1.000	.666
Is whole family coverage important?	.582	.376	1.000	.646
Is product assortment in the store important?	.496	.235	1.000	.474
Is staff support important?	.939	.803	1.000	.854
Are facilities provided by store important?	.480	.320	1.000	.666
Is proper display in the store is important?	.585	.333	1.000	.570
Is ease of bill is important	.354	.152	1.000	.428

*Extraction Method: Principal Component Analysis.

(Source: Primary data)

Variance Explained: it is required that the scale constructed and the components extracted should be able to explain maximum variance in the data. For this, an analysis of the Eigen values is required. Table 12 shows Eigen values of all the components that can be extracted and cumulative variance. It is required that the maximum amount of variance should be explained in minimum number of component. These are five factors and they together contribute 71.571% of total variance. This assumes the fairness of the factor analysis. Finally extracting five dimensions from a total of 15 factors for measuring the customer preference is good.

Table 12 : Total Variance Explained

Component	Initial Eigen values ^a			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2.368	26.500	26.500	3.807	25.377	25.377	2.792	18.615	18.615
2	1.297	14.514	41.015	2.010	13.400	38.777	2.643	17.618	36.233
3	1.200	13.426	54.441	1.934	12.891	51.668	1.555	10.368	46.602
4	.820	9.178	63.619	1.084	7.228	58.896	1.472	9.816	56.418
5	.711	7.952	71.571	1.030	6.864	65.760	1.401	9.342	65.760
6	.495	5.538	77.109						
7	.441	4.938	82.047						

8	.364	4.070	86.117						
9	.326	3.644	89.761						
10	.267	2.982	92.743						
11	.170	1.903	94.646						
12	.162	1.815	96.461						
13	.140	1.564	98.025						
14	.116	1.303	99.328						
15	.060	.672	100.000						

(Source: Primary data analysis. *Extraction Method: Principal Component Analysis.)

When analyzing a covariance matrix, the initial eigen values are the same across the raw and rescaled solution.

Table 12 shows that 71.571% variance is not uniformly distributed across all components. In order to uniformly distribute variance, rotation of components matrix is required. The method of rotation used for this analysis is VARIMAX, which is the most commonly used method. The variance explained by each component after the rotation is shown in Table 13.

Table 13 : Rotated Component Matrix^a

	Rescaled				
	Component				
	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Is price competitiveness important ?	-.006	.783	.118	-.267	.397
Is ambience of the store important ?	-.398	.640	.491	.132	-.013
Is distance of the store important ?	.101	.590	-.319	.351	.060
Is safety of the vehicle important ?	.390	.514	-.110	.367	-.241
Is brand name of the store important ?	.022	.046	-.053	.951	.085
Is sales promotions Schemes of the store important?	.131	.178	.101	.103	.903
Is variety of brands maintained by store isimportant?	.427	.455	.191	-.062	.413
Is availability of the products in store important?	.073	.496	.020	.098	.079
Is good shopping experience important?	.428	.662	-.005	-.210	.006
Is whole family coverage important?	.763	.133	-.014	.204	.060

Is product assortment in the store important?	.610	.198	.175	-.054	-.171
Is staff support important?	.289	-.070	.873	-.001	.059
Are facilities provided by store important?	.772	.072	.200	-.010	.158
Is proper display in the store important?	.265	.122	.544	-.328	.285
Is ease of bill important?	.616	-.026	.081	-.044	.197

(Extraction Method : Principal Component Analysis.
Rotation Method : Varimax with Kaiser Normalization.

a. Rotation converged in 8 iterations.)

Naming of the Factors

The following Five factors were identified as per the factor loading in Table 13

Factor 1: Comfortable shopping : There were four statements under this factor, which emphasizes on comfortable shopping at supermarkets. People actually prefer supermarkets due to convenience in shopping.

Factor 2: Good Shopping Experience : There were five statements under this factor, which indicates that in supermarkets shopping is considered as good shopping experience.

Factor 3: Customer Orientation : There were two statements under this factor, which emphasize that people prefer a supermarket, due to their customer oriented strategy.

Factor 4: Brand Name : People prefer supermarket as compared to normal retail store due to their good brand name. Brand name makes a supermarket a trustworthy shopping destination.

Factor 5: Sales Promotion: Sales promotion schemes affects on the customer preference for the supermarkets.

Findings: People prefer shopping from the supermarket these days as compared to normal *kirana* stores. Customer preference for the supermarkets is generally created by the distinct features of the supermarkets, such as

- Atmosphere which includes cleanliness, air-conditioning for comfortable shopping.
- Ease in finding and locating the products.
- Assortments of the products, in kilograms, grams etc as per the varied customer requirements.
- Sales promotion schemes.
- Safety of the parked vehicles and belongings etc.

Conclusion

Organized retail is increasing day-by-day. 60% of people feel that shopping from the supermarket is latest trend in the organized retail. Recent growth of the supermarkets in country also indicates the same. Manager of the supermarkets should consider the above mentioned factors for creating customer preference, such as running good sales promotion scheme, maintaining good relationship with the customers and maintaining their brand name for the next generations of customers and overall create a week-end experience for the customer.

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Managerial Competency Mapping and Training Need Assessment in Pharmaceutical Industry

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Abstract

Competencies have emerged as a key element and measure of human resource performance. Competency mapping is a tool through which one assesses and determines effectiveness of individual. Large organisations utilize competency mapping to analyze the combination of strengths in different employees to produce the most effective teams and the highest quality of work. The research paper aims to formulate a comprehensive and wide-ranging inventory of managerial competencies for the pharmaceutical industry. Having analyzed the literature, competencies were classified by the models of managerial competencies into three blocks: professional, social and personal. Competency mapping will be done based on the list of managerial competencies which would indicate the gap between actual competencies and the required competencies. The focus of this research paper is to develop competency mapping based training need assessment for managerial level employees working in pharmaceutical industry.

Keywords: Competency, Competency Mapping, Training Need Assessment, Pharmaceutical Industry

Introduction

Every organisation is facing a major challenge of globalisation and severe competition which has necessitated the need of competent employees. In today's workplace, it's not just completing tasks that is important, but how people perform their jobs and the behaviours they demonstrate on the job are the key to success. Top management in general and HR in particular, have been entrusted with the responsibility to hire and retain the competent employees which can be a winning edge over other organisations. The key to success of any organization has been found out to be its human force. Only competent human force can make or even break the organization. Competencies have been identified as the major indicator of individual's performance and thus it leads to organizational performance. The HR Practitioners have shifted their focus from only academic grades or qualifications to the level of competencies each individual possesses.

Introduced and assessed by McClelland in the 1970s, competencies are recognized as the major indicator and

predictor of an employee's performance at the workplace. McClelland (1973a) revealed that traditional tests of academic aptitude and knowledge content infact predicted neither job performance nor success in life. HR practitioners need to profile the competencies required to perform the job in order to identify the superior performers on the job. Competencies can be defined as a combination of knowledge, traits, behaviour, motives, skills and abilities of employees relevant for organizational and job performance. A widely accepted definition of competency was introduced by Klemp in 1980 which says that 'Competency is an underlying characteristic of a person which results in effective and/or superior performance on the job.'

Today's business organizations need management professionals with managerial competencies that can facilitate the managers and other employees in achieving successful performance. Increasingly, it is recognized that knowledge and skills of managers affect the competitive advantage of organizations (Kotter, 1988; Pedler, 1989). Various researchers (Katz, 1955; Mintzberg, 1975; Burgoyne and Stuart, 1976; Boyatzis, 1982a) have focused on studying the managerial roles, skills and competencies required for the effective and successful performance.

Identification of managerial competencies and its development are important tools of human resources management that is aimed at achieving strategic organizational goals (Martina & et. al., 2012a). More attention is being paid to the personality of managers and their competencies as they are viewed as important sources of achieving competitive advantage.

Competency Mapping (R. Yuvraj, 2011) is excessively used in organizations to determine crucial elements and activities. Competency mapping can serve as a useful tool in facilitating HR activities such as performance management, training need identification, recruitment and selection, career planning, compensation and succession planning. Competency mapping is one of the accurate means in identifying functional, behavioural and social competencies. Identification of lacking competencies can serve as a guide for assessing training needs.

Review of Literature

Competencies can be understood as an individual characteristic

that can be measured, assessed or counted and is used to differentiate significantly between superior and average performers, or between effective and ineffective or less effective performers. It should be noted that there are wide range of competency definition in management research publications, which differ in terms of constituent parts / elements of competency and their acquisition or manifestation. P. Drucker (1985) defined competency at an individual level as an ability of an employee to offer superior performance in the assigned task. According to R. E. Boyatzis (1982b; 2002), competence is an underlying characteristic of a person, motives, traits, abilities, aspects of image or social role, knowledge that a person is able to use. L. M. Spencer et. al. (1993a) presented the concept of competence: it is an ability to perform well in terms of qualification, skills and knowledge, to have authority to do something, highly qualified awareness. The concept introduced by D. Carr (2000) establishes that it is practical implementation of individual abilities characterized by practical skills and attitudes required to ensure successful professional performance. The comprehensive definition of competencies given by L. Jovaisa (1993) can be presented as: it's an essential characteristic of an individual related with higher-quality performance in specific job or situation; individual characteristics highlighting the versatility of competencies, ensuring sustainability of personality and making predictions for forecasting behaviour of a person in various situations of performance.

The list of main and most important managerial competencies included strategic thinking (seeing the big picture, visioning, helicopter view), analytical skills, problem-solving skills, decision-making abilities, orientation towards action, interpersonal skills, teamwork, leadership, and personal characteristics.

Generally, competencies can be seen as a set of specific knowledge, abilities, skills, traits, motives, attitudes, behaviour, and values vital for the achievement of individual and organizational goals. It relates to the expected behavior on the job and level of performance based on the competencies. Martina et. al. (2012b) divided competencies into three main development phases. The first phase includes individual competencies (White, 1959; McClelland, 1973b; Boyatzis, 1982c; Schroder, 1989; Woodruffe, 1992; Spencer et. al., 1993b; Carroll et. al., 1997). The second phase is founded on the possibility of managing competencies in an organization by means of competency models (Mansfield, 1996; McLagan, 1997; Lucia et. al., 1999; Rothwell et. al., 1999a). The third phase is the identification of core competencies, a sum of main organizational competencies which may be utilized for competitive advantage (Pralhad et. al., 1990; Ulrich et. al., 1991; Gallon et. al., 1995; Coyne et. al., 1997; Rothwell et. al., 1999b; Delmare et. al., 2005).

Radha Sharma (1994) conducted a research to measure social and emotional competencies. The Lancaster model of managerial competencies is a universal management competency framework, introduced and developed by Burgoyne and Stuart in 1976. The managerial competency framework highlighted 11 qualities and separated into three groups across three different levels. The first level forms the foundation level, and encompasses of command of basic facts and relevant professional knowledge that a manager may require for decision-making, action taking and other managerial actions. Level two discusses five competencies such as openness to information, analytical skills, social skills, emotional resilience, and proactive approach. Level three discusses the higher level of competencies ranging from creativity, mental agility, learning skills and self-knowledge. A study was conducted on 308 managers of UK as well as those of Asian origin based in France, Germany, Spain, England and India, where the respondents were asked to rate how important and relevant the competencies included in Burgoyne's frameworks have been in their development. J. Pocevicus et. al. (2008) explained the concept of managerial competencies as a combination of professional knowledge, abilities and skills as well as an ability to apply them following the requirements of work environment.

According to P. Banerjee (2003), core competencies and competencies in general are based on the resources generated or recombined inside a firm. A study of seven software firms of India was conducted and was found that competencies can be defined through a hierarchy of resource usage.

P. N. Khandwalla (2004) conducted a study for 73 managers who attended training program at IIM, Ahmedabad and identified competencies that may aid role effectiveness at senior managerial levels. Forty five senior manager-level competencies have been categorized into six groups such as competencies related to contextual sensitivity, management of initiatives, innovation, problem solving, effective task execution, interpersonal and leadership. Indian managers were found to be weak at initiative management and introduction of innovation whereas they were proficient in the areas of task execution and contextual sensitivity.

Rajadhyaksha U. (2005) conducted a research on 250 executives in one of India's largest vehicle manufacturing companies and emphasized the need of both technical and managerial competencies. A model of techno-managerial competency was introduced that may be better suited to emerging jobs in a more technology-driven future. The model consisted four important competencies which are: technical skills, group-problem solving skills, managerial skills and aptitude.

P. Saxena and S. Bendale revealed the most significant managerial competencies which Indian managers identified as essential for a successful performance of managerial role on a cross-sectional industry and domain basis. The top five managerial competencies out of 18 competencies presented were interpersonal skills, knowledge of technology, product design and production, managing strategy and innovation, conscientiousness and managing the task environment.

Literature reviewed so far suggested that there are two dominating approaches for managerial competencies: functional-analytical and personal characteristics. Boyatzis et. al. (2008a) introduced managerial competencies comprising of three blocks as professional competencies, personal competencies and social competencies as shown in Table 1.

Table 1: Contents of Managerial Competencies

Nº	Block of managerial competencies	Managerial competencies
1.	Professional competences	Planning, problem-solving, information gathering, analytical thinking, abstract thinking, strategic thinking, learning from one's own and others' experience, striving for results, initiative, business-like orientation, generation of ideas, diligence, resolution, global perspective, organizational skills, team-work, negotiating skills, leadership, conflict-handling, communication, organizational awareness, systemic logics, written communication, creativeness and ability to implement innovations, modern knowledge, time management, risk assessment, risk-taking, defining the circle of personal interests.
2.	Social competencies	Communication and influencing others, verbal communication, convincing communication, effective relations, orientation to customer, goal-setting, delegation of authorities, change management, performance management, fairness, responsibility, flexibility, cultural awareness, qualification, group-building and development skills
3.	Personal competencies	Self-confidence, stress management, personal reliability, loyalty, self-control, self-confidence, achievements, self-management, listening skills, system of personal values, personal goals, continuous personal self-development, personal responsibility for taken decisions, awareness of ethics relevance in business.

(Source: D. Goleman and R.E. Boyatzis, (2008a); M. Woodcock and D. Francis (1982); A. Balezentis (2006))

Measuring competency levels of managers of pharmaceutical industry on the above stated competencies, gaps can be identified between the competencies desired and current state of competencies. Knowing the gap areas will facilitate the training departments to design the course content to bridge the huge gap.

Objectives of the Study

1. To prepare a list of key relevant competencies required to perform effective managerial jobs.
2. To identify the existing level of competencies among the pharmaceutical managers.
3. To find out the required level of competencies for expected performance.
4. To measure the gap between expected and existing level of competencies.

Research Methodology

The research was conducted with the help of interview, schedules and structured questionnaires. Questionnaire to identify relevant managerial competencies was developed based on the list of competencies given by R. Boyatzis and D. Goleman (2008b). The managers and their supervisor were interviewed to identify the existing and required level of competencies. Competency mapping was carried out based on the gap areas between the required level and current level of competencies possessed by managers of the pharmaceutical industries. Total 59 competencies were presented to respondents out of which 29 competencies attributed to professional block, 16 to social and 14 to block of personal competencies. Training needs were assessed based on competencies

which were most relevant and yet indicated a huge gap.

Research Design : Descriptive

Target Population : Managers of Pharmaceutical Sector of Ahmedabad Region

Sample Size : 50 Employees

Sampling Method : Non-Probability Convenience

Data Collection Method : Primary and Secondary Sources

Data Collection Tool : Schedules and Structured Interview

Data Analysis and Interpretation:

Table 2 : Distribution of Professional competencies by Relevance Levels

No.	Level	Professional Competencies	Min.	Max.	Average
1	Least Relevant	Business-like orientation	3.00	4.00	3.00
2		Creativity and implement innovations	2.00	5.00	3.06
3		Leadership	3.00	5.00	3.20
4		Planning	2.00	5.00	3.43
5		Risk-taking	2.00	5.00	3.57
6		Negotiations	3.00	5.00	3.69
7		Strategic Thinking	3.00	5.00	3.89
8		Global Perspective	3.00	5.00	3.91
9		Risk Assessment	2.00	5.00	3.94
10	Average Relevance	Abstract Thinking	3.00	5.00	4.00
11		Systematic Logic	2.00	5.00	4.00
12		Generation of Ideas	3.00	5.00	4.11
13		Organizational Awareness	2.00	5.00	4.17
14		Problem Solving	3.00	5.00	4.17
15		Ability to define circle of one's own interests	3.00	5.00	4.23
16		Modern Knowledge	3.00	5.00	4.37
17		Resolution	4.00	5.00	4.37
18		Diligence	3.00	5.00	4.40
19		Initiative	4.00	5.00	4.43
20		Team-work	2.00	5.00	4.46
21		Time Management	4.00	5.00	4.51
22		Organizational Skills	4.00	5.00	4.54
23		Analytical thinking	3.00	5.00	4.54

24	Most Relevant	Conflict handling	3.00	5.00	4.57
25		Information gathering	4.00	5.00	4.60
26		Written Communication	3.00	5.00	4.80
27		Learning from experience of own and others	4.00	5.00	4.89
28		Striving for results	4.00	5.00	4.91
29		Communication	4.00	5.00	4.94

(Source: Primary data)

Table 3: Distribution of Social Competencies by Relevance Levels

No.	Level	Social Competencies	Min	Max	Average
1	Least Relevant	Empowerment	1.00	5.00	3.03
2		Influencing People	1.00	5.00	3.60
3		Empathy	2.00	5.00	3.71
4		Goal-Setting	1.00	5.00	3.80
5		Cultural Awareness	3.00	5.00	3.83
6	Average Relevance	Operation Management	3.00	5.00	4.00
7		Group-building and development skills	2.00	5.00	4.03
8		Change Management	1.00	5.00	4.09
9		Flexibility	3.00	5.00	4.37
10		Effective relations	2.00	5.00	4.37
11	Most Relevant	Verbal communication	3.00	5.00	4.51
12		Qualification	3.00	5.00	4.60
13		Orientation to customer	3.00	5.00	4.69
14		Fairness	3.00	5.00	4.77
15		Convincing Communication	4.00	5.00	4.91
16		Responsibility	3.00	5.00	4.94

(Source: Primary data)

The research indicated in Table 3 that possession of most relevant 6 social competencies such as responsibility, convincing communication, fairness, orientation to customer, qualification and verbal communication can make a difference between successful performers and average or poor performers.

Table 4: Distribution of Personal Competencies by Relevance Levels

No.	Level	Personal Competencies	Min.	Max.	Average
1	Least Relevant	Personal Goals	3	5	3.83
2	Average Relevance	Achievements	3	5	4.11
3		Personal Reliability	3	5	4.14
4		Personal responsibility for decisions taken	1	5	4.14
5		Stress Management	2	5	4.29
6		System of personal values	1	5	4.34
7		Self-Control	3	5	4.37
8		Loyalty	4	5	4.40
9		Awareness of ethics relevance in business	2	5	4.40
10		Self-management	3	5	4.43
11		Self-Trust (ability to trust others and the work one performs)	3	5	4.49
12	Most Relevant	Self -composure	3	5	4.54
13		Listening Skills	4	5	4.57
14		Continuous personal development	3	5	4.87

(Source: Primary data)

Table 4 describes the list of personal competencies based on the relevance levels for managerial jobs. Self-Composure, Listening Skills and Continuous personal Development can be considered as the key relevant personal competencies for successful managers.

Table 5: Competency Areas indicating huge gaps

Details of Competencies		Gap
Professional Competencies	Resolution	1.54
	Analytical thinking	1.57
	Risk Assessment	1.66
	Leadership	1.69
	Business-like orientation	1.74
	Organizational Skills	1.77
	Generation of Ideas	1.91
	Conflict handling	1.97
	Written Communication	2.80

Social Competencies	Responsibility	2.00
	Flexibility	2.03
	Effective relations	2.09
	Empathy	2.20
	Operation Management	2.20
	Convincing Communication	2.71
Personal Competencies	Self-Control	2.03
	Awareness of ethics relevance in business	2.11
	System of personal values	2.26
	Loyalty	2.60
	Personal Reliability	2.63
	Self-management	3.26

Table 5 shows huge gap areas across professional, social and professional competency blocks. This indicates that the desired competencies are not being met by managers' current level of competencies. The gap area for self-management was very huge i.e. 3.26.

Figure 1: Radar Chart showing Professional Competency Gap

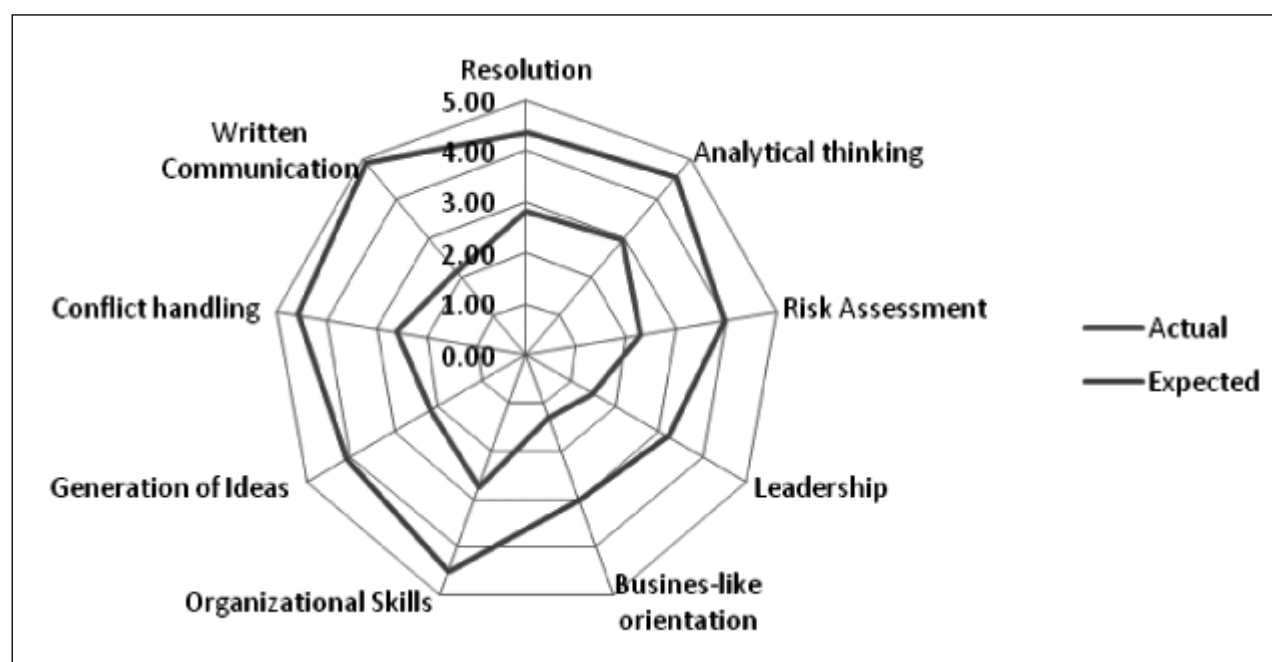
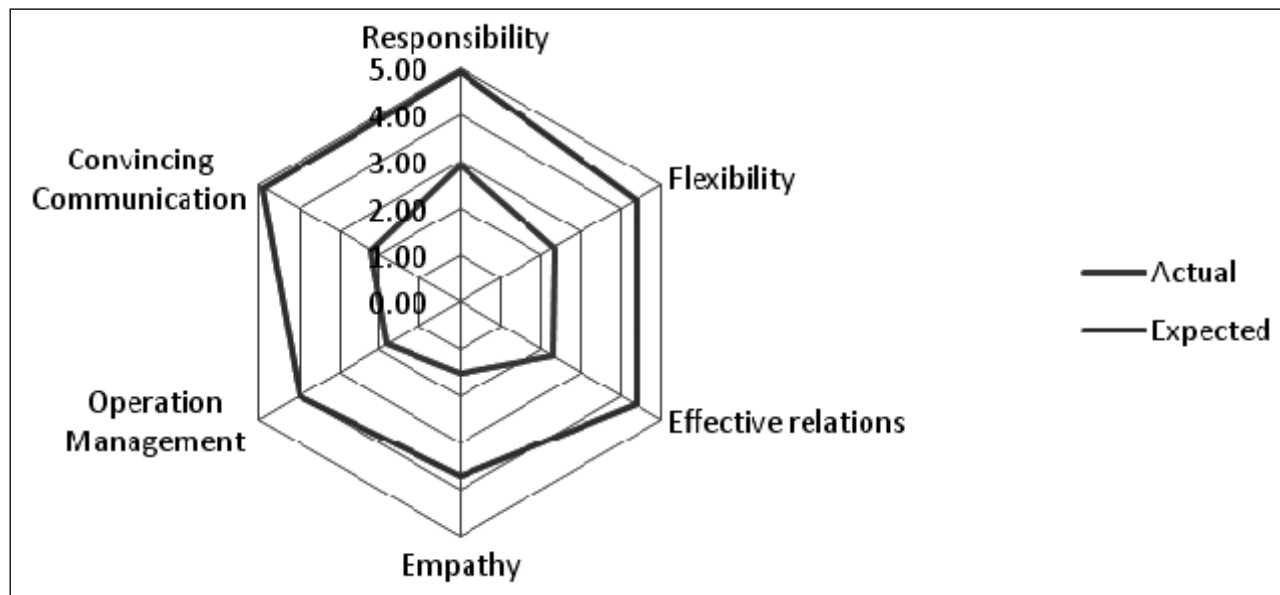
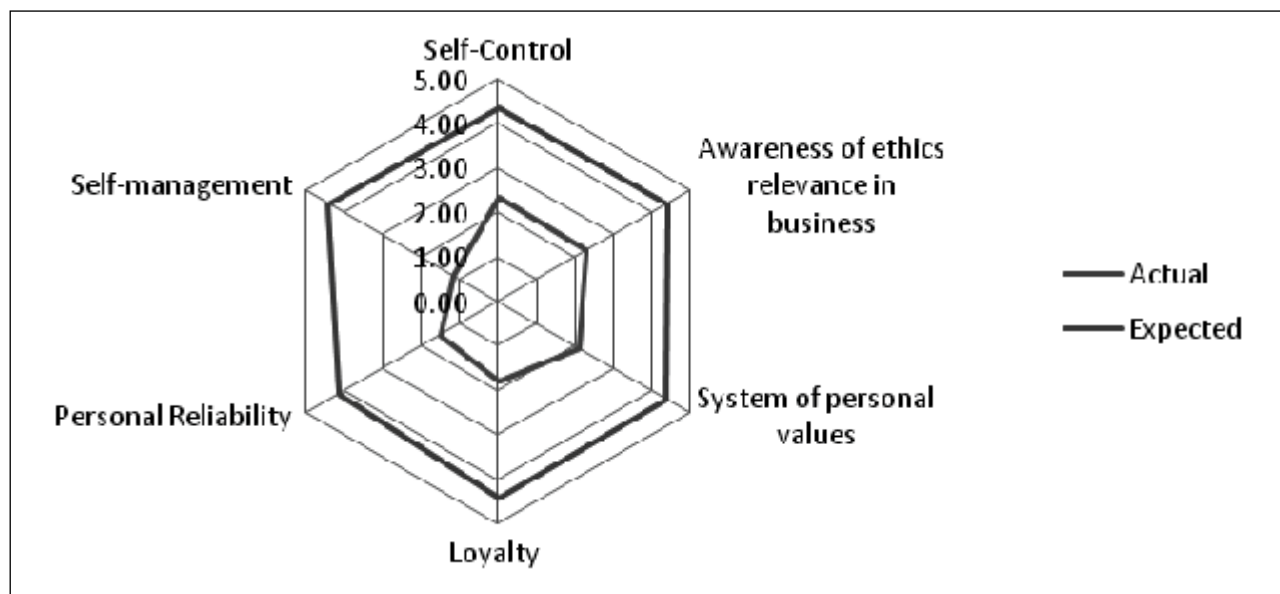


Figure 2: Radar Chart showing Social Competency Gap



3: Radar Chart showing Personal Competency Gap



Findings

The study revealed that there were 59 competencies that superior job performers used in carrying out the job well. Consequently, 18 competencies were identified as key relevant competencies for performing managerial jobs in an effective manner. Communication, time management, written communication skills, conflict handling, convincing communication, fairness, self-composure, listening skills and continuous personal development were found to be the most relevant competencies for effective managers. Written communication skills, Conflict handling, Generation of new ideas, empathy, loyalty, self-control, convincing communication, self-management, listening skills and continuous personal development were identified as competencies indicating huge gap areas. The research showed that written communication, conflict handling, continuous personal development, loyalty, self-control, listening skills

are major areas which require training as they were most relevant competencies and indicated a huge gap in terms of existing and desired level of competencies.

Conclusion

The combined ratings given by managers and their supervisors indicate that desired levels of competencies are high whereas existing level of competencies is low which leads to gap area. Competency mapping indicated gap areas which can be bridged by training needs. The major set of competencies which required training were written communication, personal development, conflict handling and listening skills. The research paper recommends that pharmaceutical sector incorporates the core competencies for better job performance of managers and imparts training for the same.

Managerial Implications

The research paper will serve as a guideline for managers, their supervisors, HR managers and training professionals in identifying the core competencies which can lead to individual and organizational success. Results of this research paper can be extended to other industries also for determining managerial competencies. Competency mapping results can be applied for other HR functions such as succession planning, compensation, career planning and performance management.

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Corporate Social Responsibility - The Corporate Misers of India

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Abstract

India is undergoing phenomenal paradigm change. Replacing old onerous and colonial influenced law have become need of the hour. Economic equality is the new mantra. To embed the equality quotient Corporate Social Responsibility (CSR) has been made part of the Companies Act 2013. Though certain large companies spend amounts on CSR as giving back to society, however such contribution is insignificant when compared to the mandated amount as per the Act. Focused and more balanced approach is needed for such CSR spending. Majority of the company don't have CSR policy which has to be formed and it will then serve as a model guideline for attaining the broad objectives of CSR policies. Care should be taken that mere green washing doesn't constitute as CSR spending. The triple bottom line approach of people, planet and profits has become the need of the hour. There is a contrarian view that welfare spending is government's prerogative as they collect taxes for that. The concept may sound weird but has its own deliberations. The government is imposing on companies' task what it couldn't achieve. However it would not be wrong to call Indian corporates, barring few, as misers on this front. The spending needs to be viewed with pragmatic vision. A small proportion of 2% of profits may seem minimal but if spent judiciously and for welfare, it shall go a long mile. The companies should see this as an opportunity to partner in building nation rather than an onerous task.

Keywords: Corporate social responsibility, CSR policy, triples bottom line approach, CSR ranking Indian Companies

Introduction

Corporate Social Responsibility or CSR simply put, is responsibility casted on corporate entities to payback to society. The rationale behind such objective is that corporate draws its profits from the society at large, so there has to be some obligation imposed upon the corporate to return back to society. However, this argument fails its tenability on the basic premises that it is the tax contribution of these companies by which the government does its welfare spending. Considering the widespread debate and the recent mandate by The Companies Act 2013, the topic merits discussion.

The Concept

The Commission of European Communities, 2001 which had the highest frequency counts search on Google defines CSR "A concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis". Another popular definition by Business for Social Responsibility 2000 "Business decision making linked to ethical values, compliances with legal requirement and request for people, communities and the environment." The definitions stated are almost congruent and have similar five dimensions of the CSR aspect namely Voluntariness, Stakeholder, Social, Environmental and Economic. These five dimensions shall form as pillar to examine any case to whether it falls as CSR activity or otherwise (Dahlsrud, A. 2008). Another theory propounded is that whether CSR spending impacts buying behaviour? The answer to this question has raised more questions than answers; however, it is a settled argument that mere CSR initiative cannot be a decisive factor influencing buying behaviour. The buying behaviour traditionally is dependent upon quality, usability and price of the product. There also exists need for educating the consumers about the CSR initiatives of companies in order to influence buying decisions (Mohr, L. A et al 2001). With mandatory implication of section 135 of Companies Act 2013, these theories further need to be examined. To understand concept better it shall be imperative to analyse position stated in the Act.

Table 1: Snapshot of Corporate CSR

Company	Initiative
ITC	E-Choupal - Empowerment of Farmers
Ashok Leyland	Hydraulic Bus for Differently abled
Hindalco	Check dams and Drinking water
TCS	Adult Computer Education
Mahindra & Mahindra	Nanhi Kali - Girl education

(Source: Company's Annual Reports)

The present scenario

Under present regime there is no mandate for any spending for CSR. The only CSR initiatives enforced by government are through environment protection laws and pollution control laws. However, several companies have taken up responsibility upon them and spent on the CSR activities (See Table 1- Snapshot of Corporate CSR). Ashok Leyland operates Funbus in New Delhi and Chennai. This bus is equipped with hydraulic lift which helps differently-abled children to travel. Hindalco Industries has constructed check dams, ponds and bore wells to provide drinking water. It touches 26 lakhs lives in this endeavour. Mahindra and Mahindra through its philanthropic initiative '*Nanhi Kali*' support education of 75000 under privileged girls. TCS has taken an initiative for providing adult functional literacy in computers. The scheme has benefitted over 1.2 Lacs people. ITC has conceptualized and started a program called e-choupal which bridges the gaps between farmers and whole sale markets. It has been most effective tools for farmers' empowerment to have real time data about price, weather and market conditions for their produce. Based on this farmers can take informed decision leading better price for their produce. ONGC offer's community based health care services in rural areas through 30 Mobile care units. It also undertakes deer conservation project under the aegis of ONGC – Eastern Swamp Deer conservation project to protect the rare species of deer in Kaziranga National Park in Assam. Infosys, the technology behemoth, gives annual prize to honour outstanding achievement in field of science and engineering. In one of the initiatives, the company sponsored surgery for 100 teachers in Karnataka who were suffering from arthritis. IOC runs Indian Oil Foundation, a not for profit entity, which works for preservation and promotion of country's heritage. Though above examples may seem as lauding efforts by our corporate sector, but the same when compared with what is expected of them, from new provision as envisaged in the Act, is very small amount of spending.

A study of the top 10 Fortune 500 companies 2012 has given startling and grim figures. The report shows (See Table 2 – The present philanthropy) that these 10 Fortune 500 companies together put have a whopping deficit of 53% than what they are expected to spend on CSR activity. This figure is again an estimate as they have studied previous year's profits against three years average profits as mandated by the Act. Nevertheless 53% translates to an amount of Rs. 7780 Million. On the brighter side leading the pack of CSR spenders is Tata Steel which has spent an amount of Rs. 1460 Million in the year 2011-12. The company's stipulated 2% profit (not three year's average as mandated by the Act) comes to Rs. 1078 Million. This translates an additional spending of Rs. 382 Million by Tata Steel which is phenomenal. However, on the bottom of the list is also Tata group

company Tata Motors which has a short fall of Rs. 2703 Million. In another study by Forbes India where similar study was conducted for Top 100 companies out of the Fortune 500 companies, the companies have spent Rs.17650 Million (Excluding loss making companies) against mandated Rs. 56110 Million. The above statistics shows a not so healthy picture of the CSR spending. Also it has to be kept in mind that all analysis above is for the major and large companies. The big vibrant other companies which do satisfy certain criteria notified by the government are not covered in this study.

In certain cases where the CSR activity is undertaken can also fall under the concept of green washing. Green washing is a concept where by companies deceptively promote marketing campaign to portray an image that their products and policies are environment friendly. However, the same is not true. A classic example of the said activity can be placard in the hotel room for re-use of towels ostensibly to save environment, which in practice they are not doing. This fact can be confirmed from the non-reduction of the cost of such activities. However, with introduction of the new law, things are bound to change, at least it looks like they are bound to change.

Table 2: The present philanthropy

Name of the Company	PAT 2011-12	CSR Spend 2011-12	2% of PAT 2011-12	Variance	Variance %
Tata Steel	53898	1460	1078	382	+35.4
Larsan & Tubro	44565	700	891	191	-21.5
Reliance Industries	197240	2880	3945	1065	-27.0
Hindalco Industries	33970	280	679	399	-58.8
Bharti Airtel	42954	330	859	529	-61.6
Mahindra & Mahindra	28790	220	576	356	-61.8
Maruti Suzuki	16352	120	327	207	-63.3
TCS	104135	510	2083	1573	-75.5
ICICI Bank	76429	240	1529	1289	-84.3
Tata Motors	135165	150	2703	2553	-94.5
Total	733498	6890	14670	7780	-53.0

(Source: CSR 10 India Index 2012)

The changing paradigm

Prior to the introduction of Companies Act 2013, spending for

CSR activity was voluntary for Companies. Government on its own had taken up the responsibility of protection of environment and natural resources and hence had enacted several laws for protection of such assets by way of environment protection laws and Pollution Control laws. These laws directly don't relate to CSR spending but the broad intent behind these laws is to prevent or at least mitigate the adverse impact caused to the natural resources of the country. Such mitigation causes cost to companies which could be categorised as spending incurred for CSR activity. India is only country where the CSR spending has been made as part of the law. Except for India, Denmark has provision under its law for reporting spending made on CSR activities. The regulation, for Denmark, was enacted in 2008 with implementation of reporting activity from the year 2009. But there is no mandate under the Danish Law to spend any amount. Mere disclosure of spending or otherwise shall suffice requirement of the law. Also such reporting was made mandatory only for 1100 large companies (Press release from ministry of economic and business Affairs, Denmark). On enactment of the Companies Act 2013, India has become the first country to have CSR spending mandate. Also the Indian Act has a detailed broad area where such spending should be made. As part of the Act these areas were chosen by the Indian Parliament based on the socio economic condition prevailing in the country. This in a way is good as the companies shall have model guidelines and specific areas to channelize their spending. However, it can also be argued that this provision shall restrict creativity and variety of areas where the spending can be made by companies.

In Indian scenario, section 135 of Companies Act 2013, states that certain classes of companies shall be required to spend 2% of their net profits on activities specified in schedule VII of the said Act. The classes of the company so specified should have

- Net worth: Rs. 500 crores or more or
- Turnover: Rs. 1000 crores or more or
- Net Profit: Rs. 5 crores or more

If any company during any financial year satisfies any of the above criteria, such company has to

- Constitute a CSR committee of the Board which shall consist of minimum two or three directors as applicable to the class of company. Also one of such director has to be an independent director where appointment of such director is necessary.
- Formulate and recommend to the Board, a CSR policy which shall broadly indicate activities to be undertaken by the company as specified under schedule VII to the Act.
- Earmark and spend at least 2% of the average net profits (computed under section 198 of the Act) of immediately preceding three financial years.

- Institute a transparent mechanism for implementation and monitoring of the CSR activities as stated in the CSR policy.
- Explain in the Board report made under section 134 (3) (o) of said Act, reasons for not spending amount earmarked for the year.
- Spend the amount as far as possible in the local area where the company operates.
- Spend the amount in India. Spending in foreign locations does not qualify as eligible expenditure under this section.
- Display the CSR activity on its website.
- As per the rules notified dated 27th Feb 2014, the CSR activity can be other than those specified in schedule VII, However, the broad areas should be welfare of public at large and not just specific stake holders like employees of the company.

The Act envisages entire implementation and monitoring mechanism via the CSR committee. Also, the broad guidelines for the expenditure should be laid down in policy document. Further, schedule VII to the Act specifies that amount earmarked for CSR to be expended for

- i. Eradication of extreme hunger and poverty
- ii. Promotion of education;
- iii. Promoting gender equality and empowering women;
- iv. Reducing child mortality and improving maternal health;
- v. Combating human immunodeficiency virus, acquired immune deficiency syndrome, malaria and other diseases;
- vi. Ensuring environmental sustainability;
- vii. Employment enhancing vocational skills;
- viii. Social business projects;
- ix. Contribution to the Prime Minister's National Relief Fund or any other fund set up by the Central Government or the State Governments for socio-economic development and relief and funds for the welfare of the Scheduled Castes, the Scheduled Tribes, other backward classes, minorities and women; and
- x. Such other matters as may be prescribed.

Though the list is fairly comprehensive in terms of nature of welfare activities, however last clause (x) is a residuary clause which can cover any activity which is explicitly not prohibited under sections 135 and rules formed there under.

The Other Side

As discussed above it may seem that CSR concept is one of the most revolutionary and practicable concept. On the mere face value it looks as potential transformation tool for a developing economy. In a country like India this at least looks as a potential

game changer. However the concept has its own share of pitfalls and criticism. The most prominent amongst that criticism is that the concept of starting for profit entity is to earn profit and maximize the share holders' wealth. The company earns profits after investing money entrusted to it by shareholders who undertook risk. They in turn follow all laws of land and pay various duties and taxes. Here moot question is why should companies be responsible for welfare activities despite paying all legitimate expenses and costs? From a company's point of view its responsibility ends once it has paid all taxes and duties. Enabling sustainable development and welfare activity is Government's prerogative. Companies should not be burdened for misdeeds or mis-governance of the political bosses.

The CSR spending is further burdening the companies with a pseudo tax. Also only the companies earning profits are required to spend under the Indian law. This further puts profit-tax like scenario. The contradicting school of thought suggests that government with its all might and wealth should only under take welfare related activities. Further as observed, large companies see CSR as brand building activity rather than welfare driven. In a survey (Chadwick G 2005), 85% of the respondents felt that they have a more positive image of the company that made world a better place. CSR becomes essential strategy for ensuring the company's reputation. These companies use the entire framework of CSR to create NGO's which conduct so called independent research which are majorly funded by such companies to create positivity about their product and policies. Essentially, these companies create lobby group which work as their corporate lobbyist for promotion of product and policy. These companies' syndicate prevents in enactment of laws targeting industries in which they work. Wherever Government is not relenting to pressure of such group, they suggest on self regulation through such groups which turns out to be an eyewash.

The entire branding exercise positions company in such a way that it becomes a favourite of all concerned stakeholders. Companies which promote CSR activity have become darling of investors, employees, customers and all other stake holders. Yes, CSR leads operational efficiency. It helps companies to save costs. Also, companies prioritise such CSR activity which saves cost for these companies. However, question needs to be answered about such activity which doesn't save cost rather entails costs. At the end, it seems that companies gain more from CSR activities than society does.

The road ahead

Serious as it seems, the new Act is deliberating implementation of the provisions envisaged. It seems that corporate sector shall walk the talk and do good deficit in the spending. The triple bottom

line approach of people, planet and profits shall ultimately be achieved. Yes, giving back to society is important; yes, minimal invasion to the nature's balance is important; however nothing can abate the importance of earning profits. It is for the profits that the companies have been formed. A balanced approach is need of the hour and the latest legislation addresses it. A small proportion of 2% of profit may seem minimal but if spent judiciously and for welfare, it shall go a long mile. The companies should see this as an opportunity to partner in building the nation rather than an onerous task. Further, government should come out with model policy and reporting framework which shall help in standardizing the spending and reporting thereof. Liberal approach should be taken whilst devising the spending areas. The government also needs to improve upon the statistical surveys and information collection. Because it would be these surveys and statistics based on which informed decision shall be taken. A new avenue has come for spending several crores for the welfare of the poor and downtrodden. Conducive environment and policy should be formulated to make the most of these opportunities.

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Information Technology- An Invisible Hand

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Abstract

The IT and adaptability with new changes will change everything including ourselves. This may seem like a bold statement, but consider the impact the internet already has had on education, communication, business, science, government, and humanity. Clearly, internet is one of the most important and powerful creations in all of human history. Now consider that IT represents the next evolution of the internet, taking a huge leap in its ability to gather, analyze, and distribute data that we can turn into information, knowledge, and, ultimately, wisdom. In this context, IT becomes immensely important.

Already, innumerable IT projects are under way that promise to close the gap between poor and rich, developed and under/un developed, to improve distribution of the world's resources to those who need them most, and help us understand our planet so we can be more proactive and less reactive. Even so, several barriers exist that threaten to slow IT development, learning, its execution and observing carefully the results, yet IT awareness is indispensable. My work focuses the use of IT and other resources in the smooth operation of different industries of region, claims to be one of the biggest in the state of Gujarat. But penetration presents a very bleak picture of knowing or using the technology through interaction with employees and employers, observations during the visit and imperative data available. This hinders the growth and development of the organization and its employees substantially.

However, as businesses, governments, standards bodies, and academia work together to solve these challenges, IT will continue to progress. The goal of this paper, therefore, is to educate the organizations in plain and simple terms to be well versed in IT as well as allied resources and understand its potential to change everything we know to be true today. Moreover, the researcher has also put forward a few suggestions for upgradation of technology, resources and modernization of the organization.

Key Words : Information Technology, Traditional Business Capabilities, Business Elasticity, Innovation and Inventions, Business Analysis, Volatility in Organization

Prologue

Traditionally, organizations have been isolated islands, with fixed sets of business capabilities determined by what they can do on their own, within their own organizational boundaries. Any change, they can think of, was a threat to themselves. They were very rigid as well as conservative. They were afraid of anything that is "NEW". Because of the close and rigid mindset or with conservative focus many organizations became obsolete viz: LML, HMT wrist watches, Salora TV, Weston TV, Global Trust Bank, Pyramid TV, AIWA and so on. Many industries of Saurashtra region of Gujarat State have died because of orthodox set of operation. Expansion typically meant significant capital outlays for building new factories, entering new businesses or geographies, hiring new employees, adopting novel marketing strategies, upgrading and expanding IT as well as adopting new technology.

Many such conventional organizations are inherently reactive and hasty to a larger extent and may not be able to rub their shoulders with other counterpart with innovative strategies. Factories reduce shifts, workers are furloughed and expensive capital equipment goes underutilized. The researcher has surveyed nearly 150+ companies that have become almost obsolete or on the verge of death and interacted with many owners, employees and labour force to dig out the reasons with certain set and open ended questions/queries; as well as with other 50 companies that have grown and developed leaps and bounds. Thus, an attempt has been made to compare both the types of organizations: technological un/under developed and developed.

It is being observed that, after a couple of months or years; technology becomes obsolete. Even current knowledge becomes outdated or old after every 15 hours. A spurt in demand is often met by a dearth of products or delayed execution of any order, disruption of services, unhappy customers, frantic hiring and impulsive capacity building. In fact, one could argue that any successful business today is by definition less than efficient, because its success is predicated on overcapacity to meet peak demand, which also means underutilization of resources- particularly capital and human resources - most of the rest of the time.

The Invisible Hand

Slowly but surely, the invisible hand of information technology has been blurring the boundaries between organizations to the point that business capabilities have now started to spill across organizational boundaries. The company named "JYOTI CNC", of Rajkot city took over one of the multinational companies of France and has almost 100% atomization and uses SAP ERP. Definitely the output is tremendous. The list in the same category from Rajkot District is EPP, BAN LABS, Rajoo Engineering, ORPAT, Mahindra Gears, Shaktiman Agro, Fieldmarshal, Kich and so on. These companies ensure latest technology and automation to keep pace with any related industries across the world as these companies have also many international customers in US, Europe, Africa, UAE and Asia. To be sure, the phenomenon itself is not new. In the past, companies have shared business capabilities through various special arrangements such as alliances, trading agreements and industry consortia.

What's new is that IT is now making it possible for business capabilities to cross organizational boundaries at an industrial scale. This has enormous consequences for companies and indeed for the very fundamentals that govern the economics of business. The researcher's data analysis with both the categories duly justifies the objectives and lastly the suggestions.

Deliberations of the Organizations/ Companies

When organizations can effectively and efficiently share business capabilities, a series of things commence to happen. First, companies need to plan only for average demand and can offload excess demand to a third-party provider on an as needed basis, with the hope and promise that the provider can gracefully and seamlessly augment the company's capabilities. Second, much of the unpredictable or variable demand moves from a fixed or capital cost to a variable or operational cost on the balance sheet. Third, this industrial-strength sharing of capabilities enables companies to enter new businesses and markets with relatively little risk. If the new product or market turns out to be a dog, a company can wind down operations with little or no sunk costs. Alternatively, if the adventure is wildly successful, the company can rapidly scale up to meet demand. Companies like Rajoo, EPP, ATUL, Cromwell, Cast and Alloys and a few more from Saurashtra region are examples of this blend.

Put another way, when business capabilities can be sourced effectively and efficiently, companies can pass on significant business risks to a provider.

So what's in this for the third-party providers? First, as more clients seek their services, they begin to specialize, and as the process becomes cost effective, they gain price advantage. This, in turn, enables them to provide the same service to multiple

clients at lower cost and thereby achieve scale. Once they have scale- particularly across multiple clients from different industries and different business cycles- providers are in a position to load-balance across all of their clients, taking advantage of the clients' staggered business needs.

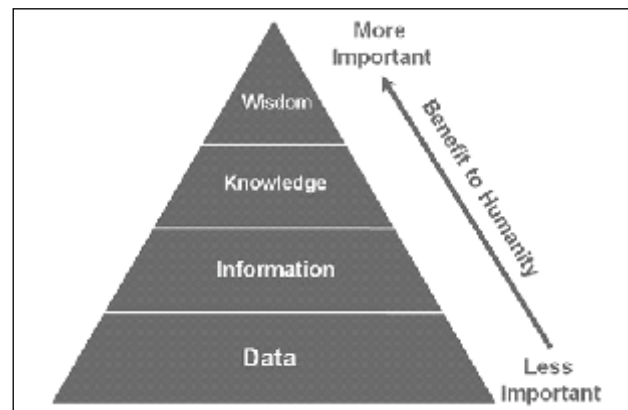
When the providers achieve enough scale, they can plan for average (as opposed to peak) demand and achieve high utilization rates by constantly repurposing capacity from one client to another. This enables them to hedge against the risks that are passed on to them by their clients. But it is sorry to mention that during interactions and investigations with many companies, it was found that, though in very good position, they could not foresee the time ahead and their myopic vision made them and their organizations almost handicapped.

When scale happens, elasticity follows.

We Evolve Because We Communicate

Humans evolve because they communicate. Once fire was discovered and shared, for example, it didn't need to be rediscovered, only communicated. A more modern day example is the discovery of the helix structure of DNA, molecules that carry genetic information from one generation to other. After the article was published in a scientific paper by James Watson and Francis Crick in April 1953, the disciplines of medicine and genetics were able to build on this information to take giant leaps forward.

Figure 1: Data processing by humans



This principle of sharing information and building on discoveries can best be understood by examining how humans process data (see Figure 1). From bottom to top, the pyramid layers include data, information, knowledge, and wisdom. Data is the raw material that is processed into information. Individual data by itself is not very useful, but volumes of it can identify trends and patterns. These and other sources of information together structure the knowledge. In the simplest sense, knowledge is information of which someone is aware of. Wisdom is then born

from knowledge plus experience. While knowledge changes over time, wisdom is timeless, and it all begins with the acquisition of data. This is exactly what the researcher wishes to propose for the companies that he has deliberated and interacted with in the survey through the Figure 1.

My Reflections - Enter the Internet

IT and business process outsourcing are early examples of elasticity- sourcing people and certain simple business processes from outside the organization, with the provider taking some of the demand and utilization risks. The phenomenon began to gain momentum in 2001. Many observers attribute this to cost reduction necessitated by that year's recession. Others point to cost arbitrage between developed and emerging economies. Still others attribute the rise of outsourcing to the need for companies to focus on their "core competence".

But cost arbitrage, the need to focus on core competence and the pressure to reduce costs have all existed for years. So what has changed? The surprisingly simple answer is "the Internet".

By around 2000, the Internet evolved to the point that it could support inter-enterprise communication- email, instant messaging, Voice over IP- and provide access to applications and data across organizational and geographic boundaries. Although outsourcing was practiced well before the internet, the dramatic increase in various forms of outsourcing was made possible by the cheap, industry-wide communication that was enabled by the internet.

Today, the operating goal of every outsourcing provider is to go from a "your-mess-for-less" model (operating a business process for a client per the client's specifications) to a "many-to-one" model (offering a menu of standardized business processes as per the provider's specifications). Why? Because only with scale can providers offer standardized processes to multiple clients so that the same process, people and other resources can be repurposed across clients to cater to their changing business needs.

Cases in Points

But there are innumerable business organizations across the country that have been vanished or on the brink of disappearing because of the very old, conventional ways of operation in all the fronts: HR, Marketing, Production, Administration, Management and Finance. At the same time there are many organizations that have been a step ahead in adopting the "latest" in the entire business set up – from Men to Machine. Balaji Wafers of Rajkot is one of the biggest names in packed snacks which has fully automated operations in all the spheres. Same is the case with Jyoti CNC of Rajkot. The owner is a "man of information and

wisdom" in adopting something new. The researchers interactions with owners was really an eye opening and impressive one for many others. Moreover they keep on organizing the workshops on anything that is new in market to keep their employees and organization updated.

The latest technology trends- Internet computing; mobile computing; the convergence of communication, collaboration, communities and content- seem poised to create even more business elasticity.

Scope

Today, Internet computing - a.k.a. cloud computing- makes it possible to buy processing power, storage, software, even simple business processes on the fly, pay for what you use and scale up or down as needed. Internet computing provides elasticity to IT itself. Companies no longer need to commit to expensive (and often underutilized) capital equipment or software in their data centers, but can simply rent them when needed. A few Fortune 500 companies have started using cloud computing for core business functions, including drug development, CRM, ERP and procurement.

Perhaps more importantly, my advice to the companies that I interacted with is Internet computing also brings elasticity to business processes, enabling them to change or scale horizontally and vertically depending on business conditions.

How? Software as a service, software markets and integration standards provide companies with many more sourcing options and standard means of integrating hardware, software and process components. Business processes, therefore, need no longer be cookie-cutter affairs provided by large monolithic software packages but instead can be assembled and reassembled from a large set of third party software suites.

Since the hardware and software are sourced from outside the enterprise firewall, it becomes much easier to integrate processes with those of providers (to expand business capacity horizontally) or those of industry partners (to expand business capabilities vertically). Moreover, the integration takes on an industrial scale: no more proprietary arrangements, lawyers or small-print documents.

Mindset

If something as simple as email and VoIP could give rise to workforce elasticity in the form of business process outsourcing, recent developments in collaboration and mobile technologies may well call into question many of the assumptions underpinning today's global mega enterprises. Though this seems to be quite simple but still many organizations in Gujarat and Saurashtra region of Gujarat has not been able to encash the potential of IT Resources. Reasons may vary but many of them

are not ready to change or are afraid of changes or they are quite satisfied with what they have.

Companies and individuals today have access to an astonishing range of options for communication and collaboration, from IM, VoIP, blogs and wikis to 3G and 4G wireless networks to location-awareness and near-field technology. Add to this the so-called Millennials or Generation Y, for whom mobile phones, IM, podcasting, Facebook and Twitter are like air and gravity. As these young people begin to enter the workforce in large numbers over the next five years, companies will not only have to revisit their different technological options; they will also need to rethink their workforce and workplace practices. Brisk advancements in IT and allied technology definitely form an "IT generation gap" even within a short span of time. This is exactly what my monograph intends to communicate to all the organizations I have visited, conversed, deliberated and discussed.

Points to Ponder Over

For example, how can a company trim down the wear and tear on employees caused by travel and time zone differences and the time exhausted in daily commutes? Better utilize or even eliminate office space? Or avoid the enormous stress and anxiety on management and workers caused by large-scale hiring and layoffs in times of business volatility? How does a company effectively deploy an expert across multiple projects and augment R&D with experts from outside? Or use crowd-sourcing techniques internally as well as with customers to increase innovation? Indeed, how does a company manage an elastic workforce that may consist of a core set of employees, subordinate employees and a large number of free agents working for themselves or for other organizations?

Technology is already available that enables companies to source people or services on demand to solve a difficulty or aid a computer in solving a problem that requires human intelligence. To be sure, there's nothing new about engaging contractors for work. But what is new is that collaboration and mobile communication technologies are taking it to a new level: global sourcing of human expertise at scale and on the fly. Many companies have incorporated the technology and allied innovations as the pulse of their business. The end result is: they have augmented their business network. My formal association with KICH that manufactures the different hardware utilities with due automation and CROMWELL that manufactures the power system that is being supplied to ISRO and other agencies with ZERO error is also fully automated unit and always brings in latest innovation to be shielded against the cut-throat competition.

New frontier

Innovation elasticity is a particularly interesting and fascinating

frontier. For example, today there are "open innovation marketplaces" such as InnoCentive, where companies can pose intricate scientific or business problems to a community of more than 100,000 researchers from various fields and pay only if a suitable solution is proposed. Procter & Gamble reports positive results through InnoCentive and is now actively experimenting with an R&D model called Connect + Develop. P&G's goal is to derive 50 percent of its innovation from outside the company in the future. These statistics accentuate the importance of creativity and thinking out of the box.

At the other end of the spectrum, companies such as Starbucks and Dell have developed web-based models for large-scale inclusion of their customers as an integral part of their innovation processes. As of March of this year, customers have contributed more than 60,000 ideas to mystarbucksidea.com (for example, "a free drink on your birthday") and 11,000 ideas to Dell's Ideastream ("Add the decibel level of your computer to the specifications," suggested one customer).

The relentless march of information technology is slowly picking up the pace in carving out a new reality. Elastic processes... Elastic HR... Elastic IT... Elastic innovation... Is your organization or company prepared?

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Dr. Uwe Rössler, Dean, Faculty of Management, FH Bielefeld University of Applied Sciences, Germany & Dr. Ramesh Shah, MD - EuroAsia Shah Consultants visited CKSVIM to explore academic co-operation.



Dr. Satinder Dhimian's first visit at CKSVIM as ACBSP Mentor for International Accreditation process on 6th & 7th February 2013 and second visit on 23rd & 24th October, 2013.



Dr. Rajesh and Mrs. Bela Khajuria visited ITC-WTI-United Nations Offices at Geneva, Switzerland on Nov. 25-26, 2013 as a part of Agreement with ITC to offer Special Course on 'WTO & Its Impact on Business & Industry' to our MBA Students in Gujarat, India.

Photo from Right to Left : Mr. Gerardo Thielen, Head, Academic Program Unit, ITTC, WTO, Mr. Vinod Rege, Former Director of WTO and Distinguished Visiting Faculty at CKSVIM, Ms. Bridget Chilala, Director, ITTC, WTO is in Centre, Dr. Rajesh Khajuria, Director, CKSVIM, and Mrs. Bela Khajuria, Member, CEED.



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