



SMJV CENTENARY
1915 - 2015



C K Shah Vijapurwala Institute of Management

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Issue 2



SANKALPA

SANKALPA

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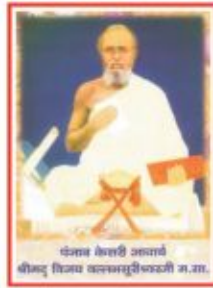
Journal of Management & Research

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

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



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100 YEARS OF SMJV TRUST IN EDUCATION (1915-2015)



SMJV'S CKSVIM is Now A Global Business School...
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on this 17th day of November, 2014



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[Signature]

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EVENTS @ ACBSP, Annual Conference 2015 at Philadelaha, USA, During June 11-15,2015



Dr Rajesh Khajuria with Jeffrey Alderman, new President and CEO of ACBSP, USA



2015 Teaching Excellence Award awarded to Dr. Khajuria



Dr Khajuria with Mrs Bela Khajuria and Dr Larry, Representative of the Board of Commissioners, ACBSP, USA



Dr Rajesh Khajuria participated in "Business and Industry Relations Committee" meeting



Dr Rajesh Khajuria & "Scholarly Practitioners and Publications Committee" meeting



Dr Rajesh Khajuria, Hon. Secretary-Treasurer, Region 10 (South Asia) participated in Region 10 meeting and Seminar on "The Business of Branding"

**2015 Teaching Excellence Award for Region 10
(South Asia's 17 countries from India to Singapore)
& Certificate of Completion of ACBSP Mentor
& Evaluator Training awarded
to Dr. Rajesh Khajuria**



*Dedicating:
Global Accreditation to CKSVIM Business School, and
2015 Teaching Excellence Award to Rajesh Khajuria
by ACBSP, USA at Philadelphia*

Dear Reader and Researcher:

SMJV's C K Shah Vijapurwala Institute of Management (CKSVIM), Vadodara becomes the first MBA Program in India, and the first Business School in Western India to receive Global Accreditation from Accreditation Council for Business Schools and Programs (ACBSP), USA in its 2015 (27th) Annual Conference at Philadelphia, North America.



It was the Greatest opportunity for me, accompanied by my wife Bela, and Shri Pratapbhai Shah, FCA and member of our Management Committee to receive the Accreditation Award on behalf of our SMJV Trust, Mumbai and CKSVIM at Philly during June 11-15, 2015, among 1,000 highly qualified professors, deans and presidents of hundreds of universities and Business Schools from 30 countries gathered at Marriott Downtown. Philadelphia is fondly known as Philly in America due to its role in America's freedom fight in 18th Century. Today, Philly is one of the most fun loving cities in the U.S.

2015 Teaching Excellence Award for Region 10 (South Asia's 17 countries from India to Singapore) was also Awarded to me, which I dedicate to our Teachers, Staff and Students. If they were not working and learning at our business school, we / I would not have been selected to receive for both these International Awards for Excellence in Business Management Education at Masters (MBA) level.

Principles for Responsible Management Education (PRME) is an initiative of United Nations Global Compact, based in New York.

6th PRME Annual Conference by UN Global Compact was organised at One Chase Plaza, 69th (top) floor, New York on June 23-24, 2015, which I attended on behalf of and sponsorship by Gujarat Technological University (GTU), Ahmedabad, our parent university, representing about 100 MBA Colleges in the State of Gujarat. My special thanks to our visionary leader Dr Askahi Aggarwal, Hon. Vice Chancellor, GTU for sponsoring my attendance at PRME, New York, with whom GTU is a Signatory. Prof. Shiv Tripathy from Tanzania had initially contacted me two years back, and rest is a history...

GTU and CKSVIM are in the process of joining yet another initiative of UN Geneve, Switzerland, <http://business-schools-for-impact.org>. CKSVIM won Gold Medal for our CSR activities by MBA students in June 2014 at AIMS Annual Conference, Pune, where Douglas Viehland, then Director/CEO of ACBSP, USA was present.

Read the 2015 Report in this SANKALPA Issue in your hands!

Based on international experiences over last five years with Germany, North America, Asia, Australia and Africa, at GTU, we are currently working to revise the entire MBA Program and Syllabus in 2015-16, to implement from the next Academic Year 2016-17 to all GTU MBA Colleges, which will be no less than MBA programs in the North America, Canada, Europe, Asia, Australia and African nations.

In the process, we have benefitted our all stakeholders, students, teachers, staff and Trustees or Management of Colleges and Universities, who took the Teaching-Learning-Skill-development process seriously.

ACBSP, Region 10 (South Asia) is organising several seminars in August end during the first visit of Jeffrey Alderman, new President/CEO of ACBSP, Kansas, USA to India: August 22: Interactive Meet with Business and Industry Leaders at CKSVIM, Vadodara; August 23: ACBSP Global Accreditation Awareness Seminar at GTU, Chandkheda Campus, Ahmedabad; August 27-28: Accreditation Training at XIME, Bangalore; August 28: Visit to SDMIMD Business School, Mysore, Campus Labs at Coimbatore and visit to B-Schools at Cochin and nearby. We are pleased to host the ACBSP events in Gujarat.

ACBSP 2016 June Conference at Atlanta, Georgia, USA shall address the "Creating New Knowledge in The Classroom".

Higher Education Forum - Gujarat Chapter is organising a Regional Conference on "Innovation in the Classroom" at CKSVIM Business School, Vadodara on October 31, 2015..

We are organising 5th International Conference on Business Ethics, PRME, Sustainability and Impact in February 2016 at GTU / CKSVIM, India.

Rajesh Khajuria, PhD (Management), CMC, FIMC

Director and Mentor, CKSVIM Business School

Hon. Secretary-Treasurer, Region 10 (South Asia), ACBSP, USA

Chairman, GTU's Global MBA Program

Board / Committee Member, Jyoti Ltd, FGI, CII, VCCI

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MESSAGE FROM THE HEAD, Ph D RESEARCH CENTRE

During the last few admission seasons, it has been observed that interest and enthusiasm of the students for pursuing MBA programme are waning out as is evident from the decline in the number of the students who have taken admission in different Business Schools. It is a matter of great concern for all those who are connected with educational system including individuals and institutions.



What exactly is missing with the existing MBA Programmes or in the present Business Schools? Are the courses offered not relevant to the need of the Corporate World? Are the students pursuing the programme not serious and therefore not able to acquire the knowledge and skills relevant for business and Industry? Are teachers not performing their duties honestly?

Role of teachers is not producing just employees for corporate world but also for the academic world for which we need students who are trained to become good researchers, academicians, scholars and conscious keepers of the society. Four important traits for teachers are: good conduct; knowledge based on expertise and experience; teaching skills; and love for students.

Teaching and Research are inseparable. Teaching involves acquisition and dissemination of knowledge through effective curriculum- student- teacher- interaction while Research involves acquisition, processing and generation of new knowledge. The new knowledge generated through research is the basic raw material for improving the curriculum to match the changing needs of corporate world. It is, therefore, essential that we must integrate knowledge creation and dissemination. Unless you research well, you cannot teach well. Research supports teaching.

The current researches should not be based only on the 'GAP' perceived through extensive review of literature but also be linked with some live problems faced by business and industry. The time has come when effective networking relationship between academic institutions and the user system (business and industry) must be utilised to make the research outcomes for the development of business and industry. This is essential for keeping the students' interest in our MBA programme alive.

Our Research Journal-'SANKALPA' invites contributions from researchers which meet this important need of the students, business schools and the user system.

July, 2015

Dr. Satendra Kumar
Professor and Head
Ph D Research Centre, CKSVIM



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 5, Issue 2) is the July-December 2015 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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A Report on PRME UN Global Conference, New York organised on June 23-24, 2015
Notes by Dr. Rajesh Khajuria, Director- CKSVIM, who represented GTU initiative
on PRME at the Conference



(Courtesy : Sanjay Trivedi, GTU Plexus, July 07, 2015.

Visit: <http://plexus.gtu.ac.in/Topstory.aspx?Id=150>)

Dr. Rajesh Khajuria, Director, CKSVIM Business School, Vadodara, attended 2015 PRME Global Forum on June 23-24, 2015 at New York at the behest of GTU, representing **Dr. Akshai Aggarwal, Vice Chancellor** and entire GTU system. **The Principles for Responsible Management Education (PRME)** initiative of the **United Nations Global Compact** convened the **2015 Global Forum for Responsible Management Education – 6th PRME Assembly** alongside Global Compact. 300-400 leaders of responsible management education and business, including deans, university presidents, professors, business school accreditation bodies and regional associations, students, participants of Global Compact Local Networks and the LEAD group of companies, as well as representatives from the UN, government, civil society, and corporate sustainability thought leaders attended the Global Forum.

Excerpts of the Conference:

Day 1: June 23, 2015 - Inauguration and Sessions of the Conference

Angel Cabera, President, George Mason University gave the welcome address at the conference. **Laing Xinjun, CEO, Fosun Group (China, based in New York)** told the success story of Fosun Group which has sponsored the PRME Conference Venue on 60th (Top) floor of One Chase Manhattan Centre, New York, located opposite to Citibank Head Quart and close to the newly built One World Trade Centre.

Georg Kell, Executive Director, UN Global Compact Office of The United Nations, which runs the PRME Initiative, shared that the "Great Professors made the difference, and Individuals can move mountains with strong determination." He said that Education is the key to Business Success and to begin with, Management education is the key to start with long term financial success as it goes hand in hand with ethics and sustainability. From Asset owners to becoming Asset Managers, there is a shifting paradigm from short term gains to long term value creation. PRME works on framework conditions as technology is making an impact on education and public health, pricing water, pricing energy etc.

On the growth of the PRME, **Jonas Haertle, Head of the PRME Secretariat** noted that "the PRME initiative, now in its eighth year, is a thriving network and a truly global platform for learning and action...[comprised of] over 600 institutions in over 80 countries, all of which have heeded our call to 'place sustainability at the heart of management education.'"

Over the last one and a half years, 18 PRME Chapter and Regional Meetings have been held, with new PRME Chapters now reach 12 around the world, and new resources and tools have been launched such as the Anti-Corruption Toolkit developed by the PRME Working Group on Anti-Corruption in Curriculum Change with the support of the Siemens Integrity Initiative, and the PRME Chapter UK & Ireland region-specific Inspirational Guide for the Implementation of PRME. Many collaborations took place, including the PRME Champions meeting with the Global Compact Board, the Principles for Responsible Investment (PRI) Advisory Council, and ambassadors at UN Headquarters to discuss the historic opportunity that business has to shape and advance the post-2015 development agenda.

Celebrations at the PRME Global Forum included the welcoming of new PRME Workstreams on Business for Peace, Business and Human Rights, and Climate Change, Resilience and Environment Protection, the launch of the Flourish Prizes project, which was initiated at the 2014 Business as an Agent of World Benefit conference, and the PRME Advisory Committee—which enables signatory institutions and the different constituencies of PRME to directly influence the strategic direction of the PRME initiative. Additionally, the Forum welcomed the decision by the PRME Steering Committee and the PRME Advisory Committee to jointly revise PRME's strategy, in light of learnings from the initial eight years of PRME and in an effort to focus PRME's work for the coming three to five years.

Thomas Gass, Assistant Secretary-General for Policy Coordination and Inter-Agency Affairs, Department of Economic and Social Affairs, United Nations, said that some people question, the Millennium Development Goals (MDGs) are not sustainable, because it needs investment equal to 4% of Global GDP or 15% of Global Savings to achieve 17 Goals and 169 Targets! These are too many goals! He said that a good Development Plan is a Strategic Plan. Sustainable Development brings together Economic, Social and Environment dimensions. Good Governance should be with access to justice and education system along with life-long learning. Vocational Skills as the commitment of leaving no one behind, is most important but If a social or economic group is left behind, then sustainable development has not taken place. He said that the rising inequality is the biggest challenge to tackle. He further raised few questions as such: Where will be 'Students, in SD (Sustainable Development)?'

Session 1: Pathways to Achieving Sustainable Development

Chuck Fowler, Director and Chairman, Fairmount Santrol, interacted and described the Three stages: Share...Interact...Commit

He raised some question before the audience like 'How can we move the Business Sector to mobilise from 4% to 100% People under Sustainable Development (SD)?'

Ms. Ericka Karp, CEO, Cornerstone Capital, talked about Corporate Sustainability as Corporate Excellence, from material progress to more generic and inclusive growth. "If we can find such companies, we can transform the world." She further said that all investors and educators are emotional about sustainability and innovation. More diverse companies have better decisions.

Corporate Excellence means Engaging and empowering the entire population.

She further talked about the Three Ps: People, Planet and Prosperity, to work well.

Anita Negri, President, Oikos International, talked about UNESCO mentions, we are in the short fall in all education targets. He emphasized on the need to collaborate.

She said that a change in teaching is required. 'You understand that you are the change to the only source of knowledge in the world, and You need to be leaders as Faculty. And students recognise the leaders in faculty.'

Sauquet, Global Dean, ESADE Business School, and President, the Academy of Business in Society, said networks are important, powerful and so difficult to manage. Business Schools should leverage this. One should learn from their network and experiences. Editors of journals and publishers need to focus on Research on sustainability, recognition, promotion criteria. Collaboration and Transparency are the two most important thing for promotion of Capitalism. The Ability to turn on Economic Engine to benefit the people through Sustainable Development, is the key to future.

Dr. Rajesh Khajuria, Director, CKSV Institute of Management, Vadodara, participated and represented **Gujarat Technological University**, Gujarat, India's PRME initiative in the conference. In the Question-Answer session, Dr Khajuria said that "Telling Companies to be Sustainable is like telling Tigers to be Vegetarian!" And it is very difficult. So the best way is to teach young students about Sustainability and Sustainable Development (SD) is to enable them to adopt and follow it in their own future businesses. Those who work for others have little power to change the corporations, perhaps! But not necessarily. This view was appreciated. Bringing Dignity to People by 2030, is important. Relate the 3 Ps: People, Profits, Planet. (Dr Khajuria added 4th P as Partnership).

PRMR Chapter, Iberian and Spanish talked about "Think Local, Act Global", Work with Networks of Business and Industry, and Business Schools, and conduct SWOT Analysis with respect to PRME principles.

A session on Mapping Post : Accelerating Implementation of Responsible Management Education

Revolving Cycle of 8 Steps :

The Strategy to Implement PRME in education is very important. Dean or Director of University and/or Business School is the key Implementer. The Deans are for normally 5 years, so if a Dean retires or changes, the commitment from the university or Business School should not change. Leaving PRME Document is to be released. The On-going effort should be made as the Business School (or university) may be committed to PRME, but its faculty or colleagues may not be! That is a challenge to discuss here. Wake up to Commit.

The Schools should have long term Strategic Plan for PRME implementation. The Change is regular. Must continue, in order to achieve. The Resources are limited, but we must drive our way forward! Without resources, there is no implementation, and without implementation, there is no achievement? The PRME is not just about Talking or Doing, but about Transforming. So discuss each activity regarding, Who is to do it? How one is to do it? What results are expected? And more!

How to implement PRME?

Is PRME helpful? Progress made on FDP, Curriculum Development, Research, On Campus Operations? Key Barriers to making further progress?

How do you make implementation of PRME, Mozart of a School/ program's Core work?

GTU work on PRME was discussed. SMJV's CKSVIM Business School, Vadodara, a GTU Affiliated MBA College, recently published a Book titled "CSR Profile of India Incorporation" (Editors: Dr. Rajesh Khajuria & Ms. Ranjita Banerjee) was released in the Collaboratory Group as a Gesture of Goodwill.

Day 2: June 24, 2015 - Panel Discussion on Visioning Meditation for Visioning the Future of Education Collaborations

Discussed about : Integrating Emotional Intelligence, Value based Management in Management Education "What You Will Do" is more important than What you can do. Empowering the Students in the Classrooms. To Create a triangle of teaching and learning among Professor, Business Managers and Students. The students should be taught meaningful teaching and research and to build these in Accreditation criteria.

The Universities should develop with much tighter Connections with real life experiences with Business and NGOs and Governments.

Dr. Shiv Tripathy : Talked about the Anti-corruption Toolkit Implementation Challenges: Motivation at Dean, Director, Faculty and Student level. The Students find different issues in classroom (non-corruption), and business world (corruption). He further talked about FDP on PRME Toolkit teaching, and Accreditation or Certification by PRME.

Dr. Rajesh Khajuria offered to use SANKALPA: Journal of Management and Research (ISSN: 2231-1904) as a medium for publishing articles on PRME Anti-corruption research, subject to vetting by some members of the Anti-corruption Working Group, who then can figure on the International Board of Reviewers / Editorial Board. The idea to be explored further by the Working Group, as noted in the official summary.

Ruth Nieffer, Switzerland, talked about the idea of research project and publishing on a proposed online platform.

Discussions on India Agenda for 2015 :

Next PRME Conference is proposed in India at Goa on November 27-28-29, 2015. Jonas is likely to come. Prof. Shiv and Prof. Dr. Wolfgang Amann from HEC Peris in Doha, Katar will be coming. And they were invited to GTU.

The Concluding Remarks by Working Group Leaders :

- To engage with business leaders for taking PRME objectives forward with the students and faculties at Business Schools. Incorporate Environment related topics or subjects (in teaching).
- To promote to increase the number of signatories (Business Schools) to join PRME. We commit to Gender Resources in Business Schools, and Sustainable Development in the Society.
- Sharing ideas and resources and look forward to sharing database. Inspired by the 100% Approach to (studying and promoting) Poverty in Business Education.
- Anti-Corruption Toolkit created. Now, implement the Toolkit, FDP, and creating a Practitioner oriented Publication for dissemination of ideas and research. (By Prof. Shiv).
- Materiality of Ethics and Responsibility, and creation of material. Shared Matrix. Evidence-based Substantive Information Reports (SIP) by member Business Schools and Universities. (GTU to work on it).
- To Train the Trainer program.
- Doing Statistical Analysis.
- The Great Value in studying the Impact on Society, on Businesses, on Innovation.

PRME Head Jonas thanked Jefferson Alderman, CEO of ACBSP, USA representing 1300 Business Schools in the world. He also Thanked AACSB CEO. He advised Participating professors and business leaders to Visit the Business Schools and talk to them (about PRME), not in deductive manner, but in the manner of posing experiences and alternatives on PRME initiatives.

Summarizing the Secretary General's Message:

"You have done wonderfully well through collaboration and networking, for development of new Sustainable Goals. Request you to make the next period of 2015-2030 wonderful, work on education and training and promotion of PRME initiative. Academia has a huge role to play. Work on your part and our part for transforming the world. The United Nations looks forward to your contribution for developing a better world". Thank you very much." - Jonas Heartle, Head, PRME, New York

(By Invitation) Personal Brand

Meghavi Vyas : Image Consultant, Mega Image Consultant, Vadodara. Email : mv@megaimageconsulting.com

What is a brand?

Is it the name of the organization, the logo of the organization, the color combination of the logo, the slogan or the symbol?

Yes, it is all this. In addition to all these, brand is also a feeling, an experience, a relationship, a promise, a guarantee, an association, a story to share.

The term branding has long been related to corporate, but today almost every individual has a personal brand. We are all brands; few by design...rest by default!! A strong personal brand can yield tremendous ROI whether you are working with an organization or leading one.

The question is no longer if you have a personal brand, but if you choose to guide and cultivate the brand or to let it be defined on your behalf. Here are a few inputs to build a strong brand.

Start thinking of yourself as a brand

What do you wish people associate you with? Before you go ahead and brand yourself, understand what do you want to be known for? Once decided, be strategic about your personal brand design. This doesn't mean you can't be human. On the contrary, as Michael Simmons writes, authenticity is key in the digital age.

Be Clear and Consistent

Once clear about the brand message be also consistent about the message, offline and online. There is a lot Google talks about you, out of your knowledge. Be wary of all the facts making rounds in your name, across all the social media platforms. An AVG study

says, 92 percent of children below the age of 2 have a digital presence (thanks to tech savvy parents)

Authenticity

Make sure the messages are also authentic, not just clear and consistent, as Michael Simmons writes, authenticity is key in the digital age. Being fake would be the biggest dent you can do your personal brand.

Keep the Brand Promise

Take time to sketch the brand promise. Test the reverse waters to check if you would be able to deliver it or not. Always, make it a point to deliver the brand promise, as accurately as you can. It talks about your dedication to your brand.

An Irony

Who owns your brand? Undoubtedly.. YOU! However, it exists in other people's mind. And you do not own those minds. They need to evolve with time. The brand is also a perception you form in people's mind. Brand yourself bravely!!

To conclude...

To conclude, personal branding is an imperative leadership need, not just self-promotion tool as perceived by many of us.

Personal brand is an ideology to follow, a behavior to maintain, an image to sustain not just a short-cut to success.

Cheers to self, Happy Self-Branding!!

Skilling the Unskilled as part of “Make in India”

Avi Sabavala : , Corporate Trainer, Vice President- Baroda Management Association (BMA),
Immediate Past President- Vadodara Chamber of Commerce & Industry (VCCI). Email: jodhpur58@yahoo.com

Abstract

The article looks at the current scenario of the level of skills in India focuses on how the country can utilise its vast pool of unskilled population in an effort to contribute to the 'Make in India' initiative. However, the urgent need of providing life-long skill up-gradation to employees at all levels is the need of the hour. Some suggestions on how this can be done is given towards the end.

Key words: Skilled, unskilled, learning, registered manufacturing, unregistered manufacturing

Prelude

The new NDA government that assumed office in 2014 laid out a large number of initiatives aimed at taking India into the global super power league. Prime Minister Narendra Modi has repeatedly talked of initiatives as “Make in India,” “Skilling India,” “Digital India” as well as “Swachh Bharat.” These are indeed laudable efforts. However, ground reality indicates that both government at all levels as well citizens of India will need to make concerted efforts to achieve the envisaged levels by 2020.

India – Present Overview

While 'Make in India' is one of the flagship efforts of the NDA Government, its success will depend upon the country's ability to combine it with 'Skilling India'. The latest Economic Survey 2015, discusses an important dilemma facing India's policymakers – whether to focus on the development of skill intensive sectors or on unskilled labour intensive sectors? The survey has suggested that for expansion and structural transformation of the economy, optimum utilisation of India's extremely large unskilled labour force is the need of the hour. This would help strike a balance between the current cost competitive advantages of low skilled labour coupled with the necessary skill enhancement needed for the future.

The Economic Survey lists four factors which prevent the manufacturing sector from becoming the dominant force of the nation's economic growth:

- Labour market distortion
- Capital market distortion
- Land market distortion

- India's unskilled labour unqualified for the specialisation called for

The survey has categorised the manufacturing sector into two areas viz., registered manufacturing or the formal sector, and general manufacturing or the informal sector. There is no doubt the registered sector holds “the potential for structural transformation,” as also posts considerably higher productivity as compared to other areas of the economy. However, this sector will be unable to equalise regional disparities and currently does not contribute to inclusive and shared growth as it is mainly skill intensive, as compared to India's large pool of unskilled labour.

The challenge

One of the greatest challenges that can either enhance or derail the 'Make in India' campaign is the level of productivity and the skill utilisation rate of the Indian working age populace. Current statistics are definitely not comforting and show that we as a nation have a long way to go. The rate of skill utilisation of the Korean worker is around 96%, followed by the German worker at around 84%. On the other hand, the Indian worker's skill utilisation rate is a mere 2.9% which is the reason for poor productivity. The regular increase in minimum wages and D.A. is not linked to productivity and does not act as a motivator for employees to perform. This is reflected in both the poor quality of products as well as lack of timely output. This is a major contributor to the high cost of production making Indian products very uncompetitive in the global market. While Indian industry is definitely supportive of ensuring that employees at all levels earn a fair wage, it can only be sustained if the industry has long-term viability in terms of top-line and bottom-line growth coupled with a good brand image of its products and services.

The low skill level of the Indian labour force is where the initiative of 'Skilling India' assumes significance. Despite efforts to provide education to all, it is seen that a large chunk of the population who have gone through the formal education process lack even basic literacy levels or the 3 Rs viz., reading writing and arithmetic and now the fourth R of computer literacy. Since this basic knowledge is missing, it has a cascading effect on their ability to acquire further skills especially those in areas of technology or even simple administrative areas leading to a cycle of

unemployment/underemployment and low income levels. The All-India level of employability is a startlingly low 14% and Gujarat figures also show a similar trend.

On the other hand, India is intent on attracting more FDI in various sectors as well as bringing about a quantum increase in production to boost its economy. The 'Make in India' initiative expects that by 2022, the contribution of the manufacturing sector will rise from the present 12% to 25%. This can only be achieved with the active participation of a large and appropriately skilled work-force. While we can certainly lay claim to a large population, improving their competency and productivity will determine whether we can earn a demographic dividend or face a devastating demographic liability!

It would be appropriate to understand the definition of the term "unskilled." It relates to of or relating to workers who lack technical training or skill. In many cases this may mean that much of the work relates to occupations that demand little or no special skills such as cleaning or other manual or repetitive work.

In today's employment scenario, it is a universal complaint of employers that the availability of the right person for the job and at the right price is becoming increasingly scarce. This means compromising the quality of the person to be inducted with considerable time, money and efforts to bring him/her to the required level to perform the job. The further woe is that once the person gets trained, he/she gets a better opportunity elsewhere and leaves the organisation. This is especially the challenge faced by the MSME sector in our country.

While the MSME sector is definitely the growth engine of our economy and contributes to 40% of India's employment, they are facing the brunt of shortage of skilled personnel. By their very nature, they are well diversified and give cost-effective and even innovative products and services. However, in trying to control costs, they usually provide employment to a large number of unskilled people with the aim of providing them on-the-job training. Unfortunately, because of the all-round exposure that an MSME unit provides, the attrition rate is extremely high as such employees immediately find ready takers by large industries.

As per the report of the Industries Commissioner, Govt of Gujarat, about 2.3 lakh working MSMEs provided employment to 12.9 lakh persons of which 18% were from the urban areas and 19% were from the rural areas. Table 1 provides the breakup of persons employed according to their background.

Table 1: State level distribution of employment by social groups

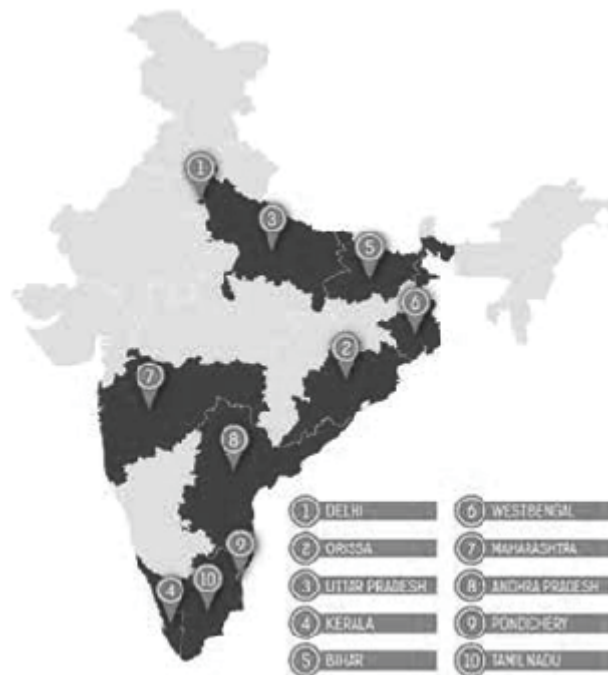
Caste	Percentage
Scheduled Castes	11.2%

Scheduled Tribes	16.5
Other Backward Castes	29.9%
Others	42.4%

(Source: Report of Industries Commissioner, Govt of Gujarat
<http://ic.gujarat.gov.in/wp-content/uploads/2011/03/goi-4th-census1.pdf>)

Figure 1 shows states with highest employable population. It is significant that despite Gujarat making all out efforts to attract investments, it does not figure in the top state as far as employable population is concerned.

Figure 1: Map of states with highest employable population



(Source: India skills Report 2015 prepared by CII & Wheelbox)

Skilling India

Skilling India would be two dimensional:

- Providing the large incoming workforce with relevant skills that match the requirements of industry – in short an industry ready workforce
- Enhancing the skills of the existing workforce at all levels by encouraging not only On-the Job training, but also formal training both external and in-house to further imbibe and understand new technologies and ways of working and improve their productivity and efficiency.

If we take the example of Switzerland, the 1990s saw a sudden downturn in the labour market. This made it necessary for

Switzerland to alter its labour market policy, from being mostly passive to becoming an active policy. Lack of relevant qualifications was one of the main factors prolonging the unemployment of those concerned, in Switzerland. For long, a majority of those who found themselves unemployed neglected the option of seeing to their own continuous education needs. The reasons for this approach by individual workers may be attributed to the lack of financial incentives i.e. wage structure that is linked more to years of service, with education- related differences in wages being very slight.

The emphasis of Skilling India should be to provide continuous skill up-gradation to employees at all levels. It may be questioned that certain levels do not need training and the result is that these groups have been neglected for years, while their more fortunate colleagues are regularly deputed for various training programmes. The author, by her own vivid experience, is of the opinion that even such groups as clerks, helpers, cleaners, peons, drivers, security personnel and a host of other workers who do manual or repetitive jobs stand to gain by acquiring new skills relevant to their job as well as attitudinal skills. In addition, it is also possible and necessary to train them to do their existing jobs more efficiently e.g. use of cleaning equipment, security equipment or even simple jobs as how to behave and serve their employers and visitors. The younger amongst them are particularly appreciative of being sent for such trainings and have voiced their desire to acquire computer and other technological skills.

Conclusions

The 'Skilling India' India initiative should focus on

- Re-designing the curriculum at all levels from the primary level onwards which ensures both basic functional literacy as well as life skills. The concept of meritocracy should be the primary concern at all levels.
- Emphasis on understanding the subject, logical and critical thinking, problem solving rather than rote learning.
- Emphasis on both theory and practical aspects
- Forecasting future requirements of employers and continuous review and revision of curriculum especially for professional courses. e.g the increasing need for persons in mecatronics

- Linking wages to productivity and performance with special incentives for those employees who continuously up-grade their skills and display an interest in life-long learning.
- Bringing in concepts as online learning which is flexible and cost-effective. With the 'Digital India' initiative, we hope to have more and better connectivity.
- PPP model wherein Industry is actively involved in the Skill development Process
- Government incentives to companies who focus on employee learning. This is especially required for the MSMEs as because of their low employee base and high cost of training, it may not be possible for them to have a regular HR initiatives for training.
- The effort of opening Skill Development Centres is a step in the right direction. However, it is hoped that they will emphasize on the quality of training rather than just numbers and set high standards for their learners.
- The setting up of a job portal for providing opportunities to aspiring candidates and MSMEs to connect is a step in the right direction. Ref Economic Times, June 15, 2015

Skilling the present unskilled population of India will truly help the country to become a global superpower and a Human Resource Hub for the world.

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Mutual Fund: Rural Investors' Perception Towards Importance Level of Factors on Investment

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Abstract

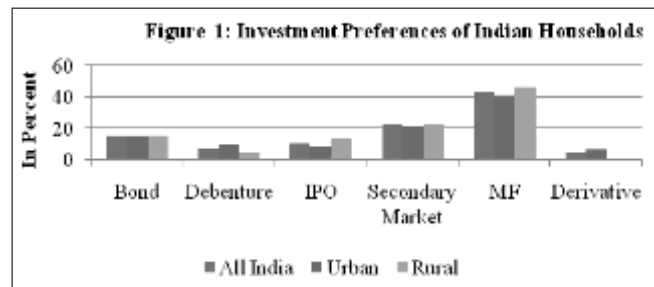
The people in India have been amongst the highest savers in the world, saving around 33% of the country's Gross Domestic Product (GDP) annually. However, most of these savings, especially in rural and semi-urban areas, were parked in regular bank deposits. Now-a-days, the villages close to urban centers significantly participated in financial markets, particularly in the MFs. So, this empirical research involve to assess and analyze the importance level of factors on affecting investment in MFs among investors of rural households according to their gender, age groups, marital status, education, occupation, earning number of family members, family income and proportion of saving. 226 valid respondents selected from various rural households of Kancheepuram District of Tamil Nadu State using multi-stage sampling method. Kruskal-Wallis and Mann-Whitney U tests were used to analyze the primary data and it is concluded that the importance level of various factors on affecting investment in MFs does not differ significantly among selected demographic factors except education and occupation of the investors.

Keywords: Rural Households, Investment, Mutual Funds, Small savings

Introduction and execution of the study

India which has a population of over 1.2 billion but only 300 million having bank accounts and only 4.16 crore rural households have access to basic banking services, out of 13.83 crore rural households. Further, the rural financial markets also identified that the lack of access to credit and lack of financial savings. For that reason, everyone talks about financial inclusion. The Government of India (GoI) continuously enhances the financial education through banks, post offices, insurance and investment companies in more than 6,00,000 villages across the country. Mutual Funds (MFs) also as one of the instruments for financial inclusion because the Mutual Fund (MF) organizations providing trusted and reliable service to the investors. So, there is tremendous opportunity to distribute MFs in the rural and semi-urban areas. 70% of India still exists in rural and semi-urban areas, where people derive their income predominantly from agriculture and related activities. Traditionally, rural people

allocate savings in a very conservative manner, mostly to fixed deposits, postal savings or precious metals. The growing awareness of MFs in rural areas offers competition to small savings to other avenues like post office savings, Kisan Vikas Patra (KVP) and so on. So, MFs are the most preferred route for market investments, with about 43 per cent of the Indian households. The attraction for MFs was higher among rural households, with 46 per cent of them choosing MFs as against 41 per cent of urban investors (Refer Figure 1). So, this study concentrates to find out the rural investors' perception towards importance level of factors on investment of MFs.



(Source: National Council of Applied Economic Research)

Objective of the study

The aim of the present study is to assess and analyze the rural investors' perception towards importance level of factors on affecting investment in MFs according to various demographic factors

Hypotheses of the study

H₀: There is no significant difference of importance level of various factors on affecting to invest in MFs among various demographic factors of the rural investors.

H₀₁: There is a significant difference of importance level of various factors on affecting to invest in MFs among various demographic factors of the rural investors.

Review of literature

Jambodekar (1996) says that income schemes and open-ended schemes are more preferred than growth schemes and close-ended schemes. Investors are given most importance to the

safety of principal amount, liquidity nature, capital appreciation and so on. Sujit and Pal Singh (1996) reported that the salaried and self-employed group is the important investors of MFs in North Eastern Region because tax concessions factor influenced among them. The UTI and SBI MF schemes were popular in that part of the country then and other funds had not proved to be a big hit. Goetzman and Peles (1997) reported that there is evidence that investor psychology affects fund/scheme selection and switching. Syama Sunder (1998) studied the operations of Kothari Pioneer MF through investor perception in Vishakapatnam. The author concludes that there is a poor awareness of MF and open-end schemes. Further, agents play a vital role in distribution of MF schemes or culture. Income and age group of the investors influenced to selection of MF scheme. Shanmugham (2000) reported that psychological and sociological factors dominated the economic factors regarding investment decisions on individual investors. Anjan and Harsh (2000) in their study reveals that brand image factor, though cannot be easily captured by computable performance measures and investor's perception and hence his fund/scheme selection.

Karthikeyan (2001) found that there was significant difference of awareness level among various age groups towards KVP, deposit scheme for retired employees and national savings schemes. Singh and Vanita (2002) in their findings showed that public sector MF schemes is the most preferred avenue among investors in Delhi and invested between 3-5 years. The study further concludes by stating that majority of the investors were dissatisfied with the performance of their preferred MF schemes particularly growth schemes. Lee and Marlowe (2003) studied about influencing factors on the selection of financial institutions among the consumers. They found that most important factors on convenience in terms of location of office and/or other convenience features. This is followed by retail fees, range of services offered and the existing personal relationship is the major factors on decision-making criteria for selection of financial institutions. Satish (2004) opined that investors preferred MFs compared to banking and insurance products in the city areas and they expect moderate return and accepted moderate risk. The 3/5th of the investors preferred growth schemes. Jaspal Singh and Subahash Chander (2006) in their empirical study found that the majority of the investors take decision based on the advice of brokers, professionals, financial advisors and newspapers advertisement. Krishnamoorthy (2009) found that investment decision depends on the education, occupation reading habit of investment news of the investors. Binod Kumar (2011) concluded that demographic factors like, gender, income and level of education have significantly influenced the investors' attitude towards MFs. Shah and Verma (2011) study the behavioural aspects of youth investors during

the recovery phase of stock market in India.

Research methodology

This empirical research has used primary data to find the importance level of factors on affecting investment in MFs. The primary data was collected through the questionnaire-cum-interview schedule. This study used to 226 valid respondents who are invested in MFs and the selected respondents in various rural households of Madhuranthagam Taluk, Kancheepuram District of Tamil Nadu State using multi-stage sampling technique and the primary data was collected recently. The importance level of fourteen factors regarding influencing to invest in MFs has been collected in the form of 'highly important', 'important', 'Neutral', 'not important' and 'not at all important' with proper scoring technique based on the gender, age group, marital status, education, occupation, number of earning family members, family income and proportion of saving. The importance of the each group of respondents in various demographic factors was measured with the help of total weighted / maximum possible $\times 100$. For the purpose of the study, the importance scores were converted into three zones like < 27 like low importance, $> = 27$ to $< = 45$ like medium importance and $> = 46$ like high importance with the techniques of Mean $\pm$ SD importance. The statistical applications like Mann-Whitney U and Wilcoxon W test was used to analyze the collected primary data.

Wilcoxon-Mann-Whitney test (Rank sum test or U test)

Mann – Whitney U test is a non-parametric method in statistical work and it is an alternate for t-test. This test makes it possible to work with very small samples and does not require conditions. It is used to determine whether there is any significant difference between two related samples based on rank of the combined data from low to high using the given formula.

$$U = n_1 n_2 + \frac{n_1(n_1 + 1)}{2} - \sum R_1$$

Where,

n_1 and n_2 = sample size

$\sum R_1$ = Sum of Ranks

Mean sample statistics = $\frac{n_1 n_2}{n}$

$$\text{Standard Error of U statistics} = \sqrt{\frac{n_1 n_2 (n_1 + n_2 + 1)}{12}}$$

If the sample size is more than 8, with the given level of statistical significance, the test will report whether the calculated value of U test statistic falls within the acceptance region or not. The U statistic can further be interpreted by using the Z statistic based on five percent level of significant.

Kruskal-Wallis H test

It is a non-parametric test, introduced in 1952 by Kruskal and Wallis. It is a k-sample extension of the two sample Man-Whitney test. It is used to determine whether there is any significant difference between two related samples based on rank of the combined data from low to high. It requires that the random variable has an underlying continuous distribution. Thus, the Kruskal-Wallis H test is computed from the given formula

$$H = 12/N(N+1) [R_1^2/N_1 + R_2^2/N_2 + R_3^2/N_3 - 3(N+1)]$$

Where,

N = Total number of samples

R = Is the ranks sums of each K samples

N_1, N_2 and N_3 = is the number of each samples

Further, the computed value of H test is compared to the chi-square table with determined degree of freedom ($V = K-1$). Computed value falls within the range of table value, the null hypothesis is accepted. Thus, it says that there is no significant difference of particular event among the various groups.

Analysis and discussions

Demographic Factors of the Respondents

Distribution of the respondents based on their various demographic factors is shown in the table below.

Table 1: Demographic Factors of the Respondents

Factor	Attribute	No. of Respondents	%
Gender	Male	152	67.26
	Female	74	32.74
Age group (In Years)	Upto 25	33	14.60
	26-45	168	74.34
	Above 45	25	11.06
Marital status	Married	170	75.22
	Unmarried	56	24.78
Education	Primary education (I-VIII)	18	7.96
	School education (IX-XII)	43	19.03
	Higher education	128	56.64
	Technical education	37	16.37
Occupation	Government employee	33	14.60
	Private employee	99	43.81
	Professional	26	11.50
	Businessman	32	14.16
	Agriculturalists	18	7.96
	Others (Student, homemaker, Weavers etc.)	18	7.96
Earning members in the family (In Nos.)	1	108	47.79
	2	91	40.27
	3	27	11.95

Factor	Attribute	No. of Respondents	%
Family Income (Rs. Per Month)	Up to Rs.10, 000	25	11.06
	Rs.10,001- Rs. 20,000	70	30.97
	Above Rs. 20,000	131	57.96
Proportion (%) of saving per month	Upto 10	71	31.42
	11 -20	64	28.32
	Above 20	91	40.26

(Source: Field Survey)

Table 1 shows that majority (67.26%) of the respondents is male and then, nearly 3/4th of the respondents belong to middle age group (26 – 45 years). This is followed by 3/4th of the respondents are married, 56.64% of the respondents have completed higher level education, majority (43.81%) of the respondents working in private organizations, majority (47.79%) of the respondents' family has single earning member, 57.96% of the respondents family have their monthly income if Rs. 20,000 & above and 2/5th of the respondents family have saving of more than 20% of their total income.

Comparison of gender, age group, marital status of the respondents and their Importance Level of various factors on Affecting to Invest in MFs

Ho: There is no significant difference between gender, age group, marital status of the respondents and their importance level of various factors on affecting to invest in MFs.

Ho₁: There is a significant difference between gender, age group, marital status of the respondents and their importance level of various factors on affecting to invest in MFs.

Table 2: Factors Affecting on Investment in MFS among the Gender, Age group and Marital Status of the Respondents

Factor	Gender		Age group (In Years)			Marital Status	
	Male	Female	Upto 25	26 -45	Above 45	Married	Unmarried
Steady returns	HI	HI	HI	HI	HI	HI	HI
Greater tax benefits	HI	HI	HI	HI	HI	HI	HI
Reputation of the fund manager	HI	HI	HI	HI	HI	HI	HI
Risk diversification	HI	HI	HI	HI	HI	HI	HI
redemption of fund schemes within stipulated time	HI	HI	HI	HI	HI	HI	HI
Innovativeness of the mutual fund schemes	HI	HI	HI	HI	HI	HI	HI
Fund performance record	HI	HI	HI	HI	HI	HI	HI
Withdrawal facilities	HI	HI	HI	HI	HI	HI	HI
Reliability of the schemes	HI	HI	HI	HI	HI	HI	HI
Scheme's expense ratio	HI	HI	HI	HI	HI	HI	HI
Funds reputation	HI	HI	HI	HI	HI	HI	HI
Trust of the schemes	HI	HI	HI	HI	HI	HI	HI
Growth of the schemes	HI	HI	HI	HI	HI	HI	HI
Maturity period of the schemes	HI	HI	HI	HI	HI	HI	HI
Mean	15.57	13.43	24.86	21.36	18.29	12.57	16.42

Mann-Whitney U	83.00		71	
Wilcoxon W	188		176	
Z/χ ² with df	-0.689	2.013 with 2	-1.24	

(Source: Field Survey; LI –Low Importance; MI –Medium Importance; HI–High Importance;** Sig. at 1% & * Sig. at 5% level)

Discussion: Table 2 explains that all the factors are highly affected among the various groups of the gender, age group and marital status of the respondents towards invest in MFs schemes. Further, testing of hypotheses reported that there is no significant difference between gender, age group, marital status of the respondents and their importance level of various factors on affecting to invest in MFs. because all the asymptotic significant value comes out greater than five percent level of significant. So Accept Ho & Reject Ho₁.

Comparison of Educational Qualification, Occupation of the respondents and their Importance Level of various factors on Affecting to Invest in MFs

Ho: There is no significant difference between educational qualification, occupation of the respondents and their importance level of various factors on affecting to invest in MFs.

Ho₁: There is no significant difference between educational qualification, occupation of the respondents and their importance level of various factors on affecting to invest in Mfs.

Table 3: Factors Affecting on Investment in MFS among the various Educational Qualifications and Occupations

	Educational qualification				Occupation					
Factors	Prim ary educ ation	School educ ation	Higher educ ation	Technical education	Govern ment emplo yee	Private emplo yee	Prof essio nal	Bus iness man	Agri cultur alists	Others
Steady returns	LI	HI	HI	HI	HI	HI	HI		MI	HI
Greater tax benefits	MI	HI	HI	HI	HI	HI	HI	HI	HI	HI
Reputation of the fund manager	MI	HI	HI	HI	HI	HI	HI	HI	HI	HI
Risk diversification	MI	HI	HI	HI	HI	HI	HI	HI	HI	HI
Redemption of fund schemes within stipulated time	MI	HI	HI	HI	HI	HI	HI	HI	HI	HI
Innovativeness of the mutual fund schemes	MI	HI	HI	HI	HI	HI	HI	HI	HI	HI
Fund performance record	HI	HI	HI	HI	HI	HI	HI	HI	HI	HI
Withdrawal facilities	MI	HI	HI	HI	HI	HI	HI	HI	HI	HI
Reliability of the schemes	MI	HI	HI	HI	HI	HI	HI	HI	HI	HI
Scheme's expense ratio	MI	HI	HI	HI	HI	HI	HI	HI	HI	HI
Funds reputation	MI	HI	HI	HI	HI	HI	HI	HI	HI	HI
Trust of the schemes	MI	HI	HI	HI	HI	HI	HI	HI	HI	HI

Growth of the schemes	MI	HI	HI	HI	HI	HI	HI	HI	HI	HI
Maturity period of the schemes	MI	HI	HI	HI	HI	HI	HI	HI	HI	HI
Mean	7.50	35.14	31.21	40.14	27.43	38.61	41.60	40.21	44.39	62.75
Mann-Whitney U	-				-					
Wilcoxon W	-				-					
Z/χ ² with df	33.070 with 3**				15.585 with 5**					

(Source: Field Survey; LI –Low Importance; MI –Medium Importance; HI –High Importance; ** Sig. at 1% & * Sig. at 5% level)

Discussion: Table 3 concluded that all the factors are highly affected among the various groups of occupation of the respondents as well as educational qualification of the respondents except primary education groups towards invest in MFs schemes. Further, testing hypotheses reported that there is a significant difference between educational qualification and occupation of the respondents and their importance level of various factors on affecting to invest in MFs So (Accept Ho1 & Reject Ho).

Comparison of Family Income, No. of Earning Family Members and Proportion of saving of the respondents and their Importance Level of various factors on Affecting to Invest in MFs

Ho: There is no significant difference between no. of earning family members, family income and proportion of saving of the respondents and their importance level of various factors on affecting to invest in MFs.

Ho₁: There is a significant difference between no. of earning family members, family income and proportion of saving of the respondents and their importance level of various factors on affecting to invest in MFs.

Table 4 : Factors Affecting on Investment in MFS among the various groups of Earning No. of Family Members, Family Income and Proportion of Saving of the Respondents

Factors	No. of Earning Family Members			Family Income (In Rs. Per Month)			Proportion of Saving (In % Per Month)		
	1.00	2.00	3.00	Upto Rs.10,000	Rs.10,001 -20,000	Above Rs.20,000	Upto 10	11-20	Above 20
Steady returns	HI	HI	HI	HI	HI	HI	HI	HI	HI
Greater tax benefits	HI	HI	HI	HI	HI	HI	HI	HI	HI
Reputation of the fund manager	HI	HI	HI	HI	HI	HI	HI	HI	HI
Risk diversification	HI	HI	HI	HI	HI	HI	HI	HI	HI
Redemption of fund schemes within stipulated time	HI	HI	HI	HI	HI	HI	HI	HI	HI
Innovativeness of the mutual fund schemes	HI	HI	HI	HI	HI	HI	HI	HI	HI
Fund performance record	HI	HI	HI	HI	HI	HI	HI	HI	HI
Withdrawal facilities	HI	HI	HI	HI	HI	HI	HI	HI	HI
Reliability of the schemes	HI	HI	HI	HI	HI	HI	HI	HI	HI
Scheme's expense ratio	HI		HI	HI	HI	HI	HI	HI	HI
Funds reputation	HI	HI	HI	HI	HI	HI	HI	HI	HI
Trust of the schemes	HI	HI	HI	HI	HI	HI	HI	HI	HI
Growth of the schemes	HI	HI	HI	HI	HI	HI	HI	HI	HI
Maturity period of the schemes	HI	HI	HI	HI	HI	HI	HI	HI	HI
Mean	19.39	20.14	24.96	23.82	23.89	16.78	22.29	24.50	17.71

Mann-Whitney U	-	-	-
Wilcoxon W	-	-	-
Z/ χ^2 with df	1.702 with 2	3.102 with 2	2.228 with 2

(Source: Field Survey; LI-Low Importance; MI-Medium Importance; HI-High Importance; ** Sig. at 1% & * Sig.at 5% level)

Discussion: Table 4 conclude that all the factors are highly affected among the various groups of no. of earning family members, family income and proportion of saving of the respondents towards invest in MFs schemes. Further, asymptotic significance value of hypotheses testing reported that there is no significant difference between no. of earning family members, family income and proportion of saving of the respondents and their importance level of various factors on affecting to invest in MFs.

Conclusion

In the present financial market, where a large number of private financial companies have disappeared, The MFs savings offer the best and safest avenue of investment of rural and urban household savings and also MFs savings completely secure with stable return. This empirical study focus on rural investors and the investor should take extreme care to judge the various factors such as steady returns, risk diversification, withdrawal facilities, Maturity period, tax benefits etc. From the study it was concluded that importance level of various factors on affecting to invest in MFs of the rural investors is to significantly different among various education and occupations. Finally, this study suggest that the MFs companies must increase their penetration in smaller cities and rural areas while financial literacy should be delivered at affordable, though market driven costs among the uneducated also because of seventy percent to the total population living in villages across the country.

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P/E Ratio and Stock Return Relationship with Reference to Nifty-50 Index

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Abstract

Performance of the portfolio can be evaluated by Treynor and Sharpe. Among the two mentioned performance measurement methods, Treynor and Jensen model use systematic risk based on the assumption that unsystematic can't be diversifiable. Sharpe measures considers the entire risk associated with fund and hence are suitable for investor, as investor lacks the necessary knowledge to diversify the risk.

A valuation ratio of company's current share price is compared to its share earnings. In general high P/E suggest that investor are expecting higher earnings growth as in comparison with low P/E.

Research Problem

The study has been undertaken to examine the relationship of P/E ratio and return of a stock while taking an investment decision. The supporter of price earnings ratio hypothesis believe that the portfolio having low P/E stocks gains higher return relative to higher P/E portfolio stocks.

Objectives of the study

1. To examine the existence of price /earning ratio related to Nifty 50 Index
2. To analyse the return of stocks of Nifty 50 Index
3. To investigate whether low P/E investment strategy can be used for generating abnormal returns.

Overview

Research can be defined as an inquiry especially through search for new facts in already branch of study. It contains procedures , definitions and explanations of techniques used to collect and analyze information in a particular manner.

Population : All the listed stocks in NSE

Sample : NSE Nifty Index

Data Collection : Secondary Data

Research Design

NSE is taken as source of information. To test the efficiency researcher has used NSE as a source of secondary data. For the purpose of addressing the problem and satisfying the

researcher's objective, Nifty Stocks are taken and they are analyzed for the last year 2014. Based on P/E ratio, they are arranged in ascending order from low P/E to high P/E. From this sample of 50 stocks are divided into 5 different portfolios. Portfolio-1 consists of lowest P/E ratio. In this manner second, third, fourth and fifth portfolios are created in the same line.

For the calculation purpose spreadsheet has been used and conclusion are drawn based on the result.

Data Analysis

For the purpose of data analysis, two measure of portfolio management theory are considered i.e. Sharpe's Performance Index and Treynor Performance Index.

- **Sharpe's Performance Index** : William Sharpe developed a composite measure index which is very similar to Treynor Performance Index. In this measure the total risk is taken into consideration rather than just systematic risk i.e. beta

$$\text{Sharpe} = \frac{R_p - R_f}{S.D}$$

Where

R_p = Return of portfolio

R_f = Risk free return of that period i.e. for the 2014. Risk free return is taken of 364 T-bill returns approximately 8%

S.D = Standard Deviation of the Portfolio

- **Treynor's Performance Index** : Treynor index considers the systematic risk (beta). It measures the portfolio risk with beta and calculates the portfolio market risk premium relative to its beta

$$\text{Treynor} = \frac{R_p - R_f}{\text{Beta}}$$

Where

R_p = Return of portfolio

R_f = Risk free return of that period i.e. for the 2014. Risk free return is taken of 364 T-bill returns approximately 8%

Beta = Beta of the portfolio

Table 1 shows the Portfolios with their beta, average return and standard deviation

Table 1: Portfolio - 1

Company name	P/E (Times)	Beta	S/D (%)	Average Return (%)
Cairn India Ltd.	4.46	0.83	3.54	-48
Indusland Bank Ltd.	4.46	1.176	3.76	138
NMDC Ltd.	7.43	1.46	5.07	24
Punjab National Bank	8.44	1.822	5.48	126
Tata Motors Ltd.	9.47	1.32	3.99	74
Bank of Baroda	9.9	2.063	5.51	110
Hindustan Unilever Ltd.	9.9	0.17	3.02	61
Oil & Natural Gas Corporation Ltd.	9.98	1.818	5.174	58
GAIL (India) Ltd.	10.12	1.48	4.55	63
Larsen & Toubro Ltd.	10.12	1.89	4.61	91

Table 2: Portfolio-2

Company name	P/E (Times)	Beta	S/D (%)	Average Return (%)
NTPC Ltd.	11.06	1.26	5.07	30
Sesa Sterlite Ltd.	11.06	2.02	6.12	39
Tata Steel Ltd.	11.57	1.97	5.65	15
Reliance Industries Ltd.	12.19	1.47	3.625	11
State Bank of India	13.16	1.77	4.86	129
Bharat Petroleum Corporation Ltd.	14.29	1.89	5.29	143
I T C Ltd.	14.29	0.7	2.72	34
Mahindra & Mahindra Ltd.	16.17	0.7	3.54	66
Power Grid Corporation of India Ltd.	16.17	1.3	3.56	68
Coal India Ltd	16.53	1.29	4.7	72

Table 3: Portfolio-3

Company name	P/E (Times)	Beta	S/D (%)	Average Return (%)
Infrastructure Development Finance Co. Ltd.	16.53	1.49	5.53	94
Bajaj Auto Ltd.	17.25	0.73	2.92	54
Hindalco Industries Ltd.	17.25	2.12	6.03	75
Wipro Ltd.	18.09	-0.002	2.99	5
Axis Bank Ltd.	21.72	1.609	4.53	148
Hero Honda Motors Ltd.	21.72	1.021	3.88	82
Tech Mahindra Ltd.	24.28	0.21	3.11	72

Tata Consultancy Services Ltd.	24.55	0.29	2.953	36
Tata Power Co. Ltd.	24.71	1.587	4.82	16
ACC Ltd.	25.59	1.233	3.75	59

Table 4: Portfolio-4

Company name	P/E (Times)	Beta	S/D (%)	Average Return (%)
Grasim Industries Ltd.	25.59	1.13	3.43	60
Ambuja Cements Ltd.	26.35	1.321	3.82	58
HCL Technologies Ltd.	26.35	-0.027	3.86	56
Bharat Heavy Electricals Ltd.	26.61	2.45	7.37	125
Housing Development Finance Corporation Ltd.	26.61	1.08	3.65	74
Dr. Reddy's Laboratories Ltd.	26.78	-0.344	3.99	57
Kotak Mahindra Bank Ltd.	26.78	1.09	3.67	119
Bharti Airtel Ltd.	31.21	0.61	3.69	26
ICICI Bank Ltd.	31.24	1.55	4.09	110
UltraTech Cement Ltd.	34.89	1.33	4.361	98

Table 5: Portfolio-5

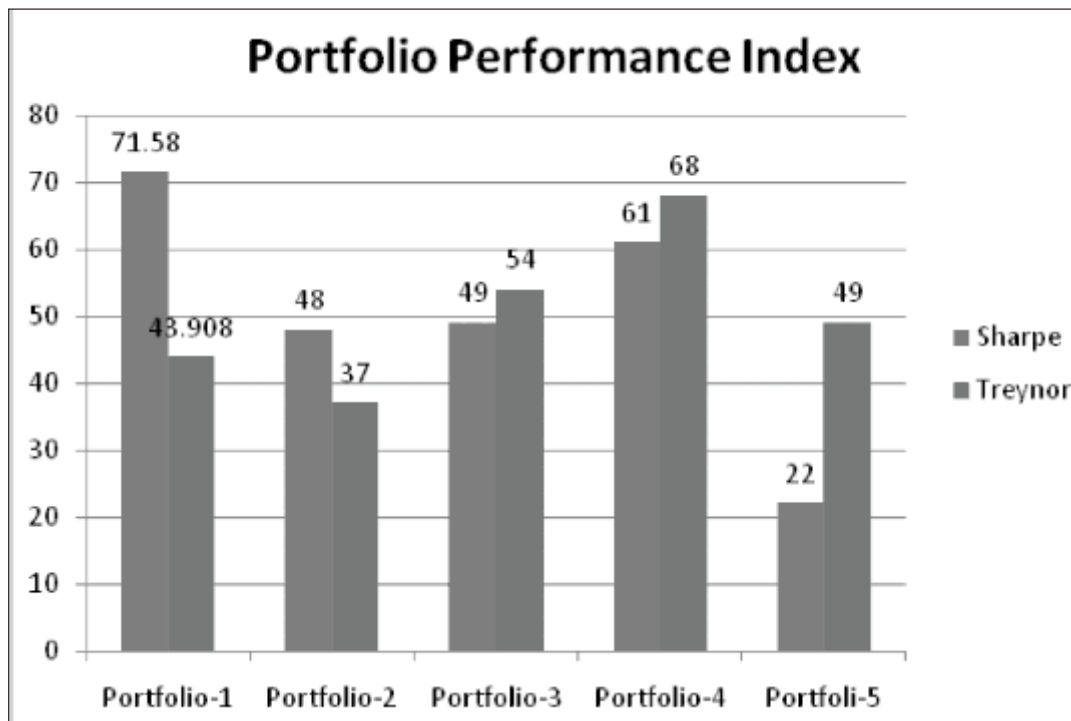
Company name	P/E (Times)	Beta	S/D (%)	Average Return (%)
Lupin Ltd.	34.95	0.195	2.74	86
Sun Pharmaceutical Industries Ltd.	36.21	-0.039	3.74	75
Maruti Suzuki India Ltd.	38.8	1.25	3.76	128
Cipla Ltd.	45.96	0.524	3.72	99
Infosys Technologies Ltd.	45.96	0.38	3.25	29
DLF Ltd.	48.46	2.43	8.51	-1
Jindal Steel & Power Ltd.	48.46	2.12	7.18	-61
Asian Paints Ltd.	58.22	0.619	3.56	95
HDFC Bank Ltd.	58.22	0.88	2.55	56
United Spirits Ltd.	65.88	0.607	4.015	16

Table 6: Sharpe and Treynor Performance Index of Each Portfolio

Portfolio	Sharpe	Treynor
Portfolio-1	71.58	43.908
Portfolio-2	48	37
Portfolio-3	49	54

Portfolio	Sharpe	Treynor
Portfolio-4	61	68
Portfolio-5	22	49

Figure 1: Portfolio Performance Index



Conclusion

It is clearly evident that low P/E stocks gives more return as in comparison as per unit risk taken. As the Portfolio-1 stands out in Sharpe's Performance Index while Portfolio-4 clearly shows high Treynor Performance Index.

Now with the help performance index, the investor should invest in those companies which are giving more return in comparison to unit risk. Thus Portfolio-1 is outperforming on that aspect. But most importantly the investor should not keep P/E as a sole base invest as it does not work fully, but up to some extent it is proved viable .

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A Study On Financial Inclusion-With Reference To Pradhan Mantri Jan Dhan Yojana

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Abstract

Indian financial system is dominated by bank standing first by acquiring 63 per cent of total assets of the financial system. The Government of India has adopted financial inclusion as a state policy. Financial inclusion- more particularly when promoted in the wider context of economic inclusion helps in uplifting financial conditions and improves the standards of lives of the poor. Easy access to affordable financial services would lead to increasing economic activities and employment opportunities for rural households with a possible multiplier effect on the economy. It will also enable the Government to provide social development benefits and subsidies directly to the beneficiary bank accounts, thereby drastically reducing leakages and pilferages in social welfare schemes. The present paper is a conceptual one highlighting on: firstly, implementation of the Pradhan Mantri Jan-Dhan Yojana (PMJDY) as a part of Financial Inclusion .Second part talks about various steps taken by government to make the schemes success. Lastly, an attempt has been made to identify some issues related to PMJDY implementation.

Key Words: PMJDY, Bank Mitras, Financial Inclusion.

Introduction To Jan Dhan Yojana

Financial inclusion- defined, by the Committee on Financial Inclusion, 2008, as the process of ensuring access to financial services and timely and adequate credit where needed by vulnerable groups such as weaker sections and low income groups at an affordable cost. Primarily represents access to a bank account backed by deposit insurance, access to affordable credit and the payments system. Financial inclusion- more particularly when highlighted in the wider context of economic inclusion, can uplift financial conditions of the people living below standard and financial system is not an easy reach. Access to affordable financial services would lead to increasing economic activities and employment opportunities for rural households with a possible multiplier effect on the economy. Further, expanding the reach of financial services, Pradhan Mantri Jan-Dhan Yojana (PMJDY) is National Mission for Financial Inclusion to ensure access to financial services, namely, Banking/ Savings & Deposit Accounts, Remittance, Credit, Insurance, Pension in an affordable manner. Account can be opened in any bank branch

or Business Correspondent (Bank Mitr) outlet. PMJDY accounts are being opened with Zero balance.

The whole system of opening the account is made very simple where, one need to have Aadhaar Card. If Aadhaar Number is available then no other documents are required. If address has changed, then a self certification of current address is sufficient. If Aadhaar Card is not available, then any one of the Officially Valid Documents (OVD) is required: Voter ID Card, Driving License, PAN Card, Passport & NREGA Card. If these documents also contain address, it can serve both as "Proof of Identity and Address". If a person does not have any of the "officially valid documents" mentioned , but it is categorized as 'low risk' by the banks, then he/she can open a bank account by submitting any one of the documents; Identity Card with applicant's photograph issued by Central/State Government Departments, Statutory/Regulatory Authorities, Public Sector Undertakings, Scheduled Commercial Banks and Public Financial Institutions; Letter issued by a gazette officer, with a duly attested photograph of the person.

PMJDY Scheme and its benefits

- Interest on deposit.
- Accidental insurance cover of ₹ 1.00 lac
- No minimum balance required.
- Life insurance cover of ₹ 30,000/-
- Easy Transfer of money across India
- Beneficiaries of Government Schemes will get Direct Benefit Transfer in these accounts.
- After satisfactory operation of the account for 6 months, an overdraft facility will be permitted
- Access to Pension, insurance products.
- Accidental Insurance Cover, RuPay Debit Card must be used at least once in 45 days.
- Overdraft facility upto ₹ 5000/- is available in only one account per household, preferably lady of the household.

Administrative Structure and Statistical Data Relating To Pradhan Mantri Jan-Dhan Yojana

Table 1: Administrative Structure of PMJDY

Headed By	Role	Name
Finance Minister	Mission Head	Shri Arun Jaitley
Secretary (FS)	Mission In-charge	Dr. Hasmukh Adhia
Joint Secretary (FI)	Mission Director	Shri Rajesh Aggarwal
Director (FI)	Additional Mission Director	Dr. Alok Pande

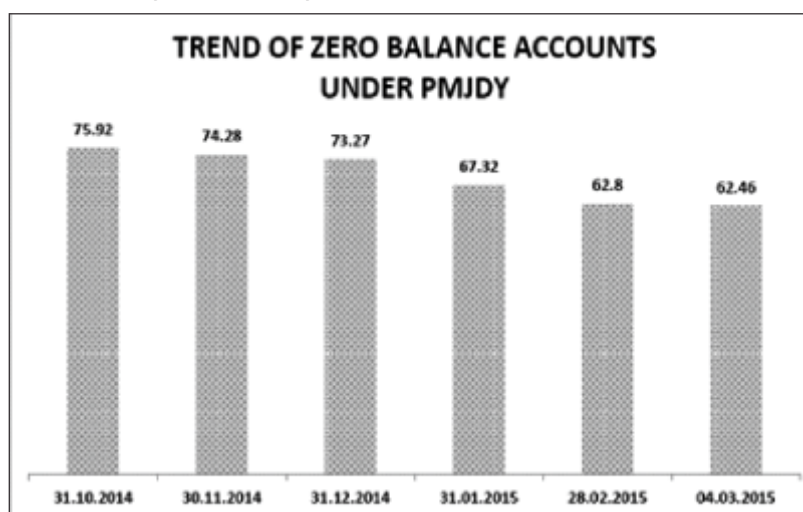
(Source: Pradhan Mantri Jan-Dhan Yoyana(PMJDY)- Department of Financial Services-Ministry of Finance, Government of India)

Table 2: Number of Accounts opened under PMJDY as on 28.02.2015

Type of Bank	Rural	Urban	Number of Accounts	Number of Rupay Debit card	Balance in Accounts (In Lacs)	Number of Accounts with Zero Balance
Public Sector Banks	58005517	49292126	107297643	100092148	993720.98	66368364
RRB	20226665	3577226	23803891	16678823	196174.44	16308625
Major Private Banks	3417045	2285316	5702361	5117247	79492.07	3239985
Grand Total	81649227	55154668	136803895	121888218	1269387.5	85916974

(Source: Pradhan Mantri Jan-Dhan Yoyana(PMJDY)- Department of Financial Services-Ministry of Finance, Government of India)

Figure1: Showing the Trend of Zero Balance Accounts



(Source: Pradhan Mantri Jan-Dhan Yoyana(PMJDY)- Department of Financial Services-Ministry of Finance, Government of India)

Table 3: Showing the Number of Household Survey:

Allotted wards - SSA's	Wards-SSA's Survey done	Total Household	Total Household Covered	% of Household Covered
226,197	226,134	210,621,192	210,598,255	99.99

(Source: Pradhan Mantri Jan-Dhan Yoyana(PMJDY)- Department of Financial Services-Ministry of Finance, Government of India)

Steps Taken By the Government for Successful Implementation of the Scheme

• Financial Literacy

Considering the large level of illiteracy including financial literacy in the country in both rural and urban areas, it is essential that people are made aware about banking, insurance and pension facilities schemes so as to provide them with transactional, economic and social security. A copy of Ministry of Corporate Affairs' D.O. dated 04.09.2014 along with the General Circular No. 05/01/2014-CSR dated 18.06.2014 provides that items enumerated in Schedule VII of the Companies Act, 2013 may be interpreted liberally to cover a wide range of activities under CSR. Accordingly, expenditure incurred by companies on promotion of 'financial literacy' will qualify as CSR spend under the activity 'promoting education' mentioned at item (ii) of Schedule VII of the Companies Act, 2013.

• Door to Door Survey

For the purpose of having an assessment of uncovered households, a door to door survey is suggested in each village/urban ward. The aim is to ascertain number of households which do not have a bank account. Services of local youth including NCC/NSS volunteers, Youth Club maybe utilized for the purpose of survey, for the same service they may be paid. While doing survey, publicity for the Yojana was also made and financial literacy material distributed. Account opening forms may also be given to those who do not have bank accounts and they may be asked to open bank accounts.

• Fixed Point Banking

The other components of the plan are providing atleast one Basic Banking Account to each household with RuPay Debit card having inbuilt accident insurance cover of 1 lakh; an overdraft facility of ₹ 5000 after satisfactory operations in the account for six months. Further, an additional life insurance covers of ₹ 30,000/- is also available to accounts opened upto 26th January, 2015, for which modalities are being worked out. The plan inter-alia, envisages Universal access to banking facilities under which all the 6 lakh villages across the entire country would be mapped, organized into Sub Service Areas (SSAs) of 1000-1500 households and allocated to the Banks to provide at least one fixed point Banking outlet in form of either a branch or a Business Correspondent (who is named as Bank Mitra). The following facilities as available in the accounts opened under PMJDY would also be applicable to existing accounts subject to submission of an application by the account holder to the concerned bank branch:

- For issuance of RuPay Debit card having inbuilt accident insurance cover of ₹1 lakh

- For issuance of an overdraft facility of ₹ 5000 after satisfactory operations in the account for some time.
- Overdraft facility of ₹ 5000 as above may be extended to only one member, preferably lady of a house-hold.

• Redressal of Grievances

Banks have opened 8.76 Crore accounts under PMJDY and have issued 5.78 Crore RuPay Cards. All the banks were advised to cover the gap including of their RRBs by 15 Dec. 2014 which latter extended till 31st December, 2014. Banks were asked to open at least one account of adult member in every household. The household coverage as per the survey has increased to 89% and approximately 2.18 crore households are still uncovered. The public feedback route to ascertain and open accounts of any left over to household was also followed. As regard redressal of grievances in PMJDY, Banks were asked to develop a system to redress the complaint in 3 days where no investigation is required and in 7 days where some kind of investigation is required. Banks were asked to issue Pass Book and RuPay Debit Cards to customers at the earliest and to encourage and educate them for deposits and savings Banks were also asked to arrange for sensitizing of their staff members and Training for Bank Mitras, so that customer complaints relating to non-opening of accounts can be eliminated.

• Financial Inclusion

Financial Inclusion is one of the top most priorities of the government. Pradhan Mantri Jan Dhan Yojana (PMJDY) the biggest financial inclusion initiative launched on 28th August 2014 across the country. The ancient Sanskrit verse: **Sukhasya Moolam Dharma, Dharmasya Moolam Artha, Arthasya Moolam Rajyam** –which puts the onus on the state to involve people in economic activity. “This Government has accepted responsibility,” the Prime Minister had said. The Prime Minister had also sent email to an estimated 7.25 lakh bank employees, exhorting them to help reach the target of 7.5 crore bank accounts, and bring freedom from financial untouchability. Against the estimated target of opening bank accounts for 7.5 crore uncovered households in the country, as on date (17th January 2015) Banks have opened 11.50 Crore accounts after conducting survey of 21.02 Crore households in the country. Coverage of 99.74% of the surveyed households has been achieved. The survey was conducted in about 2.27 Lakh Sub Service Areas (SSAs) in rural areas and wards in urban areas in a record time of 4 months. Out of the accounts opened, 60% are in rural areas and 40% are in urban areas. Share of female account holders is about 51%. Rupay cards have been issued to more than 10 Crore beneficiaries who will get a benefit of personal accidental insurance of ₹ 1.00 Lac under the Yojana.

• Other areas

In addition there is a life insurance cover of ₹ 30,000/-for eligible beneficiaries. A deposit of ₹ 9188 crore has been mobilized in the accounts opened under PMJDY. The major shift in PMJDY is that households of both rural and urban areas were targeted instead of only villages as targeted earlier. The present plan pursued digital financial inclusion with special emphasis on monitoring by a Mission headed by the Finance Minister. A mission office comprising of bankers, IT professionals and data analytic was set up for coordination, collation and follow up with various state governments, Banks and other stakeholders. There was weekly monitoring of the efforts made by the Banks in PMJDY. Banks organized account opening camps on every Saturday with a mega camp on last Saturday of the month from 8.00 A.M. to 8.00 P.M. in coordination with District Authorities for opening of bank accounts. A fixed point Business Correspondent (BC) called Bank Mitra, 1.23 Lacs BankMitr have been set up in the country.

Initiatives by Financial Institutions

Bank has opened Financial Literacy and Credit Counselling Centres as a CSR initiative. The objectives behind the initiatives are to provide financial counselling services through face-to-face interaction as well as through other available media like e-mail, fax, mobile etc. as per convenience of the interested persons, including education on responsible borrowing, proactive and early savings, and offering debt counselling to individuals who are indebted to formal and/or informal financial sectors. The Centre named as "SAARTHEE" amply indicating its basic objective of steering those under financial distress and educating others to avoid financial mess. With the objectives of educating the people in rural and urban areas with regard to various financial products and services available from the formal financial sector and to make the people aware of the advantages of being connected with the formal financial sector.

Some Issues in implementation of Jan Dhan Yojana

It is estimated that it will cost a bank about ₹ 50 to maintain a zero balance account. Banks will spend over ₹ 300-400 to open each account - especially since JDY has made it mandatory to give a debit card with each account. Banks offer a zero balance account and then a ₹ 1,000/5,000 average balance account but banks don't have a ₹ 10 average balance account, followed by a ₹ 20 account, then a ₹ 50 account and so on. At present there are no designed products in banks for the low-income customer to drive low-cost deposits. However, some of the bank booklet on JDY being distributed in rural areas says, the account holder will only be eligible for an overdraft up to ₹ 5,000 after six months of satisfactory operation. If not, they will not be eligible for the overdraft. Similarly, accident insurance claims will be processed

only if the card is active - if it has been swiped in the 45 days prior to the claim. Also, under JDY, the countrywide contract for accident insurance (of ₹ 30,000) has been given to just one company. Sources say given poor infrastructure it will be difficult to establish the accident and death claims. Under pressure, the department of financial services gave hard targets to banks, which in turn, transmitted the pressure to local staff and banking correspondents (BCs, agents who represent a bank on the field). "The pressure was so high that I told my staff to disregard norms on opening accounts only for the unbanked," admits the head of a Delhi-based banking correspondent company. To drive financial inclusion, RBI also gave two new banking licences - one to IDFC and the other to Bandhan, a Kolkata head quartered MFI. The puzzle is this: even as the RBI invites applications from the myriad companies that want to become payment banks, the Centre has already rolled out its financial inclusion drive. In that sense, by the time the payment banks start operations, will there be any unbanked households around?

Conclusion

The magnitude of challenge under financial inclusion can be gathered from the fact that only 58.7 per cent of the households in the country have access to banking services. The PMJDY had aimed to provide at least one bank account to each household across the country, with a target of covering 75 million households by 26 January 2015. It targets those who have never had a bank account in their lives. Easy access to the banking system can materially lift India's economic prosperity. Financial accessibility as promised by the PMJDY would certainly help generate higher saving. If bank accounts become the norm, it will also be easier for the Government to directly pay all subsidies into the accounts of the poor. With rapid financial inclusion, the usage of cash would decline in the country in line with the developed countries such as the United Kingdom (2 per cent), Australia (3 per cent) and Japan (6 per cent) going forward. The move towards digital India will make good use of cost-effective technology in future banking growth.

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SMJV CENTENARY
1915 - 2015

Micro-Finance as an Instrument for Development: A Comprehensive Review and Process Model

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Abstract

Micro-finance has many socio-economic implications as it reduces poverty, improves the standard of living, per capita income, women empowerment and education. The study is organized around the comprehensive process model consisting of three propositions which are derived from the literature review. The model combines the micro-finance, economic development, entrepreneurship and small medium enterprises (SMEs) in a logical manner and presents a comprehensive model which includes all these facets. Practical implications of the study include that micro-finance is now becoming very important for the development of economy, because micro-finance addresses the crucial issue of unequal distribution of money which impedes the inclusive growth rate and per capita gross domestic product (GDP) of any nation. The comprehensive model presented in the study will assist policy makers and research academicians in taking various strategic decisions for proper implementation of the schemes devised with a noble concern for development.

Keywords: Micro-finance, Entrepreneurship development, Small medium enterprises (SME's), Micro-finance institutions (MFI's), Poverty reduction, Women empowerment.

Introduction

The area of micro-finance is still a new area of research in the economics and financial management. Although the first micro-finance institution was established in 1980s by the noble laureate Dr. Muhammad Yunus (Yunus, 2003) through Grameen Bank in Chittagong, Bangladesh, but this area is not been profoundly analyzed to that extend and is still a growing field of economic research. The micro-finance institution mostly operate in developing and emerging countries, where they have specialized in offering small scale loans to enable individuals to start small productive businesses and enhance entrepreneurship (Estape-Dubreuil and Torreguitart-Mirada, 2010) especially in rural areas of developing countries, where the financial systems is often at infancy stage. In this case, micro-finance institutions often represent a first opportunity for the local population to participate in financial systems and to benefit from access to business and capital. These micro-finance programs are developed with the aim to support and help poor people to earn their livelihood by

offering micro-loans without collateral. Micro-finance has been reported to successfully help in the upliftment of social and economically deprived section of society in developing countries (Anderson and Locker, 2002; McKernan, 2002; Hermes et al., 2005; Estape-Dubreuil and Torreguitart-Mirada, 2010).

Micro-finance is a credit methodology which involves effective collateral substitute for short-term loans and working capital to micro-entrepreneurs (Hubka and Zaidi, 2005). It is an economic development approach that involves provision of financial services through institutions (micro-finance institutions) to low income people, who have least access to financial services or where the market fails to provide services (Morduch, 1999). The services provided by the Microfinance Institutions (MFIs) include credit saving, short-term loans and insurance services etc. Many microfinance institutions also provide societal services like training and education, organizational and technical support, health and skill development. The micro-finance institutions provide a loan in the form of "micro-credit", which is the extension of small loans to the entrepreneurs who are very poor and does not fall under the ambit of formal bank loans. Micro-credit assists the poorest families to engage in productive activities and self-employment projects that generate income to run their tiny business and improves their standard of living (Khan and Rahaman, 2007).

Microfinance is a form of financial inclusion that has primarily focused on eradicating poverty by providing various financial services to the people living below poverty line. Most people have a perception that microfinance is only about micro-credit i.e. lending small amounts of money to the poor (Islam, 2009). However, microfinance is wider concept; it also has a broader perspective which includes insurance, transactional services, savings, organization and technical support etc. (Barr, 2005). Micro-finance is a bit of a catch all-term; broadly it refers to the provision of financial products targeted at low-income groups. These financial services include credit, savings and insurance products. A series of neologisms has emerged from the provision of these services namely, micro-credit, micro-savings and micro-insurance (Kirkpatrick et al., 2002).

Microcredit is now a global phenomenon which has spread to the

whole world currently it is being implemented in many parts of the world from Latin America to Asia, Africa and even in developed countries like the United States of America, United Kingdom etc. The globalization of microfinance has generated a wave of enthusiasm in development discourses. Much of the impetus of microcredit policy is that it seems to negate all the errors of the previous top-down development paradigm and achieves what previous approaches of development failed to achieve (Fernando, 2007; Chamlee-Wright, 2005). It has given rise to the new approach of development i.e., bottom-up, where development is initiated from the bottom of the societal paradigm. The micro credit policy has earned an almost mythical reputation in development circles and has been widely considered to be a "magic bullet" (Edwards & Hulme, 1996), "one of the hottest anti poverty strategies" (Gugliotta, 1993), "global development architecture" (Weber, 2002, 2004) or "a veritable panacea for poverty" (Rankin, 2001).

In India the concept of micro-finance is differently perceived. For instance if any SHG (self help group) gives loan for any developmental activity it is perceived as micro-finance but if any commercial bank gives similar loan it is most unlikely treated as micro-finance. The reason behind this myth is that micro-finance is bound by some value attributes (Agarwal and Vohra, 2012) which are:

- Micro-finance is and activity undertaken by different sector like, NGO's and SHG's.
- Micro-finance is something done for poverty eradication.
- Micro-finance institutions grow out of commercial developmental context and are termed as alternate commercial sector.
- Micro-finance institutions are exempted from the registration guideline of RBI.

Objectives of the study

The study has been undertaken to evaluate the existing models of Micro-finance with a purpose to provide a comprehensive model of development incorporating economic, entrepreneurship and small medium enterprise development.

Process Model of Micro-finance

The model of micro-finance depicts the various paths which lead to the development as shown in the Figure 1. Broadly the model is based on three presumptions i.e., micro finance leads to economic development, micro-finance leads to entrepreneurship development and micro-finance leads to the development of small medium enterprises. The main aim of this model was to make a detailed analysis of the micro-finance and the various benefits associated with the micro-finance in terms of societal

and economic benefits. So the model is explained in terms of the various presumptions derived from this comprehensive model as shown in Figure 1.

Micro-finance and economic development

Micro-finance plays an important role in the economic development. In India the portfolio of the micro-finance institutions has increase to 97 percent and the number of beneficiaries has gone up to 60 percent. Presently more than 150 million people are borrowing from the micro-finance institutions (Agarwal and Vohra, 2012). The economic growth can be determined by the per capita GDP or aggregate income (Valliere and Peterson, 2009). But this does not give us a true picture of the economic development because there is unequal distribution of income. Aggregate income does not show that each section of the society is growing with the same pace. Also per capita GDP is not the measurement of standard of living and personal income. Instead it is used as an indicator that with the rationale that people will benefit with this there will be increase in the country's economic production. So, economic growth of the country can be achieved through proportionate increase in the income of all citizens. The income can be increased by providing employment opportunities to all the sections of the society, which in turn can be achieved by providing loans at subsidized rates, tax rebate and seed capital to rural and small scale enterprises. The SME's play an important role in the development of economy as they constitute 99.7 percent of all German enterprises, generate 39.1 percent of overall turnover and contribute 46.7 percent of total gross value added in Germany (IfM, 2007; Hammann et al., 2009)

The impact of micro-finance on the economic development can be studied in two facets/dimensions i.e. qualitative and quantitative dimensions. The qualitative dimensions include; poverty reduction, self employment, women empowerment and standard of living as shown in figure 1. Micro-finance is considered as the best remedy for the poverty reduction as it not only provides the finance for the investment in the business but poor people also utilize it to meet their daily needs and uncertainties emergencies and even insurance (Hulme & Mosley, 1996; Mosley, 2001; Armendariz & Morduch, 2005; Khandker, 2005; Banerjee et al., 2009). Poor rural women are the best borrowers when they are provided responsive loan services efficiently at nominal rates. Microfinance institutions can provide micro-credit to the poor in an efficient and financially sustainable way, which results in increase in the number of borrowers and enhances the repayment rate among the borrowers.

Micro-finance also has an important role in the self employment generation as the various developmental activities financed by micro-finance institutions generate employment for the poorest

of poor citizens where the formal financial system is not able to reach. Grameen Bank is ranked as second largest micro-finance institution world-wide in terms of client number, with 48.7 million clients, 85 percent consisting of the poorest women (Daley-Harris, 2007). Many popular initiatives have been taken by Grameen Bank of Bangladesh by devoting large part of funds to support the businesses managed by the women (Sullivan and Meek, 2012). At the end of 2007, women constituted 97 percent of its almost 7.5 million members, a proportion that has been increasing each year from an initial 20 percent in 1976, or a more substantial 46 percent (of total clients of a little more than 58,000) in 1983, when Grameen Bank became an independent operator (Grameen Bank, 2008). There is a consensus among researchers that targeting women has greater impact on their families well being (children education) than loans given to their male counter-parts (McKee, 1989; Mayoux, 2001; Estape-Dubreuil; Torreguitart-Mirada, 2010 and Loro, 2013).

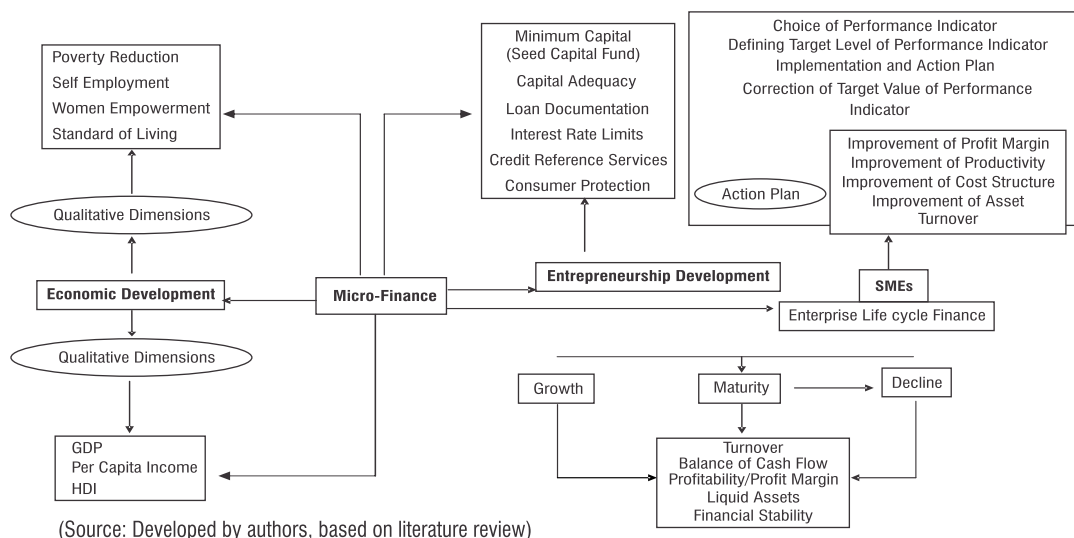
Standard of living means the level of comfort, material goods, wealth, necessities available to a certain socioeconomic class of society in some particular geographical area. Micro-finance institutions have a vital role to play in raising the standard of living by providing loans without collaterals, micro-credit, micro-savings and insurance which raise the overall living standard. The quantitative dimensions include, GDP, per capita income and HDI (human development index) play an important role in the economic development. These dimensions are used to access the extent of development due to the micro-finance. GDP determines the overall increase in the production resulted due to the various developmental projects financed by MFIs. The per capita income determines the increase in the income of every individual citizen which is very important for the inclusive growth rate. The human development index is a composite statistical tool used to determine life expectancy, education and income indices which are used to rank the countries in terms of the human resource development. All microfinance programs have one common target i.e. human development which is geared towards both the economic and social uplift of the people they cater for. The health & hygiene, education, income generation, standard of living etc. are all the consequences of the micro-finance.

As revealed from the above discussion micro-finance leads to the economic development. Micro-finance is one of the important tools for poverty elimination, gender development and self employment generation, as it provides finance to the very poor social class which is not able to avail the formal financial services.

Micro-finance and entrepreneurship development

Entrepreneurship can be understood as the active phenomenon of recognizing an economic demand in an economy and then supplying the various factors of production (land, labour and capital) to satisfy that demand in order to generate a profit. High levels of poverty combined with slow economic growth in the formal sector have forced a large part of the developing world's population into self-employment and informal activities (World Bank Group, 2000). The nature of entrepreneurship depends on the developmental stage of that country. There are many factors which are responsible for the improvement of the entrepreneurship in developing countries. Collier and Batty has identified five primary factors for this. Firstly, in the lower developed countries (LDCs) there are very limited profiteering opportunities; as a result there is lower per capita income and limited markets available for business. Figure 1: Comprehensive model of micro-finance

Figure 1: Comprehensive model of micro-finance



Secondly, the capital markets in under developed countries are poorly developed which make difficult for potential entrepreneurs to borrow funds for establishment of new businesses and thereby taking advantage of new investment opportunities. This obviously makes the role of microfinance in empowering entrepreneurship more significant. Thirdly, under-developed infrastructure hampers the development of new commodities and resource markets as well as inhibiting the efficient operation of existing ones. Fourthly, sometimes socio-cultural and religious beliefs & attitudes give little importance to monetary gain, restrict economic and social mobility, or assign very low reputation to entrepreneurs. And fifthly, an unfavourable and biased economic and political climate might discourage the development of entrepreneurial talent and intent. It is often argued that in light of the above mentioned barriers, governments hold the key in opening doors to the aspiring entrepreneurs in LDCs.

During the last few decades there has been a rapid shift from the survival nature to the opportunistic nature of entrepreneurship which has initiated the economic development. Micro-finance plays a crucial role in this shift which triggers entrepreneurship development. Micro-finance is usually described as the 'banking with poor' as it provides small credit (micro-credit) to the poor people without any collateral (Lahimer et al., 2013). So the basic seed capital required for the entrepreneurship is been provided by the micro-finance institutions. The micro-finance plays an important role of the intermediary in the entrepreneurship development (Low, 2005). On one hand the micro-financial sector mobilizes sufficient resources for projects by collecting and pooling savings but on the other side, it allocates these resources by funding promising entrepreneurs. Moreover, the micro-financial sector provides means to diversify risks. This could stimulate higher innovation instead of producing existing goods with existing methods. Finally, the financial sector evaluates the expected profits from entrepreneurial activities.

The micro-finance institutions also provide easy access to the loan with a convenient documentation procedure for sanctioning the loans to the identified beneficiary. The repayment rate are very nominal than the formal financial institutions. Special type of micro-finance institutions are established in developing countries which provide facilities like seed capital, capital adequacy guidelines to the new entrepreneurs (Figure 1). The institutions also provide loans to the growing entrepreneurs at very subsidized rates and protect their consumer rights.

The above literature depicts that micro-finance has a strong relationship with the entrepreneur development. The micro-finance institutions provide collateral loans to the micro entrepreneurs at the subsidized repayment rates and with very convenient procedure for the documentations.

Micro-finance and small medium enterprises (SMEs) development

One of the key factors for the economic development of a country is the industrial establishments. For establishing the industries a sufficient amount of capital is needed. In developing countries like India, where the resources are very scarce and unemployment is very high, the growth of small medium enterprises is essential in order to achieve balanced economic growth (Goswami, 2014). Micro small enterprises are considered as the socio-economic and political development catalysts in both developed and developing economies (Gregory et al., 2005; Hussain et al., 2006; Fielden et al., 2006). Access to the finance is one of the important impediments of both the small and large enterprises. But the large enterprises face difficulty while availing finance from the formal financial institutions (Gregory et al., 2005; Van Auker, 2005; Gebru, 2009). Microfinance has the ability to strengthen micro enterprises and encourage small and medium scale enterprise (Goswami, 2014). Besides, small scale enterprises help in improving the standard of living of the people and bring prosperity to the economic structure of the nation.

Besides, the potential of SMEs to facilitate and foster economic growth at the national as well as local level, there are many studies which have highlighted the 'lack of access to finance' as one of the major hurdle which impedes the role of SMEs in national economy development particularly in rural areas (Carpenter, 2001; Anyanwu, 2003; Lawson, 2007; Meijerink and Roza, 2007). Access to finance has mainly four key dimensions: physical access, affordability, appropriate features that meet the needs of SMEs and appropriate terms that ensure effective inclusion of all categories of potential SMEs (Musamali and Tarus, 2013). The various developmental programmes of MFIs help SMEs to withstand unfavourable situations and to recover from unforeseen shocks from the business environment in the bid of making SMEs sustainable.

Access to sustainable financial services from the MFIs enables SMEs to increase their income, build solid asset base and reduce the vulnerability to the untoward external shocks. Microfinance enables micro-entrepreneurs to accelerate from routine survival to future planning, expanding and investing in other businesses, seeking better living conditions and children health and education. As observed by Anane et al. (2013) micro-finance plays a crucial role in the development of the SME's in following ways:

- Timely disbursement of credit,
- Increase in amount of credit,
- Flexible repayment terms,

- Nominal interest rates on credit.

In addition to the above literature related to the role of micro-finance in the development of SMEs, the sustainability of the SMEs is also equally important. For assessing the sustainability and performance of the SME there should be proper selection of the performance indicator. The selection of the performance indicator depends on the kind of business activity performed by the SMEs. The performance indicator should be utilized to measure the certain level of performance. The action plan should be efficiently implemented so that there is distinct indication of performance improvement. The financial requirements of the SMEs vary through the various life-cycle stages of the enterprise. At the growth stage more funds are required in order to increase the production, so proper assessment of the finance is required. Similarly the finance requirements at the maturity and decline stages are different. Therefore, there is need for the revival of the SMEs and proper assessment of the finance requirement during its lifecycle. As depicted in Figure 1, the assessment can be carried out with the help of the following techniques.

- Turnover.
- Balance of cash flow
- Profitability/ Profit margin
- Liquid assets.
- Financial stability.

The discussion of the above literature regarding the micro-finance and SME's reveals that micro finance has positive influence on the development of the small and medium enterprises, as the necessary finance required for the establishment and functioning of the SME's is made available by the micro-finance institutions. The micro-finance institutions also provide the training and guidance to the SME entrepreneurs for the skill development.

Conclusion

Micro-finance has an important role to play in the development of the economy, entrepreneurship and the small and medium enterprises. Finance is considered as the life blood of any developmental undertaking and without finance it will not function. Micro-finance differs from the formal finance in a way that it is specially addressed to the down-trodden and poorest people who are living a very miserably with poor living standard in rural areas and are ignored by the formal banks. The micro-financial services not only include micro-credit but also consist of savings, insurance etc. provided by micro-finance institutions. Micro-financial institutions provide loans to the poor families which in turn help in poverty reduction, increases standard of living, women empowerment and self employment by increasing

the per capita income, life expectancy, education etc. Micro-finance and entrepreneurship are so linked that special type of MFIs called EDIs (entrepreneurship development institutions) have been established in developing countries like India which exclusively provide financial and technical assistance to the entrepreneurs. The micro-finance institutions provide credit at subsidized repayment rates without any collateral and also avail the seed capital/start-up capital to the entrepreneurs which is essential for the commencement of the project. Micro-finance also has the ability to strengthen the functioning of the micro enterprises and encourage SMEs. Micro finance provides timely credit with least repayment rates which helps the SMEs in enhancing per capita income, raising standard of living and developing infrastructure to boost the economy. Thus, micro-finance is one of the basic fundamental factor for the growth and development of the economy.

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Analytics in HR: The Next Big thing in Talent Acquisition

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Abstract

As companies budge their core systems to the cloud, more and more people-related data becomes available. This, coupled with the immense attention on Big Data in the technology sector, has created an immense focus on data driven decision-making.

With the emergence of recruitment or talent acquisition as more of an industry of first-adopters, initially within social media and now within Big Data and analytics, the area is now being approached with a man-plus-machine outlook, aggregating the most valuable of the sets from technology and then meshing it with intelligence from team and extended network.

The paper presents an overview of Big data and HR as a natural fit with specific reference to application of analytics in Recruitment. It highlights some of the approaches and methods for applying Data analytics in the area of Talent Acquisition thereby avoiding hiring delays and poor candidate selections. The first section of the paper explores the journey of HR towards data Analytics and gives an overview on approaches adopted by organizations in gathering Recruitment Data. The second part of the paper looks into the "HR competency forecasting and Recruitment needs" using analytics with specific reference to TCS. It also gives an outlook on how to arrive at the right profile for each future employee by analyzing the data for current employee. In the third section of the paper some good practices have been discussed that should be kept in mind while implementing Big data. The fourth section highlights as to how Xerox slashed its call centre attrition rate by roughly one half after applying big Data and arrive at the model for an ideal call center worker.. The paper concludes by highlighting the importance of Data Analytics in Recruitment as Analytics definitely improves the results by reducing the influence of a manager's biases and helps forecast the optimal sources and the anticipated candidate flow with great accuracy and precision.

Introduction

If a company is facing high turnover, it's likely that there exists a deep-rooted, reoccurring problem that's causing the issue. Be it inflexible working hours, commuting time, absenteeism, a repeated incident with a specific manager, data can definitely help find solutions to the problems and that is precisely the reason

analytics within HR has a high adoption level

Big data's advancing role in candidate searches, many a times takes a recruiter's call to fully engage a candidate in an opportunity. It helps HR find and hire the right candidate for every position in the organization- quicker and more cost effectively. Whatever it takes to make the connection and put the best candidate in the right seat in an organization, big data is surfacing talent that conventional hiring networks may miss.

Evidences speak that when implemented effectively, it proves to be an advantage as the employees stay longer, work more contented and eventually help business recoup the cost of hiring and training faster and more assuredly.

1. Big Data & HR : A natural fit

Technology in itself has made a real impact on the way recruiters attract and retain employees. With software programmes such as 'the Resumator' now used to compliment more hard-line data driven programmes, technology is reshaping the recruitment world and allowing companies to attract the best talent.

Before the advent of big data in hiring, recruiters had their work cut out clearly for them, even more so than today. Newbie recruiters would be sent to a closet of filing cabinets where they would mine into the paper files to gather contacts for generating the call lists; On the contrary the recruiters today have open access to information through sites such as LinkedIn and other networking sites and hence don't have to dig into data from the closet.

Given the emerging scenario with regard to the supply and demand of skills, talent imbalances are setting across world. In this state, HR needs to move beyond mere reporting to accurate prediction. Instead of just generating reactive reports, it needs to embrace advanced analytics and predictive techniques that support strategic organizational goals and that would mean getting the right people into the company at the right time, the first time.

If we trace down HR's gradual movement towards Big Data analytics, the journey can be sketched as follows:

Phase 1: Applying Anecdotal Evidence

Before tools like HR information management systems were widely available, HR departments made human capital and hiring decisions based on their past experiences, judgments and intuitions.

Phase 2: Applying Internal Data

With the availability of cost-effective computing and data gathering tools, HR stepped into conducting simple “data dumps” and counts to strengthen their decisions.

Phase 3: The Use of Internal Metrics

This phase represented the beginning of HR's shift toward true talent management wherein HR improved the quality of its decisions by exploring the company's own operational data like internal sourcing and hiring metrics.

Phase 4: Application of Descriptive Analytics

The next shift involved a movement towards actual data analysis—looking at information available including data available such as attrition rates and analyzing past events for useful insights on how to make prospective sourcing and hiring decisions.

Phase 5: The Application of Predictive Analytics

At this stage, HR finds the application of Big Data to establish probable future outcomes of human capital decisions, which represents a significant rise in terms of extracting value from data.

Approaches in Gathering Recruitment Data

The approaches generally adopted by HR in gathering Recruitment data- spans one that includes the following:

- Scouring the Internet, in particular, social media and professional networking sites, including Facebook, LinkedIn, Twitter and other myriad sites for all details that point to prospects.
- Aggregation of data in-house with computers, processing the details packed in the company's received resumes, applications, scanned business cards and proprietary HR databases.
- Evaluating candidates by deploying tests and games thereby measuring their reactions and answers for ideal patterns and skill sets. Many companies use video games for evaluation. For example, a unit of Royal Dutch Shell used two video games produced by Knack, a Silicon Valley startup, to scrutinize incoming candidates. Through this method the HR was able to assess which minds were expected to generate successful ideas.

Algorithms go to work once this material is in hand. The finest result is a collection of information sorted into patterns and matches. With the help of keywords and scores the initial candidate pool is narrowed down to people who exhibit a preference and background appropriate to the vacant positions.

Of course, all of this involves proficiency as It is not just about masses of data, crunched and delivered to company HR but is also about parsing the results and understand what the algorithms produce. The human element is genuinely concerned in the machine learning process and recruiting.

2. Forecasting HR competency and Recruitment Needs

With the advent of the Big Data HR now has the outlook to take its evidence-based decision making to a completely innovative stage by factoring in an unparalleled quantity of data from an open collection of sources, some of which may never have been considered in the past. These evidences based decisions based on more dominant technologies and an exponentially larger amount of data facilitates HR to take faster action thereby creating competitive advantage, not only in the war for talent but also in the company's ability to implement its business strategies more efficiently.

The HR hires for a reason: an immediate need for talent that is critical to the execution of the business objectives. Uniformed sourcing and hiring practices lead inevitably to hiring delays and poor selections, thereby resulting in delaying the achievement of business goals. An accurate forecasting leads to predicting the requirements for talent acquisition thereby ensuring effective staffing, which maximizes organization resource utilization and sustains appropriate growth and margins.

The future requirement forms the basis of these predictions. The same can be done by predicting the attrition rates and forecasting the business growth for each department or unit.

ie. Net requirement = forecasted requirement – expected attrition.

From the data of in-flows (new recruits) and the out-flows (exits) in the current quarter the expected number of employees in the next quarter can be predicted.

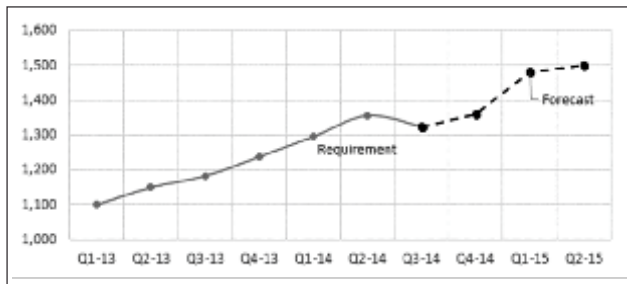
Factors such as attrition risk scores, productivity level, absenteeism, employees in each department and past performance, business growth forecast and pipelines, can be incorporated to enrich the predictive models. The actual requirement can be computed from the difference between [projected requirements] and [projected number of dependable employees]. For example, let's say business unit with 60 people needs 70 people in the next quarter. The average attrition risk score for six of these people is 50 percent, so there is a very high probability that three of them will leave the organization.

Therefore, the actual requirement shall be: $70-60+3=13$

Forecasting analysis can help predict the total requirement for a particular period of time. It also helps reduce the gap between 'how many to recruit' and 'how many available staff' thereby preventing revenue leakage. Checking the number of new recruits and deploying retention plans for existing staff with high attrition risk scores enable HR to effectively address recruitment needs without being overstaffed or understaffed. It also catalyzes candidate sourcing and the selection, pacing up the hiring process and reducing costs, all of which lead to significant competitive advantage

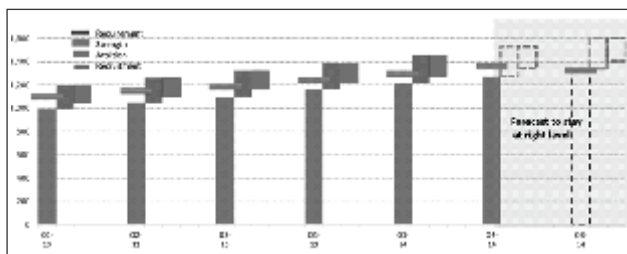
Figures 1 and 2 depict the forecasting processes that help HR managers to calculate the recruitment needs precisely and channel business leaders in aligning recruitment plans with their project targets thereby achieving operational efficiency. (source: Predictive Analysis in HR, TCS Analysis) For instance, in Figure 3, forecasting analysis helps match the needs of the business closely with expected attrition and recruitment. This gives the business the operational advantage required for ensuring sustained growth.

Figure 1: Forecasting the required workforce



(Source: Predictive Analysis in HR, TCS Analysis)

Figure 2: Required workforce vs. the actual and the forecasts for the right recruitment need



(Source: Predictive Analysis in HR, TCS Analysis)

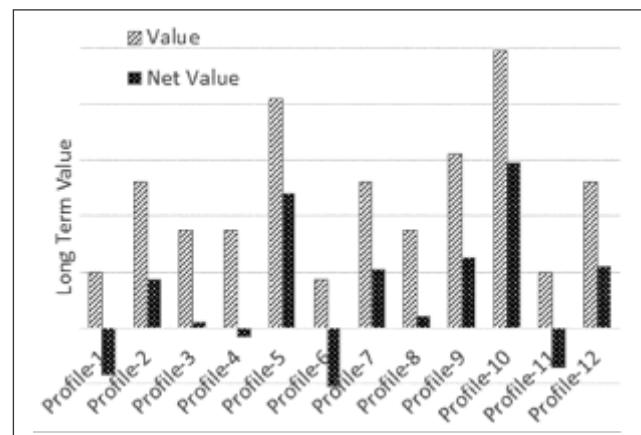
Selecting the Recruitment Profile

Attrition associated with roles involving high costs of hiring leads to major loss for the organization. Hence it becomes vital to arrive at the right profile for each future employee by analyzing the data

for current employees, including performance and productivity indices, attrition details, and life-time value.

A statistical correlation between employee value and profile variables including education and experience enables HR department to identify the most suitable profiles. This in turn increases quality, productivity, and customer satisfaction scores as well reduce recruitment cost substantially, creating sustainable value for the business. This also facilitates the HR's ability to predict when and how it should approach future employees, right from an understanding of which boards shall yield the most responses, to discovering a specific time during which prospective candidates are more likely to respond to a particular job role.

Figure 3: Predicting the employee life-time value



(Source: Predictive Analysis in HR, TCS Analysis)

Though the employee value is projected by correlating the business unit performance and employee performance through a predictive model, the net value can be calculated at a profile level as shown in Figure 3. While net value also includes the cost factor for each profile, employee value is analyzed by factoring in the predicted tenure and monetized performance. The profiles are then compared using two types of prediction models and a framework for final evaluation.

Available Attrition records, profile data, data with regard to productivity, performance data, output from employee's life-time value analysis, compensation and benefits data, and hiring cost data can be used for this analysis. In Figure 4, profiles 1, 4, 6, and 11 are not expected to break even (positive net value) within the expected tenure, and can therefore be eliminated. This predicted tenure can be arrived by predicting the attrition risk for each profile. Table 1 indicates key aspects of the different profiles and their hypothetical tenure value. (Source Predictive Analysis in HR, TCS Analysis, 2012)

Table 1: Analyzing employee profiles to estimate value

Attribute	Profile 1	Profile 2	Profile 3
Role	Supervisor	Supervisor	Supervisor
Relevant Experience	3-5 years	3-5 years	3-5 years
Home Town	Same as Work Location	Same as Work Location	Same as Work Location
Highest Education	Under Graduate	Post Graduate	Under Graduate
Cost to the Company	\$180,000	\$219,000	\$185,000
Specialized Skills	A	A and B	A and B
Value	\$125,000	\$325,000	\$219,000
Net Value	(\$55,000)	\$106,000	\$34,000

(Source: TCS Analysis)

3. Checklists while Implementing Big Data

A recent study by LinkedIn on global recruitment market shows that most organizations do not use data well in the space of talent acquisition. Though India, with 55 per cent score, is well above the global average of 24 per cent on how well analytics is used for talent acquisition process, this number would grow further as analytics enters more into workforce planning, workforce utilization, and simultaneously into untouched areas like sourcing. (The Financial Express. December, 2014)

The business now anticipates HR leaders to be strategic partners. As the growth wave in business fires up the hiring engine of the organization, talent acquisition leaders are expected to have the armor of data. By means of analytics, HR professionals would be ready to move from intuition-based decision making to data-driven decision making. Some of the points that should be made note of by the organizations while implementing Big Data may be categorized as follows:

- **Starting with the problem and not the data:** The HR is flooded with data be it employee data, location data, social data, compensation data but the Analytics must begin with the problem not the data because if data becomes the focal point there would be no end.

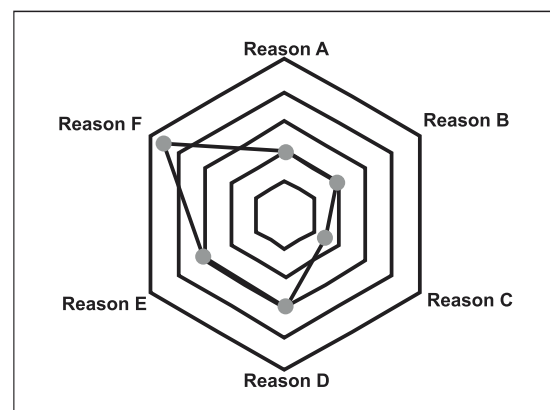
There are questions that define the problem. It could be with regard to the big decisions that need to be made? Or as to what problems needs to be solved? For example one common talent problem may be sales productivity. What factors contribute to a predictable high-performing sales person? Every company would seek an answer to this question. And once there is an

understanding of these characteristics, the HR can source better, attract, and thereby hire such people. Another issue may be turnover. What factors contribute to high turnover in the company and in particular groups? The company always is on a look out for an answer to these questions. Hadoop or parallel Database need not necessarily be used to develop a predictive analytics model for turnover. Excel used with the help of a smart statistician can explore all the possible data elements that might contribute to the answer.

A focus on one or two problems at a point of time can definitely develop the credibility and skills to scale, Say for example if the problem is Attrition, then at an individual employee level, predictive risk models can be utilized to generate alarms to warn HR department about the potential loss of the employee. These triggers can be set at different entry points for each employee based on the organization's needs. The Employee Attrition and Loyalty Analysis at TCS (Tuhin Subhra Dey & Prithwis De, 2015) has been estimated with predictive models of attrition. It prevents the potential attrition of high performing employees, ensuring business continuation, and identifying loyal employees.

Employee demographic data, performance, compensation and benefits data, market data, rewards and recognition data, training data, behavioral data, and employee survey scores have been made use of for this analysis.

Managers identified the key reasons for attrition and thereby made an attempt to reduce its occurrence. Figure 4 illustrates the results of such an analysis. (Tuhin Subhra Dey & Prithwis De, 2015)

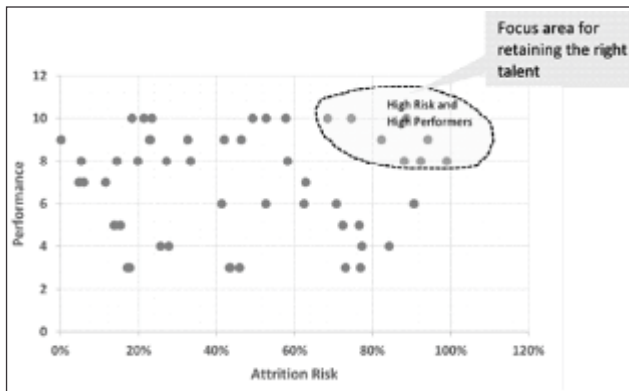
Figure 4: Identifying high impact reasons for attrition to devise preventive actions

(Source : TCS Analysis)

By associating attrition risk scores with employee performance data, as shown in Figure 5 the HR department identified high-performing employees who are at a greater risk of attrition and focused on retention efforts on them. Performing this exercise on

a periodical basis can help the organization reduce potential attrition.

Figure 5: Calculating attrition risk scores to ensure focus on the right employees



(Source: Predictive Analysis in HR, TCS Analysis)

- **Cleaning the data and building a data dictionary:** Data science involves cleaning a lot of data as 80% of a data science project is cleaning. An analysis done with a data that is not cleaned and well defined may be misleading. Once the data is cleaned the data dictionary is to be built upon. As most HR data is quite mucky with fields filled incorrectly, duplicity, out of date, and incoherent information, one of the challenges faced by the HR department is plainly defining what various data elements mean and this is called building the data dictionary.

For example how should "turnover" be defined? Would it include people who joined less than six months ago? Should it include part-time employees? Should people who had left during the last day of the year be included?

These kinds of exhaustive descriptions can significantly alter what a given analysis might state. So a main part of a talent analytics program would include defining the data itself, and collecting together definitions from across the different HR functions.

Research shows that constructing a data dictionary is a cross-discipline project. Accession to data including core HR data (date of joining, age, years of experience, educational details), recruiting data (pre-hire evaluation, interviews), performance data ratings, job assignments), training data (program completion, certifications, scores), and leadership data (leadership skills and assessments) are essential to build a data dictionary. In a number of influential analyses HR might require accession to other data (location, manager) as well as business data.

Hence cleaning and integrating the data remain the focal points at this level. While there are many popular tools available that clean up the data, ultimately it is a manual and people-intensive

process.

- **HR Analysts do not have to be Computer Scientists :** The venture capital and tech community is very focused on new tools. Hadoop, Mapreduce, and a barrage of latest extremely scalable open source tools are the talk of time. These high-powered tools require data scientists or people who hold a computer science degree. There definitely is a huge demand for Data Scientists as there are not enough data scientists in the world.

But as far as HR analytics is concerned this isn't a problem as most HR analytics projects can be easily managed in traditional relational databases or Excel, only thing is that the data has to be clean and well organized data and the volumes should not be that vast. Hence the skills required may boil down to statisticians and well organized analysts. If the HR looks into the huge skills available within the HRIS there are big source of analysts in their own industry: people who studied I/O Psychology as psychologists are trained in statistics, testing, and critical thinking, which is what an HR analysts should have. Another solution is definitely outsourcing if the organization is looking for a Big Data infrastructure. For the next few years Big Data and talent analytics looks to be a consulting-driven market. Despite the amazing set of tools now available, the real challenge is process and expertise which is still a dearth.

4. Hiring- An Algorithm

Xerox slashed its call center attrition rate by roughly one half after it began using Big Data to assess job applications ((Joseph Walker, Sept. 2012)

Experience was an important criterion at Xerox Corp. while looking for workers to staff its call centers. It was then the outcome of a computer program that reflected to the outsourcing company that experience really doesn't matter. What really matters is personality- as a good call centre worker would be one who won't quit before the company recoups the \$5,000 invested in training on him. Intrusive people habitually don't. After six months of trial attrition came down to almost half. The company now leaves all hiring for its 48,700 call-center jobs to software that questions applicants to opt between statements like: "I ask more questions than most people do" and "People tend to trust what I say."

For more and more organizations, the hiring manager has become an algorithm. The factors considered are quite different than what applicants generally expect. Where work history and interviews formed the basis of selection for jobs is now left to personality tests and data analysis. The HR today aims for more than just a premonition that a person will do the job well. Under pressure to cut down costs and improve productivity, HR department is trying to envisage specific outcomes, such as

whether a prospective hire will quit too soon, file disability claims or steal.

Personality tests have been applied in hiring since long. What's new is the scale. Usage of technology and more sophisticated software have made it possible to evaluate a large number of candidates, gather together more data and examine more deeply into applicants' personal lives and interests. The HR now screens for details including attitudes towards alcohol use or the distance an applicant lives from the job.

A San Francisco start-up Evolv Inc., that helps companies hire and manage hourly workers advises Xerox Corp. to put applicants through a battery of tests and then track their job performance. A model for the ideal call-center worker evolved by Evolv Inc. would mean that the person lives near the job, has reliable transportation and uses one or more social networks, but not more than four. He or she tends not to be overly inquisitive or empathetic, but is creative. (Walker, 2012)

Applicants for the job take a 30-minute test that screens them for personality traits and puts them through scenarios they might encounter on the job. Then the program spits out a score: red for low potential, yellow for medium potential or green for high potential. Xerox accepts some yellows if it thinks it can train them, but mostly hires greens. (Walker, 2012)

Conclusion

Although hiring is a fundamental business function, traditional methods are particularly short on rigidity. Depending on who decides what gets a candidate hired can differ wildly right from the academic achievement to the years of experience to the sheer appearance. Managers who go with their gut might get it right sometimes, but those guesses generally have little value in predicting how someone might perform on the job. Companies peddling a statistical approach to hiring can improve results by reducing the influence of a manager's biases and can forecast the optimal sources and the anticipated candidate flow with greater accuracy and precision.

The hardest work and most valuable results come from people: the questions you ask, the people you hire, and the process you use and hence the HR should not let the tools drive as it is not the only tool that companies need in order to recruit the best talent, but it certainly gives companies another option from which to design and implement new hiring strategies.

Software will supplement, if not supplant, many of the HR decisions made by instinct and intuition. In addition to identifying the sources which will be most effective as well as the expected volume of candidate flow, this algorithm shall over the years help companies pick who to advance, who to promote.

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Exploring A General Theory of Retail Change

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Abstract

The paper first critically reviews the past theories on retail change and then explores a general theory of retail change. It argues that the past theories of retail change may be flawed because they cannot explain retail changes in different markets well, particularly retail changes in emerging markets; they are not general theories explaining retail change. After examining the retail process, the paper develops the Drive Force Model to explore a general theory of retail change. The paper argues that it is the forces of the economic system, consumer demand, competition, supplier and technology that work together to cause a retail change; the power of each force varies in different markets and in different developing stages of a market. The future retail change is also discussed.

Keywords: Retailing, pricing, promotion, competitive strategy, and econometric analysis.

Introduction

Retailers face a complex task in formulating pricing strategies and tactics for multiple products in today's competitive environment (Kahn and McAlister 1997, Levy and Weitz 1998). Many marketing scientists have observed that retailers' pricing strategies and tactics are diverse (Fader and Lodish 1990, Hoch et al. 1994). Surprisingly, there has been little research that describes retailers' actual pricing strategies—that is, what types of strategies are adopted; how pricing strategies are customized for particular brands, categories, stores, chains, and markets; and what factors influence the customization process. Descriptive research on the customization of retailer pricing strategies could be very useful to retailers to profile their pricing decisions—and predict their competitors' decisions. Manufacturers also need to make informed decisions about retailers and marketing support spending for their brands, based on insights from analyses of retailers' pricing decisions.

Prior research suggests that pricing strategy depends on company, customer, competitor, and other factors (Tellis 1986). Although there is considerable evidence on how these factors influence manufacturer pricing strategies, very little is known about how they influence retailer pricing. Moreover, most prior research that includes retailer prices (e.g., the choice modeling

and price promotion literatures) has used models that do not take into account the marketing efforts of competing retailers. As retail markets become increasingly competitive, it is important to characterize retailer pricing decisions and investigate how they are related to different factors—particularly to the price and promotion decisions of competing stores.

Objective of the study

The purpose of this study is to investigate the following focal research question: How are retailers' pricing strategies customized for different brands, categories, stores, chains, markets, customers, and competitive situations? Specifically, how are competitors' marketing efforts—particularly price and deal decisions—related to retailer pricing? What factors are most important in retailer pricing decisions: category, brand, and market characteristics - or competitor marketing efforts? Furthermore, what is the role of brand characteristics, such as brand advertising and brand equity, in pricing strategy? How do category factors, such as storability and necessity, affect pricing strategies? How do characteristics of the store, such as outlet size and category assortment, influence retailers' pricing decisions? How do pricing strategies vary across chains and markets? What is the effect of consumer sensitivity to price changes or deals on retailer pricing for each brand at a store? The researchers consider these questions within a broader investigation of how product and market characteristics are related to retailer pricing decisions.

The study empirically examines retailers' strategic pricing decisions, identifies the underlying dimensions of retailers' pricing strategies, and investigates how the dimensions are related to multiple factors. Thus, it is a *descriptive study* of retailers' pricing decisions, not a normative study of how pricing decisions should be made. The unique contributions of this study relative to prior research are:

- A conceptualization of retailers' pricing decisions as *interdependent*, and of retailer pricing strategy as characterized by *stable underlying dimensions*.
- An emphasis on *strategic* aspects of retailers' decisions for brands at different outlets, rather than a focus on storewide policies or brand tactics.

- A methodological approach that models retailers' pricing strategies as *dependent (endogenous) variables* that are related to a comprehensive set of factors while accounting for potential simultaneity in the determination of pricing decisions and price and promotion responsiveness.

Survey of related literature

Early studies of retail change are mainly from the perspective of retail institution change. Retail institution refers to the basic retail format and its distribution in a market. Among the institution-based theories, the 'wheel of retailing' is the most famous and was once described as the dominant concept for those who practise and study retailing (Greyser, 1976). In his 'wheel of retailing', McNair (1931, 1958) argues that retailers always enter a market as low price, low service and low margin operators, who gradually trade up when they mature. This makes them vulnerable to new and innovating retailers, who, in turn, go through the same pattern. "The wheel always revolves, sometimes slowly, sometimes more rapidly, but it does not stand still (1958, p.16)." Izraeli (1973) develops McNair's 'wheel of retailing' to 'three-wheel retailing', which describes that the conflicts between the three wheels: conventional stores, low order innovators and high order stores, drive retail change; and he claims that this explains the penetration of all retailing institutions.

Hollander (1960) develops an Accordion Theory based on McNair's theory. After reviewing the history of American retailing, he argues that retail change follows from offering many merchandise categories with narrow assortments to offering a limited number of categories with a wide range of assortments; the expansion and contraction of the offering acts as an accordion. There would be more than one accordion operating at any time and it is retail management that causes the movement. Hollander (1966) concludes from American retailing that the change of retailing follows a "general-specific-general cycle": Consumers are alternately served predominately by "general" shops, then "speciality" shops and then again by the "general" type of retail establishment.

Contemporary studies in retailing often take a historical perspective. The historical approach is strongly advocated by Savitt (1980, 1988), who attempts to develop a synthetic approach by marketing models to explain retail change. He suggests using a historical approach to understand contemporary retail change and analyzing the change by retail marketing model. He emphasizes the importance of environmental factors and comparative studies. Besides the above theories, there are studies from other perspectives. For example, Alchain (1950) advances the theory of natural selection in retailing; Markin and Duncan (1981) develop the theory of environmental determinism based on adaptive Darwinism;

Bucklin (1972) provides a model of structural change in retail systems and claims that the level of retail specialization is a function of environmental economics; Bliss (1960) uses Schumpeter's two main types of competition, normal and disruptive, to explain retail changes.

A critical review of the retail change theories

Although considerable efforts have been made, none of the theories developed is without controversy, and none of them can explain retail change in the real world adequately. There has been little progress in developing a general theory of retail change. Hirschman and Stampfl (1980) claim that all existing theories of retail change are just descriptions of the past rather than serving as conceptual frameworks for the future. Further, it may be argued that all the existing theories seem to be flawed in at least two aspects: One is that they either assume retail change is only driven by internal forces of retailing (this includes institutional theories, which look only from the perspective of retailers while ignoring the influences of suppliers, consumers and the whole supply chain) or assume retail change is only driven by external forces (this includes historical perspectives).

It may be argued that retail change could be caused by both the internal and the external forces. It is not retail management alone to cause a retail change; other factors, such as consumer demand, are also involved. For example, the emergence of E-tailer is mainly resulted from the innovation and the development of information technology and customers' demand of convenience rather than retail management. The study should take the perspective of the whole retail process combining the internal forces and external forces together rather than separating them. The second flaw is that nearly all past studies are based on free market economy; then retail theories concluded from free market economies may fail to explain retail change in other economic systems, such as retail change in an emerging market or transitional economy, where government may strongly influence or even dominate retail change. In many emerging markets, the introduction and development of new retail formats, such as hypermarket, are mainly resulted from the deregulation of the retailing industry in those markets rather than multinational retailers themselves. In many emerging economies, retailing is often a strictly regulated industry, and government often plays an important role in retail change or retail development. Further, most existing theories are based on studies of developed retailing, particularly American retailing. They are therefore incomplete and not general theories, nor can they explain emerging retailing or transitional economy, such as Chinese retailing, adequately.

For example, the dominant theory, the wheel of retailing, is flawed in the two aspects mentioned above. Firstly, it cannot explain why

different retail formats co-exist in the same market: the theory supposes that all consumers like low priced goods while it ignores the existence of different consumer segments with different demands. The emergence of hypermarkets is not just for low price but also for wide of selections, which meets the consumer demand of one-stop-shopping better than supermarkets. The second flaw is shown by the fact that, in reality, the emergence of a retail format could come out with high prices and high profit margin. The emergence of supermarkets in China began with high prices and high margins at the top of the social scale. A similar phenomenon also appeared in other developing countries when modern retail formats first emerged, such as in Chile (Bennett, 1966) and Turkey (Kaynak and Cavusgil, 1982). The emergence and popular of convenience store are not because of its low price and low service but because of their convenience and some service. In addition, retail change always closely related with the level of economic development of the market that it exists in and is also influenced by the internationalisation of retailing. Therefore, available theories on retail change are limited and do not explain retail change effectively, particularly the retail changes of emerging market.

Data description

The present study required detailed store-level and customer survey data which is not publicly available. To obtain these data, the researchers worked closely with a large national retail chain under conditions of anonymity and nondisclosure. Therefore, the researchers are unable to reveal either the name of the retailer, or provide details on its product lines and retail segment. The data was from more than 500 stores over a period spanning 15 months. The retailer operated its stores centrally so that the headquarters planned the assortment, prices, payroll and employee training. The store manager had the authority to hire and terminate employees using a planned payroll budget for the month as a guideline. The store manager's compensation was not contingent on monthly sales at the store. The retailer did not tailor product assortments to customer demographics or store size.

Method of data collection

Focus group interviews was conducted in a semi-structured format, lead by a moderator, with the basic goal of appraising the issues in decision-making regarding food retail stores. The topics discussed were the following: food purchase habits, different store types' description and comparison, the role of time, shopping and patronage strategies, the role of store characteristics and store atmosphere element in the decision-making process, the role of information, the role of products, prices and quality, the role of on-site services.

Exploring a general theory of retail change

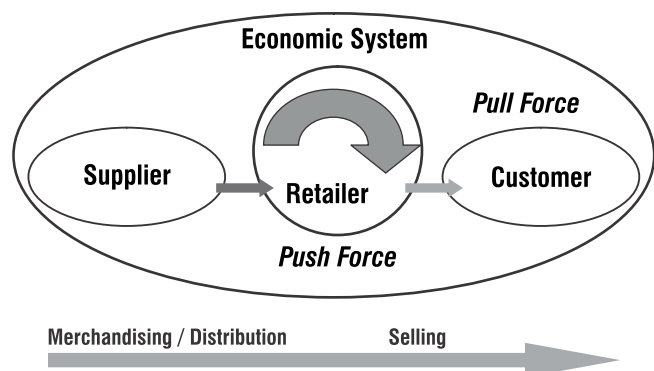
To understand retail change in different markets, a new general theory on retail change is needed. To provide this, the concept of retail change must first be defined. Retail change could be defined as a retail revolution, such as the emergence of a new retail format or a new process of retail business, or a retail evolution, such as the spreading of the new retail format or the new retail process in a market. Thus retail change is the alternative experiences of retail revolution and evolution. During a retail revolution period, an entirely new retail format emerges and is accepted by the market; while during a retail evolution period, the new retail format is gradually spread in the market and diversified into different modes. Then, the development of retailing tracks the road of retail revolution followed by retail evolution.

Retailing history has seen four significant revolutions: the emergence of the department store in the 1860s, the supermarket in the 1930s, the discount store in the 1950s and the warehouse club in the 1970s. Department store first involves providing a wide range of commodities and services in one place; supermarket involves the first use of the self-service concept and low price retailing of food; discount store expands this concept to a wider range of commodities at lower price, especially in durables; while warehouse club shows how a dramatically lower cost and service structure could be incorporated into retailing. In retail evolution, these retail formats spread through the whole retail industry from traditional high street to out of town shopping centres. Another kind of retail revolution is the emergence of chain operation, which allows retailers to achieve economies of scale at lower cost than before.

Retail process

To develop a general theory of retail change, we need to examine retail process and define related concepts. The retail business may be illustrated as shown in Figure 1.

Figure 1: Retail process and its main factors



(Source: Donovan & Rossiter, 1982)

Retail process is the business of delivering goods and/or services to the ultimate customers by sourcing them from suppliers with adding value. It includes two main sub-processes: merchandising and selling. Retail business normally involves three main factors:

- **Customer** : Customer refers to the consumer who has demands for products or/and services for personal use. The demands here refer to a group of customer demands for certain goods or/and services and the way to obtain them. Different customer groups (segments) have different demands. Customer demands normally are the function of population demography, culture, their disposable incomes and consumption confidence. Customer demands often change and tend to evolve from the low level of essential physical demands to the higher level of mental or psychological demands. When one demand is met, another demand emerges. The change of customer demand is an external force (see the arrow in the Figure 1) to “pull” retail change. In retail business, the retailer is just one side of the coin while the customer is the other. Therefore, when a retail change is discussed, the role of the customer in the change must be considered, such as what kind of customer demand is met by the retail change.

- **Retailer** : Retailer refers to the firm who sells products and services to customers for their personal or family use. A retailer normally has an inner force to seek profit, especially a higher profit than the average profit level of the industry. Meanwhile, it often faces competition from other retailers. These motivate the retailer to “push” retail change (see the arrow in Figure 1 represents the “push force”), by which the retailer may obtain the first mover advantage and more important, a higher profit. However, retail competition and the competition environment are often constrained by the economic system in which the retailer exists. In a non-market economy, such as a planned economy or transitional economy, retail competition is often strongly influenced by its government, which often plays a more important role than the market force in the country.

- **Supplier** : Supplier refers to the firm who supplies retailers products or/and services. The supplier's power in the supply chain mainly changes with the progress of technology in the long run. Supplier also influences its retailer's operation, but the influence is often weak in a market economy. The dynamics between suppliers and its retailer may also influence retail change in retail evolution.

- **Economic system** : Economic system refers to the nature of the economy a retailer is operating in, which could be a free market economy, a planned economy or a transitional economy. It defines the level of competition, the level of government's intervention to its economy and the way resources are allocated.

In different economic systems or different stages of an economic development, the importance of each force driving retail change varies.

Thus,

Retail change = f (customer demand, competition, supplier, technology)

Where:

Customer demand = f (population demography, disposable income, culture, consumer confidence)

Competition = f (economic system)

Supplier = f (technology)

Exploring a general retail theory

Most of the past theories either ignore the critical influences of the economic system, consumer demand and competition in retail change, or only emphasize one of them. It can be argued that it is the forces of the economic system, consumer demand, competition, supplier and technology that work together to cause a retail change; the power of each force varies in different markets. In a free market economy, customer demand is the most dynamic factor and always tends to “pull” retail change. A retailer's motivation to chase profit, especially higher profit over others, and the competition pressure from other retailers are the internal forces to 'push' retail change. Driven by the “pull” and “push” forces, when a retailer finds a new way to meet a customer demand better than other retailers; when the retailer successfully develops competitive advantages (CAs) over other retailers in meeting the demand; and when the new way has been imitated by other retailers and widely accepted by customers, a retail change then happens. The repetition of this process makes retail change move forward. Just developing a new way to meet consumer demand by a pioneer will not necessarily trigger a retail change unless the pioneer has successfully developed CA over other retail formats by exploring resources that it has or it is able to obtain. When a retail change happens, many followers will imitate the pioneer. The nature of competition actually is somehow to compete for the resources supporting the CA development. Without successfully developing CA, without consumers' recognition, no retail change could happen. When a new demand is met, customer's satisfaction for the demand tends to diminish while other new demands emerge; then new “pull” forces tend to emerge. Meanwhile, the increase of imitators makes the pioneer of the retail change lose its advantages gradually and the competition between the pioneer and its imitators becomes increasingly intensive. Then new “push” forces grow. Supported by the changes of suppliers and technology, another round of retail change emerges; then the new “pull” forces and new “push” forces make retail change continue.

Because customer demands are diversified and resources supporting retailers to meet the diversified demands are different in a given market, retail formats present diversified structures in the market. For the same reason, in different markets, retail format structures are also different. But there are often one or several main consumer demands that dominate a market, which indicates that one or several main retail formats dominate that retail market. In a planned economy, the economic system makes competition among retailers quite limited; and the “push” force is often so weak that it almost does not exist; the “pull” force is also very weak, because people's essential demands are hard to be met because of the shortage of goods and their low incomes. Therefore, its retail format is normally very simple and its retail change is nearly still. For example, in the planned economy of China, the main retail format was the department store in urban areas and the Supply and Marketing Cooperative Store in rural areas; there was no systematic retail change through the planned economy period. In its transitional economy period, the Chinese government plays a key role in retail change. It often intervenes in Chinese retail competition through kinds of regulations, policies and the way it manages the industry. The Government gives an external force to “push” retail change, which means the “push” force not only comes from retailer's chasing for profit and competition from other retailers in the relatively free market but also from the “hand” of the Government. The gradually liberated productivity enables Chinese consumer demands to be met better than in the planned economy period; the “pull” force is becoming stronger with increasing customers' incomes. Then, underpinning the Government's external “push”, retail change happens. In China, the development of new retail formats, such as the convenience store and supermarket, as well as chain operation, are all promoted by the Chinese government either as the Government's projects or as the Government's policies.

Therefore, the above theory of retail change could be summarized by the Drive Force Model: it is the economic system, consumer demand, competition, supplier and technology that work together to cause a retail change; the power of each force varies according to the market in which the retailers operate. The chasing of maximizing profit and competition are the main internal forces to push retailers triggering retail change, while changing consumer demand is the main external force to pull retailers and trigger retail change; retail change follows the road of consumer demand change and is influenced by the progress of technology and sometimes by government. No matter how retail change happens, its goal is to meet a certain customer demand more effectively, by which the pioneer realise higher profits. This theory on retail change is flexible to explain retail development. In retail change, the main causal factors are consumer demand, the retailer's impetus for profit, competition and the resources

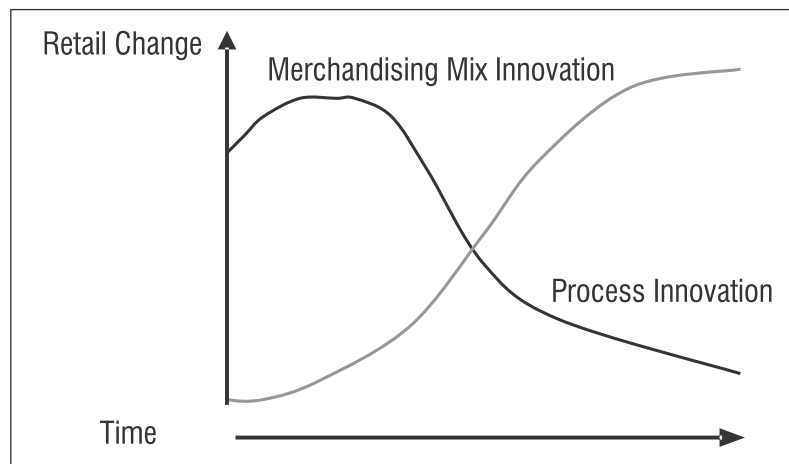
developing the retailer's CA in meeting new consumer demand. The history of retail development actually is the history of exploring new ways to meet consumer demands. In this theory, two explanations should be addressed:

1. The role of the economic system: The economic system defines the competition environment in which retailers compete. When a retailer enters a market with a different economic system from its home market, the influence of the economic system must be considered.
2. The role of technology: Across the whole retail process, technology plays an increasingly important role in retail change. It tends to influence each process of retail business including production, distribution, merchandising and selling, by which it contributes to retail change. For example, technology plays a great role in driving retailing revolution. From the four revolutions mentioned above, it could be found that the emergence of the department store was driven by the rapid development of new transportation, such as railways, which provided retailers with a powerful means to source a wider range of commodities from different suppliers in less time and with less cost. The invention and wide use of refrigeration contributed to the emergence of discount stores and supermarkets for they made it possible for customers to buy and stock more commodities in one shopping. The emergence of the warehouse was mainly due to increasing automobile ownership, which made longer distance shopping convenient. And the innovation of information technology contributes to the emergence of E-tailer or e-commerce. But technology only creates a possibility. Without meeting consumer demand by developing effective CA and recognized by consumers, retail change cannot happen.

As the Drive Force Model shows, future retail change mainly depends on the changes of “push” and “pull” forces as well as the progress of technology. In current retail market, retail power is gradually shifting from retailers to customers due to intensive retail competition; and the rule of the game is changing from customers buy what retailers sell to customers buy what they want. Customers are becoming more powerful in the retail process. On the “pull” force side, customer demands tend to be more diversified, such as the demands for more convenience, fun and leisure consumption, etc.; shopping is becoming less and less about acquisition while more and more about experience, about fun and leisure. 'Retailtainment' (retail entertainments) may be a trend. On “push” force side, retailers is trying to meet these demands by creating new retail formats or new retail processes by using new technologies, which will change the supply chain, especially the way of merchandising and the way of delivering goods and services.

Therefore, the future retail change tends to follow two directions: one is the change in merchandising mix; the other is the change in retail process (Figure 2). In the former direction, customer demand for value and convenience indicates that one-stop-shopping will continue to grow, which may cause the emergence of two retail formats: one-stop-shopping for extensive ranges of goods may result in the growth of mega-discount stores, big is beautiful may be a trend; at the other end, the demand for limited items may stimulate the increase of mega-specialty store with deeper assortments. In the latter direction, multi-channel store and new channel store may merge to meet customer demand for a new shopping experience and convenience.

Figure 2: Retail change from merchandise mix innovation to process innovation



(Source: Monroe & Guiltinan, 1975)

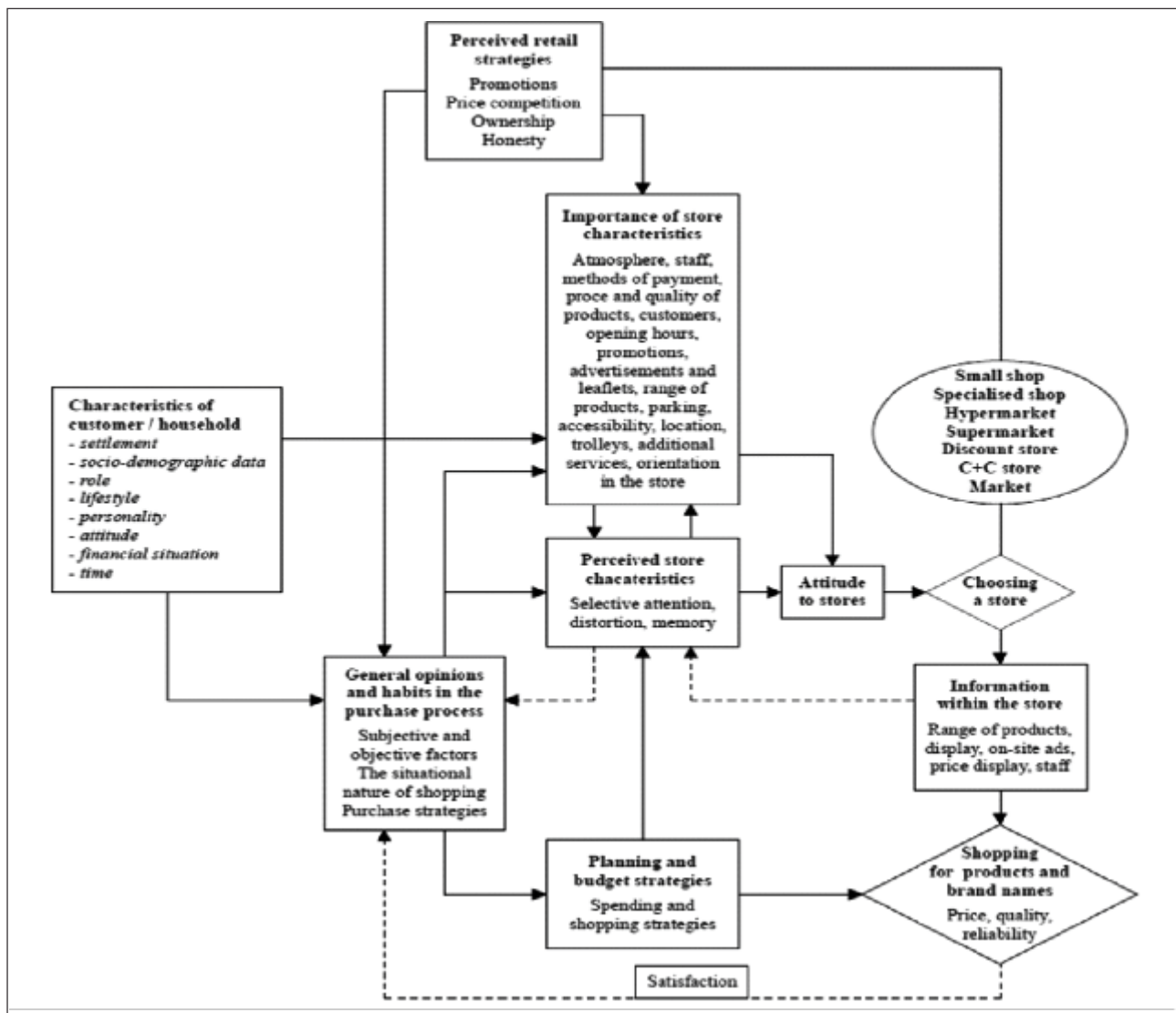
Figure 3 is a summary of factors discussed so far. To date the information and results show that store patronage and decision-making are multi-dimensional complex processes. Every step in the complete model is relevant for the first visit to a store. However, to describe day-to-day decision-making regarding food stores the separate dimensions can serve as sub-models. A clearly separate initial phase is when the customer collects information, evaluates it, and makes a decision, based on perceived store characteristics. In the process, the store and the product have an equal weighting, regardless of the sequence for two separate decisions regarding store and product. The Monroe & Guiltinan Model and the Donovan & Rossiter Models correspond with each other at the level of in-store decision-making. A separate decision-making path is when the customer chooses a product based on habits and regular shopping and purchase strategies. Here, as a result of previous choice, the product/store relationship is fixed.

Limitations of the study

The following research questions have been unanswered because of time constraint and odd circumstances and these may also pose challenge for future researchers in this area.

- Couldn't find time to research the retail patronage model's adaptability (Monroe & Guiltinan, 1975) and the store atmosphere model (Donovan & Rossiter, 1982) to the Indian food retail market.
- Didn't explore the segmentation of retail patronage choices.
- Unable to describe the perceived store characteristics and store atmosphere elements.
- Unable to characterize different store types' typical patrons.
- Didn't research the purchase strategies applied in the process of store selection.
- Was not able to explore prices and promotions' role.
- Did not explain the relationship between product choice and retail unit choice.
- Unable to analyze the situational nature of shopping in Indian context.

Figure 3: Sequence of effects on retail patronage decision-making



(Source: Authors)

Conclusion...The future retail change

In future, retailers may tend to change luring customers from either a low price or high quality image to enjoying the shopping experience and entertainment by inventing new retail formats armed with new technologies. In the past, retail change, especially retail revolution, mainly followed the former direction. In future, retail change may tend to follow the latter direction benefiting more from technological progress; new retail formats such as multi-channel stores, which make customers shop from everywhere without much difference in shopping results, may emerge. With the progress of technologies, suppliers are able to increase channels reaching their end consumers with lower costs and to involve more activities in retailing; they could be producer, wholesaler and retailer at the same time. Factory outlets may grow quickly benefiting from the progress of technologies. The re-emergence of direct marketing and Internet shopping may be part of the future story. E-tailer is becoming popular. Meanwhile the quick response system to consumer demands will be an essential infrastructure for nearly all retailers. Efficient Consumer Response (ECR) will provide exactly what consumers want at the time and the price they desire. The diversification of customer demands in future will cause retailing to become more segmented in store ambience, brands, service and price offered. Accordingly, retail format may change from one or two formats dominating the industry to several retail formats sharing the industry together. Since customers will have too many choices and too much clout, retail success in future will increasingly belong to those retailers who are able to develop and exploit a superior strategic understanding of customer demands and their consumer behaviours; and effectively deliver the value that they desire or expect in time.

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Understanding the types of store loyalty: An Empirical study with special reference to Big-Bazaar, Reliance Fresh and D-Mart

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Abstract

The loyalty of consumers to individual stores has long been recognized as a topic of central importance both in the analysis of retailing performance and for understanding the urban shopping behavior. It is more profitable to cater to the needs of existing customers than to acquire new customers. This paper studies the loyalty of Indian consumers with supermarkets such as Big-bazaar, Reliance-fresh and D-Mart. Three types of loyalties were considered for the study including behavioral, attitudinal and cognitive loyalty. For the study 100 people buying from the selected three malls in Vadodara were selected and the focus was to study the type of loyalty as far as these malls were concerned.

Key words : Store Loyalty, Supermarkets, behavioral, attitudinal and cognitive loyalty.

Introduction

Loyalty includes some degree of pre-dispositional commitment towards a brand. Store loyalty is the most initial variable of interest to retailers. F.Richyfield (1996) explained the importance of customer loyalty in today's business environment. He emphasized that customer retention is the best way to measure how well a company creates value, and this value creation results in building customer loyalty and finally brings profit to the company. In the intensely competitive food industry, increasing and sustaining repeat buying behaviour among store customers can significantly increase profits. The concern for increasing customer loyalty has spread to the grocery retailing industry. Customer loyalty is one of the top priorities for retail managers in Europe (Food Business News 1999). In the grocery retailing sector in Sweden, as in many other countries, major retailers are working with various kinds of customer loyalty schemes (Sopanen, 1996). The importance of store loyalty for grocery retailing was acknowledged by Tate in 1961. In the article "The Supermarket Battle for Store Loyalty", he argued for store loyalty as an important success factor in the increasingly competitive field of grocery retailing.

Defining Loyalty

Loyalty has been evaluated in a range of market specific context such as service, store and vendor loyalty and also in different unit

of measurement ranges like customer and brand loyalty (Bennett and Rundle-Thiele, 2002: 194). These literature reveals three approaches that measure loyalty in different aspects. These are behavioral, attitudinal and composite approaches (Jacoby and Chestnut, 1978). In this study loyalty can be defined as three types of loyalty, such as attitudinal loyalty, behavioral loyalty and cognitive loyalty. A person who shops at the same place regularly is "behaviorally" loyal, while a person who tells others how great a product is, or simply feels really positive about the brand him or herself internally, is "attitudinally" loyal.

East (1997) lists three components that are frequently used in describing a brand loyal person: a positive brand attitude, behavioral preference in terms of buying the brand more than others in the category and buying that brand over the extended period of time, which east calls as Allegiance.

Jacoby (1971) conceptualized brand loyalty as consisting of two factors: Brand loyal behaviour and brand loyal attitudes. Brand loyal behaviour is defined as the overt act of selective repeat purchasing based on evaluative psychological decision process, while brand loyal attitudes are the underlying predisposition decision processes, while brand loyal attitudes are the underlying predisposition to behave in a selective fashion.

Laaksonen (1993) suggested that "Resistance to change" characterization of behaviour as the proper expression of loyalty.

Gremler & Brown (1996), defined service loyalty as a degree to which a customer exhibits repeat purchasing behaviour for a service provider, possesses a positive disposition towards the provider and considers using this provider first when a need for this service arises.

Zeithaml, Berry and Parasuraman (1996) defined loyalty as expressing a preference for a company over others , by continuing to purchase from it, or by increasing business with it, in future.

Jacoby and Chestnut (1978), explained the way of measuring loyalty. They are behavioural, attitudinal and composite measures.

Jennifer Rowley (2005) explained that customer's loyalty can be measured from their behavior and attitudes. He has concluded

that there are four categories of loyal customers, such as captive, convenience-seekers, contended and committed.

Literature Review

Reynolds et.al. (1974-75) base their study of store-loyal customers concluded that consumer loyalty is viewed as the tendency for a person to continue overtime to exhibit similar behaviors in situations similar to those he has previously encountered, such as to continue to purchase the same brand and product in the same store each item he needs or wants an identical or similar item and this loyalty makes the powerful connections between the brand and the customers.

Anne-Sophie Binnering, (2008) tried to find out the relationship between retail brands and store loyalty and they have concluded that the increase in Retail brand satisfaction and loyalty influences store loyalty, and that attitude toward retail brand products has a moderating effect on the relationships between retail brand satisfaction and loyalty. They also showed that this moderating influence is greater for an identifiable retail brand than for an unidentifiable retail brand.

Niren Sirohi, Edward W. McLaughlin and Dick R. Wittink (1998) studied the store loyalty intentions of current customers for a multi-store grocery retailer and found that store loyalty intentions, measured by intent to continue shopping, intent to increase purchases and intent to recommend the store, depend on service quality and merchandise quality perception. By separating the stores according to average consumer perceptions of competitor attractiveness, they found that perceived value does play an important role in the determination of store loyalty intention if there is a high degree of competitor attractiveness. When this attractiveness is low, results fail to show relevance for perceived value for money.

Problem Definition

The recognition of the importance of loyal customers has spurred a large research effort aimed at understanding the determinants of customer loyalty. Reichheld (1993) shows that many satisfied customers do change service providers. A study on Swedish grocery shoppers showed that although loyal shoppers in general were more satisfied, there were also shoppers that were highly satisfied with a specific store and yet did not use it for the majority of their purchases (Magi 1995). It suggests that although perceived service quality and customer satisfaction are important determinants, they are not the sole drivers of loyalty. Several differences among shoppers and in household characteristics, such as income, working hours, attitudes to shopping, etc., could help to explain the large variation in store-loyal behaviour across households.

Objectives

For the present study, the objectives are as follows:

1. To know the store loyalty among the grocery buyers of the supermarkets
2. To know the importance of loyalty (Behavioral, Attitudinal, and Cognitive) in the grocery buyers.

Research Methodology

The study used the quantitative research methodology approach. The target population was identified as customers that purchase groceries from three big retail stores in Vadodara. Mall intercept survey, where shoppers at a mall are intercepted and given self-administered questionnaires to complete, was used to collect data. Convenience sampling was used in order to ensure a high response rate given the nature of the study. The respondents were selected from the visitors of retail stores. The questionnaire included close-ended questions and Likert-scale questions. Customers were asked to rate their loyalty on a scale of 1 to 5, on the loyalty statements from highly disagree to highly agree.

Data Analysis

Factor Analysis

One of the most widely used interdependency techniques for data reduction is factor analysis. Factor analysis seeks to identify a set of dimensions that is not readily observed in a large set of variables.

Factor analysis is a multivariate statistical technique which is used to summarize the information contained in a large number of variables into a smaller number of subsets or factors (Hair et al., 2003). Also there are several reasons for using factors analysis as follows: (1) to identify underlying dimensions or factors, that explain the correlations among a set of variables, (2) to identify a new, smaller set of uncorrelated variables to replace the original set of correlated variables, and (3) to identify a smaller set of salient variables from a larger set (Malhotra, 2003). For the current study, factor analysis is used to reduce the number of variables / features that are used to measure the satisfaction level of respondents. Respondents were asked to give their level of agreement (1-Strongly Disagree to strongly agree) for eleven variables. For these variables, factor analysis was performed in this study.

Bartlett's Test of Sphericity

Bartlett's Test of Sphericity is a test statistic used to examine the hypothesis that the variables are uncorrelated in the population. As shown in Table 1, for the eleven variables under study, the significance value of Bartlett's Test is 0.000, this leads to rejection of the idea that the correlation matrix is identity matrix.

Kaiser-Meyer-Olkin Test for Sampling Adequacy

The Kaiser-Meyer-Olkin (KMO) measure for sampling adequacy is an index used to examine the appropriateness of factor analysis. It compares the magnitudes of observed correlation coefficients to magnitude of partial correlation coefficients. The KMO value varies from 0 to 1. High value (between 0.5 and 1.0) indicates factor analysis is appropriate. Small values of KMO Statistic indicate that correlations between pair of variables cannot be explained by other variables, and hence, factor analysis is not suitable (Malhotra, 2008). As shown in Table 1, the KMO value found for this study is 0.860, which is nearer to 1. Hence, this value is acceptable and justifies the appropriateness of factor analysis.

Table 1: KMO and Bartlett's test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.860
Bartlett's Test of Sphericity	Approx. Chi-Square	387.860
	Df	55
	Sig.	0.000

(Source: Fieldwork)

Communalities

Communality is the amount of variance a variable can explain with all the factors being considered. This is also the percentage of total variance explained by the common factors (Malhotra, 2008). The method selected for conducting the factor analysis here is Principal Component Analysis. In this method, the total variance in the data is considered. The initial communalities for Principal Component Analysis are one. For the present study communalities are calculated as shown in Table 2.

Table 2: Communalities

Features (Variables)	Initial	Extraction Communality
I will transact with this retail store again	1.000	.725
I will try new services/products that are provided by this supermarket	1.000	.784
I will recommend other people to patronize this supermarket	1.000	.850
I will say positive things to other people about the supermarket	1.000	.825
I will continue to buy from this supermarket, even if rates are little bit high	1.000	.866
I have strong preference to this supermarket	1.000	.777
I will keep patronizing this supermarket regardless of everything being changed	1.000	.744
To me, this supermarket would rank first among other supermarkets	1.000	.747
I would patronize this supermarket for a long period of time	1.000	.710
I will exclusively buy grocery from this supermarket	1.000	.696
I think this supermarket is for me	1.000	.834

Note: Extraction Method: Principal Component Analysis. (Source: Fieldwork)

A low communality figure indicates that the variable is statistically independent and cannot be combined with other variables. A look at Table 2, shows that the extracted communalities are high (greater than 0.5), and hence, acceptable for all the features.

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. Eigen value represents the total variance explained by each factor (Malhotra, 2008). Table 3 shows the Eigen values of all the variables that can be extracted.

Table 3: Total variance explained Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	6.386	58.059	58.059	6.386	58.059	58.059	4.063	36.933	36.933
2	1.282	11.650	69.709	1.282	11.650	69.709	3.195	29.044	65.977
3	.891	8.100	77.809	.891	8.100	77.809	1.302	11.832	77.809
4	.699	6.356	84.165						
5	.451	4.102	88.267						
6	.368	3.349	91.616						
7	.259	2.355	93.972						
8	.216	1.966	95.938						
9	.207	1.878	97.816						
10	.148	1.342	99.158						
11	.093	.842	100.000						

(Source: Fieldwork)

Table 3 also shows the cumulative variance. However, it is required that the maximum amount of variance should be explained in minimum number of components. The factors extracted in the study are three in number and together contribute 77.809 percent of total variance. This is a fair percentage of variance to be explained for the appropriateness of the factor analysis. Thus extracting three factors from total 11 variables for measuring the loyalty level is good by all means.

The method of rotation used for this study is VARIMAX, which is the most commonly used rotation method. The variance explained by each component after the rotation method is shown in Table 4.

Rotated factor matrix

An analysis of factor loadings in the rotated factor matrix helps in interpreting and naming the five factors that have been extracted in the earlier section.

Table 4: Rotated component matrix (a*)

	Component		
	1	2	3
I will transact with this retail store again	.801	.036	.285
I will try new services / products that are provided by this supermarket	.711	.281	.447
I will recommend other people to patronize this supermarket	.867	.300	.089
I will say positive things to other people about the supermarket	.847	.310	.110

I will continue to buy from this supermarket , even if rates are little bit high	.203	.313	.853
I have strong Preference to this supermarket	.610	.595	.226
I will keep patronizing this supermarket regardless of everything being changed	-.044	.854	.112
To me, this supermarket would rank first among other supermarkets	.616	.478	.373
I would patronize this supermarket for a long period of time	.500	.651	.188
I will exclusively buy grocery from this supermarket	.436	.708	.071
I think this supermarket is for me	.460	.770	.172

Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations. (Source: Fieldwork)

Interpretation is done by identifying the variables that have very high loadings on the same factor. These factors can then be interpreted in terms of the Variables that load highly on it.

Table 5: Grouping of variables based on factor loadings

	Component		
	1	2	3
I will transact with this retail store again	.801		
I will try new services / products that are provided by this supermarket	.711		
I will recommend other people to patronize this supermarket	.867		
I will say positive things to other people about the supermarket	.847		
I have strong preference to this supermarket	.610		
To me, this supermarket would rank first among other supermarkets	.616		
I will keep patronizing this supermarket regardless of everything being changed		.854	
I would patronize this supermarket for a long period of time		.651	
I will exclusively buy grocery from this supermarket		.708	
I think this supermarket is for me		.770	
I will continue to buy from this supermarket, even if rates are little bit high			.853

(Source: Fieldwork)

The relationships between the observed variables and the newly produced factors are revealed in the form of factor loadings. These are the coefficients within the matrix that indicate the importance of the factor. These loadings have the lower limit of -1.0 and an upper limit of +1.0. For better data reduction those variables that had the factor loadings more than 0.6 were considered under each factor. Fortunately, all the variables have the factor loading more than 0.6 so all the eleven variables are considered for loading on extracted three factors.

Naming of the factors

The following three factors were identified as per the factor loading in Table 5:

Factor 1: Attractiveness of the store

This factor includes six variables viz. dealing again, trying for the new services, recommending it to other people, talking positive about the store, most preferred store. All these six features focus on the consumer's attractiveness for the store. The variables included in this factor help the supermarket to attract and retain its customers.

Factor 2: Attachment to the store

This factor includes four variables, patronizing the supermarket for long time, continuity of shopping with the supermarket, exclusively buying grocery from the supermarket, and Personalization. All these four factors reflects the customer's attachment towards the store.

Factor 3: Loyalty

This includes only one variable, which talks about the continuity of shopping with the supermarket, even if it is charging higher prices. This represent the loyalty of the customer towards the store.

All these factors are shown in Table 6.

Table 6: Factors and extracted variables

Factor No.	Factor Name	Variables / Features
Factor 1	Attractiveness of the store	Dealing again, trying for the new services, recommending it to other people, talking positive about the store, most preferred store
Factor 2	Attachment to the store	Patronizing the supermarket for long time, continuity of shopping with the supermarket, exclusively buying grocery from the supermarket, and personalization
Factor 3	Loyalty	Continuity of shopping with the supermarket, even if it is charging higher prices

(Source: Fieldwork)

Findings

Some important finding are as under:

From the study, it was found that customers show their loyalty, from their behaviour towards the supermarket. Various loyalty types are divided into three factors and they all explain 77.8% of the total variance of all the 11 variables. Customers tend to develop certain attitude for the supermarket, which can be positive and negative. Some of the customers does even care to pay more, if they like the supermarket and behave like a hard core loyal customers

Conclusion

Any supermarket, operating in the market should try for developing the customer loyalty so as to increase their business and net profits. From the above study it can be concluded that store loyalty is very important for the supermarket. This can be checked by the behaviour shown by the customers, in terms of their behaviour, attitude and attachment with the supermarket. Customer focus is the key thing for the stores to exist in the Indian market.

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Towards a Model for Effective e-Waste Management: A Pilot Study of Software Industry

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Abstract

The electronics industry is one of the fastest growing industry and has significant contribution in the economic development of India. The last decade has shown tremendous growth in the field of information technology in developed country as well as in developing countries like India. This growth, combined with rapid change in technology and product obsolescence, has brought in a new kind of waste – electronic waste or e-Waste. This e-Waste is combination of many hazardous components, which are very harmful for human health, so efficient technology is required to deal with it. The pilot study was designed with an objective to identify the variables responsible for growing volume of e-Waste and to arrive at a research model for effective e-Waste management. The research model was designed with identified variables which have come out from the various literatures. A total of 50 Top managers and Software developers participated in the survey. A multiple regression analysis was employed and the, “rules and regulations” appeared as the best predictor, followed by responsibility, initiatives, government support, take back system, and awareness.

Keywords: Recycling, e-Waste, Reuse, Collection, Software industry

Introduction

Electronic Waste (e-Waste) is an electronic product that has no value for its owner. Such products include computers, laptops, televisions, cell phones, and large, small home appliances like refrigerators, air conditioners, washing machines, toasters and many more.

Many developed countries have already developed their infrastructure to control this growing volume of e-Waste, but developing countries are still facing lots of challenges like lack of proper infrastructure, poor legislation and less awareness among citizens. India is also generating a huge quantity of e-Waste, which needs to be managed effectively to save environment and human being health's. There are many reasons for the growing volume of e-Waste like dropping lifespan of electronic and electrical products, high consumerism, low recycling rates and illegal transboundary movement from developed to developing countries (Puckett et al., 2002; Brigden et al., 2005; Cobbing,

2008). Many solutions have been proposed to control this growing volume like new product designs, latest manufacturing and recycling practices, safe disposal, extended producer responsibility (EPR) and green procurement policies.

In the literature electronic waste or 'e-Waste' is interchangeably with many other terms such as 'waste electrical and electronic equipment (WEEE)', 'EOL electronics', and 'discarded consumer electronic devices (CEDs)' (Wismer et al., 2005; Hicks et al., 2005).

The rest of the paper is organized as follows: The Literature Review section discusses the relevant existing literature comprising of various factors of e-Waste management. The research methodology section follows and discusses instruments, sampling design and data collection. Furthermore, data analysis techniques that have been used in this study are also discussed. Finally, the findings of the study have been discussed followed by concluding comments and limitations of the study.

Literature review

According to Porter (2002), 'waste' is anything that is no longer privately valued by its owner or has reached its end-of-life. e-Waste is therefore an end-of life electronic product that has hardly any value for its owner. Example of these products are computers, televisions, cell phones, refrigerators, air conditioners, washing machines, toasters and many more electrical and electronic devices.

e-Waste contains not only valuable resources but also hazardous substances which have to be treated in an environmentally sound manner. Many developed countries have launched programs to deal with this challenge. e-Waste contains a lot of valuable materials, and its improper treatment will cause serious environmental pollution (Widmer et al., 2005).

India is one of the fastest growing economies in the world and in the past few years, the growth of Information and Communication Technology (ICT) sector contributed major role in it. In India e-Waste is not generated in house but it also imported from developed countries as second hand goods and mixed metal scrap for recycling (Toxics Link, 2004). The cheap

labor cost and less stringent environmental laws are the two main reasons for imports of e-Waste to India (Ragupathy, 2006).

Based on above issues it is important to conduct a pilot study of the various factors affecting e-Waste management in India. Limited literature was found in Indian context about the e-Waste management. Therefore e-Waste management is a potential area of research. This research was designed to find the status of software industry, e-Waste management practices.

Recognition of Significant Variables of e-Waste Management

From the literature study, six independent variables were identified, which may influence the effective management of e-Waste. Effective e-Waste management may be dependent on these independent variables. The explanations of the variables and hypothesis are mentioned below:

Take back system: Take back system is an important factor for e-Waste management (Jinglei et al., 2009). Time delay (Ali et al., 2008), lack of collection points (Shih, 2001) and cost of collection (Shanshan et al., 2008) are the main drivers for collection and recycling of e-Waste.

H1: Take back system is a significant predictor for effective e-Waste management

Rules and regulations: Adequate rules and regulations is one of the important factors in the management of e-Waste. By making final treatment and landfill last stage of the disposal process (Shih, 2001), e-Waste management can be improved.

H2: Rules and regulations is a significant predictor for effective e-Waste management.

Government support: It is suggested that recycling facilities to manage e-Waste should be supported by the government (Gupta et al., 2012).

H3: Government support is a significant predictor for effective e-Waste management

Awareness: Lack of relevant information as support to the disassembly (Zhidian, 2008), Information about recycling services (Huang et al., 2008), and consumer awareness regarding environmental issues (Sinha-Khetriwal et al., 2005) are some important drivers for effective management of e-Waste.

H4: Awareness is a significant predictor for effective e-Waste management.

Initiatives: Several initiatives have also been launched by electronic product manufacturers or government to collect WEEE (Jinglei et al., 2009). Promoting renewal and reuse (Hanks et al., 2008) are some important drivers for effective management of e-Waste. Legislation and initiatives intended to help manage these growing quantities of e-Waste (Rolf et al., 2005).

H5: Initiatives are a significant predictor for effective e-Waste management

Responsibilities: It is important to clear definition of roles and a demarcation of responsibilities (Sinha-Khetriwal et al., 2005). Manufacturer to reduce toxicity in material used for making electronics equipments (Thiel et al., 2006).

H6: Responsibilities are a significant predictor for effective e-Waste management.

Exploratory investigations proved very useful in inspecting the relevance of six variables of effective e-Waste management, namely take back system, rules and regulation, government support, awareness, initiative and responsibility. In precise, the researcher has identified total six variables for measuring effective management of e-Waste in the software industry that have been summarized in Table 1.

Table 1: Identified e-Waste Management Variables

Variables	Description
Take back system	Take back system means collecting back used electronics devices for the purpose of recycling, reuse and safe disposal of e-Waste
Rules and Regulations	Rules and regulations refer to the type of legal system required for effective e-Waste management.
Government Support	Government supports refer to the support required from government at various levels for effective management of e-Waste.

Variables	Description
Awareness	Making end consumer of electronics devices aware about various activities and services of e-Waste.
Initiatives	Initiatives refer to programs or schemes required to promote effective collection, recycling and disposal of e-Waste.
Responsibility	Responsibility means all stakeholders of e-Waste should understand and play his role in the responsible manner so that e-Waste can be managed effectively

(Source: Compiled by author based on review of literature and feedback obtained during exploratory investigations)

Research objective

The main objective of this pilot study is to identify the variables responsible for the growing volume of e-Waste in software industry of India and to arrive at a research model for effective e-Waste management. The research model was designed with identified variables which have come out from the various literatures.

Research methodology

A research method is a strategy of inquiry which moves from the underlying philosophical assumptions to research design and data collection (Majumdar and Gupta, 2001). Based on the extensive literature study in the research area, variables were identified for the e-waste management. From these variables a research model was developed and hypotheses were made. The questionnaire survey was done to test the hypotheses. The result of the quantitative input is summarized.

Questionnaire development

A questionnaire based approach was used for obtaining data from the Top managers and Software developers of the software industry. The Questionnaire was designed with the objective to collect data which is necessary to test the hypotheses formulated for the pilot study. Questions related to the test of hypotheses were in the statement format, which seeks opinion in terms of level of agreement or disagreement of the respondent. The questions in the questionnaire were multiple choice types and seven point Likert scale was used.

The intervals used were 'extremely disagree', 'disagree', 'partially disagree', 'neutral', 'partially agree', 'agree', and 'strongly agree'. This justifies that the answers of the categories are mutually exclusive so that respondents had to select only one choice against a question. In the later part of the questionnaire, personal information such as name, age, gender, work experience, education were asked to understand the respondents' demographic profile.

Data collection and result analysis

Data was collected through the convenience sampling method. Questionnaire developed was used for getting the responses. Data was collected from software industries located in Mumbai, NCR, Chennai, Bangalore, Uttarakhand and other parts of India.

The empirical findings are obtained by carrying out parametric data analysis. Researcher has used a series of statistical tools and procedures to analyze the collected data. To develop an authentic e-Waste management measurement scale, researcher has made an assessment of the reliability of constructs. Next, validity analysis using content validity and criterion-related validity tests was performed. Finally, multiple regressions were run to determine the comparative significance of six variables of e-Waste management model so developed. The results of the various analyses are described in the subsequent sub-sections.

Reliability Analysis

To measure the internal consistency of items, reliability analysis was conducted by calculating the Cronbach's alpha for the main construct. The results show that Cronbach's alpha measures for all variables exceed the threshold point of 0.70 suggested by Nunnally (1978). The alpha coefficients ranged between 0.69 and 0.82. This indicates that all variables of the construct significantly contribute to the reliability and therefore should be retained.

Multiple Regression Analysis

After having all six variables validated and checked for reliability, it would be prudent to arrange them in terms of their importance. For this, researcher followed the multiple regression model proposed by Parasuraman et al., (1985). This model considered effective e-

Waste management as dependent variable and the six variables identified from the literature.

Hence, the average score for each of the independent variable was regressed on the overall effective e-Waste management score, obtained from each respondent surveyed. For the given data, the overall regression model appears to be significant ($F = 74.717$, $p = .000$) at 5 percent level, with 91.2 percent of the variance in overall effective e-Waste management explained by independent variables. The results of multiple regression analysis are summarized in Table 2 and Table 3.

Table 2: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.955 ^a	.912	.900	.33455
a. Predictors: (Constant), t_back, i_tve, a_wrns, r_ltn, r_spsnblty, g_sprt				

Table 3: ANOVA

Model	Sum of Squares	df	Mean Square	F	Sig.
1	50.177	6	8.363	74.717	.000 ^a
Regression	4.813	43	.112		
Residual	54.990	49			
Total					
a. Predictors: (Constant), t_back, i_tve, a_wrns, r_ltn, r_spsnblty, g_sprt					
b. Dependent Variable: e_waste					

Table 4: Multiple regression analysis results

Item	Un-standardized coefficients	Standardized Coefficient	P-value	Relative importance
Constant	1.012	.007		
Rules and Regulation	.697	.717	.000	I
Government Support	.310	.338	.008	IV
Awareness	.123	.167	.120	VI
Initiatives	.377	.397	.000	III
Responsibility	.395	.506	.000	II
Take back system	.264	.228	.001	V

Note: Depended Variable: Effective e-Waste Management; *Significant at 0.05 level (2- tailed); R= 95.5 percent (Source: Fieldwork)

In the model, the standardized coefficients (known as β coefficients) indicate the relative importance of the variables.

These are used to compare the contribution of each variable to the explanation of variance of the dependent variable within the model. In this study, the variable with the largest β coefficient represents the most significant variable in terms of its influence on overall effective e-Waste management. The next largest coefficient represents the second most influential variable and so forth (Parasuraman et al., 1985).

There were 6 hypotheses of effective e-Waste management; five of them have been accepted. The only hypotheses, not supported in the study is 'Awareness'. The variables 'Take back system', 'Rules and regulation', 'Initiatives', 'Government support', and 'Responsibility' are the predictor of effective e-Waste management.

Concluding remarks

Data collection and Analysis were carried out to validate the Research Model. Convenience sampling was done from the defined population to get the responses from the Top managers and Software developers of software industry. Questionnaires were used to get the responses. 50 usable responses were received for the analysis.

Construct validity was conducted to know the convergent validity of the items used for the different variables. For this purpose the Cronbach's Alpha Test was conducted. The combination having highest value of reliability coefficient i.e. alpha was considered as the best combination of items for the further study.

The hypothesized Research Model was validated through multiple regression analysis. The analysis enabled to predict the variability in the dependent variable based on its covariance with all independent variables. Regression coefficients (beta value) show the degree of association between dependent variable and independent variable. There were 6 hypotheses of effective e-Waste management, five of them were accepted. Thus 'Take back system', 'Rules and regulation', 'Initiative', 'Government support' and 'Responsibility', support as the predictor of the effective e-Waste management. One of the hypothesis could not get support in the study, so 'Awareness' is not supported as the predictor of effective e-Waste management. This is shown in Table 4.

Limitations and future research

Limitations of research are inevitable in any research process. Limited literature was found related to effective e-Waste management in Indian context. Due to paucity of time and funds the pilot study was carried out for software industry only. Scope for future work in this area is abundant, because e-Waste has significant role in the growth of the Indian economy and it is a new sector defined by the Government of India. The Model for effective management of e-Waste in software industry developed here can be further validated for other sectors. The model evolved

in the research is able to explain 91.2 % variation of effective e-Waste management. This can be further improved by adding few more variables.

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Business Process Re-Engineering in an Engineering Organization in Search of Operational Excellence

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Abstract

Organizations today are under unprecedented pressure to improve business performance. The speed and complexity of today's business requires a focus on Operational Excellence through sustained innovation and optimization of business processes. Operational excellence is the philosophy and the state of the work place where problem-solving, team and leadership results in continuous improvement of performance. It is a never-ending journey and not a destination. It requires integration of all the facets of business, namely, People, Operations, Marketing, Finance, Resource Management, Quality, etc.

It requires analysis and redesign of workflows within the organization and the boundary conditions in order to optimize and fine-tune end-to-end processes and automate non-value-added and repetitive tasks. This is also known as Business Process Re-engineering (BPR), the concept that was first introduced by Michael Hammer in his Harvard Business Review article in 1990. This paper aims to bring out the needs of BPR in an Engineering Organization and the implementation of the same based on experience and learning acquired in the actual exercise. It also covers as how an Enterprise Resource Planning (ERP) System was developed in-house in accomplishing this task.

Business Process Re-engineering (BRP) in Engineering Organization

Two articles published in 1990, one in the Sloan Management Review by Thomas Davenport, and the other in the Harvard Business Review by Michael Hammer, discussed the growing wave of process innovation and radical business process change. The term Business Process Re-engineering was never used in the two articles; but was rather coined sometime after the two articles. Hammer's definition of re-engineering is probably more synonymous with the term BPR as Davenport considered it to be a more continuous rather than radical change.

While both BPR and Total Quality Management (TQM) focus on process, TQM is based on the Japanese philosophy of Kaizen or continuous improvement, whereas BPR is mostly based on performing radical change.

To discuss the specific case of BPR in an engineering organization, let us take a look at the major constituents of business processes. In an engineering organization, the business processes are related to People, Quality, Schedule, Cost and functions like various engineering disciplines, Marketing, Human Resource, Finance & Project Management, IT & Infrastructure, etc.

• People

People is the most critical resource for an engineering organization. Optimum resource management is a formidable challenge, yet a prime requirement. In an engineering organization, resource management primarily means management of man-hours spent on each activity. The challenge is to optimize the time required to be spent on each activity through process awareness, knowledge & skill building through training.

• Schedule

In today's world, the speed of delivery is increasing at a phenomenal speed. Schedule or timeline is, thus, a priority as the engineering deliverables are the basis for the next phases of work like procurement, construction & commissioning of plants/projects. Any delay in engineering has, therefore, a cascading effect on the successive activities of project life cycle.

• Quality

Continuous improvement in quality of engineering deliverables is the other critical factor. So focus is on Quality output through trained resources and processes. Good quality warrants "first time right" and "zero" rework approach.

• Functional Areas

Functional areas consist of engineering disciplines like Mechanical, Electrical, Civil, Structural & Architectural, Instrumentation & Control. Output from functional areas are typically technical specifications, drawings, design guides, checklists, rules, procedures, statutory requirements, good engineering practices, etc.

• Other areas

a. Human Resource

- b. Marketing & Business Development
- c. Finance & Accounts
- d. Project Engineering
- e. Information Technology
- f. Training & Development

Business Processes

Business Processes guide, bind and integrate all functions and operations of the business described above.

The criteria of a robust, effective and good business process are:

- Simplicity
- Repeatability
- Sustainability
- Scalability
- Accountability
- Collaboration
- Continual Improvement

The above factors must be embedded in the business processes to achieve operational excellence.

Business Process Re-Engineering (BPR) – Literature Review

Before proceeding further, Literature Review was conducted to have an insight into the subject of Business Process Re-Engineering.

A business, as we know, can simply be understood to be a combination of input, processes and output. The process part is the one that adds value to a product and thus forms the core of the business.

Hammer and Champy (1993) define a process as “A collection of activities that take one or more kinds of input and creates an output that is of value to the customer” (p. 35)

Davenport (1993) defines it as “A process is a specific ordering of work activities across time and space with a beginning, an end and clearly identified inputs and outputs: a structure for action” (p. 5)

Each process consists of several steps or activities involving people, information and other resources to create value for customers. Changes to these processes can be incremental or radical i.e. through the Total Quality Management (TQM) concept or through the Business Process Re-engineering (BPR) initiative.

The concept of BPR is widely regarded as having been introduced as a perceived solution to the economic crisis and the recession of the late 1980's and early 1990's (Butler, 1994; Arnott and O'Donell, 1994).

With the increasing influence of Information Technology on business, BPR has taken a paradigm shift. A new wave of changes started taking over the way business was being done in earlier days – all because of Information Technology. IT-enabled integrated solutions which we come to know as Enterprise Resource Planning or ERP Systems has become the integral part of every business.

Al-Mashari et al. (2003) argue that one of the biggest advantages of an ERP implementation is the re-engineering of the whole organisation processes to comply with the ERP and as a result change the business culture.

Posten and Grabski (2001) summarise the reasons why an organisation wants to implement ERP system:

- Reduced asset bases and costs, enhanced decision support, more accurate and timely information, reduced financial cycles, and increased procurement leverage;
- Increased customer satisfaction through integration and consistency;
- Globally integrated information access across the enterprise and supply chain;
- Enabling e-business; or
- Flexibility to change quickly and configure the business in response to a changing marketplace while making tacit process knowledge explicit.

Next to the numerous advantages an ERP implementation offer to an organisation, there are certain challenges which management should look after. Gupta (2000) has summarized them as below:

- organizational resistance to change may be high;
- changeover may take a long time causing cost overruns;
- maintenance is costly and time consuming

It is to be noted that ERP in itself is not the end but the means to achieve the goal.

It is to be coupled with proper rethinking and reengineering of processes. As Hammer, (1990) argues, “In order to achieve significant benefits, it is not sufficient to computerize the old ways, but a fundamental redesign of the core business process is necessary”. One reason why BPR is radical rather than incremental is “to avoid being trapped by the way things are currently done” (Vidgen et al., 1994).

Further, BPR needs to be comprehensive. Simply bringing IT to speed up every day work cannot bring much change. As Davenport (1993) comments: “.....information and IT are rarely sufficient to bring about the process change; most process innovations are enabled by a combination of IT, information and organizational/human resource changes.” (p. 95)

The Need for Business Process Reengineering (BPR)

Here we take up a Case Study that describes the need and the outcome of BPR in a typical engineering organisation.

Since inception of the organization under discussion, quite a few systems got created while carrying out business operations, over the years. Most of the systems per se are very good and robust in itself – but lacked integration with the other systems. This created hindrances to efficient working, decision making and realization of full potential of the organization. In 2008, Management felt the urgent need to create a system for integrating and streamlining work/ information flows and also eliminate multiple data entry. This led to the decision of developing and implementing a customized ERP system.

Review of the relevant literature presented above, also indicate the need for development and implementation of BPR in the organization.

This system needed to act as an important lever for the organization to connect the dots. It intended to serve as a repository of management information from various sources while preserving valuable data of the legacy systems giving a huge advantage for business intelligence through data analysis.

The main objective was to **achieve operational excellence** by providing a structure to capture, store, assimilate, consolidate and report business operations for planning and management without duplication of efforts. The system is conceptualized to help the management to take the right decisions based on accurate data.

System Development

At the outset, it was realized that none of the commercially available ERP would serve the purpose. Systems commercially available are mostly suited for manufacturing oriented businesses. So it was decided to develop an in-house ERP. A task-force was created drawing people from various functions. Functional requirement of the system was mapped first. The IT team developed this system in collaboration with various functions using latest Microsoft technologies.

The schematic (Figure 1) shown here is an integration of all business functions, namely:

- Employee Information
- Business Development, Marketing & Proposal
- Human Resources
- Training & Development
- Resource Planning & Monitoring
- Project Planning & Monitoring System

- Finance & Accounts
- Knowledge Management
- Quality System



Figure 1

IT systems & processes acted as the backbone to integrate all these functions. Details of the modules developed are given in Attachment – 1 of this paper.

ERP Implementation

The customized ERP development and implementation (in stages) took about 24 months (2008 – 2010). This period includes the time taken for initial debugging and attending to the teething problems.

The implementation of ERP has resulted in the following advantages:

- Integrated system encompassing all business functions & operations
- No duplication and no multiple entry of data
- Real time reports for faster decision making
- Process driven and not person driven
- Repository of organizational and project data

Challenges

- Integration with Legacy Systems

Legacy systems had data that needed to be accessed from the new system. So the system had to be designed so that both the old and the new system can access data seamlessly and concurrently. This posed a huge challenge during implementation phase.

- Adaptability to New System

Users were using spreadsheets, hard copies in the old system. The quick change over required a short learning curve. For this, interfaces were made familiar and intuitive, to make it user friendly.

- Institutionalization

Implementation of the system across the functions and offices was a tall task. Many buy-ins and training sessions were arranged to deploy it across projects and functions.

Conclusion

The decision to build customized solution for business vis-à-vis use of commercially available options was analyzed in detail. The main reason for going with the customized solution has been the integration of data with legacy systems. With very minimal change of backend data, a new front end was built to suit today's requirements. This system is in use for the last 5 years and the usage is growing day by day as the benefits are appreciated by the users.

As per Invensys White Paper on Operational Excellence, "With the dynamic nature of the market place and the level of complexity, this represents an ongoing journey, requiring a focus on the fundamentals of Operational Excellence".

Thus, operational excellence is not a destination, but a journey, rather an unending journey. The system is being continually reviewed in the context of new requirements, challenges and demands of the business environment. Accordingly, innovation & up gradation are being done to remain relevant to time.

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Attachment - 1

Description of the Modules

Modules	Description	Benefits
Employee Information Management System	Module for storing Employee Information • Personal and official details of employees • Man-hour booked by employees against each activity in the form of Work Breakdown Structure (WBS) of projects. It also gives their expertise	• Helps all locating people to project team according to expertise/skill sets requirement • Man-hour data used in estimating subsequent bids by Marketing. This data is also used for Project profitability, capacity utilization/ calculation
Business Development, Marketing & Proposal Management System	Module for Business Development, Marketing & Proposals • Tracks Business Opportunities, Enquiries, Proposals and Orders • Information regarding customers, Contract details and Man-hours estimates for various past bids/ actual jobs • Risk profiles of various projects being quoted	• Gives information on customers, business potential • Lost bid analysis • Information of competitors
Human Resource Development	Module for Performance Evaluation • Objective Setting • Annual Performance Review • Attendance/Leave Record	• Tracks the performance of employee against annual objectives • Linked with payroll for adjustment of Leave
Training & Development	Module for Training Management • Identify Training needs • Plan for Technical/Behavioral Training • Maintain Training Records • Competency mapping	• Employee can view all trainings available/ planned in organization • Employees can see anytime the trainings attended • Helps employee to understand which trainings to be attended to achieve certain competencies
Resource Planning & Monitoring System	Module for Resource Planning Manpower planning by Departments and Project Managers, manpower analysis (planned vs. available) and calculation of Capacity Utilization at all levels.	• Based on Project life cycle and resource utilization, resources available/required for future prospects may be calculated. Accordingly, call is taken for recruitment/ temporary hiring

Modules	Description	Benefits
Project Planning & Monitoring System	Module for storing project information • Stores work breakdown structure (WBS) and man-hours budgeted for each WBS • Man-hours booked against each WBS is fetched from Employee Information Management module • Regular monitoring is done so that budgeted man-hour is not exceeded • Risk Management Reports	• Project progress, CPI, SPI, Project profitability, Sales forecasting, look- ahead schedule are made available. • Through this module, the project managers send out request for manpower augmentation to the respective resource managers or Head of the departments. Then the resource managers allocate suitable resources depending on the job requirement and expertise of the team members • Project Management team as well as senior management can take appropriate actions/ decisions
Finance and Accounts System	Module for Finance Management • Maintains the invoice and sales records • Travel details are maintained • Payment details are maintained here • Data from this entity flows into the FICO module of SAP (commercially available software)	• Financial statements e.g. P&L, Balance Sheet, Trial Balance, Payment status and MIS Reports are obtained from FICO
Quality System	Module for Quality Management • Maintains the Standard operating procedures and Work processes • Maintains records of Process Improvement initiatives • Maintains Audit plans and Audit Reports • Maintains Process Qualification Records	• All Quality documents available at a central repository • Process improvement is a continuous process with contribution from all employees • Process Qualification is an important aspect that has direct correlation with the quality of the documents –only qualified personnel can work on related deliverables
Knowledge Management system	Capture Organizational Knowledge Centralized Repository for past project data, project learning, Best practices, reference data, books and catalogues, Technica papers etc.	This helps in providing right information to the right person at right time. Capturing & disseminating the tacit and explicit knowledge of the organization in a structured manner.

Millennium Developments Goals: Where do we stand (2014)?

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Abstract

The Millennium Development Goals (MDGs) are the expression of the strong commitment to universal development and poverty eradication made by the International Community in the UN Millennium Declaration in September 2000. There are the set indicators to study the achievement of the goals year wise still the target achievement. This paper tries to study the millennium development goals and its targets and its achievement indicators. Though the targets are to be achieved by the nations and the countries of the world in together but the researcher has tried to study the indicators for our country India, where do we stand in comparison of the MDG targets and indicators and what's our status as nation.

Key Words: Millennium Development Goals, UNDP Reports and MDG Assessment reports and Socio Economic Review of Gujarat.

Introduction

The Millennium Declaration, a commitment to work together to build a safer, more prosperous and equitable world. In September 2000, leaders of 189 countries met at the United Nations in New York and endorsed the Millennium Declaration. The Declaration was translated into a road map setting out eight time bound and measurable goals to be reached by 2015, known as the **Millennium Development Goals (MDGs)**. These eight time-bound goals i.e. Eradicate extreme poverty and hunger, Achieve universal primary education, Promote gender equality and empower women, Reduce child mortality rates, Improve maternal health, Combat HIV/AIDS, malaria, and other diseases, Ensure environmental sustainability and Develop a global partnership for development provides concrete framework tailored by each country to suit their specific development needs.

Fourteen years into the new millennium, the global community and the United Nation (UN) are busy in reviewing the Millennium Declaration and the race of the nations to attain their MDGs. Many countries around the world are part of this venture and making independent assessment of their country situation. In order to monitor the progress towards goals and targets, the United Nations System, including the World Bank, the IMF and other agencies came together and agreed on 48 quantitative indicators

for monitoring the progress.

Millennium Development Goals

In the city of New York the origination of Millennium Development Goals was framed during Millennium Summit that was held during 6th September to 8th September 2000. These were the same days when the world leaders at the headquarter of the United Nations adopted eight chaptered 'Millennium Declaration'. These chapters are about Values and Principles, Peace, Security and Disarmament, Development and Poverty Eradication, Protecting our Common Environment, Human Rights, Democracy and Good Governance, Protecting the Vulnerable, Meeting the Special Needs of Africa, Strengthening the United Nations. The Millennium Development Goals (MDGs) originated from the Millennium Declaration produced by the United Nations. Each goal has to follow already set targets and indicators for poverty reduction so that it can meet the completion timeline of fifteen years. It means MDGs has to be achieved till 2015 as they were accepted on 2000. The principle aim of MDG is to encourage development by improving social and economic conditions in the world's poorest countries and to provide framework for the entire UN system to work coherently together.

Thus the Millennium Development Goals (MDGs) and targets come from the Millennium Declaration, signed by 189 countries, including 147 heads of State and Government, in September 2000. The eight (8) Goals as under:

- Goal 1: Eradicate Extreme Poverty and Hunger
- Goal 2: Achieve Universal Primary Education
- Goal 3: Promote Gender Equality and Empower Women
- Goal 4: Reduce Child Mortality
- Goal 5: Improve Maternal Health
- Goal 6: Combat HIV/AIDS, Malaria and TB
- Goal 7: Ensure Environmental Sustainability
- Goal 8: Develop Global Partnership for Development

Box 1: Millennium Development Goals



(Source: MDG Goals UNDP14)

To measure progress towards the Millennium Development Goals, a framework of 18 quantifiable targets and 53 indicators (48 basic + 5 alternatives) were set up by a consensus of experts from the United Nations Secretariat, the International Monetary Fund (IMF), the Organization of Economic Cooperation and Development (OECD) and the World Bank. However, India has found 35 of the indicators as relevant to India. India's MDG-framework has been contextualized through a concordance with the existing official indicators of corresponding dimensions in the national statistical system. Following are the Goals and Set targets with its quantifiable indicators as:

Goal 1: Eradicate extreme poverty and hunger

Target 1: Halve, between 1990 and 2015, the proportion of people whose income is less than one dollar a day.

- **Indicator 1:** Poverty Headcount Ratio (percentage of population below the national poverty line)
- **Indicator 2:** Poverty Gap Ratio
- **Indicator 3:** Share of poorest quintile in national consumption

Target 2: Halve, between 1990 and 2015, the proportion of people who suffer from hunger.

- **Indicator 4:** Prevalence of underweight children under three years of age

Goal 2: Achieve universal primary education

Target 3: Ensure that by 2015, children everywhere, boys and girls alike, will be able to complete a full course of primary education.

- **Indicator 6:** Net Enrolment Ratio in primary education.
- **Indicator 7:** Proportion of pupils starting Grade 1 who reach Grade 5
- **Indicator 8:** Literacy rate of 15-24 year olds and girls alike, will be able

Goal 3: Promote gender equality and empower women

Target 4: Eliminate gender disparity in primary and secondary education, preferably by 2005, and in all levels of education, no later than 2015.

- **Indicator 9 :** Ratio of girls to boys in primary, secondary and tertiary education
- **Indicator 10 :** Ratio of literate women to men, 15-24 years old
- **Indicator 11 :** Share of women in wage employment in the non-agricultural sector
- **Indicator 12 :** Proportion of seats held by women in National Parliament

Goal 4: Reduce child mortality

Target 5: Reduce by two-thirds, between 1990 and 2015, the Under-Five Mortality Rate.

- **Indicator 13 :** Under-Five Mortality Rate
- **Indicator 14 :** Infant Mortality Rate
- **Indicator 15 :** Proportion of one year old children immunised against measles

Goal 5: Improve maternal health

Target 6: Reduce by three quarters, between 1990 and 2015, the Maternal Mortality Rate.

- **Indicator 16 :** Maternal Mortality Ratio (MMR)
- **Indicator 17 :** Proportion of births attended by skilled health personnel

Goal 6: Combat HIV/Aids, malaria and other diseases

Target 7: Have halted by 2015 and begun to reverse the spread of HIV/AIDS.

- **Indicator 18 :** HIV prevalence among pregnant women aged 15-24 years
- **Indicator 19 :** Condom use rate of the contraceptive prevalence rate (Condom use to overall contraceptive use among currently married women, 15-49 yrs, percent)
- **Indicator 19A:** Condom use at last high risk sex (Condom use rate among non-regular sex partners 15-24 yrs)
- **Indicator 19B:** Percentage of population aged 15-24 years with comprehensive correct knowledge of HIV/AIDS

Target 8: Have halted by 2015 and begun to reverse the incidence of Malaria and other major diseases.

- **Indicator 21:** Prevalence and death rates associated with Malaria.
- **Indicator 22:** Proportion of population in Malaria risk areas using effective Malaria prevention and treatment measures (Percentage of population covered under use of residuary spray in high risk areas)
- **Indicator 23:** Prevalence and death rates associated with Tuberculosis
- **Indicator 24:** Proportion of Tuberculosis cases detected and cured under DOTS

Goal 7: Ensure environmental sustainability

Target 9: Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources.

- **Indicator 25:** Proportion of land area covered by forest
- **Indicator 26:** Ratio of area protected (to maintain biological diversity) to surface area
- **Indicator 27:** Energy use per unit of GDP (Rupee)
- **Indicator 28:** Carbon Dioxide emissions per capita and consumption of Ozone-depleting Chlorofluoro Carbons (ODP tons)
- **Indicator 29:** Proportion of the Households using solid fuels

Target 10: Halve, by 2015, the proportion of people without sustainable access to safe drinking water and basic sanitation.

- **Indicator 30 :** Proportion of population with sustainable access to an improved water source, urban and rural
- **Indicator 31 :** Proportion of population with access to improved sanitation, urban and rural

Target 11: By 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers.

- **Indicator 32 :** Slum population as percentage of urban population

Goal 8: Develop a global partnership for development

Target 18: In co-operation with the private sector, make available the benefits of new technologies, especially information and communication.

- **Indicator 47 :** Telephone lines and cellular subscribers per 100 population
- **Indicator 48A :** Internet subscribers per 100 population
- **Indicator 48B :** Personal computers per 100 population

Thus this were the above targets and indicators for the eight millennium development goals of UNDP and based on this the nations try to find out its achievement and prepared itself for the next years to achieve.

MDGs Indian Perspective

In this section we would like to see where to do we stand as a nation. As this is the year of 2015 when the set goals and targets were to be achieved we would like to have an Indian perspective and try to know whether the set Goals and Targets are achieved or are in track or lagging behind. Box 2, 3, 4 prepared by the author based on the research articles and the country reports and the UNDP reports of the MDGs in India, will try to give the understanding of the achievement and the status of MDG for India.

India's achievement in terms of MDGs is mixed bag. Based on the following boxes we can conclude that in MDG goal -1, Indicator 1 with respect to the MDG target India is on track and for Indicator 2 and 3 is slowest and some what off track. For MDG goal -2, Indicator 6, 7, and 8, India has achieved it 100% or its on track. For MDG goal -3 and 4 are on track and still by 2020 the targets will be achieved. For MDG goal 6,7,8, its mixed achievement in some indicators India is far lagging and for few indicators its on track or slow.

Overall India's account was a mix of achievement and yet to achieve goals. Beginning with the achievements, India is likely to achieve 100% primary education and gender parity among children ahead of 2015. Achieving universal primary education is round the corner. With regard to gender parity it has already been achieved in primary education (in 2007-08 itself) and the disparity in secondary education is set to disappear by 2015. Yet, when it comes to poverty ratio, child mortality, hunger and malnutrition India is lagging behind and is likely to miss out on reaching the target figures. The report is indicative of the fact that even though we will miss out achieving the crucial development goals, India has shown a considerable improvement.

Box 2: MDGs Indian Perspective (Goal – 1,2,3,4)

MDG Goal	Targets	Indicators	1990 (estimated Value)	Year	Value	Year	Value	MDG Target 2015
 1 ERADICATE EXTREME POVERTY AND HUNGER	Reduce by half the proportion of people living on less than a dollar a day	Percentage of population below poverty line	47.8	1993-1994	45.3	2010-2012	21.9	23.9 ON TRACK
	Reduce by half the proportion of people who suffer from hunger	Percentage of underweight children (less than 3 years)	52	1992-1993	51.5	2005-2006	45.9	26 Slow / Almost Off Track

MDG Goal	Targets	Indicators	1990 (estimated Value)	Year	Value	Year	Value	MDG Target 2015
	Ensure that all boys and girls complete a full course of primary schooling	Net enrollment in primary education	77	2005-2006	94.6	2010-2011	99.89	100 ON TRACK
		Literacy rate (15-24)	61.9	1991	61.9	2001	76.4	100 ON TRACK
	Eliminate gender disparity in primary and secondary education preferably by 2005, and at all levels by 2015	Ratio of girls to boys in primary education	0.73	1991	0.76	2010-2011	1.00	1.00 ON TRACK
		Secondary education	0.60				0.88	
	Reduce by two thirds the mortality rate among children under five	U5MR (per 1000 live births)	125	1922-93	109	2011	52	42 ON TRACK
		IMP(per 1000 live births)	80	1990	80	2011	42	27 ON TRACK

(Source: Based on Authors Research)

Box 3: MDGs Indian Perspective (Goal – 5,6,7)

MDG Goal	Targets	Indicators	1990*	Year	Value	Year	Value	MDG Target 2015
	Reduce by three quarters the maternal mortality ratio	MMR (per 100,000 live births)	437	1992-1993	424	2007-2009	178	109 SLOW/ OFF TRACK
	Have halted by 2015 and begun to reverse spread of HIV/AIDS	HIV prevalence among pregnant women age 15-24 years	NA	2004	0.86	2010-11	0.39	0.0
		Condom use rate of the contraceptive prevalence rate (currently married women 19-49 years)	NA	1992-1993	2.4	2005-2006	5.2	-
		Condom use at last high risk sex (among non-regular sex partners 15-24 years)	NA	2001	51.9	2006	61.7	100

		Percentage of population age 15-24 years with comprehensive knowledge of HIV/AIDS	NA	2001	22.2	2006	32.9	100 Mode Rate
Have halted by 2015 and begun to reverse the incidence of malaria and other major diseases	Prevalence (incidence) and death rates associated with malaria	2.57	2006	1.67	2011-2012	0.1	1.10	-
							0.04	
	Prevalence and death rates associated with TB	465	1990	338 / 100 k	2011		249 / 100 k	-
		38		43 / 100 k	2011		24 / 100 k	-
	Proportion TB cases detected and cured under DOTs	-	2004	125.4 / 100 k	2010		32.6 / 100k	-
				85%			85%	-

(Source: Based on Authors Research)

Box 4: MDGs Indian Perspective (Goal – 7,8)

MDG Goal	Targets	Indicators	1990*	Year	Value	Year	Value	MDG Target 2015
	Reduce by half the without sustainable access to safe drinking water and basic sanitation	Percentage of people using improved source of drinking water	66.4	1993	68	2010	92	88.5 On Track
		Percentage of households without sanitation facility	76	1993	70	2010	51	38 Mode Rate
		Percentage of people using improved sanitation	18	1990	18	2010	34	64 Slow
	co-operation with the private sector, make available the benefits of new technologies, especially information and communication.	Telephone lines and cellular subscribers per 100 population	-	2005	9.08	2013	73.5	100 On Track

		Internet subscribers / personal computers per 100			1.2		13.5	100 Slow
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(Source : Based on Authors Research)

Thus India's status on the report of achievement of MDG is still more to do and more achieved in it. The government schemes of mid day meal and also the state intervention have led to achieve targets of enrollment ration and literacy rate.

The natural calamities and climate change has led to affect the agriculture sector and this has led to under development of the sector and due to this MDG goal 6 and 7 are lagging in the country.

Post-2015

On the expiry of the Millennium Development Goals (MDGs), A new universal Sustainable Development Agenda will be launched next year. Also The UN chief added that governments will be expected to append their signatures to the new mandate that will help solve problems that bedevil communities globally. UN Secretary General Ban Ki-moon said "...Air, water and soil are under pressure of human activities and this is to be the main mandate of the newly formed UN Environmental Assembly (UNEA)," The post-2015 development agenda will build on the progress achieved through the MDGs' eight goals that were established in 2000.

Thus it needs a new innovative and transformative means of implementation, including new partnerships that can work in an integrated manner, technology transfer, capacity building, information access, and monitoring and reporting for accountability."

The debate about the Post-2015 agenda at the UN and beyond is progressing with multiple tracks of intergovernmental processes that will culminate in formal negotiations among UN member states, starting towards the end of 2014. With respect to a report by the UN Secretary General (SG), which will form the basis of further negotiations. A UN Summit in September 2015 is expected to bring this debate to a conclusion, and start the transition to the post MDG era. Thus, post-2015 agenda, one key document, which has met with strong positive resonance worldwide, has been a report by the UN Secretary General's High Level Panel of Eminent Persons (HLP), issued in May 2013. A joint letter by heads of MDBs, the World Bank and the IMF to the SG welcomed in particular the HLP's overarching call for a universal agenda for SDGs.

Conclusion

MDGs are not only on paper but have been implemented thoroughly. The result is spectacular in some regions of the world as after a period of more than ten years, we can see noticeable reductions in poverty globally, significant improvements in enrolment and gender parity in schools, reductions in child and maternal mortality and increasing HIV treatments. But still there is a requirement of speeding up the procedures as the deadline is coming closer.

MDGs come to an end on December 31, 2015. One of the main outcomes of the Rio+20 Conference was the agreement by member States to launch a process to develop a set of Sustainable Development Goals (SDGs), which will build upon the Millennium Development Goals (MDGs) and converge with the post 2015 development agenda to establish an "inclusive and transparent intergovernmental process open to all stakeholders, with a view to developing global sustainable development goals to be agreed by the General Assembly".

In short, for the MDGs to be realized in India by 2015, more attention needs to be given to human development, the social sectors, and environmental sustainability. Hence, very smart economic policy is required in the country that increases the ability of the labour force in both urban and rural areas to contribute towards inclusive growth.

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Management of Root Causes of Disputes in Project

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Abstract

Disputes have become an endemic feature of the Indian construction industry. If they are not resolved promptly they can escalate causing schedule delays, lead to claims that require litigation proceedings for resolution and destroy business relationships. The competitive nature and contractual complexity inherent within construction can aggravate the incidence of disputes. Research over the last two decades has revealed that factors such as scope changes, poor contract documentation, restricted access, unforeseen ground conditions, and contractual ambiguities are contributors of disputes. While this is widely known, disputes still prevail over such issues. Before disputes can be avoided an understanding of what the underlying conditions that contributes to their occurrence needs to be determined so that mechanisms can be put in place to prevent them from arising. In this paper the literature is examined and a series of models are developed to demonstrate the interdependency between key variables that contribute to disputes. The developed models are used to identify a number of strategies that can be adopted to reduce the immediate incidence of disputes in construction.

Keywords: Claims, Contract documentation, Dispute, Litigation

Introduction

During the last two decades the Indian construction industry has been in an intense period of introspection, specifically examining how it can improve its performance and productivity. Time and cost overruns in construction projects has become a ubiquitous feature of the industry (Love et al., 2005). Significant factors that have been identified as contributing to time and cost overruns in Indian construction projects are rework, variations, incorrect design and incomplete documentation, and late authority approvals. As a result of such issues arising in projects, conflict and disputes may occur, which can lead to the disruption of construction schedules, increased project costs, and even adversely influence relationships between project participants. If a dispute is not resolved promptly, then it may escalate, and ultimately require litigation proceedings, which can be extremely costly for the parties concerned (Cheung et al., 2004). Research into determining the causes of disputes has reached saturation

point; consistently the same variables are identified and continue to manifest in projects. Because most of the studies undertaken have been based upon questionnaires or derived from case law, the factors identified lack contextual meaning. For example, poor communication has been identified as a cause of disputes (Kumaraswamy, 1997). Simply improving communication practices by improving information flow with technology or using Computer-Aided-Design will not reduce per se the incidence of disputes in construction. Fundamentally, work processes, policies, and procedures as well behaviours need to change in concert if disputes are to be reduced in construction.

Conflict, claim and dispute

A plethora of definitions as to what constitutes a dispute can be found in the normative literature. The terms conflict, claim and dispute are often used interchangeably, but their meanings are very different. Figure 1 identifies the relationship between these terms. Examples of how each of these terms has been defined include:

- Conflict: "Serious disagreement and agreement about something important" (Collins, 1995). Willmot and Hocker (1998), on the other hand, provide a detailed definition of conflict as "an expressed struggle between at least two independent parties who perceive incompatible goals, scarce resources, and interference from other achieving those goals".
- Claim: "for the assertion of a right to money, property or remedy" (Powell- Smith and Stephenson, 1993). Likewise, Semple et al. (1994) define a claim as "a request for compensation for damages incurred by any party to a contract".
- Dispute: "any contract question or controversy that must be settled beyond the jobsite management" (Diekmann and Girard, 1995)

In an attempt to reduce the incidence of conflicts and disputes; strategies to build trust between parties and improve teamwork, communication, „joint problem solving and inter-organizational relationships in projects have been utilized including; alliancing, and partnering arrangements (Kumaraswamy, 1997). The use of

alliancing and partnering arrangements can enable conflict between parties to be managed to the point of preventing a dispute from emerging (Fenn et al., 1997).

Yet claims are unavoidable and necessary to accommodate unforeseen changes in project conditions in a contractual sense. Essentially, claims in this context are the administrative processes required to handle construction events that take place where the contract "leaves off"— changed conditions, design changes, defective specifications, quantity variations, delays, disruptions and accelerations. While many claims can be resolved harmoniously, the prior presence of conflict between parties may initiate an unnecessary dispute (Kumaraswamy, 1997).

According to Carnell (2000) disputes should not be demonized, as resolution mechanisms have their place in the construction process. This is especially the case when onerous and one-sided amendments to standard forms, often drafted by lawyers with the objective of improving their clients position at the exception of fairness; or when the only way in which a party can actually protect their position because the contract conditions promote conflict. Inappropriate risk allocation through disclaimer clauses in contracts is a significant reason for increasing total construction costs. The most common exculpatory clauses used in construction are uncertainty of work conditions, delaying events, indemnification, liquidated damages, sufficiency in contract documents (Zaghoul and Hartman, 2003).

Dispute causation

In an attempt to examine the causality of disputes, Kumaraswamy (1997) sought to determine the root (the underlying reason of the problem and if eliminated, would prevent recurrence) and proximate (immediately precedes and produces the effect) causes. Root causes identified by Kumaraswamy (1997) include: unfair risk allocation, unrealistic time/cost/quality targets by the client, adversarial industry culture, inappropriate contract type, and unrealistic information expectations. Proximate causes identified included: inadequate brief, slow client responses, inaccurate design information, inaccurate design documentation, inappropriate contract form, inadequate contract administration, and inappropriate contractor selection.

Mitropoulos and Howell (2001) suggest that a combination of factors of uncertainty, contractual problems and opportunistic behaviour can lead to disputes. The inherent degree of uncertainty that prevails within construction projects can result in planning being a problematic issue, especially when information is not available. When uncertainty is high, initial drawings and specifications will invariably change, and the project team will have to solve problems as they arise during construction. When parties enter into a contract and a specific clause fails to account

for an unforeseen event or it is interpreted to suit the particular circumstances that have arisen, then there is a potential for opportunism. In this instance there is likelihood for a party to exploit or delay another to maximize their own gain.

Systemic view of disputes

To understand the mechanisms that contribute to the underlying problems that arise in projects, such as delays, rework, and scope change, a systems perspective can be used. Such a perspective provides a fundamental shift in thinking and can encourage the dispute problem to be visualized in a holistic manner. The environment within which construction projects are procured can be categorized as being comprised of the following systems:

- Project management, which includes the procurement strategy (design and production management), contract arrangement, selection processes and technology implemented to deliver a project.
- Organizational, which includes the practices, policies, procedures, culture and social responsibility of the firm; and
- People, which includes the underlying values, attitudes, personality, education, training, experience and motivation of individuals that can influence organizational and project outcomes.

a) Change of Scope

Additions, deletions, omissions, or changes in the nature of the work to be undertaken lead to changes in scope being made. Most change orders that occur are at the request of the client and are generally in the form of design changes. Zeitoun and Oberlander (1993) found that the median cost of change orders were 5.3% of contract value for 71 fixed price projects and 6.8% contract value for 35 cost reimbursable projects. The procurement method adopted for a project can influence cost and schedule growth in projects. Similarly, Cox et al. (1999) have revealed that cost of design change orders initiated by clients to range from 5% to 8% of contract value even when projects are managed effectively. Love (2002) has revealed that design change orders initiated by clients account for 79% of rework costs that arise in projects, with the remainder costs being attributable to omissions errors and construction changes. Scope uncertainty arises because of client inexperience, their requirements, stakeholder needs, physical location and the prevailing economic environment.

b) Contract Documentation

Design consultants (such as architects and engineers) are expected to use reasonable and ordinary care in the practice of their profession. Architects and engineers cannot guarantee the

results of their service. Their liability for errors and omissions, however, can be determined by whether they have performed their services with the standard of care consistent with other professional designers within their community. Even when a standard of care is agreed upon pre-contract, any financial recovery may hinge on whether the mistake was an error (mistakes made by the designer) or omission (omitted from the contract). As a result, design related documentation produced often contains errors and omissions and often leads to contractual claims and disputes (Diekmann and Nelson, 1985).

Errors can arise because of poor knowledge, carelessness and negligence, and intent. Poor knowledge is often a result of insufficient education, training, and experience. Carelessness and negligence include errors in calculations and detailing and incorrect reading of drawings and specifications. Regardless of the skill level, experience or training that individuals possess, errors may be made at any time during a project's life cycle. The later design errors are identified in the project cycle the more costly they are to rectify, especially once construction has commenced. Many design firms, however, fail to undertake design audits, verifications and reviews of the documents that they produce prior to tendering (Love et al. 2005).

C) Behavioral Adaptations of Individuals

It has been suggested that the personality differences between architects and construction managers can lead to conflict as they may have diametrically opposed goals, objectives and values. When an issue arises power struggles can emerge between different groups who seek to offload responsibility for its occurrence. Such power struggles are often exasperated in times of recession when margins are particularly tight. When a power struggle does emerge there is a reluctance to accept responsibility, contractual clauses may be interpreted differently or the contract may fail to cover an unexpected event (Loosemore and Hughes, 1998).

The way that individuals interact with one another is fundamental to resolving issues. Aggressive and passive forms of communication between individuals can trigger conflict and thus discourage open, frank or democratic discussion which is needed when addressing issues that have arisen. An individual's emotional intelligence is also integral to the problem solving process. Being emotionally intelligent involves being actively able to identify, understand, process and influence one's own emotions and those of others to guide feeling, thinking and action. Individuals who possess a high degree of emotional intelligence are able to make informed decisions, better cope with environmental demands and pressures, handle conflict in an effective manner, communicate in interesting and assertive ways and make others feel better in their work environment (Mayer and

Salovey, 1997).

Dispute mitigation

The literature reviews illustrate the complexity surrounding the causes of disputes. No single variable can be considered to be the sole cause of a dispute. Considering the nature of causes dispute of that have been identified some key strategies can be used to reduce their occurrence: project management, organizational and people perspective.

A) Project Management

The minimization of scope changes is fundamental to dispute mitigation. Initially focusing on obtaining scope certainty and providing adequate time to plan and develop the contract documentation can reduce the probability of scope changes. Clients and stakeholders (e.g., end-users) need to be kept constantly informed and integrated within the design process. Design by its very nature is an iterative process and as the design evolves and materializes through various developmental phases then the client should be required to „sign-off” after each phase is completed so as to acknowledge their requirements are being met and translated into a workable solution. Tools such as quality function deployment can be used to extract detailed requirements during the scope development process, though their use in practice has been limited (Love et al., 2003).

The procurement strategy and the selection of contractors and consultants is an area that requires attention. The identification, allocation and proactive management of risk are central to dispute mitigation. Standard forms of contract should be used, as both parties are generally familiar with the obligations assumed by each party. The use of competitive tendering often results in the lowest price being accepted by a client. Lowest price does not necessarily result in best value for money. Often the contractor with the lowest bid will have the smallest margin. If this margin is depleted then there is a possibility they may adopt opportunistic practices to recover any losses that may have been made. The use of negotiated or selective tendering with a policy whereby contractors openly present their margins and how they priced the project could potentially breakdown any of them and use barrier that is perceived to prevail. In addition, the sharing of knowledge through the establishment of inter-organizational communities of practice would encourage joint problem solving and possibly reduce the incidence of conflict between parties.

B) Organization

From an organizational perspective, the key issue contributing to disputes relates to the production of contract documentation. Research suggests that a major factor contributing to poor contract documentation is the level of fees paid to consultancy firms and the resultant managerial practices that are

implemented. Tendering for consultancy services has typically resulted in sub-optimal design solutions and contract documentation being produced. In addition, the business environment within which clients operate has resulted in increasing demands being placed on consultants to design and document within tight and often unrealistic timeframes.

To improve the quality of documentation that is produced, firms must initially adhere to policies and procedures, especially those embedded within quality assurance. Consultants should be paid a realistic level of fees for the work they undertake. For example, initially through the process of negotiation a lump sum and then additional work paid on a cost-plus basis. Consultants have an obligation and a responsibility to produce documentation that can be used effectively to construct a building that is required by the client. Undertaking design verifications, reviews and audits is a necessity. In fact, in large complex projects the use of a third party auditor to review the design and documentation could prevent scope changes, omissions errors, and design errors manifesting downstream on-site thereby reducing the likelihood of rework and a dispute.

C) People

Firms need to make conscious decisions about the people they use to procure their projects. Differing personality types are needed for specific types of project because of the client's nature and the team they are working with. Firms need to select personnel who have the emotional intelligence to deal with the challenges that are imposed upon them. Thus, it is imperative that firms have a sound understanding of their staff's personality type, their emotional intelligence and how they are able to cope with the pressures associated with their role in the specific project. Personality tests should be undertaken, as part of the recruitment process to determine how individuals fit with the affective context of the organization and the projects they will be involved with. For complex projects, for example, consideration should be given to the composition of the project team in terms of their personalities and how they could potentially solve problems that may arise. The development of an emotionally intelligent team that is able to stimulate creativity and solve problems that arise during design and construction will be able to manage conflict more effectively and resolve issues through negotiation as a project progresses.

Conclusion

A considerable amount of research has been undertaken with regard to the dispute causation within construction. Despite calls for the construction industry to improve its performance through the adoption of principles and techniques associated with lean production and supply chain management; poor contract documentation, scope changes and adverse behavioural adaptations of individual still prevail. A client who understands

their scope should be able to select a procurement option that best meets their needs. The requirement of contractor involvement during the design process can improve constructability and reduce the probability of design changes. When there is scope uncertainty and no contractor involvement during design then the likelihood of scope changes increases, which may increase project costs and time and lead to claims and disputes.

Issues associated with uncertainty may not have been identified during the planning, omission errors arise within contract documentation, which may not be identified until construction is well underway. The time to rectify the error may affect the progress of the work or even require a design change and thus lead to a claim being made for additional payment or an extension of time. The organizational system is the interface between the individual and the project. Here practices, policies and procedures are put into place and tasks are performed in accordance to the organization's role in the project. Project scope, contractual conditions, particularly the allocation of risk and responsibility and procurement strategy are key elements to be considered by the organization as this will influence their planning and resourcing and their ability to achieve project outcomes. The organization needs to examine how it can best deliver client's requirements with the resources available and within the parameters specified. Changes in an individual's attitudes and disposition and changes in an individual's behaviour can adversely influence their decision-making capacity, relationships, and their ability to solve problems and negotiate, especially over contractual claims. Thus, it would appear that there is a lack of understanding about the dynamics of disputes. With this in mind, this paper has attempted to identify the underlying influencing disputes and suggest some key prevention strategies. Further empirical research is required to determine the recurring conditions that contribute disputes.

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