

# INTERNATIONAL JOURNAL OF RESEARCH IN COMPUTER APPLICATION & MANAGEMENT

I  
J  
R  
C  
M



A Monthly Double-Blind Peer Reviewed (Refereed/Juried) Open Access International e-Journal - Included in the International Serial Directories

*Indexed & Listed at:*

Ulrich's Periodicals Directory ©, ProQuest, U.S.A., EBSCO Publishing, U.S.A., Cabell's Directories of Publishing Opportunities, U.S.A.

Open J-Gate, India [link of the same is duly available at Inlibnet of University Grants Commission (U.G.C.)].

Index Copernicus Publishers Panel, Poland with IC Value of 5.09 & number of libraries all around the world.

Circulated all over the world & Google has verified that scholars of more than 3770 Cities in 175 countries/territories are visiting our journal on regular basis.

Ground Floor, Building No. 1041-C-1, Devi Bhawan Bazar, JAGADHRI – 135 003, Yamunanagar, Haryana, INDIA

<http://ijrcm.org.in/>

# CONTENTS

Sr. No.	TITLE & NAME OF THE AUTHOR (S)	Page No.
1.	<b>USING CYBER PEDAGOGY (WIBEKI/01/2014) MODEL TO INITIATE MULTILITERACIES AND PROMOTE A VIRTUAL CLASSROOM: A PILOT STUDY</b> <i>WILLIAM NKOMO, BERTHA KARIMBIKA &amp; KITSO MOLEFE</i>	1
2.	<b>THE RIGHT TO HEALTH – A CONSTITUTIONAL VIEW</b> <i>HIRANMAYA NANDA &amp; DR. JAYADEV PATI</i>	11
3.	<b>FINANCIAL PERFORMANCE OF SELECT PRIVATE SECTOR BANKS USING CAMEL APPROACH</b> <i>DR. H N SHIVAPRASAD</i>	14
4.	<b>A COMPARATIVE STUDY OF SELECTED EQUITY DIVERSIFIED SCHEMES IN MUTUAL FUND</b> <i>DR. VIJAY H. VYAS</i>	24
5.	<b>THE INFLUENCE OF INTELLIGENT TRANSPORTATION SPACES IN INTELLIGENT TRANSPORTATION SYSTEM</b> <i>KALAISELVI S, SANGEETHALAKSHMI G &amp; SIVASANKARI A</i>	33
6.	<b>A STUDY ON THE SOCIO-ECONOMIC CHARACTERISTICS OF INTERNET BANKING ADOPTERS IN CHENNAI METROPOLITAN CITY WITH REFERENCE TO INDIAN BANK</b> <i>P.SARAVANAN &amp; P.SRIDHARAN</i>	37
7.	<b>COMPARATIVE STUDY OF NEW RAPID BUSINESS PROCESS MODEL WITH EXISTING MODEL BPMN AND UML-AD</b> <i>AMIT LAXMIDAS VADERA &amp; DR. YOGESH R. GHODASARA</i>	42
8.	<b>A DETAILED STUDY ON QUALITY OF SERVICE IN COMPUTER NETWORKS</b> <i>HARIPRIYA N, SANGEETHALAKSHMI G &amp; SIVASANKARI A</i>	48
9.	<b>TATA GROUP AND CSR: AN EXEMPLARY CASE REVIEW</b> <i>KOMAL CHAUDHARY</i>	52
10.	<b>THREE DIMENSIONAL HEALING: BENEFITS FROM THE WELLNESS</b> <i>DR. VANDANA DESWAL</i>	55
11.	<b>EMOTIONAL INTELLIGENCE AND JOB PERFORMANCE IN SERVICE INDUSTRY</b> <i>PREETI BHASKAR</i>	60
12.	<b>AN OVERVIEW OF THE BANKING INDUSTRY IN INDIA</b> <i>DR. SHILPAN D. VYAS &amp; PARINA S. VYAS</i>	66
13.	<b>COUNTERFEITING GOODS IN GULF BUSINESS: ANY ECONOMIC IMPACT?</b> <i>DR. THRESIAMMA VARGHESE &amp; KARIMA AL. QARTOOPI</i>	74
14.	<b>GREEN MARKETING: AN INDIAN EXPERIENCE</b> <i>KANCHAN SEHRAWAT, AMOGH TALAN, DR. A. K. TYAGI &amp; GAURAV TALAN</i>	77
15.	<b>ROLE OF RBI AND GOVERNMENT OF INDIA TOWARDS FINANCIAL INCLUSION OF THE RURAL POOR: ISSUES AND SUGGESTIONS</b> <i>MANOHAR LAMANI &amp; SANGANAGOUDA PATIL</i>	81
16.	<b>CORPORATE SOCIAL RESPONSIBILITY: REGULATION AND ITS SURVEILLANCE</b> <i>RACHANA VISHWAKARMA</i>	85
17.	<b>PAGE RANK ALGORITHMS BASED ON WEB CONTENT MINING AND WEB STRUCTURE MINING</b> <i>N.KANCHANA</i>	90
18.	<b>WEB CONTENT MANAGEMENT SYSTEM: COMPONENTS AND SECURITY</b> <i>OMOSEBI, PAUL ADEOYE &amp; OLORUNLEKE, FEHINTOLUWA E.</i>	93
19.	<b>DETERMINANTS AND PROSPECTS OF ECONOMIC GROWTH IN ETHIOPIA</b> <i>HABTAMU NIGATU ELALA</i>	96
20.	<b>HIGHLY SECURED LOSSLESS IMAGE CRYPTOGRAPHY ALGORITHM BASED ON HAAR WAVELET TRANSFORM</b> <i>MAHIMA GUPTA</i>	105
	<b>REQUEST FOR FEEDBACK &amp; DISCLAIMER</b>	108

## CHIEF PATRON

**PROF. K. K. AGGARWAL**

Chairman, Malaviya National Institute of Technology, Jaipur  
(An institute of National Importance & fully funded by Ministry of Human Resource Development, Government of India)  
Chancellor, K. R. Mangalam University, Gurgaon  
Chancellor, Lingaya's University, Faridabad  
Founder Vice-Chancellor (1998-2008), Guru Gobind Singh Indraprastha University, Delhi  
Ex. Pro Vice-Chancellor, Guru Jambheshwar University, Hisar

## FOUNDER PATRON

**LATE SH. RAM BHAJAN AGGARWAL**

Former State Minister for Home & Tourism, Government of Haryana  
Former Vice-President, Dadri Education Society, Charkhi Dadri  
Former President, Chinar Syntex Ltd. (Textile Mills), Bhiwani

## CO-ORDINATOR

**DR. SAMBHAV GARG**

Faculty, Shree Ram Institute of Business & Management, Urjani

## ADVISORS

**DR. PRIYA RANJAN TRIVEDI**

Chancellor, The Global Open University, Nagaland

**PROF. M. S. SENAM RAJU**

Director A. C. D., School of Management Studies, I.G.N.O.U., New Delhi

**PROF. S. L. MAHANDRU**

Principal (Retd.), Maharaja Agrasen College, Jagadhri

## EDITOR

**PROF. R. K. SHARMA**

Professor, Bharti Vidyapeeth University Institute of Management & Research, New Delhi

## EDITORIAL ADVISORY BOARD

**DR. RAJESH MODI**

Faculty, Yanbu Industrial College, Kingdom of Saudi Arabia

**PROF. PARVEEN KUMAR**

Director, M.C.A., Meerut Institute of Engineering & Technology, Meerut, U. P.

**PROF. H. R. SHARMA**

Director, Chhatrapati Shivaji Institute of Technology, Durg, C.G.

**PROF. MANOHAR LAL**

Director & Chairman, School of Information & Computer Sciences, I.G.N.O.U., New Delhi

**PROF. ANIL K. SAINI**

Chairperson (CRC), Guru Gobind Singh I. P. University, Delhi

**PROF. R. K. CHOUDHARY**

Director, Asia Pacific Institute of Information Technology, Panipat

**DR. ASHWANI KUSH**

Head, Computer Science, University College, Kurukshetra University, Kurukshetra

**DR. BHARAT BHUSHAN**

Head, Department of Computer Science & Applications, Guru Nanak Khalsa College, Yamunanagar

**DR. VIJAYPAL SINGH DHAKA**

Dean (Academics), Rajasthan Institute of Engineering & Technology, Jaipur

**DR. SAMBHAVNA**

Faculty, I.I.T.M., Delhi

**DR. MOHINDER CHAND**

Associate Professor, Kurukshetra University, Kurukshetra

**DR. MOHENDER KUMAR GUPTA**

Associate Professor, P.J.L.N. Government College, Faridabad

**DR. SAMBHAV GARG**

Faculty, Shree Ram Institute of Business & Management, Urjani

**DR. SHIVAKUMAR DEENE**

Asst. Professor, Dept. of Commerce, School of Business Studies, Central University of Karnataka, Gulbarga

**DR. BHAVET**

Faculty, Shree Ram Institute of Business & Management, Urjani

***ASSOCIATE EDITORS***

**PROF. ABHAY BANSAL**

Head, Department of Information Technology, Amity School of Engineering & Technology, Amity University, Noida

**PROF. NAWAB ALI KHAN**

Department of Commerce, Aligarh Muslim University, Aligarh, U.P.

**ASHISH CHOPRA**

Sr. Lecturer, Doon Valley Institute of Engineering & Technology, Karnal

***TECHNICAL ADVISOR***

**AMITA**

Faculty, Government M. S., Mohali

***FINANCIAL ADVISORS***

**DICKIN GOYAL**

Advocate & Tax Adviser, Panchkula

**NEENA**

Investment Consultant, Chambaghat, Solan, Himachal Pradesh

***LEGAL ADVISORS***

**JITENDER S. CHAHAL**

Advocate, Punjab & Haryana High Court, Chandigarh U.T.

**CHANDER BHUSHAN SHARMA**

Advocate & Consultant, District Courts, Yamunanagar at Jagadhri

***SUPERINTENDENT***

**SURENDER KUMAR POONIA**

## CALL FOR MANUSCRIPTS

We invite unpublished novel, original, empirical and high quality research work pertaining to recent developments & practices in the areas of Computer Science & Applications; Commerce; Business; Finance; Marketing; Human Resource Management; General Management; Banking; Economics; Tourism Administration & Management; Education; Law; Library & Information Science; Defence & Strategic Studies; Electronic Science; Corporate Governance; Industrial Relations; and emerging paradigms in allied subjects like Accounting; Accounting Information Systems; Accounting Theory & Practice; Auditing; Behavioral Accounting; Behavioral Economics; Corporate Finance; Cost Accounting; Econometrics; Economic Development; Economic History; Financial Institutions & Markets; Financial Services; Fiscal Policy; Government & Non Profit Accounting; Industrial Organization; International Economics & Trade; International Finance; Macro Economics; Micro Economics; Rural Economics; Co-operation; Demography; Development Planning; Development Studies; Applied Economics; Development Economics; Business Economics; Monetary Policy; Public Policy Economics; Real Estate; Regional Economics; Political Science; Continuing Education; Labour Welfare; Philosophy; Psychology; Sociology; Tax Accounting; Advertising & Promotion Management; Management Information Systems (MIS); Business Law; Public Responsibility & Ethics; Communication; Direct Marketing; E-Commerce; Global Business; Health Care Administration; Labour Relations & Human Resource Management; Marketing Research; Marketing Theory & Applications; Non-Profit Organizations; Office Administration/Management; Operations Research/Statistics; Organizational Behavior & Theory; Organizational Development; Production/Operations; International Relations; Human Rights & Duties; Public Administration; Population Studies; Purchasing/Materials Management; Retailing; Sales/Selling; Services; Small Business Entrepreneurship; Strategic Management Policy; Technology/Innovation; Tourism & Hospitality; Transportation Distribution; Algorithms; Artificial Intelligence; Compilers & Translation; Computer Aided Design (CAD); Computer Aided Manufacturing; Computer Graphics; Computer Organization & Architecture; Database Structures & Systems; Discrete Structures; Internet; Management Information Systems; Modeling & Simulation; Neural Systems/Neural Networks; Numerical Analysis/Scientific Computing; Object Oriented Programming; Operating Systems; Programming Languages; Robotics; Symbolic & Formal Logic; Web Design and emerging paradigms in allied subjects.

Anybody can submit the **soft copy** of unpublished novel; original; empirical and high quality **research work/manuscript** **anytime** in **M.S. Word format** after preparing the same as per our **GUIDELINES FOR SUBMISSION**; at our email address i.e. [infoijrcm@gmail.com](mailto:infoijrcm@gmail.com) or online by clicking the link **online submission** as given on our website ([FOR ONLINE SUBMISSION, CLICK HERE](#)).

## GUIDELINES FOR SUBMISSION OF MANUSCRIPT

### 1. **COVERING LETTER FOR SUBMISSION:**

DATED: \_\_\_\_\_

**THE EDITOR**  
IJRCM

**Subject: SUBMISSION OF MANUSCRIPT IN THE AREA OF**

(e.g. Finance/Marketing/HRM/General Management/Economics/Psychology/Law/Computer/IT/Engineering/Mathematics/other, please specify)

**DEAR SIR/MADAM**

Please find my submission of manuscript entitled ' \_\_\_\_\_ ' for possible publication in your journals.

I hereby affirm that the contents of this manuscript are original. Furthermore, it has neither been published elsewhere in any language fully or partly, nor is it under review for publication elsewhere.

I affirm that all the author (s) have seen and agreed to the submitted version of the manuscript and their inclusion of name (s) as co-author (s).

Also, if my/our manuscript is accepted, I/We agree to comply with the formalities as given on the website of the journal & you are free to publish our contribution in any of your journals.

#### **NAME OF CORRESPONDING AUTHOR:**

Designation:  
Affiliation with full address, contact numbers & Pin Code:  
Residential address with Pin Code:  
Mobile Number (s):  
Landline Number (s):  
E-mail Address:  
Alternate E-mail Address:

#### **NOTES:**

- a) The whole manuscript is required to be in **ONE MS WORD FILE** only (pdf. version is liable to be rejected without any consideration), which will start from the covering letter, inside the manuscript.
- b) The sender is required to mention the following in the **SUBJECT COLUMN** of the mail:  
**New Manuscript for Review in the area of** (Finance/Marketing/HRM/General Management/Economics/Psychology/Law/Computer/IT/Engineering/Mathematics/other, please specify)
- c) There is no need to give any text in the body of mail, except the cases where the author wishes to give any specific message w.r.t. to the manuscript.
- d) The total size of the file containing the manuscript is required to be below **500 KB**.
- e) Abstract alone will not be considered for review, and the author is required to submit the complete manuscript in the first instance.
- f) The journal gives acknowledgement w.r.t. the receipt of every email and in case of non-receipt of acknowledgment from the journal, w.r.t. the submission of manuscript, within two days of submission, the corresponding author is required to demand for the same by sending separate mail to the journal.

2. **MANUSCRIPT TITLE:** The title of the paper should be in a 12 point Calibri Font. It should be bold typed, centered and fully capitalised.

3. **AUTHOR NAME (S) & AFFILIATIONS:** The author (s) **full name, designation, affiliation (s), address, mobile/landline numbers, and email/alternate email address** should be in italic & 11-point Calibri Font. It must be centered underneath the title.

4. **ABSTRACT:** Abstract should be in fully italicized text, not exceeding 250 words. The abstract must be informative and explain the background, aims, methods, results & conclusion in a single para. Abbreviations must be mentioned in full.

5. **KEYWORDS:** Abstract must be followed by a list of keywords, subject to the maximum of five. These should be arranged in alphabetic order separated by commas and full stops at the end.
6. **MANUSCRIPT:** Manuscript must be in **BRITISH ENGLISH** prepared on a standard A4 size **PORTRAIT SETTING PAPER**. It must be prepared on a single space and single column with 1" margin set for top, bottom, left and right. It should be typed in 8 point Calibri Font with page numbers at the bottom and centre of every page. It should be free from grammatical, spelling and punctuation errors and must be thoroughly edited.
7. **HEADINGS:** All the headings should be in a 10 point Calibri Font. These must be bold-faced, aligned left and fully capitalised. Leave a blank line before each heading.
8. **SUB-HEADINGS:** All the sub-headings should be in a 8 point Calibri Font. These must be bold-faced, aligned left and fully capitalised.
9. **MAIN TEXT:** The main text should follow the following sequence:

**INTRODUCTION****REVIEW OF LITERATURE****NEED/IMPORTANCE OF THE STUDY****STATEMENT OF THE PROBLEM****OBJECTIVES****HYPOTHESES****RESEARCH METHODOLOGY****RESULTS & DISCUSSION****FINDINGS****RECOMMENDATIONS/SUGGESTIONS****CONCLUSIONS****SCOPE FOR FURTHER RESEARCH****ACKNOWLEDGMENTS****REFERENCES****APPENDIX/ANNEXURE**

It should be in a 8 point Calibri Font, single spaced and justified. The manuscript should preferably not exceed **5000 WORDS**.

10. **FIGURES & TABLES:** These should be simple, crystal clear, centered, separately numbered & self explained, and **titles must be above the table/figure. Sources of data should be mentioned below the table/figure.** It should be ensured that the tables/figures are referred to from the main text.
11. **EQUATIONS:** These should be consecutively numbered in parentheses, horizontally centered with equation number placed at the right.
12. **REFERENCES:** The list of all references should be alphabetically arranged. The author (s) should mention only the actually utilised references in the preparation of manuscript and they are supposed to follow **Harvard Style of Referencing**. The author (s) are supposed to follow the references as per the following:
  - All works cited in the text (including sources for tables and figures) should be listed alphabetically.
  - Use (ed.) for one editor, and (ed.s) for multiple editors.
  - When listing two or more works by one author, use --- (20xx), such as after Kohl (1997), use --- (2001), etc, in chronologically ascending order.
  - Indicate (opening and closing) page numbers for articles in journals and for chapters in books.
  - The title of books and journals should be in italics. Double quotation marks are used for titles of journal articles, book chapters, dissertations, reports, working papers, unpublished material, etc.
  - For titles in a language other than English, provide an English translation in parentheses.
  - The location of endnotes within the text should be indicated by superscript numbers.

**PLEASE USE THE FOLLOWING FOR STYLE AND PUNCTUATION IN REFERENCES:****BOOKS**

- Bowersox, Donald J., Closs, David J., (1996), "Logistical Management." Tata McGraw, Hill, New Delhi.
- Hunker, H.L. and A.J. Wright (1963), "Factors of Industrial Location in Ohio" Ohio State University, Nigeria.

**CONTRIBUTIONS TO BOOKS**

- Sharma T., Kwatra, G. (2008) Effectiveness of Social Advertising: A Study of Selected Campaigns, Corporate Social Responsibility, Edited by David Crowther & Nicholas Capaldi, Ashgate Research Companion to Corporate Social Responsibility, Chapter 15, pp 287-303.

**JOURNAL AND OTHER ARTICLES**

- Schemenner, R.W., Huber, J.C. and Cook, R.L. (1987), "Geographic Differences and the Location of New Manufacturing Facilities," Journal of Urban Economics, Vol. 21, No. 1, pp. 83-104.

**CONFERENCE PAPERS**

- Garg, Sambhav (2011): "Business Ethics" Paper presented at the Annual International Conference for the All India Management Association, New Delhi, India, 19-22 June.

**UNPUBLISHED DISSERTATIONS AND THESES**

- Kumar S. (2011): "Customer Value: A Comparative Study of Rural and Urban Customers," Thesis, Kurukshetra University, Kurukshetra.

**ONLINE RESOURCES**

- Always indicate the date that the source was accessed, as online resources are frequently updated or removed.

**WEBSITES**

- Garg, Bhavet (2011): Towards a New Natural Gas Policy, Political Weekly, Viewed on January 01, 2012 <http://epw.in/user/viewabstract.jsp>

## USING CYBER PEDAGOGY (WIBEKI/01/2014) MODEL TO INITIATE MULTILITERACIES AND PROMOTE A VIRTUAL CLASSROOM: A PILOT STUDY

**WILLIAM NKOMO**

**TEAM LEADER**

**SOFTWARE ENGINEERING & PROFESSIONAL PRACTICES**

**SOFTWARE ENGINEERING**

**FACULTY OF COMPUTING**

**BOTHO UNIVERSITY**

**FRANCISTOWN**

**BERTHA KARIMBIKA**

**TEAM LEADER**

**MIS**

**BOTHO UNIVERSITY**

**BOTSWANA**

**KITSO MOLEFE**

**TEAM LEADER**

**NIIT**

**FACULTY OF COMPUTING**

**BOTHO UNIVERSITY**

**BOTSWANA**

### ABSTRACT

*In the survey conducted at Botho University, researchers established that more than 90% of the students have access to the ICT technologies and 80% own the ICT gadgets. However, there is a challenge faced by learners when it comes to the interpretation of digitized instructions presented on these media or the internet utilized every day. On this background, this paper suggests WIBEKI/01/2014 model which contends for "cyber pedagogy" and "multiliteracies" for the learners at Higher Institutions of learning. Drawing on theories of virtual classrooms, peer and self assessment, this paper further explores two strategies; (a) the WIBEKI/01/2014 virtual classroom and (b) the mark distribution algorithm (MDF). These strategies were piloted amongst the 2 batches of the Postgraduate Certificate in Higher Education (PGCHE) (block release and part time) classes at Botho University (N=23). The WIBEKI/01/2014 is an integrated model and therefore in this study we argue that it is absolutely immaterial for learners to be constrained within a physical classroom setup. Instead, students require metacognitive skills in order to use collaborative tools, interact online and associate with team members. The findings of the study revealed that well-rounded cyber pedagogies must integrate five fundamental processes; (a) the preparatory learning for the cyber-student, (b) cyber-instructor's training process, (c) the virtual learning process itself (d) effective assessment strategies and (e) the virtual classroom evaluation procedures.*

### KEYWORDS

cyber-pedagogy, mark distribution model, multiliteracies, WIBEKI/01/2014 model.

### INTRODUCTION

Educational technologies are certainly a paradigm that can promote active learning. Introducing classes with a range of exciting techno-teaching strategies where students use social media, communication devices and animation can transform a classroom into a vibrant learning environment. In the study by Huxham (2005), sufficient evidence is specified pointing to a correlation between engagement and students' performance in recall and retention. Although in this study there is no extensive application of educational technology, the stimuli used is technology in a small way. In the pursuit for new forms of educational technologies, we need to ask how instructional technologies are transforming teaching and learning in higher education (Jaffee, 2003). The present study therefore proposes cyber-pedagogies that allow for flexibility in the teaching, learning and assessment processes. The presence of the ICT gadgets is fast transforming the way teachers and students interact and hence the dimension of thinking has amongst them. This observation is supported in the study of the shift in the pedagogical ecology from the physical to the virtual classroom by Jaffee (2003). The study shows that the use of mobile devices and browsing can transform humans' frame of mind and change the way they understand and manipulate their environment (Jaffee, 2003). Kellner (1998) concurs with these findings. The researchers therefore posit for a critical pedagogy that aligns the teaching/learning approaches with the modern learning processes required by the modern learners.

Studies conducted more than a decade ago proved that traditional methods where students are confined in some physical space do not stimulate learners' thoughts or attitudes (Bligh, 1998). Gibbs and Habeshaw (1992) discovered that lecture methods are boring to students and more often lead to somnolence. Furthermore, a worse scenario was proven by Maloney and Lally (1998). In their study of the "...relationship between students' attendance at Universities lectures and academic performance...", they revealed that students deliberately avoid lectures or cannot cope to the end of the semester if they are not spiced with interesting interventions. (Maloney & Lally, 1998). In the current study, researchers design a cyber-pedagogy model that creates a learning, teaching and assessment environment supporting the dynamic use of mobile devices and the internet. The model is expected to promote virtual learning where students are free to make a choice of where to access digitized instructional materials. As a result students can learn at home or within premises (but not necessarily in class) without prejudice. In the following sections we discuss the motivational issues and the need for action at Botho University, review the existing body of literature on related cyber-pedagogy and their use in the learning teaching and assessment. This will be followed by the piloted methodology, recorded results and finally, a discussion of these results and conclusion.

### REVIEW OF RELATED LITERATURE

High statistics on ICT usage (in the classrooms and home) point to the need for the teachers and researchers to uplift the present traditional teaching strategies in higher education to suit the students' learning preferences. This can be done by introducing cyber-strategies that equip students with abilities to think

critically in order to understand digitised instructions. The digitised instructions are dominant on the ICT media and therefore modern pedagogies need to be upgraded to fit in the techno-society. In these societies, learners need to think critically in order to meet the employers' expectations (Robertson, 2011).

Furthermore, there is need to consider a virtual classroom environment where the teacher is not limited to chalk and talk (Hartse, 2003). Teachers do not need to restrict the learners within a classroom and assume that learning is taking place. Research has it that the majority of students do not benefit from being present in the classroom and listening to the teacher. Caldwell (2007) supports the view by associating a lecture in the classroom with a transmission model of communication and not learning, in which the transmission of information process is in the teacher-to-students direction. Similarly, Huxham (2005), argues that lectures are unpopular with students, especially those at higher education. At this point, we can pose a question; how best can the learners use their smart phones for learning purposes given that the instructions presented to them is in a complex multimodal format? Koh (2001), states that the graphics texts presented on the ICT gadgets are a mix of blended textual forms of linguistic codes, sound and visual semiotics with sophisticated designs of pictures and animation. Furthermore, Rosenberg (2010) established that the nature of digital instructions (print text, images, sound and icons and motion) presented on the communications media (ipads, internet, chats, television, etc) are not only difficult for users to decipher but, also aim at placing the user in a passive position where the victims get conditioned by it. Learners therefore must be taught to think critically in order to be on the driver's seat of the interactive experience and immune to screening. Learners need to acquire metacognitive skills required for critical thinking (Alverman, Moon, & Hagood, 1999; Bruce, 1998; Buckingham, 1998; Buckingham & Sefton-Green, 1994; Gee, 2000; Pailliotet & Mosenthal, 2000; Reinking, McKenna, Labbo, & Kieffer, 1998; Semali, 1999; Watts Pailliotet & Mosenthal, 2000).

John Seely Brown (2000) proposed an "action and knowledge creation" learning model. This is web-based transformative learning. The model can be visualised as a cyclic nomenclature where four learning processes are apparent; (a) the non-text based navigational learning, (b) experience and discovery based learning, (c) "bricolege" and (d) action-oriented learning. The non-text based information navigation involves navigating through web-based resources, locating useful knowledge and information. Once navigational skills are set, the learners begin to build on experience and discovering ("discovery-based learning"). As the learners get familiar with web navigational skills and successfully find information they require, they now get curious and want to try new things. At that stage, they may link, lurk and try to assemble tasks in order to create something new and important to their lives – we refer to such skills as "bricolege" (Brown, 2000). The bricoleur is actively involved in harnessing digitised information (hyper-text links, e-books, electronic journals, etc) and constructing meaning from the informational pieces to make learning social, cognitive, action-oriented, and concrete.

Kalantzis and Cope (2008) presented the meaning-making process model that supports the development of multimodal skills amongst learners. The framework proposes multiliteracies to equip cyber-learners with metacognitive skills. In the era of smart communications technologies, meaning-making is polymorphic where written language form links with animation, gestures and spatial patterns of meaning (Kalantzis & Cope, 2008). Notably, the meaning-making model is similar to John Brown (2000) action-oriented concept in the sense that it is dynamic, cyclic and transformative. David Jaffee (2003), suggests a virtual classroom environment constituting interactivity, active learning and collaboration. In this setup, the teachers' role is to facilitate the learning process and not to direct it. Learners ask questions online, exchange information and participate in specific forums at the time they are willing and ready. In such a cyber-space there is no face-to-face interaction but, learning can be achieved more effectively because students manage their learning.

Wiki in the Hawaiian accent (wiki-wiki) means quick or fast. In the context of IT, wikis are web 2.0 communication and collaboration tools that facilitate learners' engagement and collaboration (Konieczny, 2007); (Parker & Chao, 2007). Wikis enable users to develop and publish web content, monitor the content change over time, and make corrections or revert to the original content if there is need to do so. Effective application of wikis in collaborative learning points to a new paradigm in pedagogical ecology. According to Jaffee (2003), a critical aspect of web-based learning (wikis, blogs, etc) is the shift in the pedagogical ecology from the physical to the virtual classroom.

A virtual classroom (VC) is an online learning environment that provides digitised instructional materials, collaboration and interaction using asynchronous and synchronous mechanisms (Subramaniam & Kandasamy, 2011); (Michael, 2012). The definition suggests that VCs create two forms of online learning environment; (a) asynchronous-based and (b) a synchronized form. According to Subramaniam and Kandasamy (2011), asynchronous-based environment supports a community where students receive online course materials, collaborate and interact easily. In that sense the virtual classroom reduces the significance of physical presence in a classroom and discourages surface learning (Subramaniam & Kandasamy, 2011); (Schullo, et al., 2007). Synchronized environment complements collaboration since exchange of information is real-time and full-duplex so learners can obtain instant feedback from the community members as they work on a concept. Full-duplex means two-way exchange of videos and audio content amongst learners. In the synchronized mode learners are chatting, seeing each other face-to-face and expressing their emotions to colleagues. That way, the physical classroom environment is simulated. To develop virtual classrooms, we need to harness the present features of the internet. Bower (2007) lists a dozen of these features including; screen sharing, Webcam, VoIP, text Chat, Whiteboard, file upload/download to mention but a few.

## IMPORTANCE OF THE STUDY

The main premise of the present study is to design and pilot a WIBEKI/01/2014 cyber-pedagogy and the mark distribution models which are meant to optimize the teaching, learning and assessment processes. The WIBEKI/01/2014 is a customised virtual classroom setup created on botho.blackboard.com platform. It focuses on students' multiliteracies, instructors' training requirements and formative and summative evaluation of the virtual classrooms. In this research, we intend to offer some guidance to the educators on how to customise existing open source/licensed applications into personal virtual classroom applications. The other innovation on the WIBEKI/01/2014 is the mark distribution algorithm used by cyber-learners and instructors during the assessment process. The algorithm allows learners to conduct self/peer assessment to evaluate the process of group activities and the instructor to use the well-designed rubric to assess the product of group activities. This framework therefore creates an assessment process where the final student mark combines the cyber-learner's academic achievement and team work capabilities.

## STATEMENT OF THE PROBLEM

A survey conducted at Botho University in 2014 (Semester 1) amongst eighty one (81) students, established that a significant number of learners use ICT gadgets for interacting amongst themselves and their instructors. The digitized instructions presented on the ICT gadgets they use are multimodal (mixture of text, graphs, audio and animation) and are difficult to understand due to their multimodality. Several solutions have been framed to combat such problems, perhaps the most popular one being critical cognitive skills amongst learners (to minimise conditioning of the user) and the virtual learning environment (to extend the classroom hours). The present research proposes critical multiliteracies for cyber-learners, the virtual learning platform and the mark distribution model for effective learning, teaching and transparent assessment of learners' work.

## OBJECTIVES OF THE STUDY

The objectives of the present study include the:

- Review related literature in order to establish the current virtual platforms and collaboration tools on the virtual classrooms,
- Design the WIBEKI/01/2014 framework and apply the WIBEKI/01/2014 platform to simulate the virtual classroom model,
- Application of the mark distribution algorithm(MDA) to the group work assessment process,
- Evaluation of the effects of the above mentioned models regarding their relevance in supporting learning, teaching and, assessment.

## HYPOTHESES

The proposed virtual learning platform and self/peer assessment algorithm are expected to improve student-student and student-teacher collaboration and transform assessment into a very transparent assessment system. For this purpose, we formulate the following hypothesis:



- H0: Student-to-student, teacher-to-student interaction and the quality of assessment would improve significantly with the use of WIBEKI/01/2014 and MDA models in active learning/teaching as compared to the traditional methods of teaching, learning and assessment. Furthermore, using the MDA model would enhance learners' accountability, participation and hence improve on the validity and transparency of assessment.
- H1: WIBEKI/01/2014 and MDA will be alternative learning, teaching and assessment approaches for higher education without significant changes to students' engagement and experiences.

**RESEARCH METHODOLOGY**

**A. PARTICIPANTS**

**CATEGORY 1 PARTICIPANTS**

These participants were involved in the pre-test analysis of ICT usage amongst Botho University students (Francistown). The sampling was random and 81 students volunteered with the information. In the sample, 42(51.85%) students are female and 39(48.15%) are male.

**CATEGORY 2 PARTICIPANTS**

To test the usability and effectiveness of the WIBEKI/01/2014 virtual learning, 2 Post Graduate Certificate in Higher Education (PGCHE) classes were used. The first class is part time with 10 students. The part time group consisted of 1 male student teacher and 6 female student teachers. The student teachers were teaching in various schools in the Northern region of Botswana during the time of the study. The second PGCHE group is on block-release study mode. It consisted of 13 PGCHE students all of which are lecturers at Botho University in Francistown. In total there were 20 category 2 participants, 10(50%) are male and 10(50%) are female.

**B. RESEARCH METHOD, DATA COLLECTION AND DATA CODING**

**ICT GADGETS USAGE STUDENT QUESTIONNAIRE**

To initiate the present research, researchers sort to establish the extent of ICT usage gadget at Botho University by students. The ICT gadgets usage questionnaires were distributed amongst 81 learners at Botho University (Francistown campus) using random sampling. The survey sought to establish four key aspects; (a) how many learners own smart phones or a computer, (b) how easy learners got access to the internet, (c) how easily available are the social media to the students and (d) how the learners learnt to use the media or the internet.

**WIBEKI/01/2014 SURVEY QUESTIONNAIRE**

This questionnaire sought to get the participants' views on collaborative tools (wikis and discussion forums) provided in WIBEKI/01/2014 during assignment 3. Particularly, how these technologies facilitated collaboration, interaction, peer assessment and self assessment. Additionally, how these tools provided learning support to the participants. The researchers sought to establish if the participants engaged high mental activities such as application of concepts and synthesis, their perceptions of self and peer assessment and the benefits realized from the use of collaborative tools.

**RESEARCH METHOD AND DATA COLLECTION**

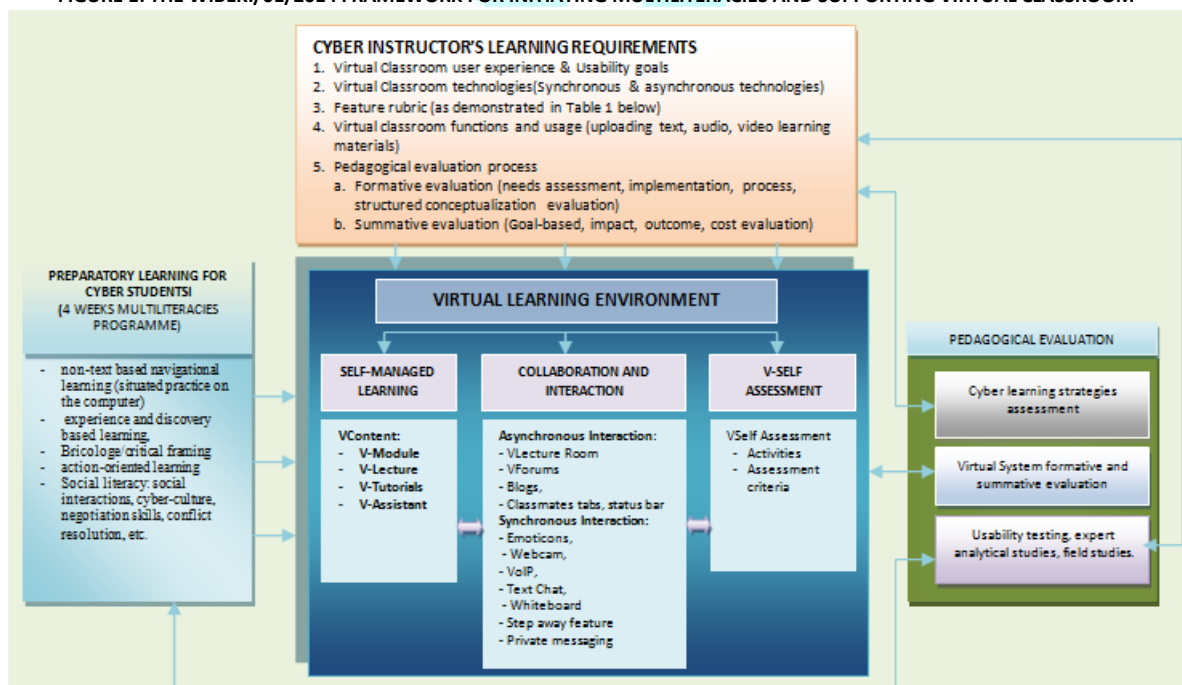
The analytical approach adopted in this study is pilot study. This study is traditionally known for its effectiveness in facilitating informed decisions on the reliability and applicability of new innovations such the educational management systems before they are tried on a larger scale. Although virtual classrooms are not new, in this study we chose to pilot the WIBEKI/01/2014 to ascertain its acceptability, effectiveness and its likely impact as a new tool of complementing the learning/teaching at Botho University. The sample size is relatively small and therefore we chose to use the feedback to improve the WIBEKI/01/2014 product. Baker (1994), acknowledged that a sample size of 10%-20% is ideal for conducting a successful pilot study. Furthermore, in this study three methods of data collection were used. Two questionnaires were distributed amongst the students; the first questionnaire was distributed at the beginning of the study to survey ICT gadgets usage amongst students, and the second questionnaire was distributed at the end of the collaborative activity to survey students' satisfaction with the virtual tools learning experience. Secondly, the WIBEKI model and Likert scale questions were reviewed by five experts to collect feedback on the completeness, content validity and relevance and applicability of the model and questions. The third method involved face-to-face follow-up interviews with nine students that were randomly selected from the two groups of the PGCHE students. Six students were selected from the part time class and three from the Block Release class. Each semi-structured interview lasted ten minutes. The interview questions were developed based on the questions from the WIBEKI/01/2014 usage questions.

**DESIGN**

**THE VIRTUAL CLASSROOM FRAMEWORK**

The WIBEKI/01/2014 framework consists of four(4) major components for implementing the cyber-learning environment; (a) the virtual learning environment model in the midst of the diagram, (b) the cyber-student preparatory-reading requirements, (c) the instructors' learning requirements to enable them to design customised cyber-learning environments and finally, (d) the pedagogical evaluation model, which is a model guiding the cyber-users on which evaluation processes could be conducted during the use of these virtual learning tools and also the evaluation of the impact of the virtual classroom on learning/teaching.

**FIGURE 1: THE WIBEKI/01/2014 FRAMEWORK FOR INITIATING MULTILITERACIES AND SUPPORTING VIRTUAL CLASSROOM**



**THE CYBER-INSTRUCTOR'S LEARNING REQUIREMENTS**

The cyber-instructor must be prepared to develop, use and evaluate the virtual classroom being used to support the cyber learning processes. The taxonomy considered relevant for equipping a cyber-instructor with fundamental skills for dealing with the cyber environment is outlined in table 1. Initially, the teacher is expected to be fluent with strategies to solicit for instructional goals of the virtual classroom from the community. The predominant attributes of the cyber-instructor constitute the ability to; (a) create a virtual classroom 'wish-list' from interviews and focus groups, (b) identify instructional challenges of the virtual classroom environment, (c) identify asynchronous/synchronous technology requirements for the preferred virtual classroom, (d) use the feature rubric to select the best virtual classroom tool (see table 1).

**TABLE 1: SUGGESTED INSTRUCTORS' VIRTUAL CLASSROOM FEATURE RUBRIC WHICH MIGHT BE ADOPTED BY THE INSTRUCTORS TO SELECT THE BEST VIRTUAL CLASSROOM APPLICATION**

T => THE FEATURE IS PRESENT IN THE PRODUCT  
 F => THE FEATURE IS MISSING

FEATURE + FUNCTIONALITY	THE VC SYSTEM ALTERNATIVE	
	VC Alternative 1	VC Alternative 2
<b>(A) SUPPORT OF VITAL COMMUNICATION MEDIA</b>		
Does it support VoIP?	T	T
Does it support text chat?	T	T
Does it support full-duplex video communication?	T	T
<b>(B) MECHANISMS FOR PRESENTING INSTRUCTIONAL MATERIALS COLLABORATION AND INTERCTION</b>		
Does it support web browsing?	T	T
Is the whiteboard present?	T	T
Does it allow the users to load and present Power Point documents?	T	T
Can polling and quizzing be supported?	T	T
Is there any multimedia for presentation?	T	T
Can users share applications they use?	T	T
Can the VC facilitate interactive hand raising and real-time feedback?	T	T
<b>(C) LOGISTICS</b>		
What plug-in are required to setup the VC tool?	F	T
Are playback for sound, audio and video supported?	T	T
Is the VC tool compatible with other platforms? Please state which ones.	WINDOWS XP plus.	LINUX, MAC OS

**THE WIBEKI-VC: COLLABORATIVE CONTEXT**

The WIBEKI/01/2014 learning environment was created using botho.blackboard.com tool of Botho University. Two PGCHE classes (1 FTWN-JAN-D8-LTA-10-1 and 1 FTWN-JUL-D8-LTA-10-1) in the Department of Further Education at Botho University (Francistown) participated in the study. The students were enrolled in the same course, "Learning Teaching and Assessment", and had the same instructor. The part-time group consisted of teachers who are relatively new to Higher Education but, all of them were graduates from Universities. All these are prospective teachers at tertiary institutions of learning/teaching. The group was given an activity that required them to make contributions on a wiki and comment on each other's work. The participants were then graded after 2 weeks. The block-release group consisted of teachers who are exposed to Higher Education at Botho University. The group was given 3 assignments and the collaborative assignment (see Appendix E) was the third assignment of the three assignments in the D8-LTA course. After the activities, each participant from each group was asked to complete a questionnaire and 16 students were selected for interviews. To facilitate collaboration and interaction amongst participants, the block-release students were divided into 3 working groups and tasked to prepare a motivational paper for a research conference "THE ROLE OF TECHNOLOGY IN TEACHING, LEARNING AND ASSESSMENT" using a wiki prepared by the instructor on the botho.blackboard.com platform for Botho University. Each group was to explicitly deal with 2 or more key points which were provided in the collaborative assignment 3. Each individual participant was then monitored to check the contributions he/she makes. This implies that mere participation in a group did not guarantee marks for an individual group member. This collaborative assignment was allocated 21 days to be completed by each group.

**SELF AND PEER ASSESSMENT OF THE PRODUCT AND PROCESS**

The final mark for each student was arrived at by considering the product (the motivational paper) the process (students contributions through wikis and overall collaboration) and mark distribution factor (DF) (Lejk & Wyvill, 1996). The product was assessed using the rubric included in appendix E. The product's mark was finalised and referred to as a group work mark (GM). The next step factored the assessment of the process. This involved team members determining how to share the group mark (GM) using a modified "...marks distribution model." (Lejk & Wyvill, 1996). The following model was used to derive the individual marks from a given group product mark:

To calculate Individual Final Mark (IFM) we use the following equation;

Equation 1:  $IFM = DF * GM$  where IFM is individual final mark and DF is distribution factor, and GM is group mark.

To calculate DF, we require a group score mean ( $\mu$ ).  $\mu$  is the sum of all scores of the group members divided by the total number of the group members (n). We can model this as follows:

Equation 2:  $\mu = (\sum_{i=1}^n x_i) / n$

DF combines two forms of assessment factors that is; (a) the self assessment factor (SA) and the (b) peer assessment factor (PA). Self assessment involves an individual group member allocating himself/herself a score for each given criterion within the range -1 to 3. 3 indicates that the group member performed better than most of the group members, 2 indicates an average performance in that respect, 1 means not good as most of the group members, 0 indicates that the group member did not make any contribution in this respect and finally, -1 indicates that the group member was a hindrance to progress. The elements can be; the level of enthusiasm, suggesting valuable ideas to the group, helping the group to function well as a team, and so on. We can then model DF as follows:

Equation 3:  $DF = (\sum_{i=1}^n SA(i) + \sum_{1 < j < n} PA(i, j)) / \mu$

$PA_i$  denotes the  $i^{th}$  criterion mark awarded to the individual by the peers. The lower limit is 1 indicating that at least there must be 1 or more criteria used to assess group activities. m is the total number of criteria used in that context. Similarly,  $SA_i$  denotes the  $i^{th}$  self assessment mark awarded by the individual towards his contribution against that element.  $PA_j$  is the  $j^{th}$  member of the group. n is the total number of group members in a given group. The same criteria were used for self and peer assessment. Appendix E presents mark calculations for the three groups that were involved in collaborative activity. The final mark

for the student is derived multiplying the product mark provided by the cyber-instructor by the DF factor obtained from students self and peer assessments (Lejk & Wyvill, 1996).

## RESULTS

The results discussed in this section are presented according to the three fundamental tools that were used; the first results are based on the wikis and discussion forums, secondly the application of the marks distribution model (MDM); that combines a product mark with the process mark to derive the students' final mark, and finally, we present the results of the "collaboration tools usage questionnaire" that collects the participants' views on the implementation of the virtual learning process and virtual assessment.

## WIKIS AND DISCUSSION FORUMS

Wikis were used to check if members of the group are making progressive contributions towards collaborative work. In particular, the "Participation Contribution" tool was used for this purpose. In this research the following facilities were used;

- 1) Compare to version X: compares the current wiki with the previous wikis done by the same participant. This enables the cyber-instructor to track some changes made to date and whether the participant's contributions are relevant to the assignment (product).
- 2) Participation summary: provides a summary in terms of the words modified and the total page saves. For example, figure 2 shows the words modified as 5% and total page saves as 3% for John in the wiki entitled "Motivational Paper: The role of teaching technology in teaching, learning and assessment."

FIGURE 2: PARTICIPANT'S CONTRIBUTION SUMMARY

### Participant's Contribution: John

*All pages and versions that you have modified are listed. To see your specific changes, choose to compare versions under **User's Modifications**, if available. Click a link in the **Page Version** column to view the version without annotated changes. [More Help](#)*

Page Version	User's Modifications	Created On	Words Modified
John	(1) Compare to Version 2	7/26/14 8:39 AM	824

Displaying 1 to 1 of 1 items [Show All](#) [Edit Paging...](#)

**About This Wiki**

Wiki Name: MOTIVATIONAL PAPER: THE ROLE OF TECHNOLOGY IN TEACHING, LEARNING AND ASSESSMENT

Type: Course

Creation Date: 7/15/14 3:16 PM

Pages: 1

Comments: 3

**Participation Summary**

Modified By: John

Words Modified: 824 (5%)

Total Page Saves: 1 (3%)

**Grade**

Participant's contribution summary had a dual role in monitoring collaborative work of students; (a) it served as a moderation tool enabling the cyber-instructor to check and confirm extreme cases of cyber-students' assessment by peers or by themselves and (b) guided the group members during the process of developing the "motivational paper" during the collaborative group work. The cyber-instructor must keep checking regularly on the contributions made by group members to help them familiarise with the work being produced in order to upgrade and effectively use the wiki rubric during the assessment of the final wiki.

## COLLABORATIVE TOOLS USAGE, SELF AND PEER ASSESSMENT STUDENT QUESTIONNAIRE 2014

The questionnaires were distributed amongst the Block Release class and 12 samples (of 13) were produced. The major questions discussed here relate to the views of participants on the benefit of the collaborative tools in facilitating virtual learning and their satisfaction. The key points of the survey are presented in Appendix D.

- 1) Benefits, effectiveness of the WIBEKI/01/2014 environment

The findings presented in the survey show that out of 12 respondents:

- a) 11(91.67%) of the respondents either 'strongly disagree' or 'agree' with the suggestion that "WIBEKI/01/2014 tools expand and reinforce their educational content" and 1(8.33%) of the respondents "disagree" with the same suggestion that "WIBEKI/01/2014tools expand and reinforce their educational content". None of the respondents 'Strongly Disagree' the same suggestion.
- b) Similarly, 11(91.67%) of the respondents 'strongly agree' or 'agree' with the view that "WIBEKI/01/2014motivated them to participate in collaborative work" while 1(8.33%) "Disagree." None of the responds 'Strongly Disagree';
- c) Except for 1(8.33%) respondent, all respondents "strongly agree" 6(50%) or "agree" 5(41.67%) with the suggestion that "WIBEKI/01/2014enhances one's educational technology literacy";
- d) 5(41.67%) respondents 'Strongly Agree' or 5(41.33%) 'agree' that through WIBEKI/01/2014they "Added more knowledge on their teaching/learning strategies". 2(16.67%) respondents "disagree" with the view. None all respondents either "Strongly Disagree" with this view.
- e) None of the respondents, 'Strongly agree' that "WIBEKI/01/2014allows for well-paced classroom work" but, 10(83.33%) 'Agree', only 2(16,67%) disagree with the view that "WIBEKI/01/2014allows for well-paced classroom work". None of the respondents 'Strongly disagree' with the view.

In terms of group dynamics in dealing with the collaborative activity we have the findings on the survey show the following out of the 12 respondents:

- f) None of the respondents say that "Team members' ability to devise effective methods of solving the problems" was "Extremely Effective", 7(58.33%) say it was "Very Effective", 4(33.33%) are saying it was "Somewhat Effective" and 1(8.67%) respondent is of the view that the group members were "Not so Effective" in that regard.
- g) In terms of "Considering other team members' views", 3(25%) respondents said that the team members were "Extremely Effective", 4(33.33%) respondents said team member;
- h) 4(33.33%) of the respondents said that team members' communication was "Extremely Effective" while 5(41.67%) of the respondents said that team members' communication was "Very Effective" and 3(25%) said communication was "Somewhat Effective". None of the respondents said the communication amongst team members was "Not so effective" or "Not effective at all."

- i) 10(83.33%) of the respondents grade collaborative activity to 3(25%) "Very Often" and 7(58.33%) "Often" as a tool for fostering "Synthesis" mental activity on virtual space, only 2(16.67%) of the respondents think collaborative activities are "Sometimes" useful for promoting "Synthesis" mental activity. None of the students said these tools "Never" involving them in "Synthesis."
- j) All of the respondents grade collaborative activity to 5(41.67%) "Very Often" and 7(58.33%) "Often" as a tool for getting in "Making Judgements about the value of information".
- k) 8(66.67%) of the respondents, said 5(41.67%) "Very Often" and 3(25%) "Often" support the view that collaborative activities enabled them to engage in the "Application" mental activity. 4(33.33%) support the suggestion that these activities "Sometimes" foster "Application" mental activity and none said that collaborative activities "Never" support "Application" mental activity.
- l) None of the respondents said self and peer assessment strategy are "Extremely Effective" if applied to promote "Fair marking and demanding work" for the students, 7(58.33%) said self and peer assessment are "Very Effective", 3(25%) said these assessments methods are "Somewhat Effective", and 2(%) said these assessments methods are either "Not so Effective" 1(8.33%) or "Not Effective at All" 1(8.33%);
- m) 5 of the respondents supported the suggestion that self and peer assessment were 1(8.33%) "Extremely Effective" or 4(33.33%) "Very Effective" in getting "Valid grades" on students' performance. 5(41.67%) support the suggestion that the self and peer assessment are 2(16.67%) are "Not so Effective" in providing valid results. None of the respondents said the assessment was "Not Effective at All" for this purpose;
- n) None of the respondents said self and peer assessment strategy are "Extremely Effective" in obtaining reliable and standard results, 5(41.67%) of the respondents said the assessments are "Very Effective" for "Reliable and standard assessment", 5(41.67%) said these assessments are "Somewhat Effective" and 2(16.67%) said these assessments are "Not so Effective" 1(8.33%). None of the respondents said the assessment are "Not Effective at All" as reliable and standard assessment criteria;
- o) About transparency, 4(33.33%) of the respondents said the assessment strategy used was "Extremely Effective", 2(16.67%), 2(16.67%) said the assessment strategies are "Very Effective", 2(16.67%) said the strategies are "Somewhat Effective" and the remaining 4 said the strategies are either 3(25%) "Not Effective" or 1(8.33%) "Not effective at all".
- p) 7(58.33%) of the respondents said the assessment strategies are either 3(25%) "Extremely Effective" or 4(33.33%) "Very Effective" in getting students "involved and accountable", 3(25%) of the respondents are rather neutral on this issue, 1(8.33%) said the strategies are rather "Not Effective" in this respect and 1(8.33%) said the strategies are "Not effective at all" in getting students "involved and accountable".

## DISCUSSION AND IMPLICATIONS

### THE WIBEKI/01/2014 VIRTUAL CLASSROOM

In the present study, WIBEKI/01/2014 was configured with four (4) fundamental elements that guide the learning, teaching and assessment processes; The first element is the cyber-instructors' learning requirements suggesting that the cyber-instructors themselves must go through formal training/orientation such as the skill of selecting the optimal features for the virtual classroom. Michael Kathy (2012) said that "...staff training and the establishment of effective support structures for safe, and rewarding virtual classroom are crucial." The second element is the Cyber-Student Preparation. The fundamental concern as learners interact with digitised instructions and hypertext on the virtual environment is the 'screening effect' or conditioning. Conditioned learners are passive, non-critical and require constant guidance in order to develop. WIBEKI/01/2014 proposes a total of 4 weeks to prepare the learners to become effective learners in the virtual classroom. However, it is to the discretion of an educational institution to create a sound cyber-pedagogy that suites this purpose. The fundamental activities must be wholesome and integrative to foster "visual literacy skills" (Michael, 2012). The digital/hypertext instructions presented on the screen are multimodal (Koh, 2001) and require a learner who is multi-skilled in order to read, understand and construct the meaning out of these instructions. (3) The third and core component of the WIBEKI/01/2014 is the 'virtual learning environment'; a combination of self-managed learning, collaborative tools and peer and self assessment. A survey of the conducted amongst the participants reveals that on average, 91% of the participants support the view that collaborative tools expand and reinforce their educational technology content and encourage them to participate actively in the learning process. A particular note has been made in this research about the benefits of collaborative work amongst participants. For example more than 90% of the participants strongly agree with the suggestion that WIBEKI/01/2014 provided a very productive platform for improving association amongst team members and fostering stronger working partnership, however not much of deeper learning seemed to be encouraged. Furthermore, an ideal virtual classroom must allow for synchronous and asynchronous exchanged of ideas where learners reflect and make valuable contributions to the collaborative activities (Wang & Newlin, 2001). WIBEKI/01/2014 platform provided such a platform. Notwithstanding, WIBEKI/01/2014 model had a couple of challenges. Students were aware of the relatively permanent nature of text-based forum postings, and were therefore generally more careful about what they wrote. The insecurity of 'appearing dumb' in front of their peers in the virtual classroom was a significant factor discouraging interaction. Wang (2012) made similar observations in the research on the influence of wikis in the students' behaviour towards collaborative work.

### WIBEKI/01/2014 SELF AND PEER ASSESSMENT

In this study, the strength and weaknesses of the self and peer assessment became apparent. The strengths are; (1) learners develop good negotiation skills, (2) there is an increase in collaboration and interaction and hence "collective intelligence" is improved. These findings seem to concur with Garry Falloon's (2011) research on the applicability of Web2 technologies in development of collaborative tools. In the present research, it was established that the virtual classroom setup is "...useful for relationship and community building and for diminishing learner isolation..." On the contrary, the assessment strategies discussed (MDA) face the challenge of curbing problems of overrating or underrating amongst learners (Lejk & Wyvill, 1996).

### MULTILITERACIES

The success of the WIBEKI/01/2014 model rests solely on the preparatory programmes that the educational institutions facilitate amongst the cyber-instructors and the cyber-learners. This is part of the cyber-pedagogy. Ideally, a successful cyber-learner must be equipped with specific multi-dimensional skills (meta-cognitive skills) in order to interact with the cyber-colleagues and to interpret the computer-based instructional materials that have become common on the virtual learning space. A cyber-learner thinks critically, navigates the hypertext cautiously and interprets the multimodal (textual, audio and visual) forms of digital instructions. Furthermore, a cyber-learner, regardless of the field of study is assumed to be computer literate. A cyber-learner must also engage in group-work. Therefore, this learner must negotiate effectively during this process in order to score good marks. In a nutshell, a cyber-learner is a student who is able to; (a) communicate well, think critically, interpret with ease the non-text based instructions presented to them.

## FINDINGS

The findings of the present study can be summarised as follows:

- a) WIBEKI/01/2014 is a useful tool in collaborative learning, teaching and assessment.
- b) WIBEKI/01/2014 enhances students' learning experience due to student-student and student-instructor interaction.
- c) Although the mark distribution model is useful, it has been established in this study that there are chances of social loafing amongst students. These students tend to grade themselves higher during self-assessment. Therefore a detection mechanism must be in place to minimize as proposed by Mark Lejk and Wyvill, 1996.

## CONCLUSIONS

This study found that using the WIBEKI/01/2014 collaborative tools for developing group work and online assignments at Botho University was not as efficient as expected. When the PGCHE students were doing assignment 3, it was noticed that they could not convene on time for discussions because they were busy with other chores of the University. The group members reported having worked as individuals and met once to discuss progress. However, the primary purpose of the WIBEKI/01/2014 model seems to have been achieved because it is on the success of the online discussion forums, synchronous chats and online interaction

amongst students that matters in the virtual space. However, the setback was that the students lacked the appreciation that there is no urgent need to meet face-to-face when discussing on the virtual classroom space.

Assessment and effective feedback are part of the learning process and one wonders how this can be done best on the virtual classroom. Blackboard provides a platform for monitoring students' engagement, contributions to the discussion forums and summary of each participant's contributions. Furthermore, when using Blackboard the instructor can grade the students based on these contributions (botho.blackboard.com, 2012). However, educators need to take a holistic approach when dealing with the assessment of the cyber-learners by factoring in the assessment of the product and process (Lejk & Wyvill, 1996). In that way, the instructor will take assess the cyber-learner's professional development and personal grooming abilities.

### LIMITATIONS OF THE METHODOLOGY

The benefits of the WIBEKI/01/2014 model have been listed but, crucial issues need to be discussed that may challenge its implementation. These include;

- Network reliability: network connectivity may be slow or not sufficient to handle multiple responses at the same time as discussed in the KatSRS model (Nkomo, Samsom-Zulu, & Chirau, 2014)
- Administration of the MDF for self and peer assessment requires rigorous monitoring and may be time consuming: Application of the algorithm, monitoring the use of the strategy against under and over rating amongst the cyber-learners is crucial. This becomes more stressing to the cyber-instructor if there are instances of social loafers.
- Learning preferences amongst students is no longer emphasised if there is over reliance on the WIBEKI/01/2014 model: The lack of face-to-face student, teacher interaction may disadvantage those students who prefer face-to-face and verbal communication with their instructors.

### SCOPE FOR FURTHER RESEARCH

These findings are crucial and point to the need to prioritise the implementation of the activities suggested in the WIBEKI/01/2014 model because some learners are not IT literate to use the collaboration tools and more so the value and capabilities of the virtual tools on the internet. We need to capitalise on the "preparatory learning" of the model to train the learners on how to access the internet, use hyper text links, and interpret graphics texts on the digital instructions (Koh, 2001). Additionally, the same learner must have the diplomacy of a good team player (cyber-learner multiliteracies). Similar results have been confirmed in separate studies in non-Western countries (Wang, 2012). To that effect, cyber-instructors must focus on the effective use of the collaborative tools in promoting academic achievement amongst cyber-learners and make comparative studies on the efficiency of these tools against existing educational technologies such as KatSRS (Nkomo, et al., 2014) for the same purpose.

In order to optimize the MDA model, we need to find ways of involving learners in the whole process of assessment such as design of the assessment criteria, assessing themselves and their colleagues and evaluating the assessment process itself (Lejk & Wyvill, 1996). In that way, some high degree of process ownership, belonging and accountability will be achieved amongst the cyber-learners.

### REFERENCES

1. Baker, L. T., 1994. *Doing Social Research*. 2 ed. New York: McGraw-Hill Inc.
2. Biggs, J., 2003. *Teaching for Quality Learning at University*. 2 ed. UK: Open University Press.
3. Bligh, D. A., 1998. *What's the Use of Lectures?*. London: Exeter Intellect.
4. Bower, M., 2007. *Groupwork Activities in Synchronous Online Classroom Spaces*. SIGCSE, 39(1), pp. 91-95 .
5. Brown, J. S., 2000. *Growing Up Digital: How The Web Changes Work, Education, and the Ways People Learn*. Change, 28 April, pp. 11-20.
6. Cadwell, J. E., 2007. *Clickers in the Large Classroom: Current Research and Best - Practice Tips*. CBE- Life Science Education, 6(1), pp. 9-20.
7. Every, V. J., Garcia, G. & Young, M. F., 2010. *A Qualitative Study of Public Wiki Use in a Teacher Education Program*. Proceedings of Society for Information Technology & Teacher Education International Conference, Issue 1, pp. 55-62.
8. Gibbs, G. & Habeshaw, T., 1992. *Preparing to teach: An Introduction to Effective Teaching in Higher Education*. 2nd ed. Bristol: Educational Services Ltd.
9. Hartse, J., 2003. *What do we mean by literacy now?*. Voices from the Middle, 10(3), pp. 8-12.
10. Huxham, M., 2005. *Learning in Lectures: Do 'interactive windows' help*. Active Learning in Higher Education, 6(1), pp. 17-31.
11. Jaffee, D., 2003. *Virtual Transformation: Web-based Technology and Pedagogical Change*. Teaching Sociology, Volume 31, pp. 227-236.
12. Johnson, L. F., Levine, A. & Smith, R. S., 2008. *2008 Horizon Report*, s.l.: The New Media Consortium.
13. Kalantzis, M. & Cope, B., 2008. *Language Education and Multiliteracies*. In: N. H. Hornberger, ed. *Encyclopedia of Language and Education*. Urbana-Champaign, Alton: Springer US, pp. 195-211.
14. Kellner, D., 1998. *MULTIPLE LITERACIES AND CRITICAL PEDAGOGY IN A MULTICULTURAL SOCIETY*. Educational Theory, 48(1), pp. 103-122.
15. Koh, A., 2001. *Critical Cyber Pedagogy: Doing Multiliteracies in the Singapore Classrooms*. Educational Journal, 29(1), pp. 33-44.
16. Konieczny, P., 2007. *Wikis and Wikipedia as a Teaching Tool*. International Journal of Instructional Technology and Distance Learning, 4(1), pp. 14-34.
17. Konieczny, P., 2012. *Wikis and Wikipedia as a Teaching Tool: Five years later*. Peer-Reviewed Journal on the Internet, 17(9).
18. Lamb, B., 2004. *Wide Open Spaces: Wikis, ready or not*. EDUCAUSE REVIEW, 39(5), pp. 36-48.
19. Luke, C., 2005. *New Literacies - New Media: Mediascapes and Infoscapes*. El Paso, The PRIDE Project.
20. Maloney, M. & Lally, B., 1998. *The Relationship Between Attendance at University Lectures and Examination Performance*. The Irish Journal of education, 9(2), pp. 52-62.
21. Michael, K., 2012. *Virtual Classroom: Reflections of Online Learning*. Campus-Wide Information Systems, 29(3), pp. 156-165.
22. New London Group, 1996. *A Pedagogy of Multiliteracies: Designing Social futures*. Harvard Educational Review, 66(1), pp. 60-92.
23. Parker, R. K. & Chao, T. J., 2007. *Wiki as a Teaching Tool*. Interdisciplinary Journal of Knowledge and Learning Objects, Volume 3.
24. Pearson, P. D. & Rapheal, T. E., 1999. *Towards more complex view of balance in the literacy curriculum*. Early literacy instructions for the new millenium, Volume 1, pp. 1-19.
25. Robertson, C., 2011. *Designing Multiliteracies Curricula*. [Online] Available at: [http://etec.citl.ubc.ca/510wiki/Designing\\_Multiliteracies\\_Curricula](http://etec.citl.ubc.ca/510wiki/Designing_Multiliteracies_Curricula) [Accessed 14 April 2014].
26. Rosenberg, A. J., 2010. *Multiliteracies and teacher empowerment*. Critical Literacy: Theories and Practices, 4(2).
27. Schullo, S., Hilbelink, A., Venable, M. & Barron, A. E., 2007. *Selecting a Virtual Classroom System: Elluminate Live versus Macromedia Breeze(Adobe Acrobat Connect Professional)*. MERLOT Journal of Online Learning and Teaching, 3(4).
28. Shaker, P., 2001. *Literacies for life*. Educational Leadership, 59(2), pp. 26-31.
29. Subramaniam, N. K. & Kandasamy, M., 2011. *The Virtual Classroom: A Catalyst for Institutional Transformation*. Australasian Journal of Educational Technology, 27(8), pp. 1388-1412.
30. Zuboff, S., 1988. *The Future of Work and Power*. In: *In the Age of the Smart Machine*. New York: Basic Books.

APPENDICES

A. THE RESULTS OF THE SURVEY CONDUCTED AT BOTHO UNIVERSITY ON STUDENTS' OPINION AND USAGE OF ICT GADGETS

	Not Present	Family Shares	Another member owns	I have my own		
<b>A. Which of the following technologies are present in your home?</b>						
1) Desktop	33	21	9	18		
2) Laptop	6	0	12	63		
3) Wireless WiFi Internet Access	39	6	21	15		
4) Internet	48	15	3	15		
5) PDA	30	15	30	6		
6) Mobile phone	9	0	6	66		
7) Digital camera	24	6	27	24		
8) Portable MP3 player	36	18	9	18		
<b>B. How did you learn to use the computer?</b>						
1) I taught myself	I taught myself	From family	From friends	University	High school	
	24	18	6	9	24	
<b>C) How is your knowledge &amp; skills for using ICT's?</b>						
	Poor	Average	Good	Excellent		
	0	15	50	16		
<b>D) Where do you get access to the internet off-campus?</b>						
	No access	At home	Café	Library	Friend/Relative	Work
	0	42	15	12	12	0
<b>E) What ICT's do you mainly use off campus?</b>						
1) I do not use any				3		
2) Desktop				3		
3) Laptop/PDA				23		
4) Cellular phone				32		
5) A combination of the above				20		
<b>F) Does ICT you use have internet?</b>						
	Yes	No	Don't use one			
	60	18	3			

B. COLLABORATIVE ACTIVITY: ASSIGNMENT 3

**Postgraduate Certificate in Higher Education  
Learning, Teaching and Assessment  
Assessment Number 3 (20% of module marks)**

The massive use of ICT in learning (students), teaching (educators) and its general application in social networks (facebooking, whatsapp, twittering, etc) nowadays is an indicator for us to think differently about assessing the role of educational technology in the teaching, learning and assessment processes. Imagine your team (PGCHE) is tasked to prepare a motivational paper for a conference **"THE ROLE OF TECHNOLOGY IN TEACHING, LEARNING AND ASSESSMENT"**

- You are to collaborate and prepare a report using wikis on botho.blackboard.com entitled **"THE ROLE OF TECHNOLOGY IN TEACHING, LEARNING AND ASSESSMENT"** addressing the following key points/questions;
  - What constitutes educational technology?
  - What may be expected of current and future educational technology?
  - What use, and in some cases misuse, is being made of technology learning, teaching and assessment?
  - What has research shown us about the role of technology?
  - What do we still need to know?
  - What methodologies are appropriate for evaluating the effectiveness of technology in education processes?
  - Challenges of ET
  - Uses & Applications of ET
  - Software & Hardware Tools for ET
- Since there are 14 members in the PGCHE programme and 4 working groups, maybe you can devise to split according those groups or whichever way you suggest, it is acceptable to me.
- Each group must explicitly deal with 2 more topics as specified above and make contributions. Please note, each individual would be monitored on the contributions he/she make, being in a group would not guarantee makes for an individual.
- Assessment criteria are supplied on the next page.
- The work will be assessed on 04<sup>th</sup> of July 2014.

**Assessment criteria**  
The final mark for an individual will be influenced by the self assessment and peer assessment. For step 1 and 2, use method 1 as discussed on the 4<sup>th</sup> of July 2014. Please refer to the pack for Week 2 Day 4. As for step 3, do not worry, the instructor will finalise the marks.

**Step 1: Inter-group criteria**  
As a team, you need to convene and assess each working group's contribution and agree on the mark you can allocate to each group. At this level, you are not to criticise an individual but, an entire group's contribution to the report. I will initiate the group assessment by allocating the marks after I have gone through the document and allocated a mark for the entire document. It is your duty as PGCHE programme team to work amicably on this issue. I do not want to have too much influence, but in case you have a problem, please feel free to contact me for assistance.

**Step 2: Within-group criteria**  
Obviously, by now you have agreed on a mark for each group. Now group members know their contributions as well. Split the mark you have amongst yourselves. Use the evidence on blackboard to arrive at the final mark. I will also check blackboard contributions so that I accept the rationale and validity of your approach.

**Step 3: final criteria for each member:**  
This work constitutes 20% of the final mark. Participants will receive a Fail (below 40%), Pass (40-54%), Merit (55-69%) or Distinction (70-100%).

C. RUBRIC FOR COLLABORATIVE ACTIVITY: ASSIGNMENT 3

ELEMENT	Excellent 5	Proficient 3	Partially Proficient 1	Unsatisfactory 0	POINTS
Content	Provides a fresh and balanced perspective on the topic.	Provides original ideas with minimum of personal bias.	Provides one or two original ideas which include some personal bias.	Does not provide any original ideas and personal bias is obvious.	1/5
	Provides comprehensive insight, understanding, and reflective thought about the topic.	Provides a moderate amount of insight, understanding, and reflective thought about the topic.	Provides only minimal understanding, or reflective thought about the topic.	Provides no understanding or reflective thought about the topic.	3/5
	Explains all ideas clearly and concisely in a logical progression with effective supporting evidence.	Explains most ideas clearly and concisely with supporting evidence.	Does not clearly explain ideas and does not effectively use supporting evidence.	Fails to explain ideas clearly, and does not use any supporting evidence.	2/5
	Presents all information in a style that is appealing and appropriate for the intended audience.	Presents information in a style that is generally appropriate for the intended audience.	Presents information in a style that is often inappropriate for the intended audience.	Presents information in a style that is unappealing and inappropriate for the intended audience.	1/5
Organization	Uses a consistent organizational structure that includes grouping related information, defines specialized vocabulary and/or provides a table of contents.	Uses an organizational structure which groups some but not all related information, defines specialized vocabulary and/or provides a table of contents.	Uses a loosely defined organizational structure which attempts to group similar items.	Fails to provide a consistent organizational structure and information is difficult to locate.	4/5
Text Layout	Makes frequent and effective use of headings, facts, bullet points and white space to enhance the content's visual appeal and increase readability.	Makes occasional use of headings, facts, bullet points and white space to enhance the content's visual appeal and increase readability.	Makes minimal use of headings, facts, bullet points and white space to enhance visual appeal and readability.	Makes no use of headings, facts, bullet points or white space to enhance visual appeal and readability.	2/5
Citation	Consistently uses standard bibliographic format to cite sources.	Uses standard bibliographic format to cite sources most of the time.	Does not use standard bibliographic format to cite sources, and citations are incomplete.	Does not cite any sources.	4/5
	Accurately cites all sources of information to support the reliability and authority of the information presented.	Most sources are cited accurately, and support the reliability of the information presented.	Few sources are cited accurately, and they fail to adequately support the reliability of the information presented.	Does not provide any accurate information about sources used.	2/5
Group/Partner Collaboration	Contributes equally with other group members in researching, writing, and editing.	Assists group members with most of the researching, writing and editing.	Provides minimal assistance to group members in researching, writing and editing, and does not follow through with all tasks.	Provides no assistance to group members in any of the researching, writing and editing, and does not follow through with any of the tasks.	3/5
	Meets all goals and deadlines.	Usually meets goals and deadlines.	Occasionally meets goals and deadlines.	Does not meet goals and deadlines.	5/5
	Exhibits an appropriate work ethic and respects the work of others.	Exhibits an appropriate work ethic and generally respects the work of others.	Exhibits a minimal knowledge of work ethic and often fails to respect the work of others.	Exhibits no knowledge of work ethic and fails to respect the work of others.	4/5
Writing Mechanics	Edits the text with no errors in grammar, capitalization, punctuation, and spelling.	Edits the text with minor additional editing required for grammar, capitalization, punctuation, and spelling.	Edits the text, but errors in grammar, capitalization, punctuation and spelling distract or impair readability. (2 or more errors)	Edits the text but numerous errors in grammar, capitalization, punctuation, and spelling greatly distract the reader and major revision is required. (more than 5 errors)	2/5
TOTAL POINTS					21/60

D. COLLABORATIVE TOOLS USAGE, SELF AND PEER ASSESSMENT STUDENT QUESTIONNAIRE

**A. The benefits of collaborative tools in promoting learning teaching and enhancement of educational technology content- Which of the following do you agree with most?**

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. They expand and reinforce educational content.	2	9	1	0
2. They motivate me to participate.	3	6	1	0
3. Exposed me to new teaching/learning strategies.	5	4	2	0
4. Enhanced my educational technology literacy.	6	5	1	0
5. They allow for well-paced classroom work.	0	10	2	0

**B. Group dynamics and wellness through use of collaborative- Which of the following do you think was extremely effective during the collaborative activity amongst your group members.**

	Extremely Effective	Very Effective	Somewhat Effective	Not Effective	Not effective at all
1. Team members identified and created effective ways to solve the problem.	0	7	4	1	0
2. Team members considered views of other members in the team.	3	4	4	1	0
3. Team members solicited for information for the benefit of completion of the group activity.	2	6	3	1	0
4. Communication amongst team members.	4	5	3	0	0
5. Team reporting wellness.	3	4	5	0	0

**C. The effectiveness of self and/or peer assessment in gauging individual performance from the product and the process- In which of the following areas do you think this form of assessment is an extremely effective strategy.**

	Extremely Effective	Very Effective	Somewhat Effective	Not Effective	Not Effective at all
1. Fair and demanding and allows for deserving students to be awarded.	0	7	5	1	1
2. Valid in promoting students' performance in reading, listening and understanding.	1	4	3	2	0
3. Reliable and standard assessment criteria.	0	5	5	2	0
4. Enables effective time and resource management.	1	4	4	1	1
5. In being transparent.	4	2	2	3	1
6. Equipping me with team work negotiation skills.	1	4	4	2	1
7. Manage me to manage my own learning.	2	3	3	2	0
8. Makes students get involved and accountable for the assessment.	3	4	3	1	1

E. AN EXAMPLE OF HOW DERIVE THE GROUP MEMBERS' MARKS USING THE MDF ALGORITHM

Marks awarded to:	Bertha			Kitso			William		
Marks awarded by:	Be	Ki	Wl	Be	Ki	Wl	Be	Ki	Wl
Motivation/responsibility/time management	3	3	2	1	3	3	1	2	2
Adaptability	2	2	3	1	2	2	1	3	3
Creativity/originality	3	3	2	2	3	2	2	3	2
Communication skills	2	2	2	2	3	3	2	2	2
General team skills	2	2	3	2	2	3	1	2	3
Technical skills	2	3	2	2	2	2	2	3	2
Totals		43				40		38	

We apply equation 2 to get  $\mu$ :

$$\mu = (43+40+38)/5 = 40.33333$$

We apply equation 3 to calculate the *DF*:

$$\text{Bertha's } DF = 43/40.33 = 1.066204$$

$$\text{Kitso's } DF = 40/40.33 = 0.991818$$

$$\text{William's } DF = 38/40.33 = 0.942227$$

We use equation 1 to get *IFM* where group score is 57%:

$$\text{Bertha } 1.066*57\% = 60.77$$

$$\text{Kitso } 0.992*57\% = 56.53$$

$$\text{William } 0.942*57\% = 53.71$$





## THE RIGHT TO HEALTH – A CONSTITUTIONAL VIEW

**HIRANMAYA NANDA**  
**RESEARCH SCHOLAR**  
**SOA NATIONAL INSTITUTE OF LAW**  
**SOA UNIVERSITY**  
**BHUBANESWAR**

**DR. JAYADEV PATI**  
**DEAN**  
**SOA NATIONAL INSTITUTE OF LAW**  
**SOA UNIVERSITY**  
**BHUBANESWAR**

### ABSTRACT

*This article is an attempt to reflect the concept of health and right to health through the constitution of India. The author has also relied upon various judicial decisions in order to extract the meaning of health and right to health in India. However nowhere in Indian Constitution the health or right to health has been defined but through its provisions the implicit references has been drawn. Through Judicial interpretation it has been observed that Right to life includes Right to Health and thus a fundamental right.*

#### KEYWORDS

right to health, constitution of India, right to life.

#### INTRODUCTION

*"It is health that is real wealth and not pieces of gold and silver."*

*Mohandas Karamchand Gandhi*

Since long human civilisation has been searching to know the reason behind the mystery of leading a healthy, wealthy and a long lasting life. To eradicate the disease is a more important issue than to cure a patient. Sir George Newman has rightly observed, "It is not the event of death which we can escape but the incidence of avoidable invalidity and pre-mature death. It is the enlargement of life and the increase of human capacity, physical and mental, which we seek to ensure."<sup>1</sup>

According to the Oxford Dictionary the word 'Health' means the state of being free from illness or injury but this definition is not complete. However the most acceptable definition of health has been given by the World Health Organisation in the preamble of its constitution, it says, "Health is a state of complete physical, mental and social well being and not merely the absence of disease. In 2000, the WHO further expanded the definition of health. It includes a reduction in disparities for improving health status and sharing the financial burden in accordance with the ability to pay as being a fair form of health financing".<sup>2</sup>

Human Right to Health and Healthcare in India got the momentum when India joined the United Nation in the year 1945 and particularly when the Universal Declaration of Human Rights (UDHR) was proclaimed. The formulation of India's Constitution was certainly influenced by the Universal Declaration of Human Rights. The basic ideologies on which Indian constitution relies had been influenced by UDHR in varied ways. Neither the 'Health' nor the 'Right to Health' is directly defined in Indian Constitution. However through its preamble casts an implied obligation on state to ensure social and economic justice in which implicit is the health and right to health. Right to health is prima facie not a fundamental right either in Part III and the reference in Part IV the right to health is ineffective for it being non enforceable. Hence it becomes pertinent to analyse the contours of different provisions of Indian Constitution to know the right perspective of right to health and health care.

#### PROVISIONS UNDER PART-III OF THE CONSTITUTION OF INDIA

The provisions enshrined under this part are not directly related to Health however with the help of judicial interpretation, the intention of the legislature was there to cover the health as a right of the citizens.

**Article 14** articulates Equality before law where the State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India. Prohibition of discrimination on grounds of religion, race, caste, sex or place of birth.

**Article 15** provides Prohibition of discrimination on grounds of religion, race, caste, sex or place of birth where the state shall ensure access to shops, public restaurants, hotels and palaces of public entertainment; or the use of wells, tanks, bathing ghats, roads and places of public resort maintained wholly or partly out of State funds or dedicated to the use of the general public. Most importantly the state shall make any special provision for women and children for their betterment of life.

**Article 21** of the Indian constitution ensures Protection of life and personal liberty of the Individual, Where no person shall be deprived of his life or personal liberty except according to procedure established by law.

**Article 23** prohibits Traffic in human beings and beggar and other similar forms of forced labour and any contravention of this provision shall be an offence punishable in accordance with law.

**Article 24** again prohibits the children below the age of fourteen years shall not be employed to work in any factory or mine or engaged in any other hazardous employment.

#### PROVISIONS UNDER PART-IV OF THE CONSTITUTION OF INDIA

**Article 38** of Indian Constitution imposes liability on State that states will secure a social order for the promotion of welfare of the people but without public health we cannot achieve it. It means without public health welfare of people is impossible.

**Article 39 (e)** provides "that the health and strength of workers, men and women, and the tender age of children are not abused and that citizens are not forced by economic necessity to enter avocations unsuited to their age or strength;"

**Article 39 (f)** provides "that children are given opportunities and facilities to develop in a healthy manner and in conditions of freedom and dignity and that childhood and youth are protected against exploitation and against moral and material abandonment."

<sup>1</sup> "A Treatise On Hygiene And Public Health"

<sup>2</sup> The World Health Report 2000, Health Systems: Improving Performance, World Health Organisation, Geneva, 2000

**Article 41** imposed duty on State to public assistance basically for those who are sick and disable. It provides right to assistance in case of sickness and disablement. It deals with "The state shall within the limits of its economic capacity and development, make effective provisions for securing the right to work, to education and to public assistance in case of unemployment, Old age, sickness and disablement and in other cases of undeserved want". Their implications in relation to health are obvious.

**Article 42** makes provision to protect the health of infant and mother by maternity benefit. It also gives the power to the State for making provisions for securing just and humane conditions of work and for maternity relief and for the protection of environment.

**Article 47** provides that "the State shall regard the raising of the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties and, in particular, the State shall endeavour to bring about prohibition of the consumption except for medicinal purposes of intoxicating drinks and of drugs which are injurious to health."

**Article 48 A** ensures that State shall Endeavour to protect and impose the pollution free environment for good health.

## PROVISIONS UNDER PART-IV A OF THE CONSTITUTION OF INDIA

**Article 51 A (g)** provides "it shall be the duties of every individual to protect and improve the natural environment including forests, lakes, rivers and wild life, and to have compassion for living creatures."

## JUDICIAL INTERPRETATION ON HEALTHCARE AND RIGHT TO HEALTH

The "Right to health" as a basic human right has been recognised by several human rights instruments. In India, though 'Right to health' is not recognised as a fundamental right expressly, the judiciary by its expounded role has recognised the same as a fundamental right under Article 21 of the Indian Constitution as an adjunct to the right to life. By a liberal interpretation of Article 21 of constitution of India, the Supreme Court has taken a strong propeople stand with regard to Right to health. The responsibility to respect, protect and fulfil the 'right to health' lies not only with the medical profession but also with public functionaries such as administrators and judges.<sup>3</sup>

In *Francis Coralie Mullin v Union Territory of Delhi*<sup>4</sup>, the court held that, right to life guaranteed in Article 21 of the constitution in its true meaning includes the basic right to food, clothing and shelter.

The Supreme Court has in *Bandhua Mukti Morcha etc v. Union of India and Ors.*<sup>5</sup> case addressed the types of conditions necessary for enjoyment of health and that right to live with human dignity also involves right to "protection of health".

In *Vincent v. Union of India*<sup>6</sup>, held that a healthy body is the very foundation for all human activities. That is why the adage 'Sariramadyam khalu dharma sadhanam.' In a welfare state, therefore, it is the obligation of the state to ensure the creation and the sustaining of conditions congenial to good health.

In the case of *Parmanand Katra vs Union of India*<sup>7</sup>, held that whether the patient be an innocent person or be a criminal liable to punishment under the law, it is the obligation of those who are in charge of the health of the community to preserve life so that innocent may be protected and the guilty may be punished. In *CESC Ltd. v. Subash Chandra Bose*<sup>8</sup>, the Supreme Court relied on international instruments and concluded that right to health is a fundamental right. It went further and observed that health is not merely absence of sickness: "The term health implies more than an absence of sickness. Medical care and health facilities not only protect against sickness but also ensure stable manpower for economic development. Facilities of health and medical care generate devotion and dedication to give the workers' best, physically as well as mentally, in productivity. It enables the worker to enjoy the fruit of his labour, to keep him physically fit and mentally alert for leading a successful economic, social and cultural life. The medical facilities are, therefore, part of social security and like gilt edged security, it would yield immediate return in the increased production or at any rate reduce absenteeism on grounds of sickness, etc.

In *Unnikrishnan, JP vs. State of Andhra Pradesh*<sup>9</sup>, the maintenance and improvement of public health is the duty of the State to fulfil its constitutional obligations cast on it under Article 21 of the Constitution.

In *Consumer Education and Research Centre v. Union of India*<sup>10</sup>, the Court explicitly held that the right to health is an integral factor of a meaningful right to life. Further the court held that the right to health and medical care is a fundamental right under Article 21 of the Constitution.

In *Virender Gaur vs. State of Haryana*<sup>11</sup>, the Supreme Court held that environmental, ecological, air and water pollution, etc., should be regarded as amounting to violation of right to health guaranteed by Article 21 of the Constitution.

The Supreme Court, in *Paschim Banga Khet mazdoor Samity & ors v. State of West Bengal & ors*<sup>12</sup> while widening the scope of art 21 and the government's responsibility to provide medical aid to every person in the country, held that in a welfare state, the primary duty of the government is to secure the welfare of the people. Providing adequate medical facilities for the people is an obligation undertaken by the government in a welfare state. The government discharges this obligation by providing medical care to the persons seeking to avail of those facilities.

In *Mahendra Pratap Singh v. State of Orissa*<sup>13</sup>, a case pertaining to the failure of the government in opening a primary health care centre in a village, the court had held "In a country like ours, it may not be possible to have sophisticated hospitals but definitely villagers within their limitations can aspire to have a Primary Health Centre. The government is required to assist people get treatment and lead a healthy life. Thereby, there is an implication that the enforcing of the right to life is a duty of the state and that this duty covers the providing of right to primary health care.

In *Murli Deora v Union of India and Ors.*<sup>14</sup> the Supreme Court prohibited smoking in public places in the entire country on the grounds that smoking is injurious to health of passive smokers and issued directions to the Union of India, State Governments as well as the Union Territories to take effective steps to ensure prohibiting smoking in all public places such as auditoriums, hospital buildings, health institutions, educational institutions, libraries, courts, public offices and public conveyances, including railways.

For Protection of health of workers and humane conditions of work the Supreme Court in *Occupational Health and Safety Association v. Union of India and others*<sup>15</sup> that when workers are engaged in hazardous and risky jobs then the responsibility and duty on the state is double fold.

## CONCLUSION

"Health is Wealth". The loss of health is loss of all happiness. Public Interest Litigations have been filed frequently on health issues involving fundamental right to health, right to food, reproductive rights, rights of workers to occupational health and safety, right to clean environment, right to adequate drugs, medical

<sup>3</sup> Address by Justice K.G. Balakrishnan National seminar on the 'Human right to health' Organized by the Madhya Pradesh State Human Rights Commission (At Bhopal) - September 14, 2008

<sup>4</sup> 1981(1)SCC 608

<sup>5</sup> AIR 1984 SC 802

<sup>6</sup> AIR 1987 SC 990

<sup>7</sup> AIR 1989 SC 2039

<sup>8</sup> AIR 1992 SC 573,585

<sup>9</sup> AIR 1993 SC 2178 , (1993) 1 SCC 645.

<sup>10</sup> AIR 1995 SC 636

<sup>11</sup> 1995 (2) SCC 577

<sup>12</sup> (1996) 4 SCC 37

<sup>13</sup> AIR 1997 Ori 37

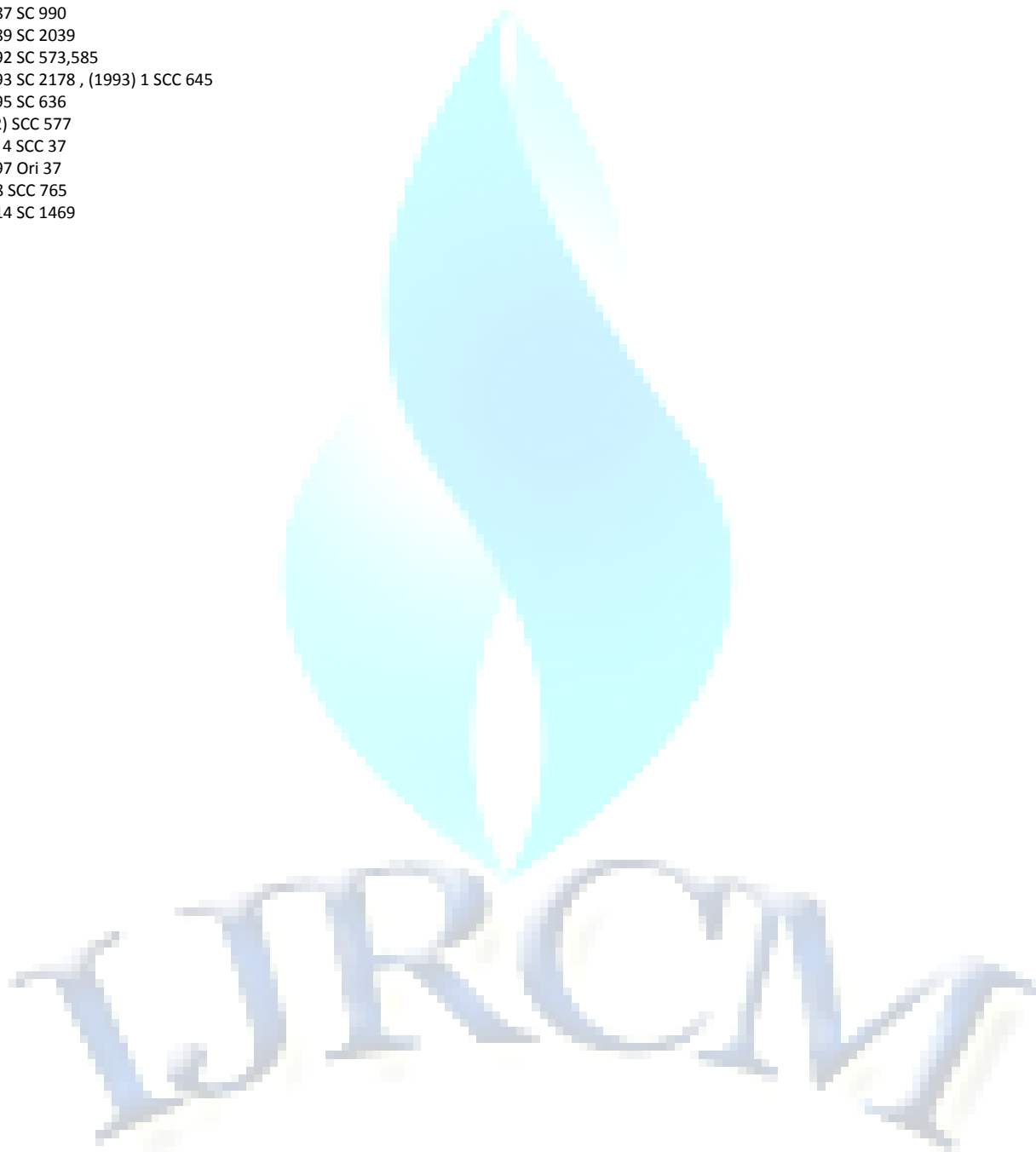
<sup>14</sup> (2001)8 SCC 765

<sup>15</sup> AIR 2014 SC 1469

negligence, right against medical malpractice, right to emergency health care, HIV/Aids and public health care. It is evident from the analysis that the Constitution of India has expressed its deep concern for health care in India. The Constitution also stipulates certain duties for the citizens towards contributing to the promotion of health in the country. Moreover, the right to health within the human rights framework is defined as the right to achieve the "highest attainable standard of health" not merely the absence of disease. Our Prime Minister of India Honourable Sh. Narendra Modi has recently started for SWACCHA BHARAT MISSION and has urged people to take the 'Swachhta Shapath' to ensure healthy India.

#### REFERENCES

1. "A Treatise On Hygiene And Public Health"
2. The World Health Report 2000, Health Systems: Improving Performance, World Health Organisation, Geneva, 2000
3. Address by Justice K.G. Balakrishnan National seminar on the 'Human right to health' Organized by the Madhya Pradesh State Human Rights Commission (At Bhopal) - September 14, 2008
4. 1981(1)SCC 608
5. AIR 1984 SC 802
6. AIR 1987 SC 990
7. AIR 1989 SC 2039
8. AIR 1992 SC 573,585
9. AIR 1993 SC 2178 , (1993) 1 SCC 645
10. AIR 1995 SC 636
11. 1995 (2) SCC 577
12. (1996) 4 SCC 37
13. AIR 1997 Ori 37
14. (2001)8 SCC 765
15. AIR 2014 SC 1469



## FINANCIAL PERFORMANCE OF SELECT PRIVATE SECTOR BANKS USING CAMEL APPROACH

**DR. H N SHIVAPRASAD**

**DIRECTOR**

**DR. D VEERENDRA HEGGADE INSTITUTE OF MANAGEMENT STUDIES & RESEARCH**

**VIDYAGIRI**

### ABSTRACT

*Financial performance analysis is the process of scientifically making a proper, critical and comparative evaluation of profitability and the financial health of banks through the application of the technique of financial statement analysis. In the present study CAMEL Model has been applied for the same purpose. The paper evaluates the performance of five leading private sector banks using CAMEL framework. The CAMEL approach has been used using 17 financial ratios spanning across the CAMEL indicators. The study spanned a period 10 years (2004 -2013). Group and composite rankings has been done to evaluate the performance. ANOVA has been used to measure the variations in performance in the banks.*

### KEYWORDS

Financial performance, private banks.

### 1. INTRODUCTION

Financial performance analysis is the process of scientifically making a proper, critical and comparative evaluation of profitability and the financial health of banks through the application of the technique of financial statement analysis. Financial analysis covers a vast area and is of great practical importance. In the present study CAMEL Model has been applied for the same purpose. In the present study, following financial ratios under CAMEL Model have been used for the analysis of financial performance.

<b>C</b> - Capital adequacy	Capital Adequacy Ratio Total Assets Turnover Ratio Tier-1 Capital Adequacy Ratio
<b>A</b> - Asset quality	Gross NPA's To Gross Advances, Percentage Change In Net NPA's , Priority Sector Advances As A % Of Total Advances
<b>M</b> - Management	Total Advances To Total Deposits (Credit Deposit Ratio)    Net Profit Per Ratio Report    Return On Net Worth Net Profit Margin.
<b>E</b> - Earning quality	Dividend Per Share Net Interest Income To Total Funds Earnings Per Share Operating Profit Per Share Operating Profit As A % Of Working Funds
<b>L</b> - Liquidity	Liquid Ratio Quick Ratio

#### C- CAPITAL ADEQUACY

Capital base of financial institutions facilitates depositors in forming their risk perception about the institutions. The most widely used indicator of capital adequacy is capital to risk-weighted assets ratio (CRWA).

#### A – ASSET QUALITY

Asset quality determines the healthiness of financial institutions against loss of value in the assets. The weakening value of assets, being prime source of banking problems, directly pour into other areas, as losses are eventually written-off against capital, which ultimately expose the earning capacity of the institution. The asset quality is gauged in relation to the level and severity of non-performing assets, adequacy of provisions, recoveries, distribution of assets etc. Popular indicators include nonperforming loans to advances, loan default to total advances, and recoveries to loan default ratios.

#### M – MANAGEMENT EFFICIENCY

Performance evaluation includes compliance with set norms, ability to plan and react to changing circumstances, technical competence, leadership and administrative ability of the bank. Sound management is one of the most important factors behind financial institutions performance.

#### E –EARNING ABILITY

Earnings and profitability, the prime source of increase in capital base, is related with regards to interest rate policies and adequacy of provisioning. Good earnings and profitability of banks reflects the ability to support present and future operations. Specifically, earnings ability determines the capacity to absorb losses, finance its expansion, pay dividends to its shareholders, and build up an adequate level of capital.

#### L – LIQUIDITY

An adequate liquidity refers to a situation, where institution can obtain sufficient funds, either by increasing liabilities or by converting its assets quickly at a reasonable cost.

### 2. LITERATURE REVIEW

The following are the key studies in the area of bank performance by various academicians and scholars in the field.

**Barker and Holdsworth (1993)** study found that the CAMEL approach is very useful for measuring performance of banks. They also found that CAMEL model also could be used as a failure predicting tool.

**Cole et al. (1995)** conducted a study on "A CAMEL Rating's Shelf Life" and found that if a bank has not been examined for more than two quarters, off-site monitoring systems usually provide a more accurate indicator of bank's survival than CAMEL rating.

**Rao and Datta (1998)** studied the performance of all nationalized banks and found Corporation Bank to be the Best Performing Bank and banks like UCO Bank, Syndicate Bank and Vijaya Bank to be the worst performing banks.

**Gaytan and Johnson (2002)** found CAMEL model to be a good indicator of the performance of the banks.

**Said and Saucier (2003)** examined the liquidity, solvency and efficiency of Japanese Banks using CAMEL rating methodology, for a representative sample of Japanese banks for the period 1993- 1999, they evaluated capital adequacy, assets and management quality, earnings ability and liquidity position.

**Prasuna (2003)** analyzed the performance of 65 Indian banks for the period 2003-04. by adopting the CAMEL Model. He concluded that the competition was tough and consumers benefited from better services quality, innovative products and better bargains.

**Sathish (2005)** studied performance 55 banks for the year 2004-05 using CAMEL model. They found the Indian banking system to be healthy. They suggested that banks should use Information Technology to drive the growth of in the future.

**Bernanke (2007)** studied the banking system in US. They suggested that US Federal Reserve should use both onsite and off site monitoring for measuring the safety and soundness of financial systems. They suggested the use of CAMEL approach for offsite monitoring.

**Grier (2007)** found management to be the most important element in the CAMEL rating system because it plays a major role in bank's success.

**Gupta and Kaur (2008)** conducted the study with the main objective to assess the performance of Indian Private Sector Banks on the basis of Camel Model and gave rating to top five and bottom five banks. They ranked 20 old and 10 new private sector banks on the basis of CAMEL model. They considered the financial data for the period of five years from 2003-07.

**Muhammad (2009)** asserts that the strength of CAMEL's factors determines the overall strength of the bank. He suggests that quality of each component of CAMEL further underlines the inner strength and indicates as to extent to which a bank can protect itself against the market risks.

**Ghosh (2010)** studied the relationship between credit growth bank soundness and financial fragility in Indian banks. The soundness of banks was measured by their distance to default. Loan growth was found to be directly associated with soundness. They also found high correlation between growth in the private sector credit and bank soundness.

**Sangmi and Nazir (2010)** evaluated the financial performance of the two major banks , namely Punjab National Bank and Kammu & Kashmir Bank using CAMEL approach. The study throws light on the financial position of the banks under study and found the performance to be satisfactory in terms of all the CAMEL parameters.

**Reddy and Prasad (2011)** applied the 'CAMEL' approach to Rural Regional banks in India. They applied hypothesis testing along with t-statistic to distinguish between two classes of these banks.

**Prasad and Ravinder (2012)** examined the economic sustainability of a sample of thirty nine banks in India using CAMEL model during the period 2006-10. The study found that Canara Bank stood at top position in terms of capital adequacy. In terms of asset quality, Andhra Bank& Bank of Baroda was at top most position. In terms of management efficiency, Punjab & Sindh bank was the best performer. In terms of earnings quality Indian Bank sustained the top position. Bank of Baroda was the best performer in terms of liquidity position. On the basis of overall performance, Andhra Bank was ranked the best followed by Bank of Baroda, Punjab & Sindh Bank, Indian bank , Corporation Bank

### 3. DATA ANALYSIS AND INTERPETATIONS

#### 3.1 CAPITALADEQUACY

The capital adequacy reflects the overall financial condition of a bank and also the ability of the management to meet the need for additional capital. This ratio is used to protect depositors and promote the stability and efficiency of financial systems around the world.

Two types of capital are measured: Tier One capital, which can absorb losses without a bank being required to cease trading, and Tier Two capital, which can absorb losses in the event of a winding, provides a lesser degree of protection to depositors.

**Capital Adequacy Ratio** - It is arrived at by dividing the sum of tier I and tier II (capital fund of the bank) by risk weighted assets as per the given formula Tier I capital include equity capital and free reserves . Tier II capital comprises subordinated debt of 5-7 year tenure. The higher the CAR, the stronger the bank

##### 3.1.1 CAPITAL ADEQUACY RATIO (CAR)

Capital adequacy ratios (CARs) are a measure of the amount of a bank's core capital expressed as a percentage of its risk-weighted asset and it is also known as "Capital to Risk Weighted Assets Ratio (CAR)."

$$CAR = \frac{\text{Tier I Capital} + \text{Tier II Capital}}{\text{Risk Weighted Assets}}$$

Capital Adequacy Ratio is defined as:

TIER 1 CAPITAL = (paid up capital + statutory reserves + disclosed free reserves) subsidiary + intangible assets + current & b/f losses)

TIER 2 CAPITAL = A) Undisclosed Reserves + B) General Loss reserves + C) hybrid debt capital instruments and subordinated debts where Risk can either be weighted assets or the respective national regulator's minimum total capital requirement.

Capital Adequacy Ratio comparison of various banks is given below:

TABLE 1: SHOWING CAPITAL ADEQUACY RATIO

Years	HDFC	ICICI	AXIS	KOTAK	INDUS IND
2004	11.16	10.40	11.21	15.25	12.75
2005	12.16	11.80	12.66	12.8	11.62
2006	11.41	13.40	11.08	11.27	10.54
2007	13.08	11.69	11.57	13.46	12.54
2008	13.60	13.96	13.73	18.7	11.91
2009	15.69	15.53	13.69	20.0	12.55
2010	17.44	19.41	15.80	18.4	15.33
2011	16.22	19.54	12.65	19.9	15.89
2012	16.52	18.52	13.66	17.5	13.85
2013	18.34	18.74	17.00	16.0	15.36
AVERAGE	14.562	15.299	13.305	16.32	13.234
RANK	3	2	4	1	5

The average capital adequacy ratio is highest (16.32%) in axis bank so it is being ranked as 1 and lowest (13.324%) in axis bank so it is ranked as 5.

##### 3.1.2 TOTAL ASSETS TURN OVER RATIO

This ratio indicates the efficiency with which the banks is utilizing in fixed assets such as plant & machinery, land & building etc...

**TABLE 2: SHOWING TOTAL ASSETS TURNOVER RATIO**

YEARS	HDFC	ICICI	AXIS	KOTAK MAHINDRA	INDUSIND BANK
2004	0.08	0.10	0.10	0.08	0.10
2005	0.08	0.08	0.07	0.09	0.08
2006	0.09	0.08	0.08	0.11	0.07
2007	0.10	0.10	0.09	0.11	0.08
2008	0.11	0.11	0.10	0.12	0.09
2009	0.13	0.10	0.11	0.11	0.11
2010	0.10	0.09	0.09	0.11	0.10
2011	0.08	0.07	0.07	0.09	0.10
2012	0.09	0.07	0.08	0.11	0.12
2013	0.10	0.08	0.09	0.11	0.11
AVERAGE	0.096	0.088	0.88	0.104	0.096
RANK	3	4	5	1	2

Total assets turnover ratio is highest in KOTAK MAHINDRA bank rank-1 and lowest in AXIS bank rank -5.

### 3.1.3 TIER –I CAPITAL ADEQUACY RATIO

The Basel rules recognize that different types of equity are more important than others and to recognize i.e., Tier I Capital and Tier II Capital. Tier I Capital is actual contributed from equity plus retained earnings. The minimum CAR ratios as per Basel Accord norms: Tier I equity to risk weighted asset is 4 per cent, while minimum CAR including Tier II Capital is 8 per cent.

**TABLE 3: SHOWING TIER -1 CAPITAL ADEQUACY RATIO**

YEARS	HDFC	ICICI	AXIS	KOTAK MAHINDRA	INDUSIND
2004	8.03	6.09	6.44	12.64	8.28
2005	9.60	7.59	8.87	13.64	9.09
2006	8.55	9.20	7.26	16.28	12.33
2007	8.58	7.42	6.42	15.17	11.05
2008	10.30	11.32	10.17	14.50	10.64
2009	10.58	12.16	9.26	16.10	9.63
2010	13.26	13.48	11.18	15.40	12.13
2011	12.23	11.8	9.41	18.0	12.29
2012	11.60	11.10	9.45	15.7	11.37
2013	8.03	12.80	12.23	14.71	13.78
AVERAGE	10.07	10.29	9.06	15.21	9.83
RANK	3	2	5	1	4

Tier 1 capital adequacy ratio is highest for Kotak Mahindra Bank (Rank - 1) and lowest for Axis Bank (Rank - 5).

### 3.2 ASSET QUALITY

A review or evaluation assessing the credit risk associated with a particular asset. These assets usually require interest payments - such as a loans and investment portfolios. How effective management is in controlling and monitoring credit risk can also have an effect on the what kind of credit rating is given.

#### 3.2.1 GROSS NPA'S TO TOTAL ADVANCES

The prime motto behind measuring the asset quality is to ascertain the components of non performing assets as a percentage of the total assets.

**TABLE 4: SHOWING GROSS NPA'S TO TOTAL ADVANCES**

YEARS	ICICI	HDFC	AXIS	KOTAK	INDUSIND
2004	NA	NA	NA	NA	NA
2005	NA	NA	NA	NA	NA
2006	0.63	1.53	1.7	0.67	0.62
2007	0.73	4.10	1.1	1.02	1.25
2008	2.45	3.45	1.6	1.75	1.45
2009	4.32	1.98	1.08	4.31	1.61
2010	6.52	1.44	1.39	3.62	1.23
2011	5.80	1.06	1.28	2.03	1.01
2012	4.83	0.95	1.18	1.56	0.98
2013	3.22	0.85	1.19	1.55	1.03
AVERAGE	2.85	1.53	1.05	1.65	0.918
RANKS	1	3	4	2	5

Gross NPA to total advances is highest (2.85%) ICICI Bank (Rank-1) and lowest (0.918%) in IndusInd Bank (Rank -5).

**3.2.2 PERCENTAGE CHANGE IN NPAS**

This measure gives the movement in net NPAs in relation to net NPAs in the previous year. The lower the percentage change, better the quality of assets. It is given by following formula:-

$\% \text{ Change in Net NPAS} = (\text{Net NPAs at the End of Year} - \text{Net NPAs at the Beginning of Year}) / \text{Net NPAs at the Beginning of the Year}$ .

**TABLE 5: SHOWING PERCENTAGE CHANGE IN NPAS**

YEARS	HDFC	ICICI	AXIS	KOTAK	INDUSIND
2004	NA	NA	NA	NA	NA
2005	NA	NA	NA	NA	NA
2006	30.74	-30.06	21.15	0.067	45.89
2007	155.94	89.23	1.374	1345.3	36.07
2008	121.54	64.35	0.54	154.64	38.45
2009	50.64	35.09	45.09	135.20	34.05
2010	35.64	12.04	6.45	43.50	24.76
2011	25.63	31.64	12.64	34.67	22.74
2012	14.54	25.45	11.05	24.89	29.27
2013	11.25	10.75	19.73	21.63	12.50
AVERAGE	44.59	22.64	11.80	175.97	24.37
RANKS	2	4	5	1	3

Percentage change in NPAS is highest in Kotak Mahindra Bank (Rank – 1) and lowest in Axis Bank (Rank – 5)

**3.2.3 PRIORITY SECTOR ADVANCES AS A % OF TOTAL ADVANCES**

The Reserve bank of India on the basis recommendations made by working group and committees has been issuing guidelines to commercial banks from time to time for grant of loans and advances to various categories of priority sector viz, agriculture, small industries, roads and water transport operators, retail trade, small business, professional, & self employed persons, educational and housing loans, consumption loans to weaker sections etc.

**TABLE 6: SHOWING PRIORITY SECTOR TO ADVANCES**

YEARS	HDFC	ICICI	AXIS	KOTAK	INDUSIND
2004	14.08	23.7	26.23	40.92	36.14
2005	21.97	22.57	28.22	33.31	39.18
2006	30.99	29.2	34.64	35.58	31.89
2007	37.67	28.22	35.79	32.02	32.02
2008	33.78	27.64	34.01	33.8	33.31
2009	30.11	32.08	29.06	31.98	34.92
2010	35.09	33.23	31.53	29.33	29.3
2011	34.89	39.45	30.29	28.76	28.22
2012	36.40	35.67	33.69	32.63	22.57
2013	43.07	40.09	39.09	30.45	29.54
AVERAGE	31.80	31.18	32.25	32.87	31.70
RANKS	4	5	2	1	3

Priority sector to total advances is highest in Kotak Mahindra Bank (Rank-1) and lowest in ICICI Bank (Rank - 5).

**3.3 MANAGEMENT**

This study uses ratios like Return on Net Worth, Credit Deposit Ratio, Profit per Employees, Net Profit Margin for measuring the efficiency of the management;

**3.3.1 RETURN ON NET WORTH**

Return on shareholders' investment, popularly known as return on investment or return on shareholders' funds is the relationship between net profits and the proprietors' funds. This ratio is one of the most important ratios used for measuring the overall efficiency of a bank.

$\text{Return on Net Worth} = \text{Net Profit} / \text{Net Worth}$

**TABLE 7: SHOWING RETURN ON NET WORTH**

YEARS	HDFC	ICICI	AXIS	KOTAK	INDUSIND
2004	24.38	20.93	26.39	13.72	34.20
2005	23.67	18.86	18.19	12.45	25.79
2006	22.73	14.33	18.28	14.58	4.34
2007	23.57	13.17	19.37	11.19	7.10
2008	13.83	8.94	12.12	8.17	6.76
2009	15.32	7.58	17.17	7.06	10.39
2010	13.70	7.79	15.67	12.35	16.19
2011	15.47	9.35	17.83	12.03	15.12
2012	17.26	10.70	18.59	13.65	17.79
2013	18.57	12.48	15.64	14.40	13.92
AVERAGE	18.85	12.41	17.92	11.96	15.16
RANKS	1	4	2	5	3

Average Return on Net Worth is highest (18.85%) in HDFC Bank (Rank – 1) and lowest (11.96%) in Kotak Mahindra bank (Rank - 5).

### 3.3.2 CREDIT DEPOSIT RATIO

This ratio measures the efficiency of the management in converting the deposit available with the bank (excluding other funds like equity capital etc).

**TABLE 8: SHOWING CREDIT DEPOSIT RATIO**

YEARS	HDFC	ICICI	AXIS	KOTAK	INDUSIND
2004	55.89	97.38	43.63	70.77	66.47
2005	64.87	89.17	47.40	69.81	69.14
2006	65.79	87.59	52.79	95.40	65.11
2007	66.08	83.83	59.85	98.33	62.46
2008	65.28	84.99	65.94	96.55	65.10
2009	66.64	91.44	68.89	100.34	69.42
2010	72.44	90.04	71.87	94.61	74.40
2011	33.47	39.85	31.57	39.09	76.49
2012	NA	NA	NA	NA	79.80
2013	NA	NA	NA	NA	36.34
AVERAGE	49.04	58.43	44.19	66.49	66.47
RANKS	4	3	5	1	2

Total Credit Deposit ratio is highest in Kotak Mahindra Bank (Rank – 1) and lowest (11.96%) in Axis bank (Rank - 5).

### 3.3.3 NET PROFIT MARGIN

Net profit is obtained when interest is expanded; operating expenses and taxes are deducted from total income. This ratio establishes relationship between profit and total income. It indicates management efficiency.

**Net Profit Ratio = ( Net Profit / Total Income) \* 100**

**TABLE 9: SHOWING NET PROFIT RATIO**

YEAR	HDFC	ICICI	AXIS	KOTAK	INDUSIND
2004	16.81	13.67	13.14	20.57	19.87
2005	17.77	16.32	14.33	15.35	16.98
2006	15.55	14.12	13.47	12.97	2.85
2007	13.57	10.81	12.01	8.84	3.79
2008	12.82	10.51	12.22	10.37	3.45
2009	11.35	9.74	13.31	8.35	5.29
2010	14.76	12.17	16.10	15.23	10.63
2011	16.18	15.79	17.12	16.46	13.43
2012	15.88	15.75	15.47	15.15	12.59
2013	16.04	17.19	15.35	14.78	12.71
AVERAGE	15.07	13.60	14.25	13.80	10.15
RANKS	1	4	2	3	5

NET PROFIT Ratio is highest (15.07%) in HDFC Bank (Rank – 1) and lowest (10.15%) in Indusind Bank (Rank -5).

### 3.3.4 NET PROFIT PER EMPLOYEE

This measures the efficiency of the employee at the branch level. It also gives valuable input to assess the real strength of a bank branch network. It is arrived at by dividing the net profit earned by the bank by total number of branches. The higher the ratio, higher the efficiency of management.

**TABLE 10: SHOWING NET PROFIT PER EMPLOYEE**

YEARS	HDFC	ICICI	AXIS	KOTAK	INDUSIND
2004	9,40,347	12,05,307	7,91,634	7,00,244	NA
2005	7,36,822	11,15,158	6,85,089	4,01,407	4,41,454
2006	5,85,099	9,97,854	7,42,840	3,27,654	3,74,596
2007	5,31,964	8,98,832	6,63,265	3,43,455	3,34,554
2008	3,98,950	7,86,425	7,59,648	2,61,600	3,98,810
2009	9,73,906	NA	8,84,192	1,53,235	4,20,998
2010	7,81,992	9,47,323	11,63,772	2,82,025	7,13,927
2011	7,04,261	9,04,242	12,81,819	3,99,113	82,78,788
2012	5,67,506	11,09,420	13,36,633	4,93,205	8,55,944
2013	4,25,294	13,41,412	1,36,65,669	5,79,028	9,22,607
AVERAGE	6,64,614	21,37,867	21,97,456	3,84,106	12,40,722
RANKS	4	2	1	5	3

Average Net Profit Per Employee is highest in Axis Bank (Rank - 1) and lowest in Kotak Mahindra Bank (Rank – 5).



**4. EARNINGS ABILITY / PROFITABILITY RATIOS**

Profitability ratio is the common ratio required to judge the profitability of commercial banks. This ratio measures the profitability or the operational efficiency of the banks. Employing more resources and making effective utilization of resources can increase absolute profits.

**4.1 DIVIDEND PER SHARE (DPS)**

Dividend per share indicates the return earned per share. It is bit different from return on equity capital. It is calculated by dividing dividend on equity share capital by the total number of equity shares.

**Dividend Per Share = Dividend On Equity Share Capital / No. Of Equity Share**

**TABLE 11: SHOWING DIVIDEND PER SHARE**

YEARS	HDFC	ICICI	AXIS	KOTAK	INDUSIND
2004	3.50	7.50	2.50	2.40	2.25
2005	4.50	8.50	2.80	1.25	1.80
2006	5.50	8.50	3.50	0.60	----
2007	7.00	10.00	4.50	0.70	0.60
2008	8.50	11.00	6.00	0.75	0.60
2009	10.00	11.00	10.00	0.75	1.20
2010	12.00	12.00	12.00	0.85	1.80
2011	16.50	14.00	14.00	0.50	2.00
2012	4.30	16.50	16.00	0.60	2.20
2013	5.50	20.00	18.00	0.70	3.00
AVERAGE	7.73	11.9	8.93	0.91	1.545
RANKS	3	1	2	5	4

Dividend Per Share is highest (11.9%) in ICICI Bank (Rank - 1) and lowest (0.91%) in KOTAK MAHINDRA Bank (Rank - 5).

**4.2 NET INTEREST INCOME TOTOTAL FUNDS**

Net interest income is the difference between interest received from asset and interest paid on liabilities.

**Net Interest Income = Interest Received – Interest Paid**

**TABLE 12: SHOWING NET INTEREST INCOME TO TOTAL FUND**

YEARS	HDFC	ICICI	AXIS	KOTAK	INDUSIND
2004	4.48	3.88	5.00	5.35	4.81
2005	5.14	3.60	3.57	5.62	3.12
2006	5.82	3.78	4.08	6.84	2.16
2007	6.22	4.06	4.01	5.93	1.74
2008	6.66	4.29	4.74	6.27	1.96
2009	6.86	3.99	4.98	6.02	3.16
2010	6.00	4.08	5.34	6.83	4.09
2011	4.22	2.34	3.10	4.75	4.53
2012	4.00	2.40	3.04	4.31	4.45
2013	4.28	2.70	3.09	4.29	3.48
AVERAGE	5.36	3.51	4.09	5.62	3.35
RANKS	3	4	2	1	5

Net interest income to total funds is highest (5.62%) in Kotak Mahindra Bank (Rank - 1) and lowest(3.35%) in IndusInd Bank (Rank - 5).

**4.3 EARNINGS PER SHARE**

Earnings per share indicate the return earned per share. It is calculated by dividing the net profit after taxes minus preference dividend by the total number of equity shares. It is a good measure of profitability and when compared with EPS similar other banks, it gives a view of the comparative earnings or earning power of a bank.

**Earnings Per Share = Profit After Tax - Preference Dividend / No. Of Equity Shares**

**TABLE 13: SHOWING EARNINGS PER SHARE**

YEAR	HDFC	ICICI	AXIS	KOTAK	INDUSIND
2004	21.16	26.71	11.72	13.22	10.50
2005	27.16	27.22	11.83	6.88	7.24
2006	35.64	28.55	17.41	3.82	1.27
2007	43.29	34.59	23.40	4.33	2.13
2008	44.87	37.37	29.94	8.53	2.35
2009	52.77	33.76	50.57	7.99	4.18
2010	64.42	36.10	62.06	16.12	8.53
2011	84.40	44.73	82.54	11.10	12.39
2012	22.02	56.09	102.67	14.65	17.17
2013	28.27	72.22	110.68	18.23	20.30
AVERAGE	42.4	39.73	50.28	9.37	8.60
RANKS	2	3	1	4	5

Earnings Per Share is highest (50.28%) in AXIS Bank rank-1 and lowest(39.73%) in IndusInd Bank (Rank -5).

**4.4 OPERATING PROFIT PER SHARE**

The profit earned from bank's normal core business operations. This value does not include any profit earned from the bank's investments (such as earnings from banks in which the bank has partial interest) and the effects of taxes and provisions.

**Operating Profit Ratio = (Operating Profit / Total Income) \* 100**

**TABLE 14: SHOWING OPERATING PROFIT PER SHARE**

YEARS	HDFC	ICICI	AXIS	KOTAK	INDUSIND
2004	31.48	34.06	21.30	14.19	11.80
2005	41.65	36.37	22.49	10.53	9.76
2006	52.56	36.75	34.12	6.51	2.55
2007	86.19	42.19	42.36	7.10	-0.95
2008	107.32	51.29	56.88	16.32	0.24
2009	92.36	48.58	83.56	13.08	4.77
2010	106.25	49.80	97.29	25.88	11.13
2011	83.56	25.03	50.50	8.72	15.33
2012	18.11	25.38	56.94	10.73	18.76
2013	21.97	46.32	66.33	15.11	10.52
AVERAGE	64.14	39.57	45.17	12.81	8.39
RANKS	1	3	2	4	5

Operating profit per employee is highest (64.14%) in HDFC bank rank-1 and lowest (8.39%) in INDUSIND bank rank -5.

**4.5 OPERATING INCOME AS A % OF WORKING FUNDS**

This is arrived at by dividing the operating profit by average working funds. Working funds is the daily average of the total assets during the year. Which indicate how much operating income is generated from average working funds. Higher ratio indicates good performance of the bank.

**TABLE 15: SHOWING OPERATING INCOME AS A% OF WORKING FUND**

YEARS	HDFC	ICICI	AXIS	KOTAK	INDUSIND
2004	16.73	18.95	22.59	15.77	NA
2005	14.56	13.33	14.73	13.47	11.71
2006	15.87	12.24	16.1	14.33	12.88
2007	17.68	15.08	14.81	14.57	14.39
2008	18.8	16.73	13.45	16.78	15.77
2009	19.99	18.38	16.61	19.62	16.79
2010	15.86	19.21	14.76	17.59	15.08
2011	NA	NA	NA	NA	15.42
2012	NA	NA	NA	NA	16.94
2013	NA	NA	NA	NA	NA
AVERAGE	11.94	11.39	11.30	11.21	11.89
RANKS	1	3	4	5	2

Average operating income as a % of working fund is highest (11.94%) in HDFC Bank (Rank - 1) and lowest (11.21%) in Kotak Mahindra Bank (Rank - 5).

**5. LIQUIDITY RATIO**

Liquidity ratios examine the bank's short-term solvency and its ability to pay-off the liabilities. If a bank does not have sufficient liquidity, it may not be in a position to meet its commitments and thereby may lose its credit worthiness.

**5.1 CURRENT RATIO**

Current ratio may be defined as the relationship between current assets and current liabilities. Current assets include cash in hand, balance with RBI, balance with other bank money at call and short notice and stock. Current liabilities include short-term borrowings, short-term deposits, bills payables, bank over draft and outstanding expenses. It is calculated by dividing the total current assets by total current liabilities.

**Current Ratio = Current Assets / Current Liabilities**

**TABLE 16: SHOWING LIQUIDITY RATIO**

YEARS	HDFC	ICICI	AXIS	KOTAK	INDUSIND
2004	0.03	0.11	0.04	0.02	0.06
2005	0.03	0.09	0.06	0.03	0.08
2006	0.04	0.08	0.04	0.04	0.07
2007	0.04	0.09	0.03	0.05	0.05
2008	0.04	0.11	0.03	0.06	0.05
2009	0.04	0.13	0.03	0.09	0.05
2010	0.03	0.14	0.03	0.05	0.04
2011	0.73	0.96	0.74	0.95	0.04
2012	0.76	1.00	0.77	1.00	0.04
2013	0.78	0.98	0.77	0.94	0.82
AVERAGE	0.252	0.369	0.254	0.323	0.13
RANKS	4	1	3	2	5

Liquid ratio is highest (0.369%) in ICICI bank rank-1 and lowest (0.13%) in INDUSIND bank rank -5. AXIS bank comes in the middle of the periphery. The table depict that there is a wide disparity between the operating income of 2004 to 2013. NA indicates that NO AVAILABLE of data.

**5.2 QUICK RATIO**

It is defined as the relationship between quick or liquid assets and current or liquid liabilities. Liquid assets include cash in hand, balance with RBI, balance with other banks (both in India and abroad) and money at call and short notice. Current liabilities include short-term borrowings, short-term deposits, bills payables and outstanding expenses.

Quick Ratio=Quick Assets / Current Liabilities

**TABLE 17: SHOWING QUICK RATIOS**

YEARS	HDFC	ICICI	AXIS	KOTAK	INDUSIND
2004	3.39	4.18	9.17	9.59	12.76
2005	5.61	4.98	11.55	9.36	10.03
2006	5.18	6.64	6.52	6.20	9.05
2007	4.07	6.04	7.39	5.74	8.02
2008	4.89	6.42	9.23	5.83	8.63
2009	5.23	5.94	9.52	5.91	9.16
2010	7.14	14.70	19.19	8.46	17.94
2011	6.89	15.86	19.60	10.86	17.65
2012	6.20	9.37	21.63	16.85	21.94
2013	7.84	10.53	20.10	18.95	23.48
AVERAGE	5.64	8.466	13.39	9.77	13.86
RANKS	5	4	2	3	1

Quick ratio is highest (13.86%) in INDUSIND Bank (Rank - 1) and lowest (5.64%) in HDFC Bank (Rank – 5).

**6. CONCLUSIONS**

**6.1 GROUP RANKING**

For group ranking, group has been computed by adding the ranks of individual ratio's in the group and dividing it by the number of ratios in that group. After computing the group average , group ranking has been done accordingly.

**CAPITAL ADEQUACY**

**TABLE 18: SHOWING GROUP RANKING CAPITAL ADEQUACY**

BANKS	CAR RATIO	ASSETS T/O RATIO	TIER-1 CAR	GROUP AVERAGE	RANKS
HDFC	3	3	3	3	3
ICICI	2	4	2	2.67	2
AXIS BANK	4	5	5	4.67	5
KOTAK MAHINDRA	1	1	1	1	1
INDUSIND BANK	5	2	4	3.67	4

**ASSET QUALITY**

**TABLE 19: SHOWING GROUP RANKING ASSET QUALITY**

BANKS	GROSS NPAS TO GROSS ADVANCES	PERCENTAGE CHANGE IN NPA'S	PRIORITY SECTOR ADVANCES	GROUP AVERAGE	RANKS
HDFC	3	2	4	3	2
ICICI	1	4	5	3.33	3
AXIS	4	5	2	3.66	4
KOTAK MAHINDRA	2	1	1	1.33	1
INDUSIND	5	3	3	3.67	4

**MANAGEMENT**

**TABLE 20: SHOWING GROUP RANKING MANAGEMENT**

BANKS	RETURN ON NET WORTH	CREDIT DEPOSIT RATE	NET PROFIT MARGIN	NET PROFIT PER EMPLOYEE	GROUP AVERAGE	RANKS
HDFC	1	4	1	4	2.5	1
ICICI	4	3	4	2	3.25	3
AXIS	2	5	2	1	2.5	1
KOTAK MAHINDRA	5	1	3	5	3.5	5
INDUSIND	3	2	5	3	3.25	3

**EARNINGS QUALITY**

**TABLE 21: SHOWING GROUP RANKING EARNINGS QUALITY**

BANKS	DIVIDEND PER SHARE	NET INTEREST INCOME TO	EARNINGS PER SHARE	OPERATING PROFIT PER	Operating income as a % of working funds	GROUP AVERAGE	RANKS
HDFC	3	3	2	1	1	2	1
ICICI	1	4	3	3	3	2.8	3
AXIS	2	2	1	2	4	2.2	2
INDUSIND	4	5	5	5	2	4.2	5

LIQUIDITY

TABLE 22: SHOWING GROUP RANKING LIQUIDITY

BANKS	CURRENT RATIO	QUICK RATIO	GROUP AVERAGE	RANKS
HDFC	4	5	4.5	5
ICICI	1	4	2.5	1
AXIS	3	2	2.5	1
KOTAK MAHINDRA	2	3	2.5	1
INDUSIND	5	1	3	4

6.2 COMPOSITE RANKING

Composite ranking reveals the comparative position of the banks as a whole. It has been computed by using following procedure: Computation of composite average= group average ( capital adequacy + Asset quality + management+ earnings quality+ liquidity) no of groups(5).

TABLE 23: SHOWING COMPOSITE RATIO

BANKS	CAPITAL ADEQUACY	ASSET QUALITY	MANAGEMENT	EARNINGS QUALITY	LIQUIDITY	COMPOSITE AVERAGE	COMPOSITE RANK
HDFC	3	3	2.5	2	4.5	3	3
ICICI	2.67	3.33	3.25	2.8	2.5	2.91	2
AXIS	4.67	3.67	2.5	2.2	2.5	3.10	4
KOTAK MAHINDRA	1	1.33	3.5	3.8	2.5	2.42	1
INDUSIND	3.67	3.67	3.25	4.2	3	3.55	5

6.3 ANALYSIS OF VARIANCE (ANOVA)

The Analysis Of Variance, popularly known as the ANOVA, can be used in cases where there are more than two groups. ANOVA compares between the means of two or more samples.

In ANOVA, the total variation is subdivided into variation that is due to differences among the groups and variation that is due to differences within the groups.

Within the variation measures random variation. Among the variation is due to differences from group to group.

SST = SSA + SSW

H<sub>0</sub> : μ<sub>1</sub> = μ<sub>2</sub> = μ<sub>3</sub> = . . . = μ<sub>6</sub>

is tested against the alternative that not all the C population means are equal:

H<sub>1</sub> : Not all the μ<sub>j</sub> are equal (where j = 1,2,3,.....C)

To perform ANOVA test of equality of population means, subdivide the total variation in the values into two parts - that which is due to variation among the groups and that which is due to variation within the groups.

The F<sub>STAT</sub> test static follows an F distribution, with C - 1 degree of freedom in the numerator and n - c degree of freedom in the denominator. For a given level of significance, α, we reject the null hypothesis if the F<sub>STAT</sub> test static is greater than the upper tail critical value, F<sub>α</sub>, from the F distribution having c - 1 degrees of freedom in the numerator and n - c in the denominator. Thus the decision rule is : Reject H<sub>0</sub> if F<sub>STAT</sub> > F<sub>α</sub> ;otherwise, do not reject H<sub>0</sub>

Calculations: Following table represents the Z-Score results of 5 private banks.

TABLE 24: SHOWING Z SCORES

BANKS / RATIOS	HDFC	ICICI	AXIS	KOTAK MAHINDRA	INDUSIND
C	3	2.67	4.67	1	3.67
A	3	3.33	3.66	1.33	3.67
M	2.5	3.25	2.5	3.5	3.25
E	2	2.8	2.2	3.8	4.2
L	4.5	2.5	2.5	2.5	3
MEAN	3	2.91	3.11	2.43	3.59
	μ <sub>1</sub>	μ <sub>2</sub>	μ <sub>3</sub>	μ <sub>4</sub>	μ <sub>5</sub>

In the above table we observed that there are differences in the sample means for the five banks. For HDFC, the mean value is 3. For ICICI , the mean value is 2.91. For axis bank, the mean value is 3.11. For KOTAK MAHINDRA, the mean value is 2.43., for the IndusInd bank mean value is3.59. What we need to determine is whether these sample results are sufficiently different to conclude that the population means are not all equal.

The Null hypothesis states that there is no significance in Z-Score values among the five banks;

H<sub>0</sub> : μ<sub>1</sub> = μ<sub>2</sub> = μ<sub>3</sub> = μ<sub>4</sub> = μ<sub>5</sub>

The alternative hypothesis states that at least one of the banks differs with respect to the Z-Score values;

H<sub>1</sub> :Not all means are equal.

To construct the ANOVA summary table, we first compute the sample means in each group. Then we compute the grand mean by summing all 25 values and dividing by the total no. of values.

$$\bar{X} = (\mu_1 + \mu_2 + \mu_3 + \mu_4 + \mu_5) / n = 3+2.91+3.11+2.43+3.59 \div 5 = 3.00$$

Then, using the equations of SSA, SSW, SST, MSA, MSW and F<sub>STAT</sub>, we compute the sum of squares

SSA = 5(3-3)<sup>2</sup>+5(2.91-3)<sup>2</sup>+5(3.11-3)<sup>2</sup>+5(2.43-3)<sup>2</sup>+5(3.59-3)<sup>2</sup> = 3.466

SSW = (3-3)<sup>2</sup>+ (3-3)<sup>2</sup>+ (2.5-3)<sup>2</sup>+ (2-3)<sup>2</sup>+ (4.5-3) +...+ + (3.25-3.59)<sup>2</sup> + (4.2-3.59)<sup>2</sup> + (3-3.59) =15.4684

SST = (3-3)<sup>2</sup> + (3-3)<sup>2</sup> + (2.5-3)<sup>2</sup> + (2-3)<sup>2</sup> + ...+(3.25-3)<sup>2</sup> + (4.2-3)<sup>2</sup>+(3-3)<sup>2</sup> = 18.764

We compute the mean square terms by dividing the sum of squares by the corresponding degrees of freedom. (C = 5, n = 25)

Mean Square Among Groups (M S A) = SSA ÷ C-1= 3.466 ÷ 5-1 =0.8665

Mean Square With In Groups (MSW) = SSW ÷ N-C=15.4684 ÷ (25-5) = 0.77342

F- TEST = MSA ÷ MSW= 0.8665 ÷ 0.77342 = 1.12034

For a selected level of significance, α, we find the upper-tail critical value, F<sub>α</sub>, from the distribution. F<sub>α</sub> the upper-tail critical value at the 0.05 level of significance, is 5.17.

Hence, α = 0.05, F<sub>α</sub> = 3.51, F<sub>STAT</sub> = 1.12034

**Conclusion :** Since,  $F_{STAT} = 1.12034$  is less than  $F_{\alpha} = 3.51$ , so we "Accept the Null hypothesis and accept the Alternative hypothesis". We conclude that there is no a significant difference in the Mean values among the 5 banks.

**ANOVA summary Table**

Following table shows the Microsoft Excel ANOVA summary table and  $p$  - value.

**TABLE 25: SHOWING EXCEL ANNOVA TABLE**

Anova: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
Column 1	5	15	3	0.875		
Column 2	5	14.55	2.91	0.13245		
Column 3	5	15.53	3.106	1.07708		
Column 4	5	12.13	2.426	1.57038		
Column 5	5	17.79	3.558	0.21087		
ANOVA						
Source of Variation	SS	Df	MS	F	P-value	F crit
Between Groups	3.30088	4	0.82522	1.06734	0.39856	2.866081
Within Groups	15.46312	20	0.773156			
Total	18.764	24				

**Conclusion:** The  $p$  - value, or probability of getting a computed  $F$ - value  $1.06734 < F$  crit value  $2.866081$  so, we accept the null hypothesis.

**6.4 LEVENE TEST FOR HOMOGENEITY OF VARIANCE**

Although the one way ANOVA -  $F$  test is relatively robust with respect to the assumptions of equal group variances, large differences in the group variances can seriously affect the level of significance and the power of the  $F$  test. One procedure for testing the equality of the variances with high statistical power is the modified Levene test.

To test the null hypothesis of equal variances, we first compute the absolute value of the difference between each value and the median of the group. Then we perform a one way ANOVA on these absolute differences. Most statisticians suggest using a level of significance of  $\alpha = 0.05$  when performing the ANOVA

**MEDIAN**

Following table summarizes the absolute differences from the median of each company:

**TABLE 26: SHOWING EXCEL LEVENE CALCULATION**

BANK/ RATIO	HDFC	ICICI	AXIS	KOTAK	INDUSIND
C	2	2.5	2.2	1	3
A	2.5	2.67	2.5	1.33	3.25
M	3	2.8	2.5	2.5	3.67
E	3	3.25	3.66	3.5	3.67
L	4.5	3.33	4.67	3.8	4.2

Anova: Single Factor						
SUMMARY						
Groups	Count	Sum	Average	Variance		
Column 1	5	3	0.6	0.425		
Column 2	5	1.41	0.282	0.04817		
Column 3	5	3.63	0.726	0.87728		
Column 4	5	4.97	0.994	0.34218		
Column 5	5	1.62	0.324	0.09533		
ANOVA						
Source of Variation	SS	Df	MS	F	P-value	F crit
Between Groups	1.736584	4	0.434146	1.214082	0.335974	2.866081
Within Groups	7.15184	20	0.357592			
Total	8.888424	24				

**Conclusion:** From the above table, observed that  $F_{STAT} = 1.214 < F$  crit =  $2.866$  so we accept  $H_0$ . There is no evidence of a significant difference.

**ACKNOWLEDGEMENT**

The author wishes to thank Ms. Bhargavi (Student of MBA 2012-14 Batch of Reva ITM) for the help rendered for this paper.

**REFERENCES**

- Barker, David and Holdsworth, David (1993) 'The Causes of Bank Failures in the 1980s *Research Paper No. 9325, Federal Reserve Bank of New York.*
- Cole, Rebel A. and Gunther, Jeffery, (1995). A CAMEL Rating's Shelf Life. Available at SSRN: <http://ssrn.com/abstract=1293504>
- Gaytán, A. and Johnson, C.A.( 2002), 'A Review of the Literature on Early Warning Systems for Banking Crises'. *Central Bank of Chile Working Papers, No. 183.* Santiago, Chile
- Ghosh Saibal (2010) Credit Growth, Bank Soundness and Financial Fragility, Evidence from Indian Banking Sector, Munich Personal RePEc Archive, MPRA Paper No.24715
- Gupta, R. (2008). A CAMEL Model Analysis of Private Sector Banks in India. *Journal of Gyan Management, Vol.2, No.1,* pp. 3-8.
- Maheshwara Reddy D. and Prasad K.V.N.,(2011) Evaluating Performance of Regional Rural Banks: an Application of CAMEL Model, *International Refereed Research Journal, Volume Issue 4*
- Prasad, K.V.N. and Ravinder, G.(2012) "A Camel Model Analysis of Nationalized Banks In India" *Int. J. of Trade and Commerce-IIARTC, Vol. 1, No. 1,* pp.23–33
- Prasuna D G (2003).Performance Snapshot 2003-04. *Chartered Financial Analyst, Vol. 10, No.11,* pp.6-13.
- Said, M (2003). Liquidity, solvency, and efficiency: An empirical analysis of the Japanese banks' distress. *Journal of Oxford, Vol. 5, No.3,* pp. 354-358.

**A COMPARATIVE STUDY OF SELECTED EQUITY DIVERSIFIED SCHEMES IN MUTUAL FUND**

**DR. VIJAY H. VYAS**  
**PROFESSOR & HEAD**  
**DEPARTMENT OF MANAGEMENT**  
**ATMIYA INSTITUTE OF TECHNOLOGY & SCIENCE**  
**RAJKOT**

**ABSTRACT**

*This study has been carried out to do comparative evaluation the selected top three performing AMC's and in Particular there equity diversified schemes mutual fund schemes during the study period of 2011 & 2012. An attempt has been made to compare return. Beta is calculated to measure the sensitivity of return to change in market index. The mutual funds NAV are the key indicator of market value of each unit. In 2011 Negative correlation between level of diversification, measured by  $R^2$  and unique risk proved that, fund managers remained successful in reducing unique risk through better diversification. In 2011 the market was down due to global economic crisis The NAV in December 2012 had given highest performance. The fund manager's experience and investment style has not been analyzed. The return in 2012 in all six schemes are approx 14 % which is good return as compared to post office return.*

**KEYWORDS**

Mutual Fund, NAV, Market Risk, Volatility.

**INTRODUCTION**

There is continues growth and increase in significance of mutual funds for the investors to park their investments. The comparative study and evaluation of mutual funds in India has received greater concentration from consultants and academicians view points. The considerations underlying the comparative study of mutual funds are a matter of concerns for investors, fund manager, researchers alike.

**STATEMENT OF THE PROBLEM****OBJECTIVES OF THE STUDY**

1. To study those mutual fund schemes offering the advantage of diversification, along with adequate systematic risk compared to market beta risk
2. To compare top performing equity diversified schemes and analyze which is the best of all in Indian mutual fund industry.
3. To make investor aware of the current scenario of the equity diversified schemes and the best of all invest.

**REVIEW OF THE LITERATURE**

**Kulbhusan Chandle & O P Verma (August 2005)** studied on "Managing Mutual Fund Investment in the era of change." The study is confined to evaluate the performance of mutual fund on the basis of lekly returns compared with risk free security return and BSE Index. The present study includes the five different sector specific schemes. Among these 25 schemes, only sector specific schemes floated by different institution have been studied. To evaluate the performance of fund only three performance measures have been applied that is Sharpe Index, Trey nor index and jensen's measures. It is observed that the performance of sample schemes during the study period is best. Holver there are some instances where poor performance has been reflected.

**Djrox (2009)** studied on "The comparison and analysis of various Mutual Fund scheme in India." Benchmark index was undertaken as a part of learning process of management students. Mutual fund is popular financial intermediaries and manages disposable income of the investors so as to bring those benefits of equity investment. The mutual fund in India have caught the attention of millions of investor with diverse interests around the basic principles of investment viz. Safety, liquidity and return. The report provides a comparison of performance of the various funds in India with respect to S & P CNX 500.

**HYPOTHESIS**

1. **H<sub>0</sub>:** There would not be significant difference between the beta of the selected equity diversified schemes of the mutual fund.  
**H<sub>a</sub>:** There would be significant difference between the beta of the selected equity diversified schemes of the mutual fund
2. **H<sub>0</sub>:** There would not be significant difference between the R squared of the equity diversified schemes of mutual fund.  
**H<sub>a</sub>:** There would be significant difference between the R squared of the selected equity diversified schemes of mutual fund.
3. **H<sub>0</sub>:** There would not be significant difference between the NAV of the selected equity diversified schemes of mutual fund.  
**H<sub>a</sub>:** There would be significant difference between the NAV of the selected equity diversified schemes of mutual fund.

**RESEARCH METHODOLOGY****UNIVERSE OF THE STUDY**

There are 44 asset management companies in India. There are more than 430 Schemes listed by different mutual fund houses in India. Which include equity diversified, equity tax saving, equity index, and balanced schemes etc. Only Include Open Ended equity diversified schemes.

**SAMPLE OF THE STUDY**

Sr. No	Particulars
1	SBI Magnum Mid Cap Equity Fund
2	SBI Magnum Equity Fund
3	Reliance Vision Fund
4	Reliance Equity fund
5	ICICI Prudential Top 200 Fund
6	ICICI Prudential Dynamic Plan

There are more than 430 schemes offered by 44 AMC's in India. But I have selected top 3 performing AMC's and in Particular there equity diversified schemes. Following are the main schemes.

**DATA COLLECATION**

I have used systematic sampling or convenience sampling and comparison between the top performing equity diversified schemes of 5 AMC's of the mutual fund industry is carried out.

In this study I have utilized secondary data like mutual fund insight magazine, journals of finance, related website and ace equity.

**PERIOD OF THE STUDY**

For this study I have taken two financial years i.e. 2011 and 2012. The beta, R-squared, Sharpe ratio of the particular schemes month wise is taken for the study chronologically for 2011 and 2012 financial year.

**FINANCIAL & STATISTICAL TOOL FOR MEASUREMENT**

In this study I have use following statistical tools and measurements of performance of respective schemes.

A) Beta coefficient Measure of Risk: Beta relates fund's return with market index. It basically measures the sensitivity of fund return to changes in market index.

If Beta = 1 Fund moves with market i.e. Passive fund

If Beta < 1 Fund is less Volatile than the market i.e. Defensive Fund

If Beta > 1 Fund will give higher returns when market rise & higher losses when market falls i.e. Aggressive Fund.

B) R-squared Measures of Risk: Ex – Marks represents co relation with market. Higher the Ex – marks loir the risk of the fund because a fund with higher Ex-marks is better diversified than a fund with loir Ex-marks.

C) NAV (Net Assets Value): The Mutual Fund NAV or Net Asset Value is a key indicator of the market value of each share or unit of a mutual fund on a given day. It is the price per share or unit of the mutual fund.

An NAV computation is undertaken once at the end of each trading day based on the closing market prices of the portfolio's securities

- Current net asset market value (A) = securities – liabilities
- NAV = A divided by the number of outstanding shares
- **NAV = Total Assets - Liabilities / Total number of outstanding shares or units**
- Calculating the net asset value means determining the current market value of net assets. To calculate, subtract the liabilities from the security of funds and divide it by the number of outstanding shares.

**TABLE-1: SBI MAGNUM MID CAP FUND**

Month/Year	Beta		R-squared		NAV		Return	
	2011	2012	2011	2012	2011	2012	2011	2012
January	1.11	1.14	0.91	0.91	19.8	18.59		
February	1.12	1.11	0.91	0.89	20.1	20.43	1.515152	9.897795
March	1.12	1.10	0.92	0.89	20.45	21.71	1.741294	6.265296
April	1.12	1.09	0.91	0.89	21.84	21.76	6.797066	0.230309
May	1.14	1.06	0.93	0.88	22.74	21.84	4.120879	0.367647
June	1.14	1.06	0.93	0.88	22.42	21.70	-1.40721	-0.64103
July	1.18	0.79	0.93	0.79	22.43	21.39	0.044603	-1.42857
August	1.19	0.78	0.93	0.77	23.22	21.86	3.522069	2.197288
September	1.17	0.76	0.93	0.78	21.63	22.14	-6.84755	1.280878
October	1.17	0.79	0.93	0.81	20.86	24.04	-3.55987	8.581752
November	1.18	0.77	0.90	0.83	21.56	24.71	3.355705	2.787022
December	1.15	0.78	0.91	0.83	19.62	26.04	-8.99814	5.382436
<b>Total</b>	<b>13.79</b>	<b>11.23</b>	<b>11.04</b>	<b>10.15</b>	<b>256.67</b>	<b>266.21</b>	<b>0.283994</b>	<b>34.92083</b>
<b>Average</b>	<b>1.149</b>	<b>0.935833</b>	<b>0.92</b>	<b>0.845833</b>	<b>21.38917</b>	<b>22.18417</b>	<b>0.025818</b>	<b>3.174621</b>
<b>Variance</b>	<b>0.028</b>	<b>0.165993</b>	<b>0.011282</b>	<b>0.04981</b>	<b>1.209526</b>	<b>1.958243</b>	<b>4.844361</b>	<b>3.819072</b>

**DATA ANALYSIS & INTERPRETATION**

**INTERPRETATION**

- Table shows beta value of two year 2011 average value of the beta was 1.15, 2009 beta value was 0.94, which shows that the variance between the beta in 2011 was 1.11 to 1.19 while in 2009 it was between 0.76 to 1.14
- The average value of R2 for the year 2011 was 0.92 and for 2012 it was 0.85, The scheme R2 in 2011 varies between 0.90 to 0.93 while in 2012, 0.77 to 0.91
- The average NAV for the year 2011 was 21.38 and for 2012 was 22.18 The NAV in 2011 varies between 19.62 to 22.74 and in the year 2012 NAV varies between 18.59 to 26.04 which shows that there is high fluctuation in 2012 compare to 2011

**BETA ANALYSIS**

Beta Measure market risk and return. Beta indicates market return, its include interest rate risk and inflation risk. Market risk means systemic risk, in short systematic risk measure by beta. Beta shows the unexpected volatility, which means good and bad news affected by security return.

Capital Assets pricing model is developed by Sharpe, Linter & Mossin. Capital Market Line Represent market return and risk while security market line represents security return and risk, which indicate how to diversify portfolio

Security Market Line =  $R_f + B \{R_m - R_f\}$

Where,

- $R_f$  = Risk free return ( which I have taken here 8.5% post office saving )
- $R_m$  = Market Rate Of return ( which is -24.03% for 2011 & 19.77 for 2012 on the basis of CNX Mid Cap Index)
- B = Beta of the scheme

SML =  $8.5 + 1.15(-24.03 - 8.5) = -28.91(2011)$

SML =  $8.5 + 0.94(19.77 - 8.5) = 19.09(2012)$

- The SML line and beta line shows that the risk premium in the year 2012 is  $19.09 - 8.5 = 10.59$ , which shows that in the year 2011 the market return was negative and in the year 2012 there was more than risk free rate of return

**R2 INTERPRETATION**

The Sharpe measure provides the reward to volatility trade-off. It is the ratio of the fund portfolios average excess return dividend by the SD of return and is given by equation.

**Sharpe Ratio =  $\frac{ARP - R_f}{\sigma_p}$**

Where ARP = average return on minimum fund portfolio over the sample period,  $R_f$  = average risk free return over the sample period,  $\sigma_p$  = SD of excess return over the sample period.

The R2 of the year 2011 is 0.92, which shows that the scheme for the year 2011 was less diversified and volatile.

The R2 of the year 2012 is 0.85, which shows that the scheme for the year 2012 was less diversified and volatile

**NAV (Net Assets Value)**

NAV = Net assets of the scheme/ Number of Units Outstanding

Where net assets are calculated as: - (Market value of investment + current assets and other assets + Accrued income – current liabilities and other liabilities – less accrued expenses)/ No of Unit outstanding as at the NAV date.

NAV of all schemes must be calculated and published at least lekly for close ended schemes and daily for open ended schemes.

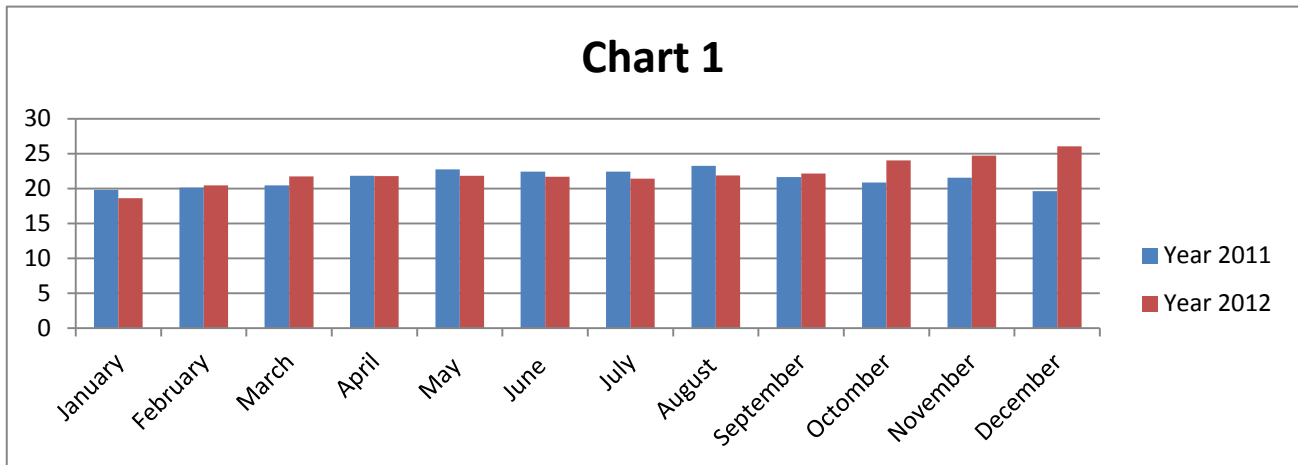
- Sale and purchase of securities Sale and repurchase of unit
- Valuation of assets Accrual of income and expenses

The NAV under this study is taken of each month and the return id calculated in the following manner.

$$= \frac{NAV_t - (NAV_{t-1})}{(NAV_{t-1})}$$

Where, NAV<sub>t</sub> = current month's NAV, NAV<sub>t-1</sub>= Previous month's NAV

The table indicate NAV which means unit price of SBI Magnum Mid Cap Fund. It is the equity diversified scheme so it has more fluctuation.



- Aug 2011 is highest NAV & Jan 2011 is the lowest NAV
- Dec 2012 is highest NAV & Jan 2012 is the lowest NAV
- In 2011 average return only 0.28% while in 2012 average return was 34% so I can say that in 2012 NAV return was more.

TABLE-2: SBI MAGNUM EQUITY FUND

Month/Year	Beta		R-squared		NAV		Return	
	2011	2012	2011	2012	2011	2012	2011	2012
January	0.90	0.91	0.98	0.95	39.80	36.87		
February	0.90	0.91	0.98	0.96	40.10	41.03	0.753769	11.28289
March	0.90	0.90	0.98	0.98	48.83	42.70	21.77057	4.070193
April	0.90	0.90	0.98	0.95	44.02	42.72	-9.8505	0.046838
May	0.90	0.89	0.96	0.95	43.97	42.63	-0.11358	-0.21067
June	0.90	0.85	0.96	0.95	43.25	42.60	-1.63748	-0.07037
July	0.90	0.79	0.95	0.95	43.72	42.62	1.086705	0.046948
August	0.90	0.77	0.95	0.95	43.27	42.91	-1.02928	0.680432
September	0.90	0.77	0.95	0.95	40.26	42.51	-6.95632	-0.93218
October	0.90	0.79	0.95	0.96	39.36	45.54	-2.23547	7.127735
November	0.90	0.8	0.94	0.96	41.85	45.15	6.32622	-0.85639
December	0.90	0.81	0.94	0.95	36.68	48.16	-12.3536	6.666667
<b>TOTAL</b>	10.80	10.09	11.52	11.46	505.11	515.44	-4.23901	27.85208
<b>Average</b>	0.90	0.8408	0.96	0.955	42.09	42.953	-0.38536	2.532007
<b>Variance</b>	2.3	0.0579	0.016	0.009	3.12488	2.6966	9.060247	4.131785

**INTERPRETATION**

- The average value of the beta for the year 2011 was 0.90 and for the year 2012 was 0.84 in the year 2011 beta was same for all month while it was varied in 2012 from 0.77 to 0.91. the variance of beta in 2011 was 2.32 and in 2012 was .057 which depicts that there was more fluctuation in 2011 compare to 2012
- The average value of the R2 in 2011 was 0.96 and in 2012 was 0.96, the value of R2 ranged in 2011 from 0.94 to 0.98 while in 2012 it was ranged from 0.95 to 0.98 so there was low variance of R2 in 2012 compare to 2011
- The average value of NAV in 2011 was 42.09 while in 2012 it was 42.95, the variance of NAV in 2011 was 3.12 while in 2012 it was 2.70 this shows more fluctuation in the year 2011
- The average value of return in 2011 was -0.38% while in 2012 it was only 2.53% which shows that more return in 2011

**BETA ANALYSIS**

Security Market Line = Rf+B{Rm-Rf}

SML = 8.5+0.90{-17.09-8.5} = -14.53 (2011)

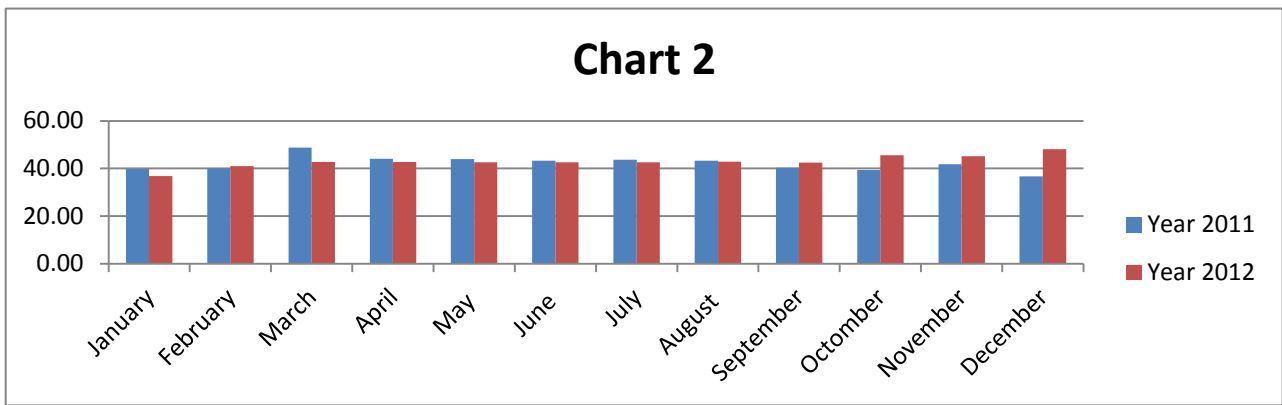
SML = 8.5+0.84{14.87 - 8.5} = 13.85 (2012)

The Beta here shows that in the year 2011 there is negative return of the market as Ill of the scheme and in the year 2012 there is a risk premium of (13.85-8.5) 5.35%

**R2 INTERPRETATION**

- The R2 of the year 2011 is 0.96 which shows that the scheme for the year 2011 was less diversified and volatile
- The R2 of the year 2012 0.96 which shows that the scheme for the year 2012 was less diversified and volatile





The table indicate the unit price of SBI Magnum Equity Fund. It is the equity diversified scheme so it has more fluctuation. March 2011 has the highest NAV and October 2011 has the lowest NAV  
 December 2012 has the highest NAV and January 2012 has the lowest NAV. In 2011 the average NAV was 42.09 and which generate -0.39% while in 2012 average NAV was 42.95 which generate average return only 2.53% which is high compare to 2011.

TABLE-3: RELIANCE VISION FUND

Month/Year	Beta		R-Squared		NAV		Return	
	2011	2012	2011	2012	2011	2012	2011	2012
January	0.86	0.90	0.92	0.92	290.35	207.47		
February	0.85	0.92	0.92	0.92	264.45	242.95	-8.92027	17.10127
March	0.85	0.92	0.91	0.92	249.17	252.77	-5.77803	4.041984
April	0.84	0.92	0.92	0.92	270.27	254.03	8.468114	0.498477
May	0.83	0.93	0.92	0.92	272.96	252.78	0.995301	-0.49207
June	0.83	0.91	0.91	0.92	271.90	235.99	-0.38834	-6.64214
July	0.83	0.92	0.91	0.90	270.07	249.08	-0.67304	5.546845
August	0.83	0.92	0.92	0.89	250.91	247.11	-7.09446	-0.79091
September	0.91	0.92	0.91	0.89	240.30	241.55	-4.22861	-2.25001
October	0.90	0.91	0.91	0.88	237.64	239.47	-1.10695	-0.86111
November	0.84	0.91	0.91	0.88	247.54	232.96	4.165965	-2.7185
December	0.89	0.91	0.91	0.88	219.44	237.81	-11.3517	2.081902
<b>Total</b>	10.26	10.99	10.97	10.84	3085	2893.97	-25.912	15.51574
<b>Average</b>	0.855	0.92	0.914167	0.90333	257.0833	241.1642	-2.35564	1.410522
<b>Variance</b>	0.02908	0.00793	0.005149	0.01826	19.64141	12.72078	5.838451	6.167949

**INTERPRETATION**

- The average value of the beta for the year 2011 was 0.86 and for the year 2012 was 0.92 in the year 2011 Beta was same varied from 0.83 to 0.91 while it was varied in 2012 from 0.90 to 0.93. the variance of beta in 2011 was 0.03 and in 2012 was 0.008 which depicts that there was more fluctuation in 2011 compare to 2012
- The average value of the R2 in 2011 was 0.91 and in 2012 was 0.90, the value of R2 ranged in 2011 from 0.91 to 0.92 while in 2012 it was ranged from 0.88 to 0.92 so there was low variance of R2 in 2012 compare to 2011
- The average value of NAV in 2011 was 257.08 while in 2012 it was 241.16, the variance of NAV in 2011 was 19.64 while in 2012 it was 12.72 this shows more fluctuation in the year 2011
- The average value of return in 2011 was -2.53 while in 2012 it was only 1.41 which shows that more return in 2012 compare to 2011

**BETA ANALYSIS**

Security Market Line =  $R_f + B(R_m - R_f)$

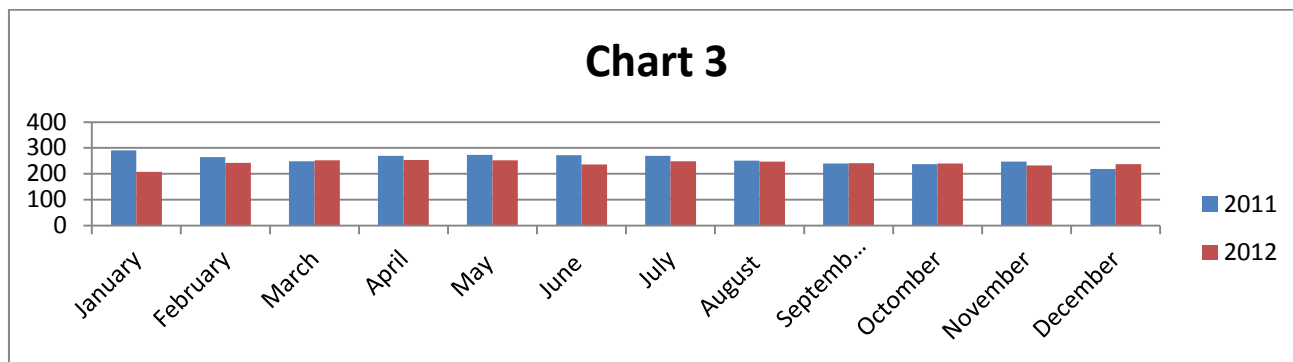
$SML = 8.5 + 0.86\{-17.09 - 8.5\} = -13.51$  (2011)

$SML = 8.5 + 0.92\{14.87 - 8.5\} = 14.36$  (2012)

The Beta here shows that in the year 2011 there is negative return of the market as all of the scheme and in the year 2012 there is a risk premium of  $(14.36 - 8.5)$  5.86%

**R2 INTERPRETATION**

- The R2 of the year 2011 is 0.91 which shows that the scheme for the year 2011 was less diversified and volatile
- The R2 of the year 2012 is 0.90 which shows that the scheme for the year 2012 was less diversified and volatile.



The table indicate the unit price of Reliance Vision Fund. It is the equity diversified scheme so it has more fluctuation. The higher the variance in NAV, the more risk, the more will be the return. June 2011 has the highest NAV and 2011 December has the lowest NAV. April 2012 has the highest NAV and January 2012 has the lowest NAV. The average return of 2011 was negative while in 2012 it was only 1.14%.

TABLE-4: RELIANCE EQUITY FUND

Month/Year	Beta		R-Squared		NAV		Return	
	2011	2012	2011	2012	2011	2012	2011	2012
January	0.77	0.86	0.92	0.92	15.21	10.62		
February	0.77	0.85	0.92	0.92	13.86	12.46	-8.87574	17.3258
March	0.77	0.86	0.92	0.91	13.07	13.13	-5.69986	5.377207
April	0.77	0.88	0.92	0.91	14.08	12.68	7.727621	-3.42727
May	0.77	0.88	0.92	0.91	14.04	12.30	-0.28409	-2.99685
June	0.78	0.88	0.92	0.91	13.90	11.87	-0.99715	-3.49593
July	0.78	0.89	0.92	0.90	13.71	12.71	-1.36691	7.076664
August	0.77	0.88	0.92	0.89	13.20	12.70	-3.71991	-0.07868
September	0.77	0.89	0.92	0.89	12.50	12.88	-5.30303	1.417323
October	0.80	0.89	0.92	0.89	11.86	14.29	-5.12	10.9472
November	0.82	0.89	0.92	0.88	12.45	14.14	4.974705	-1.04969
December	0.84	0.89	0.92	0.88	11.37	14.90	-8.6747	5.374823
<b>Total</b>	<b>9.41</b>	<b>10.54</b>	<b>11.04</b>	<b>10.81</b>	<b>159.25</b>	<b>154.68</b>	<b>-27.3391</b>	<b>36.47061</b>
<b>Average</b>	<b>0.78417</b>	<b>0.87833</b>	<b>0.92</b>	<b>0.90083</b>	<b>13.27083</b>	<b>12.89</b>	<b>-2.48537</b>	<b>3.31551</b>
<b>Variance</b>	<b>0.02353</b>	<b>0.01403</b>	<b>0</b>	<b>0.01443</b>	<b>1.081224</b>	<b>1.146505</b>	<b>5.235947</b>	<b>6.656229</b>

INTERPRETATION

- The average value of the beta for the year 2011 was 0.78 and for the year 2012 was 0.88 in the year 2011 Beta was same varied from 0.77 to 0.84 while it was varied in 2012 from 0.85 to 0.89. the variance of beta in 2011 was 0.02 and in 2012 was 0.01 which depicts that there was more fluctuation in 2011 compare to 2012
- The average value of the R2 in 2011 was 0.92 and in 2012 was 0.90, the value of R2 same for all months in 2011 while in 2012 it was ranged from 0.88 to 0.92 so there was low variance of R2 in 2012 compare to 2011
- The average value of NAV in 2011 was 13.27 while in 2012 it was 12.89, the variance of NAV in 2011 was 1.08 while in 2012 it was 1.15 this shows more fluctuation in the year 2012
- The average value of return in 2011 was -2.48 while in 2012 it was only 3.32 which shows that more return in 2012 compare to 2011

BETA ANALYSIS

Security Market Line =  $R_f + B(R_m - R_f)$

$SML = 8.5 + 0.78\{-17.09 - 8.5\} = -11.46$  (2011)

$SML = 8.5 + 0.88\{14.87 - 8.5\} = 14.11$  (2012)

The Beta here shows that in the year 2011 there is negative return of the market as ill of the scheme and in the year 2012 there is a risk premium of  $(14.11 - 8.5)$  5.61%.

R2 INTERPRETATION

- The R2 of the year 2011 is 0.92 which shows that the scheme for the year 2011 was less diversified and volatile.
- The R2 of the year 2012 is 0.90 which shows that the scheme for the year 2012 was less diversified and volatile.

NAV (NET ASSETS VALUE)

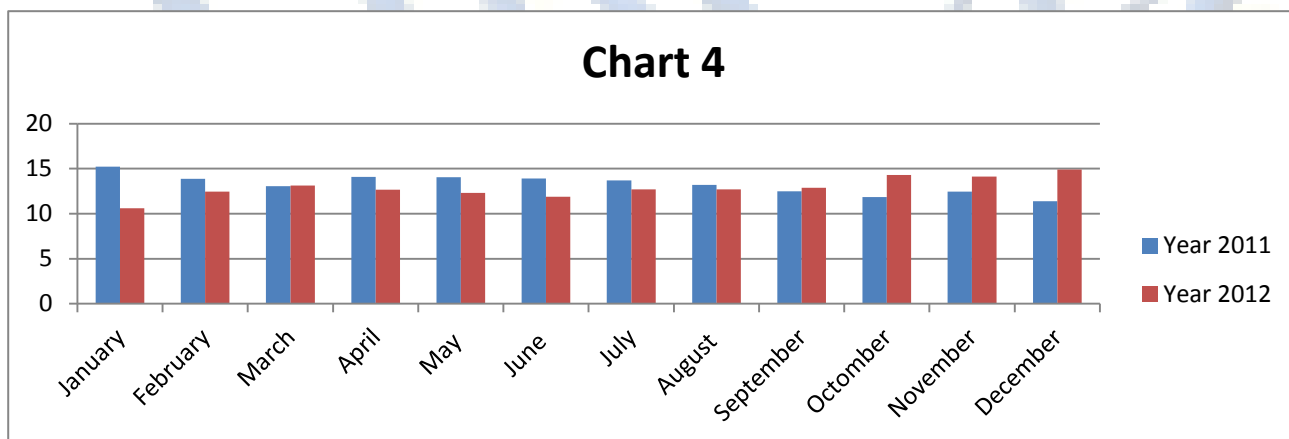


TABLE-5: ICICI PRUDENTIAL TOP 200 FUND

Month/Year	Beta		R-squared		NAV		Return	
	2011	2012	2011	2012	2011	2012	2011	2012
January	0.91	0.87	0.96	0.97	110.91	101.79		
February	0.91	0.88	0.96	0.97	112.93	106.94	1.821297	5.059436
March	0.93	0.88	0.97	0.97	113.96	105.63	0.912069	-1.22499
April	0.93	0.89	0.97	0.96	114.91	104.29	0.833626	-1.26858
May	0.93	1.03	0.97	0.99	111.75	97.58	-2.74998	-6.43398
June	0.92	1.03	0.97	0.99	112.31	102.30	0.501119	4.837057
July	0.91	1.04	0.97	0.99	112.50	104.80	0.169175	2.443793
August	0.86	1.04	0.97	0.99	109.75	105.11	-2.44444	0.295802
September	0.86	1.04	0.97	0.99	99.67	114.65	-9.18451	9.076206
October	0.83	1.04	0.97	0.98	104.76	113.30	5.106853	-1.1775
November	0.85	1.05	0.97	0.99	94.25	113.99	-10.0325	0.609003
December	0.86	1.05	0.97	0.97	89.10	115.31	-5.46419	1.157996
<b>Total</b>	<b>10.7</b>	<b>11.84</b>	<b>11.62</b>	<b>11.76</b>	<b>1286.8</b>	<b>1285.69</b>	<b>-20.5314</b>	<b>13.37425</b>
<b>Average</b>	<b>0.89167</b>	<b>0.98667</b>	<b>0.968333</b>	<b>0.98</b>	<b>107.2333</b>	<b>107.1408</b>	<b>-1.86649</b>	<b>1.215841</b>
<b>Variance</b>	<b>0.03664</b>	<b>0.07912</b>	<b>0.003892</b>	<b>0.01128</b>	<b>8.480456</b>	<b>5.811414</b>	<b>4.704065</b>	<b>4.10823</b>

The table indicate the unit price of Reliance Equity Fund. It is the equity diversified scheme so it has more fluctuation. The higher the variance in NAV, the more risk, the more will be the return. January 2011 has the highest NAV and December 2011 has the lowest NAV. December 2012 has the highest NAV and January 2012 has the lowest NAV. The average return of 2011 was negative while in 2012 it was only 3.32%.

**INTERPRETATION**

- The average value of the beta for the year 2011 was 0.89 and for the year 2012 was 0.99 in the year 2011 Beta was same varied from 0.83 to 0.93 while it was varied in 2012 from 0.87 to 1.05 the variance of beta in 2011 was 0.04 and in 2012 was 0.08 which depicts that there was more fluctuation in 2012 compare to 2011
- The average value of the R2 in 2011 was 0.97 and in 2012 was 0.98, the value of R2 varied from 0.96 to 0.97 while in 2012 it was ranged from 0.96 to 0.99 so there was low variance of R2 in 2011 compare to 2012
- The average value of NAV in 2011 was 107.23 while in 2012 it was 107.14, the variance of NAV in 2011 was 8.48 while in 2012 it was 5.81 this shows more fluctuation in the year 2011
- The average value of return in 2011 was -1.86 while in 2012 it was only 1.21 which shows that more return in 2012 compare to 2011.

**BETA ANALYSIS**

Security Market Line =  $R_f + B(R_m - R_f)$

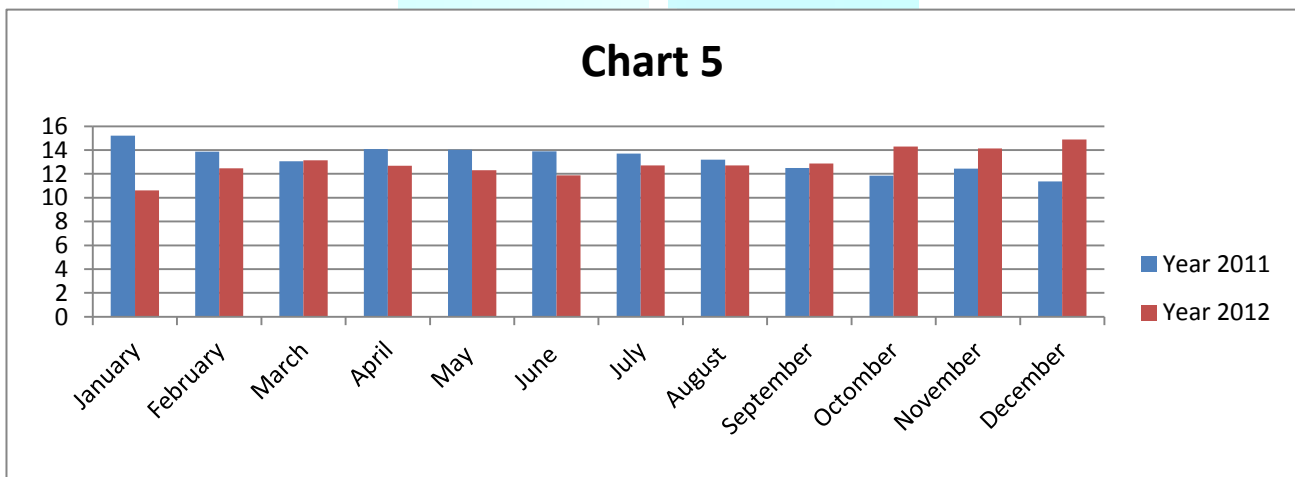
SML =  $8.5 + 0.89\{-15.61 - 8.5\} = -12.96$  (2011)

SML =  $8.5 + 0.99\{13.71 - 8.5\} = 13.65$  (2012)

The Beta here shows that in the year 2011 there is negative return of the market as Ill of the scheme and in the year 2012 there is a risk premium of (13.62-8.5) 5.12%

**R2 INTERPRETATION**

- The R2 of the year 2011 is 0.96 which shows that the scheme for the year 2011 was diversified and volatile
- The R2 of the year 2012 0.98 which shows that the scheme for the year 2012 was diversified and volatile



The table indicate the unit price of ICICI Prudential Top 200 Fund. It is the equity diversified scheme so it has more fluctuation. The higher the variance in NAV, the more risk, the more will be the return.

April 2011 has the highest NAV and December 2011 has the lowest NAV

December 2012 has the highest NAV and May 2012 has the lowest NAV

The average return of 2011 was negative while in 2012 it was only 1.22%

TABLE-6: ICICI PRUDENTIAL DYNAMIC FUND

Month/Year	Beta		R-squared		NAV		Return	
	2011	2012	2011	2012	2011	2012	2011	2012
January	0.82	0.75	0.93	0.91	104.92	101.34		
February	0.82	0.74	0.93	0.91	102.47	107.08	-2.33511	5.664101
March	0.81	0.75	0.93	0.91	109.25	106.13	6.616571	-0.88719
April	0.81	0.74	0.93	0.91	109.78	104.09	0.485126	-1.92217
May	0.81	0.76	0.93	0.87	107.79	100.51	-1.81272	-3.43933
June	0.81	0.76	0.93	0.87	107.80	103.26	0.009277	2.736046
July	0.79	0.77	0.92	0.89	107.94	105.22	0.12987	1.898121
August	0.79	0.76	0.92	0.89	140.64	104.56	30.29461	-0.62726
September	0.80	0.76	0.92	0.89	96.71	111.42	-31.2358	6.560826
October	0.74	0.78	0.89	0.90	101.45	110.46	4.901251	-0.8616
November	0.74	0.77	0.90	0.90	93.84	114.58	-7.50123	3.729857
December	0.73	0.77	0.91	0.90	88.92	114.90	-5.24297	0.279281
<b>Total</b>	<b>9.47</b>	<b>9.11</b>	<b>11.04</b>	<b>10.75</b>	<b>1271.51</b>	<b>1283.55</b>	<b>-5.6911</b>	<b>13.13068</b>
<b>Average</b>	<b>0.78917</b>	<b>0.75917</b>	<b>0.92</b>	<b>0.89583</b>	<b>105.9592</b>	<b>106.9625</b>	<b>-0.51737</b>	<b>1.193698</b>
<b>Variance</b>	<b>0.03315</b>	<b>0.0124</b>	<b>0.013484</b>	<b>0.01443</b>	<b>12.77495</b>	<b>4.841621</b>	<b>14.32146</b>	<b>3.193395</b>

**INTERPRETATION**

- The average value of the beta for the year 2011 was 0.79 and for the year 2012 was 0.76 in the year 2011 Beta was same varied from 0.73 to 0.82 while it was varied in 2012 from 0.74 to 0.78 the variance of beta in 2011 was 0.03 and in 2012 was 0.01 which depicts that there was more fluctuation in 2011 compare to 2012
- The average value of the R2 in 2011 was 0.92 and in 2012 was 0.90, the value of R2 varied from 0.89 to 0.93 while in 2012 it was ranged from 0.87 to 0.91 so there was low variance of R2 in 2011 compare to 2012
- The average value of NAV in 2011 was 105.96 while in 2012 it was 106.96, the variance of NAV in 2011 was 12.77 while in 2012 it was 4.84 this shows more fluctuation in the year 2011
- The average value of return in 2011 was -0.51 while in 2012 it was only 1.19 which shows that more return in 2012 compare to 2011

**BETA ANALYSIS**

Security Market Line =  $R_f + B(R_m - R_f)$

$SML = 8.5 + 0.79\{-15.61 - 8.5\} = -10.55$  (2011)

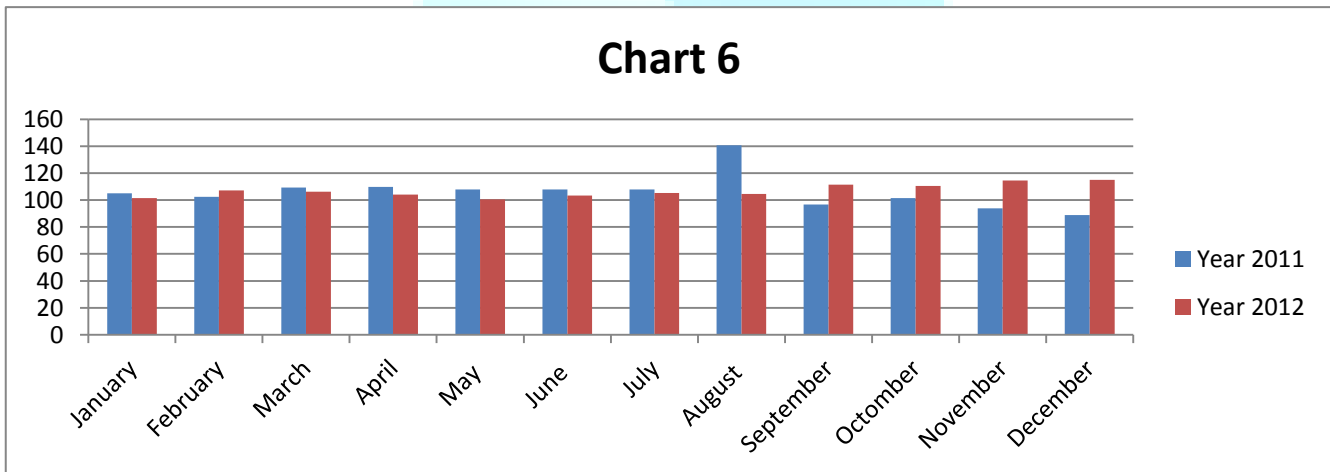
$SML = 8.5 + 0.76\{13.71 - 8.5\} = 12.46$  (2012)

The Beta here shows that in the year 2011 there is negative return of the market as all of the scheme and in the year 2012 there is a risk premium of (12.46-8.5) 3.96%.

**R2 INTERPRETATION**

- The R2 of the year 2011 is 0.92 which shows that the scheme for the year 2011 was less diversified and volatile
- The R2 of the year 2012 is 0.89 which shows that the scheme for the year 2012 was less diversified and volatile

**NAV (NET ASSETS VALUE)**



The table indicate the unit price of ICICI Prudential Dynamic Fund. It is the equity diversified scheme so it has more fluctuation. The higher the variance in NAV, the more risk, the more will be the return.

August 2011 has the highest NAV and December 2011 has the lowest NAV

December 2012 has the highest NAV and May 2012 has the lowest NAV

The average return of 2011 was negative while in 2012 it was only 1.19%

Scheme Under Study	SML
SBI Magnum Mid Cap Equity Fund	19.09
SBI Magnum Equity Fund	13.85
Reliance Vision Fund	14.36
Reliance Equity fund	14.11
ICICI Prudential Top 200 Fund	13.62
ICICI Prudential Dynamic Plan	12.46

**INTERPRETATION**

- The Table indicate the security market line of the respective schemes. It shows the beta value and the expected return as well as the return which gives in particular month.

- The return in the year 2011 is negative due to the global economic crisis and comparatively the 2012 has given positive return of about 14.4% the higher the variance of the year the greater would be the return. The post office saving return is 8.5% and the scheme has given around 13% to 14% return in the year 2012, this shows the diversity of the scheme.
- If I compare the scheme in the above table the highest return given by SBI magnum mid cap equity fund i.e. 19.09% which invest in the stock which is not currently in demand or has future scope and not profitable today. The lowest return has been given by ICICI prudential Dynamic Plan i.e. 12.46%
- The investor gets more return if they invest in more diversified schemes.

Scheme	Variance of Return	
	2011	2012
SBI Magnum Mid Cap Equity Fund	4.84	3.82
SBI Magnum Equity Fund	9.06	4.13
Reliance Vision Fund	5.84	6.17
Reliance Equity fund	5.24	6.66
ICICI Prudential Top 200 Fund	4.70	4.11
ICICI Prudential Dynamic Plan	14.32	3.19

**INTERPRETATION**

The table indicates the variance in the return of the each scheme under study.

- In the first scheme SBI magnum Mid Cap Equity Fund, I can see that there is less variance in the year 2012 and I can also see that the scheme has highest return among the entire scheme i.e. 19.09% so I can say that more the capital risk taken by the manager the more would be the return.
- In the second scheme SBI magnum Equity Fund, I can say that there is less variance in 2012 from the above table and also it gives 13.85% return so more the variance more would be the return.
- In the third scheme Reliance Vision fund, I can say that there is more variance in 2012 also return is more i.e. 14.36% so I can say that more variance more would be the return.
- In the fourth scheme Reliance Equity Fund there is a more variance in 2012 also return is more i.e. 14.11% so I can say that more variance more would be the return.
- In the fifth scheme ICICI prudential Top 200 fund there is less variance in 2012 but return is more i.e. 13.62%
- In the sixth scheme ICICI prudential dynamic scheme fund there is a low variance in 2012 but return is more i.e. 12.46%

**HYPOTHESIS – 1: BETA**

**Null Hypothesis (HO):** There would not be significant difference between the beta of the selected equity diversified schemes of the mutual fund.

**Alternative Hypothesis (HA):** There would be significant difference between the beta of the selected equity diversified schemes of the mutual fund.

RISK BETA						
Year	Reliance MF		ICICI MF		SBI MF	
	Vision Fund	Equity Fund	Pru Dynamic Plan	Pru Top 200 Fund	Magnum Equity Fund	Magnum Mid Cap Fund
2011	0.86	0.78	0.79	0.89	0.90	1.15
2012	0.92	0.88	0.76	0.99	0.84	0.94

**ANOVA Table (F-test)**

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.000133333	1	0.000133	0.010802052	0.919277	0.000133333
Within Groups	0.123433333	10	0.012343			
Total	0.123566667	11				

**INTERPRETATION**

Here the F (calculated) value is 0.010 which is less than the F(critical) value of 4.96 (at 5% significance level), the null hypothesis is selected and the alternative hypothesis is rejected. Hence, it is concluded that there is no significant difference in risk of the selected equity diversified schemes.

**HYPOTHESIS – 2: R-SQUARED**

**Null Hypothesis (HO):** There would not be significant difference between the R squared of the equity diversified schemes of mutual fund.

**Alternative Hypothesis (HA):** There would be significant difference between the R squared of the selected equity diversified schemes of mutual fund.

R- squared						
Year	Reliance MF		ICICI MF		SBI MF	
	Vision Fund	Equity Fund	Pru Dynamic Plan	Pru Top 200 Fund	Magnum Equity Fund	Magnum Mid Cap Fund
2011	0.91	0.92	0.92	0.97	0.96	0.92
2012	0.90	0.90	0.90	0.98	0.96	0.85

**ANOVA TABLE (F-TEST)**

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	0.001008	1	0.001008	0.705951	0.420426	4.964603
Within Groups	0.014283	10	0.001428			
Total	0.015292	11				

**INTERPRETATION**

Here the F (calculated) value is 0.7 which is less than the F(critical) value of 4.96 (at 5% significance level), the null hypothesis is selected and the alternative hypothesis is rejected. Hence, it is concluded that there is no significant difference in R2 of the selected equity diversified schemes.

**HYPOTHESIS – 3: NAV**

**Null Hypothesis (HO):** There would not be significant difference between the NAV of the selected equity diversified schemes of mutual fund.

**Alternative Hypothesis (HA):** There would be significant difference between the NAV of the selected equity diversified schemes of mutual fund.

NAV						
Year	Reliance MF		ICICI MF		SBI MF	
	Vision Fund	Equity Fund	Pru Dynamic Plan	Pru Top 200 Fund	Magnum Equity Fund	Magnum Mid Cap Fund
2011	257.08	13.27	105.96	107.23	46.59	21.39
2012	241.16	12.89	106.96	107.14	42.95	22.18

## ANOVA TABLE (F-TEST)

Source of Variation	SS	df	MS	F	P-value	F crit
Between Groups	27.7248	1	27.7248	0.003596	0.953366	4.964603
Within Groups	77106.9	10	7710.69			
Total	77134.63	11				

Here the F (calculated) value is 0.95 which is less than the F (critical) value of 4.96 (at 5% significance level), the null hypothesis is selected and the alternative hypothesis is rejected. Hence, it is concluded that there is no significant difference in NAV of the selected equity diversified schemes.

**CONCLUSION OF THE STUDY**

The study conducted shows that the schemes have performed very well in the year 2012 and badly in the year 2011. This study indicates that market volatility and the risk bearing capacity of the fund manager. The research conducted shows that there was totally negative return in the year 2011 as compare to expected return. The Scheme having more variance had more return. The year 2011 had market down due to global economic crisis, which had affected the schemes performance. The NAV of the entire scheme in the year 2012 December they had given highest performance. The scheme has been judged on the basis of the financial data, so the fund manager investment style and experience has not been analyzed. For every mutual fund scheme the market return (R<sub>m</sub>) benchmark is different like BSE 100, CNX nifty, CNX midcap etc. The Return in 2012 in all 6 scheme are approx 14% which is good return compare to post office saving return (8.5%)

**LIMITATIONS OF THE STUDY**

1. Sample study period is just two years, which is too small to conclude the performance of the equity diversified scheme.
2. Sample size is too small, only six selected equity diversified scheme can't give conclusion and interpretation of whole market of mutual fund.
3. The data collected under the study are secondary; they might be collected primarily for other purpose.
4. The data collected might have standard error and some of them are not available, the study can be biased
5. Fund Manager Invests in the different securities as per his style of investing, so one can't conclude the fund's performance on statistical and financial data.

**REFERENCES**

1. Friend et. al, "A Study of Mutual Funds" U.S. Securities and Exchange Commission, USA, (1962).
2. Irwin, Brown, FE, et al., "A Study of Mutual Funds: Investment Policy and Investment Company Performance" reprinted in *Hsiu-kwangwer and Alan Jzakon (Ed.) Elements of Investments*, New York: Holt, Renchart and Winston, (1965), pp.371-385.
3. Sharpe, William F "Mutual Fund Performance", *The Journal of Business*, Vol. 39(1), (1966), pp.119-138.
4. Treynor and Mazuy, "Can Mutual Funds Outguess The Markets" *Harvard Business Review*, Vol. 44, (1966), pp.131-136.
5. Treynor Jack L, "How to Rate Management of Investment Funds", *Harvard Business Review*, Vol. 43(1), (1965), pp. 63-75.

**JOURNALS**

6. Performance evaluation of open ended schemes of mutual funds. - International Journal of Multidisciplinary Research Vol.1 Issue 8, December 2011, ISSN 2231 5780 (DR. VIKAS KUMAR)
7. Performance evaluation: A comparative study between Indian and foreign equity mutual funds. – Indian Journal of Finance (Dr. V.Rama Devi)

**THE INFLUENCE OF INTELLIGENT TRANSPORTATION SPACES IN INTELLIGENT TRANSPORTATION SYSTEM**

**KALAISELVI S**  
**RESEARCH SCHOLAR**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**DKM COLLEGE FOR WOMEN (AUTONOMOUS)**  
**VELLORE**

**SANGEETHALAKSHMI G**  
**ASST. PROFESSOR**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**DKM COLLEGE FOR WOMEN (AUTONOMOUS)**  
**VELLORE**

**SIVASANKARI A**  
**HEAD**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**DKM COLLEGE FOR WOMEN (AUTONOMOUS)**  
**VELLORE**

**ABSTRACT**

*In the recent years, we have been witnessing many breakthroughs in computing, sensing, electronics, control, signal processing and robotics. This has made many advancements in increased the state of Intelligent Transportation System (ITS) and its applications. Intelligent Transportation Space (ITSp) was first developed to improve the safety in handling vehicles, traffic and transportation more efficiently and effectively. ITSp not only combines the ITS modules but also the roadside management, pedestrians, traffic control units, sensors and satellites. ITSp is distributed and pervasive in nature. So, it forces to follow a strong build through to communicate with all the modules of ITS for information exchange. With high mobility of vehicles and high variable network topology, the communication regarding availability of information, timeliness and reliability is not an easy task and thus it is a big challenge for implementing it. So, our paper proposes a new concept of ITSp and analyses the possible communication technologies.*

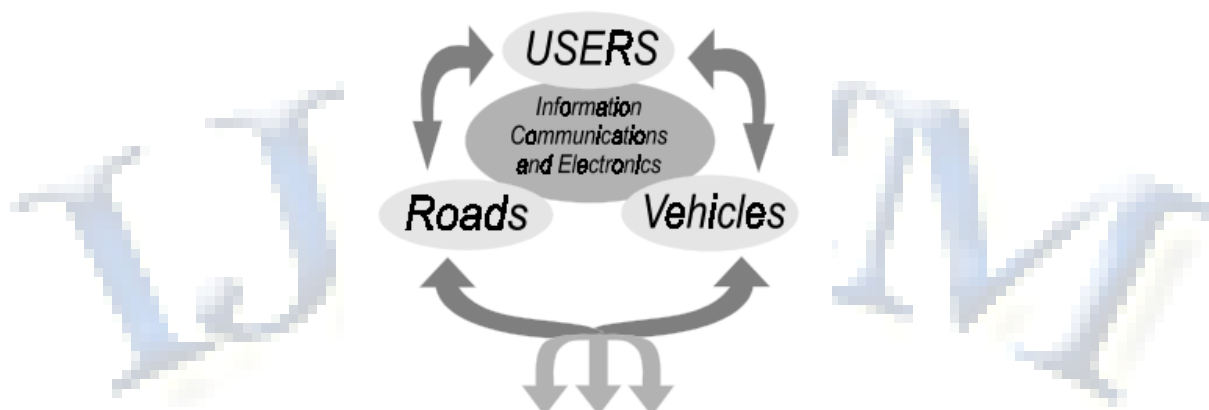
**KEYWORDS**

ITS, ITSp, CPS, CPSS, Wireless Technologies, Intra-vehicle Technologies, WAVE.

**INTRODUCTION**

The very first automobile was invented in 1885. Since then, the world has been keen in developing various technologies for vehicle safety, traffic and transportation for comfort ability, efficiency and eco-friendly. But, the existing programs or systems are not satisfactory to the mark. This has made all the countries to face more number of road accidents keep increasing every year.

**Intelligent Transportation Systems (ITS)** paves way for many technologies in multiple disciplines in order to improve the poor transportation system. This increases providing traffic information, reduces loads for driving, and enhances route management. All over the world, almost all the countries have implemented ITS for the purpose of Automatic Toll Collection, Safely Instructions Displaying, Controlling Traffic Management, Avoiding Collision, etc., Of all these, each ITS module has different mechanisms.

**FIG. 1: ITS CONCEPTUAL MODEL**

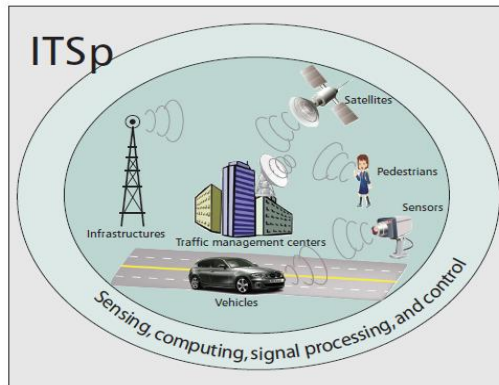
To explain with an example, the ITS module of which the collision avoidance collects information of adjacent vehicles by using optical or microwave sensors and also listens to other vehicles broadcast. And finally, it reacts to send warning messages to the pilot or driver before the collision takes place.

There are a number of ITS modules that are adopted in vehicles, road infrastructure and in traffic control management to improve various aspects for better transportation. Many ITS modules provide better solutions for effective transportation management system. But, their abundance in nature incurs other problems. Independent designed ITS modules could conflict with other ITS modules aspects in terms of communication frequency bands, voice indication, power transmission, and so on.

**Intelligent Transportation Spaces (ITSp)**, as a term, was first coined in the year 1999 and this has been studied in this paper in later part. The main function of this concept is to integrate various available modules of ITS and its participants and devices with pervasive and distributed intelligence.

The transportation devices may be pedestrians, vehicles, road infrastructure, traffic control centres, satellites, sensors, etc., ITSp benefitted from researches related to cyber-physical (CPS) and cyber-physical social system (CPSS). ITSp not only solves issues in independent ITS modules by integrated design, but also maximizes the sharing resources among various applications.

FIG 2: SYSTEM DESIGN OF ITSp INTEGRATION IN VARIOUS ITS MODULES AND TECHNOLOGIES



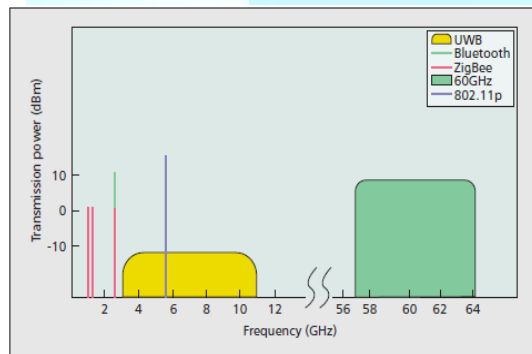
The actualization of ITSp is a challenging task to accomplish when it comes to information sharing between the nodes in a network. The first thing is that the information should be available anywhere within the network with an acceptable delay. The second thing is, each nodes should be able to manage the shared information with an exceptional intelligence.

ITSp Communications has its own limitations. The exchanging information can be separated into Safety-related and Non-safety related messages. The character of vehicles like high mobility and distance pave way for new issues in established communication networked links in ITSp. In this paper, let us study and elaborate the possible communication technologies for ITSp over wireless networks.

**COMMUNICATIONS INSIDE VEHICLES**

The development of vehicle network has led to a drastic increase in connecting number of cables within a vehicle. These cables can take upto 50kg of vehicle weight. Their accessory components embed and all over the vehicle body will be more cost effective and have difficulties in installing and maintaining. So, the wireless technology for automobile was first invented and it becomes a natural and permanent solution thereafter. Wireless links based on Bluetooth Technology corresponding to IEEE 802.15.1 was proposed and replaced cables about 15 years ago. Wireless links are flexible and economical when there is an alteration in their counterpart. But, a fully wireless vehicle bus system is still away from reality. This is only because each link may have its own requirements. And so, Bluetooth has not become the universal solution. ITSp in an intra-vehicular environment expects more wireless links connecting different ITS modules, devices and sensors for transfer of information, control and safety with varying data rate, delay, and reliability. Thus, the existence of multiple wireless communication technologies was set into action to meet all these requirements. Data rate is the most important aspect for the success in network communication.

FIG. 3: POSSIBLE COMMUNICATION TECHNOLOGIES FOR ITSp



ITSp Wireless Technologies for Intra-Vehicle Links is divided into two main categories.

1. Low Rate Intra-Vehicle Links
2. High Rate Intra-Vehicle Links

**LOW RATE INTRA-VEHICLE LINKS**

Low rate intra vehicle links are sufficient enough for more sensors inside vehicles. This is because sensors require a throughput of not more than 12 kb per second. For example, for temperature and fuel level required only a low data rate of just 1Mb per second or less.

**BLUETOOTH**

Bluetooth is a good solution for wireless technology for low rate intra-vehicle ITSp links. There are a number of Bluetooth-enabled applications available in the market already. Bluetooth GPS is most widely used a few years ago when smart phones and personal digital assistants (PDA's) does not exist. As we know, how popular the Bluetooth hands-free mobile phone kits and Bluetooth music players are popular in the market today.

FIG 4: COMPARISON CHART BETWEEN BLUETOOTH AND ZIGBEE

Characteristic	Bluetooth	ZigBee
IEEE spec.	802.15.1	802.15.4
Operating frequency	2.4 GHz ISM	868 MHz, 902-928 MHz, 2.4 GHz ISM
Data rate	1 Mb/s	20-250 kb/s
Nominal TX power	0-10 dBm	-25-0 dBm
Nominal range	10-100 m	10-75 m
Max # of cell nodes	8	65,000



However, Bluetooth ITSp applications are not without issues. The transmission power of a Bluetooth node is 0-10dBm which is high for battery device for continual operation. So, the wake time for these nodes is about 3 seconds. To meet this delay, intra-vehicle Bluetooth nodes are not allowed to sleep much. There are some Bluetooth nodes that can be powered by automobile battery itself but there are many that still rely on device embedded batteries. So, additional power cord will offset the benefits of wireless completely. High power consumption with limited sleep time can deplete the battery in few hours. Another aspect is multiple access capability. The limitation of 8 nodes is a bottleneck as many sensors are connected to one board or network computer.

#### ZIGBEE

Another technology for intra-vehicle ITSp wireless links is **ZigBee**. Comparison chart between Bluetooth and ZigBee is given in below figure. The 2.4GHz Industrial, Scientific and Medical band (ISM Band), Bluetooth and ZigBee shall operate on two additional bands called 868MHz and 902-928MHz that provides more flexibility. ZigBee allows more than 65,000 nodes in a single network than Bluetooth. When compared with Bluetooth, ZigBee's transmission power is -25-0dBm which is higher in Bluetooth. So, ZigBee is designed in such a way that it may run for more than six months to two years on just 2 AA Batteries.

#### INTRA-VEHICLE WIRELESS CHANNEL FOR LOW RATE COMMUNICATIONS

We could not find more researches for low rate intra-vehicle communication other than Bluetooth and Zigbee. The need for development of ITSp keep arising as the wireless communication technologies and its channel characteristics are critical in nature. The intra vehicle model is quite different as the vehicle is a reflective environment which reflections absorbed due to the presence of seats and plastic. Hence, the existing indoor channel models cannot be directly applied. Extensive research on such wireless channel is necessary for future developments.

#### HIGH RATE INTRA VEHICLE LINKS

With the arrival of many ITS modules, more number of intra-vehicle applications requires wireless links with high data rates on 100s of Mb per second. High data rate intra vehicle links is the necessary enabler for data transportation in distributed artificial intelligence. Let us discuss some of the wireless technologies in this domain.

#### ULTRA-WIDEBAND TECHNOLOGY

The huge spectrum of **Ultra Wideband (UWB) 31.-10.6 GHz** supports communications for high data rate upto 480 Mb per second at a very small distance of 10-15m at low power. There are two main different specifications available for UWB module in IEEE 802.15.3a.

1. Impulse Radio Ultra Wideband (IR-UWB)
2. Multi Band Ultra Wideband (MB-UWB)

Both IR and MB systems are designed for indoor channels with long delay of spread that are also common in intra-vehicle systems.

In addition, UWB has much other uniqueness such as

- i) Enhanced Capability
- ii) Penetrates Obstacles
- iii) Localizing Precision down to centimeter level
- iv) Very high data rates
- v) High user capacity
- vi) Small latency
- vii) Small device size and
- viii) Low processing power

These advantages have made the door open for developers for developing high data rate applications in ITSp. But still, there requires an extensive research for intra-vehicle UWB as the UWB systems are customized in designs and used for inside the building environments.

Researches on media access control (MAC) sublayer have been carried out for intra-vehicle UWB. Media Access Control plays an important role in throughput and for ITSp delay. IEEE MAC sublayer proposes 802.15.3a takes the Carrier Sense Multiple Access Collision Avoidance (CSMA/CA) technique may cause a short delay. Hence, real time MAC protocols for intra-vehicle UWB is an emerging and hot research area in networking.

#### 60 GHz MILLIMETER WAVE TECHNOLOGY

**Millimeter Wave at 60GHz ISM band** is another promising technology for high data rate intra-vehicle wireless connections. These waves attenuate rapidly in air and hardly penetrate the obstacles for short range wireless transmissions in a personal area network (PAN). For example, IEEE 802.15.3c and indoor wireless local area networks (LANs).

#### COMMUNICATIONS FOR VEHICLES, TRAFFIC AND BEYOND

The communications among roadside infrastructure, traffic control locations and other stationary nodes are fixed at locations can be easily achieved with existing technologies (eg. Optical Fibre). It is a challenging task in ITSp that vehicle to vehicle (V2V) and vehicle to infrastructure (V2I) communications. We have to handle double selective fading channels in both delay and Doppler domains, maximum latency allowance and reliability issues. To overcome these issues, V2V and V2I communication methods includes existing technologies actually designed for wireless network scenarios.

#### EXISTING TECHNOLOGIES

There are 4 main technologies mainly used for intra vehicle ITSp namely,

1. Bluetooth
2. ZigBee
3. UWB and
4. Millimeter Wave Communications.

But, things are quite different for V2V and V2I communication scenario. Basically, these technologies for indoor or PAN are not designed for Doppler introduced by moving vehicles. Next, the transmission range of these technologies does not meet the requirement of V2V and V2I scenarios.

Transmission ranges for Bluetooth, ZigBee and UWB are below 100m, normally it is 10m. In V2V cases, short transmission range means high vehicle density that may not meet on highway or rural areas. In V2I, short transmission range implies more roadside infrastructures and therefore increases cost of the overall system. Thirdly, the millimeter wave communications are specifically designed for line of sight (LoS) links that are unavailable in many V2V and V2I scenarios. So, these applications are limited only to some special environments.

#### VEHICULAR ENVIRONMENT WIRELESS ACCESS

To overcome the existing challenges in providing reliable links for ITSp, a new V2V and V2I technologies are must to develop. The Intelligent Transportation Society of America recommends single standard for Physical Layer (PHY) and MAC and proposes IEEE 802.111. The IEEE 802.11p and IEEE 1609.x together composed the so-called wireless access in vehicular environments (WAVE) standards.

**PHY**

The IEEE 802.11p design makes minimum changes to IEEE 802.11a OFDM PHY, so that WAVE devices can communicate effectively among fast moving vehicles in roadway environments. The reason to develop IEEE 802.11p that is based on IEEE 802.11a is a standard, stable and mature that has been implemented in real applications for years and has strong industry support.

To cope with long delay spread in V2V and V2I cases, IEEE 802.11p PHY uses 10MHz bandwidth inspite of 20MHz used by IEEE 802.11a. Thus, the implementation of this change is straight forward as it mainly involves doubling all OFDM timing parameters in 20MHz IEEE 802.11a systems. The IEEE 802.11p PHY has an operation range of upto 1000m, exceeded IEEE 802.11a. Thus it provides data rates from 2Mb per second with BPSK to 27Mb per second with 64 QAM. This relativity range guarantees V2V connections in urban and rural scenarios with different vehicle densities ad avoids constructing a large number of roadside infrastructures.

**MAC**

The IEEE 802.11p MAC is also based on that of IEEE 802.11a. Here, an access point (AP) sends beacons periodically as an advertisement. The node first hears to beacons and joins the basic service set (BSS) through a number of interactive steps.

But, vehicles with high mobility on road for the node to join BSS in IEEE 802.11a become unaffordable for V2V and V2I cases. IEEE 802.11p MAC addresses this problem effectively. The WAVE station does not send beacon periodically but uses an on-demand beacon that has all information for receiver to decide whether to join. The result is, a node can join WAVE BSS in just a single step that fulfills the quick networking setup requirement in vehicular ad-hoc networks called VANETs. These VANETs provide many applications in ITSp such as information sharing, collision avoidance and platoon autonomous driving. As a result, despite the extensive research work, V2V and V2I MAC remains an intriguing topic requiring considerable research efforts.

**CONCLUSION**

ITSp are intelligent spaces integrating multiple ITS modules as well as participants and devices in transportation. Having the interlaced cyber, physical and social aspects, ITSp are expected to provide safety and comfort to another level.

To realize the distributed and pervasive intelligence of ITSp, communications and networking are clearly the key enablers. This paper discusses on the potential wireless communication technologies for ITSp. We presented a number of currently developed technologies that have some suitable characteristics for ITSp and illustrated some state-of-the-art of some technologies under development.

From all these discussions, it is clear that one technology fits some certain applications and it s envisioned that ITSp will adopt multiple communication technologies and standards. In this article, we mainly focused on layer issues of wireless communication technologies including transmission power, bandwidth, data rate, device wakeup latency, and MAC latency.

The realization of ITSp is challenging, time-consuming and effort taking. However, one does not have to wait till its full realization to benefit from ITSp. The current ITS can be regarded as a series of independent small scale ITSp that fulfill some specific needs of the system. Hence, the concept of ITSp, where all participants in transportation are connected and managed by intelligent nodes, and enlightens the design of future personal devices vehicles, roads, and transportation systems and other cyber-physical-social systems.

**REFERENCES**

1. Fei-Yue Wang, "Parallel Control and Management for Intelligent Transportation System", IEEE Transactions on Intelligent Transportation Systems, Volume 11, Issue 3, 2010.
2. "Intelligent Transportation System (ITS): Research and Applications", Society of Automotive Engineers, inc, SP-1467, August 1999.
3. Lino Figueiredo, Isabel Jesus, J.A.Tenreiro Machado, Jose Rui Ferreira, J.L.Martins de Carvalho, "Towards the Development of Intelligent Transportation Systems", Paper ID Number 81, www.universelle-automation.de
4. Ralf Schleiffer, "Intelligent Agents in Traffic and Transportation", Elsevier, Volume 10, Issue 5, 2002.
5. S.Ghosh and T.Lee, "Intelligent Transportation Systems – New Principles and Architectures", CRC Press 2000.
6. Xu Bin, Chen Xiaohong, Lin Hangfei and Yang Chao, "Decision Oriented Intelligent Transport Information Platform Design Research-Case Study of Hangzhou City", Procedia-Social and Behavioral Sciences, Volume 96, 2013
7. Y.Wang and H.Oi, "Research of Intelligent Transportation System Based on the Internet of Things Frame", Wireless Engineering and Technology, Volume 3, Number 3, 2012, pp-160-166, doi: 10.4236/wet.2012.33023.

## A STUDY ON THE SOCIO-ECONOMIC CHARACTERISTICS OF INTERNET BANKING ADOPTERS IN CHENNAI METROPOLITAN CITY WITH REFERENCE TO INDIAN BANK

**P.SARAVANAN**  
**ASST. PROFESSOR (SR. GRADE)**  
**SCHOOL OF MANAGEMENT**  
**SRM FACULTY OF MANAGEMENT**  
**SRM UNIVERSITY**  
**KATTANKULATHUR**

**P.SRIDHARAN**  
**ASSOCIATE PROFESSOR & HEAD**  
**DEPARTMENT OF INTERNATIONAL BUSINESS**  
**SCHOOL OF MANAGEMENT**  
**PONDICHERRY UNIVERSITY**  
**PUDUCHERRY**

### ABSTRACT

*Banking system is the backbone of the economy and Information Technology in turn has become the backbone of banking activities. Indian Bank is one of the nationalized bank and it is pioneer in computerization. It provides most of the Internet Banking products and services to the customers. It has to know their customers socio-economic characteristics to compete with Private and Multi-National Banks. This study is carried out to identify the socio-economic characteristics of Internet Banking adopters in Chennai Metropolitan city with reference to Indian Bank. Descriptive Research design and Judgment sampling are used for this study. Questionnaire is used to conduct the Survey with 231 Internet banking users of Indian Bank in Chennai Metropolitan City. It is suggested that females are to be educated to make them understand that there is no complexity in using Internet Banking and also there is no risk. Their self-confidence to be improved in such a way that they are able to face the consequences of using Internet Banking. Both the youngsters and old age people are to be made to understand the benefits and convenience of using Internet Banking. The benefits of Internet Banking to be taught to the respondents irrespective of the annual income.*

### KEYWORDS

Internet Banking, Adoption, Socio -Economic characteristics.

### 1. INTRODUCTION

Banking system is the backbone of the economy and Information Technology in turn has become the backbone of banking activities. Information Technology is being introduced in all the fields and it changes the world with full of innovations. Electronic devices play a dominant role in the banking sector to satisfy the growing needs of the customers. The traditional banking activities are modernized by using the Internet Banking (E-Banking) system. These changes are being made due to the influence of Information Technology and the developments in the technology of Telecommunications and Electronic Data Processing. Information Technology which implies the integration of information system with communication technology has altered the traditional ways of doing banking and allowed banks to wipe out the differences in times as well as distance. The branch customers are becoming bank customers. These developmental changes make India to compete in the world economy.

#### 1.1. OPERATIONAL DEFINITION OF INTERNET BANKING

Internet Banking (E-Banking) is a web based service that enables a bank's customer to access his/ her account. It allows the customers to log on to the bank's website with the help of a bank-issued identification and a Personal Identification Number (PIN). The banking system verifies the user and provides access to the required services. The range of services and products offered by each bank differs widely in their content.

#### 1.2. INTERNET BANKING OF INDIAN BANK

The following financial Products and Services are offered through Internet Banking of Indian Bank.

Service Tax payment, LIC premium payment , Central Excise payment Status of Cheque details, Online Share Trading System, Income Tax and TDS payment, Transfer funds to their own accounts, Viewing and Print out of account statements , Transfer funds to other Indian Bank accounts, Indian Bank's Depository Participant account , Tamil Nadu Electricity Board (TNEB) Bill payment , Indian Railway Catering and Tourism Corporation (IRCTC) Ticket Booking and Remittance of funds to anyone having account with any other bank through RTGS/NEFT.

### 2. REVIEW OF LITERATURE

Murillo and Roisman's (2004) reported that a bank's decision to provide Internet banking depends on the characteristic of the market the bank serves, such as the socio-economic characteristics of potential customers, as well as whether the bank is located in a metropolitan area. Socio-economic characteristics also play a vital role in understanding the buying behaviour of consumers in different segments and when the characteristics are identified, they enable companies to develop products and services according to customers' specific requirements, tastes, and preferences (Sakkthivel, 2006). In addition, for Internet banking service adoption, banks must consider a user's socio-economic characteristics to offer the correct range of services and products.

Socio-economic factors are frequently used as a basis for understanding consumer characteristics (Block and Roering, 1976; Lewis, 1981). The popularity of using socio-economic factors is attributable to the observed relationship between the consumption of certain products and certain socio-economic factors (Block and Roering, 1976). The socio-economic characteristics include age, sex, income, occupation, education (Kotler, 1982)

#### 3.1 NEED OF THE STUDY

The bank has to know about their potential customers' socio - economic characteristics. This will help the bank to offer the products and services according to customers' specific requirements, tastes and preferences which will help the banks to survive and compete.

#### 3.2 STATEMENT OF THE PROBLEM

The Nationalized banks are struggling while Private and Multi-National Banks have been able to survive, thrive, and adapt in an increasingly competitive space. Indian Bank is one of the leading nationalized bank in India. It has to know their customers socio- economic characteristics to compete with Private and Multi-National Banks.

**3.3 OBJECTIVES**

To study the socio-economic characteristics of Internet Banking adopters in Chennai metropolitan city with reference to Indian Bank.

**4. METHODS AND PROCEDURES**

**4.1. Research Design:** Descriptive Research

**4.2. Population:** Internet banking users of Indian Bank in Chennai Metropolitan City.

**4.3. Sample Size:** The sample size 231 was arrived based on the results of Pilot study.

**4.4. Sampling Method:** Judgment sampling.

**4.5. Instrument:** The data required for the study is collected through a structured questionnaire which was tested through pilot study and reliability test.

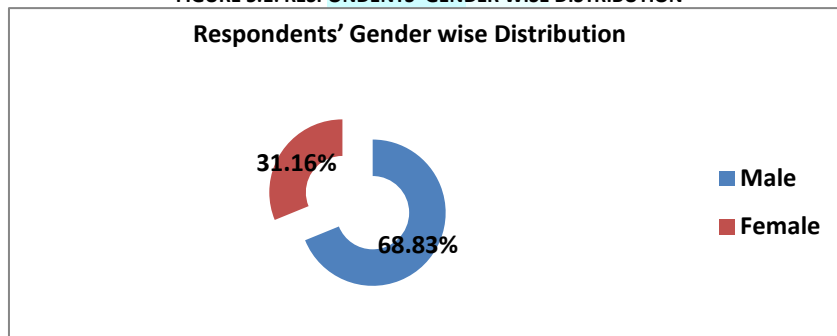
**5. RESULTS AND DISCUSSION**

**TABLE 5.1: RESPONDENTS' GENDER WISE DISTRIBUTION**

Gender	Users of Internet Banking	
	Frequency	Percentage
Male	159	68.83
Female	72	31.16
Total	231	100

(Source: Primary Data)

**FIGURE 5.1: RESPONDENTS' GENDER WISE DISTRIBUTION**



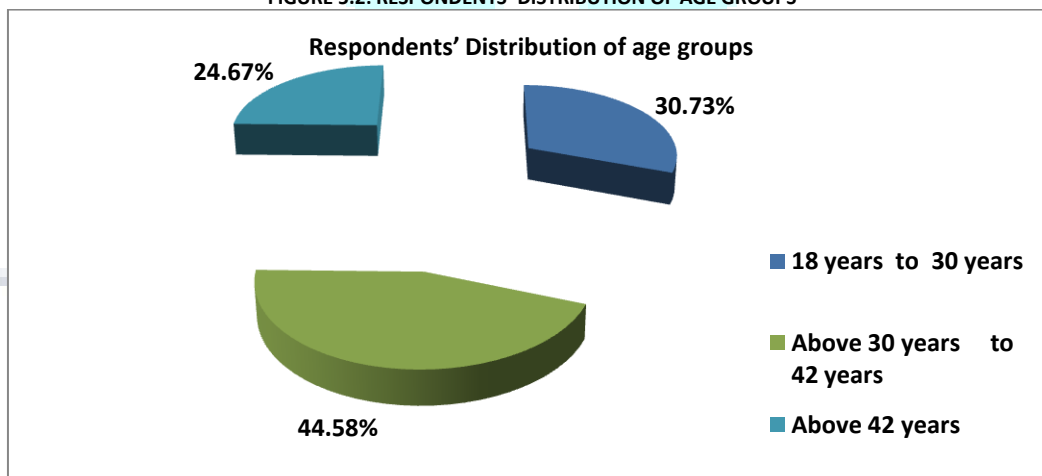
From the above table, it is observed that 68.83% of the respondents' belong to the category of male and 31.16% of the respondents' belong to the category of female. Hence, it is inferred that more number of male Respondents' are availing Internet Banking.

**TABLE 5.2: RESPONDENTS' DISTRIBUTION OF AGE GROUPS**

Age group (in Years)	Users of Internet Banking	
	Frequency	Percentage
18 years to 30 years	71	30.73
Above 30 years to 42 years	103	44.58
Above 42 years	57	24.67
Total	231	100

(Source: Primary Data)

**FIGURE 5.2: RESPONDENTS' DISTRIBUTION OF AGE GROUPS**



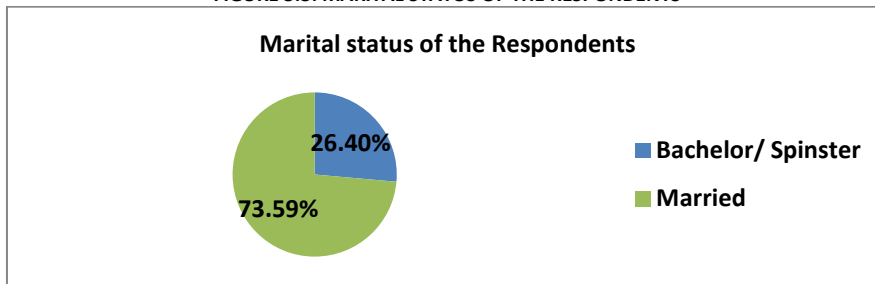
From the above table, it is observed that 44.58% of the respondents' are in the age group of above 30-42 years, followed by 30.73% in the age group of 18-30 years and 24.67% of the respondents are in the age group of above 42 years. Hence, it is inferred that the respondents those who are in the age group of above 30-42 years have adopted Internet banking to a larger extent than other age group of respondents.

**TABLE 5.3: MARITAL STATUS OF THE RESPONDENTS**

Marital Status	Users of Internet Banking	
	Frequency	Percentage
Bachelor/ Spinster	61	26.40
Married	170	73.59
Total	231	100

(Source: Primary Data)

FIGURE 5.3: MARITAL STATUS OF THE RESPONDENTS



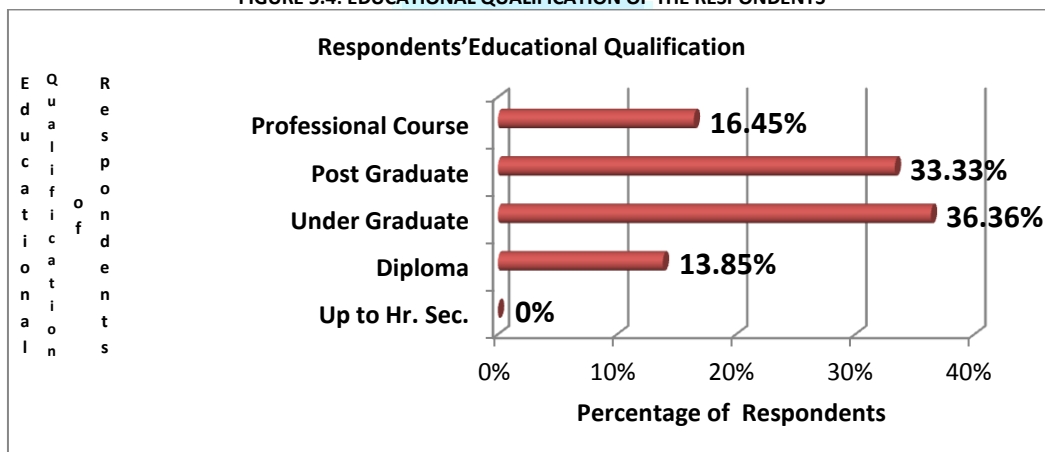
From the above table, it is observed that 73.59% of the respondents are married and 26.40% are Bachelor/Spinster. Hence, it is inferred that the respondents who got married preferred Internet Banking to a larger extent than Bachelor / Spinster.

TABLE 5.4: EDUCATIONAL QUALIFICATION OF THE RESPONDENTS

Educational Qualification	Users of Internet Banking	
	Frequency	Percentage
Up to Hr. Sec.	00	00
Diploma	32	13.85
Under Graduate	84	36.36
Post Graduate	77	33.33
Professional Course	38	16.45
Total	231	100

(Source: Primary Data)

FIGURE 5.4: EDUCATIONAL QUALIFICATION OF THE RESPONDENTS



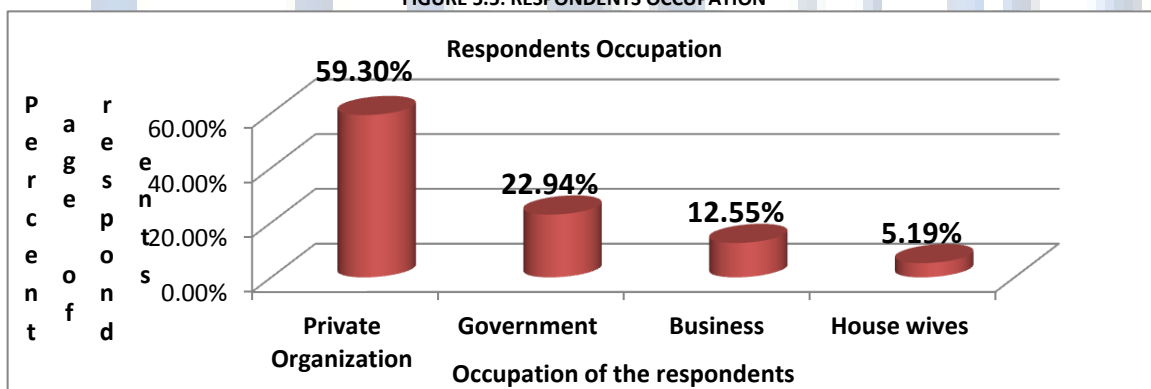
From the above table, it is observed that 36.36% of the respondents have completed Under Graduate, followed by 33.33% of the respondents Post Graduate, 16.45% of the respondents Professional course and 13.85% of the respondents are Diploma holders. Hence, It is inferred that the maximum percentage of respondents(36.36%) who have completed Under Graduate adopted Internet Banking to a larger extent.

TABLE 5.5: RESPONDENTS OCCUPATION

Occupation	Users of Internet Banking	
	Frequency	Percentage
Private Organization	137	59.30
Government	53	22.94
Business	29	12.55
House wives	12	5.19
Total	231	100

(Source: Primary Data)

FIGURE 5.5: RESPONDENTS OCCUPATION



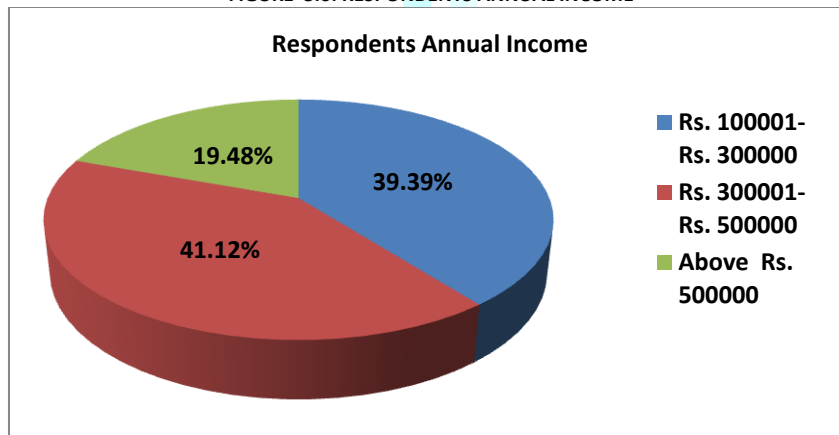
From the above table , it is observed that 59.30% of the respondents are working in Private Organization, followed by 22.94% in Government Organization, 12.55% doing Business and 5.19% House wives. Hence, it is inferred that the maximum percentage of respondents (59.30%) who are working in Private Organization have adopted Internet Banking to a larger extent.

**TABLE 5.6: RESPONDENTS ANNUAL INCOME**

Annual income (in Rs.)	Users of Internet Banking	
	Frequency	Percentage
Up to 100000	00	00
100001-300000	91	39.39
300001-500000	95	41.12
Above 500000	45	19.48
Total	231	100

(Source: Primary Data)

**FIGURE 5.6: RESPONDENTS ANNUAL INCOME**



From the above table, it is observed that 41.12% of the respondents belong to the annual income category of Rs.300001 – Rs.500000, followed by 39.39% of Rs.100001 – Rs. 300000 and 19.48% of above Rs.500000. It is observed that the maximum percentage of respondents (41.12%) belong to the annual income category of Rs.300001 – Rs.500000 have adopted Internet Banking to a larger extent. It shows that the respondents belong to Rs.300001 –Rs.500000, and above Rs.500000 annual income prefer Internet Banking than the respondents belong to Rs.100001 – Rs.300000.

**6. FINDINGS**

- It is found that more number of males prefer Internet Banking. It shows that males adopt new technologies than females. They are ready to take risk. They have confidence to face the consequences of using Internet Banking. They might be aware of Internet Banking products and services and also its benefits. Females may have the perception that Internet Banking is a complex one.
- It is found that middle age group prefer Internet Banking than youngsters and old age people. Youngsters might be having account for short span. So, they might be interested to visit bank to do the transaction. Old age people might have used the traditional banking for a quite long time. It might be convenient to them and also they may not be interested to take risk.
- It is found that the respondents who got married prefer Internet Banking than Bachelor / Spinster. Married people may get moral support from their life partner. They may find it difficult to visit bank for doing banking transaction. So, they may want to do the transaction from the place where they are. Internet Banking might be more comfortable to them.
- It is inferred that the respondents who qualified Under Graduate and above Under Graduate Prefer Internet Banking. Those who are educationally qualified may be aware of the Internet Banking products and services. They would have understood its benefits and shortcomings.
- It is found that the respondents those who work in Private Organization prefer Internet Banking. Private organization employees may be interested to learn and adopt new technologies. They may want to utilize the effectiveness of Internet banking to increase their productivity.
- It is found that the respondents belong to average and above average Annual Income prefer Internet Banking. It shows that there may be a need to use Internet Banking for this income group.

**7. SUGGESTIONS**

- Awareness on Internet Banking products, services and its benefits to be created among females. Females are to be educated that there is no complexity in using Internet Banking and also there is no risk. Their self-confidence to be developed that they can be able to face the consequences of using Internet Banking.
- Both the youngsters and old age people are to be made to understand the benefits and convenience of using Internet Banking.
- Bachelor / Spinster may not get moral support from their family members. So, they need to be provided moral support by bank. It is the duty of the bank to explain them about the moral support which will be provided by bank.
- The respondents those who have lesser qualification have to be taught about the products, services and its benefits. Also they have to be taught about the possibilities of shortcomings and how to solve the shortcomings.
- The benefits of Internet Banking to be taught to the respondents irrespective of the annual income.

**8. CONCLUSION**

This study provides information about the socio-economic characteristics of the respondents who prefer Internet Banking to a larger extent. The bank may be able to influence their Savings Bank account holders to use Internet Bank. This will help the bank to lure more customers. The bank will be able to compete and survive in the today's competitive environment. The operational cost can be reduced and the bank can provide more comfort to their customers.

**9. SCOPE FOR FURTHER RESEARCH**

- A similar study can be conducted to identify the factors responsible for non-adoption of Internet Banking.
- A similar study can also be conducted in various cities, urban places and rural places.
- Also, further study can be conducted to identify the significance of banking operational characteristics on adoption and non-adoption of Internet Banking.

- This study can be extended to corporate customers also.

## REFERENCES

1. Block, C., and Roering, K. J.(1976), „Essentials of consumer behaviour: based on Engel, Kollat, and Blackwell’s consumer behavior”, The Dryden Press, Hinsdale.
2. Lewis, R.C. (1981), „Marketing for full services restaurant –an analysis of demographic and benefit segmentation”, Marketing of Service, Proceedings Series, Chicago, Ill: American Marketing Association.
3. Murillo, R. H., and Roisman, D. (2004), „Point and Click, or Mortar and Brick? A look at Internet banking in the Eighth District” , Article provided by Federal Reserve Bank of St. Louis in its journal: The Regional Economist, October, 2004.
4. Sakkthivel, A. M. (2006), „Impact of Demographics on the Consumption of Different Services Online India” , Journal of Internet Banking and Commerce. 11 (3).

## BOOKS

5. Donald R Cooper, Pamela S Schindler, „Business Research Methods”, Tata McGraw-Hil Publishing Company Limited, New Delhi, 2006.
6. Efraim Turban, Jac Lee, David King, H.Michael Chung, „ Electronic Commerce”, Pearson Education Asia, 2001.
7. James A O’Brien, „Management Information Systems”, Tata Mc-Graw Hill Publishing Co. Ltd., New Delhi, 2012
8. Kenneth C. Laudon , „E-Commerce”, Pearson Education; New Delhi, 2009
9. Kothari C.R., „Research Methodology : Methods and Techniques”, New Age International (P) Limited, New Delhi, 2004
10. Kotler, P.(1982), „Marketing for non-profit organizations”, 2<sup>nd</sup> Edition, N.J: Prentice-Hall Inc: Englewood Cliffs.

## WEBSITES

11. <http://iba.org.in>
12. <http://www.indian-bank.com>
13. <http://www.rbi.org.in>
14. [www.financeindia.org/fi.htm](http://www.financeindia.org/fi.htm)



**COMPARATIVE STUDY OF NEW RAPID BUSINESS PROCESS MODEL WITH EXISTING MODEL BPMN AND UML-AD**

**AMIT LAXMIDAS VADERA**  
**ASST. PROFESSOR, SUNSHINE GROUP OF INSTITUTIONS; &**  
**RESEARCH SCHOLAR**  
**SCHOOL OF SCIENCE (COMPUTER SCIENCE)**  
**RK UNIVERSITY**  
**RAJKOT**

**DR. YOGESH R. GHODASARA**  
**ASSOCIATE PROFESSOR**  
**COLLEGE OF AGRICULTURAL INFORMATION TECHNOLOGY**  
**ANAND AGRICULTURAL UNIVERSITY**  
**ANAND**

**ABSTRACT**

Now a day's to design a new business software process, various Business Process Model's are available in the market. Interest to evaluate this study is that all the enterprises or an organization need to satisfy their business objectives easily and speedily with minimum efforts and cost. To accomplish this they must select any one model which is available in the market. Basic aim of our study is to develop a new business process models and make comparison with available other business process models like UML-AD – Unified Modeling Language Activity Diagram and BPMN – Business Process Model Notation to identify which model is appropriate for the business stakeholders of any enterprise or organization to achieve specified goal. In this paper we address to create a Business Process Model, which is a mixture of graphical notations and supporting information using semantic annotation to strive any business process very speedily and easily.

**KEYWORDS**

Business Processes, graphical notations, semantic annotation, Stakeholders.

**1. INTRODUCTION**

**B**usiness Process Model is the activity to represent business processes graphically for an enterprise or an organization, so other professional may improve the current process.

Main approach of this paper is to create a Model, which is a mixture of standard graphical notations and supporting information using semantic annotation to create a common business model understood by all the business stakeholders.

**2. WHY USE NEW RAPID BPM?**

- Simple to learn and enough powerful to depict the potential complexities of a business process.
- Better understanding of Processes, which are core part of any organization, yet they are not always clearly defined, documented or optimized.
- You can start working very quickly with these notations.
- If necessary, with this model you can describe precisely how a process functions.
- To bridge the communication gap between business and IT is stronger then ever require.
- To do the work more efficiently, organizations must form a clear view of how their processes are operate.

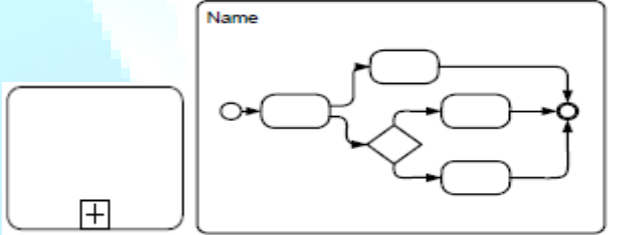
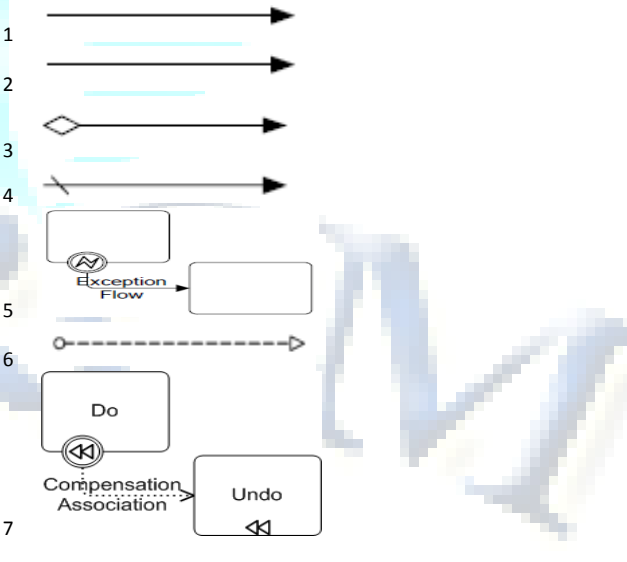


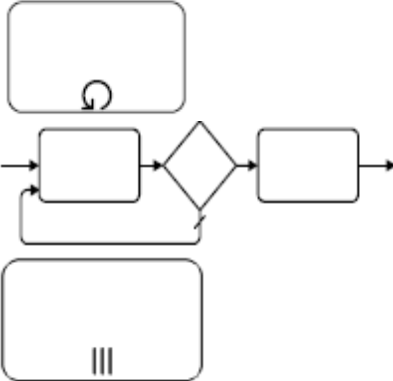
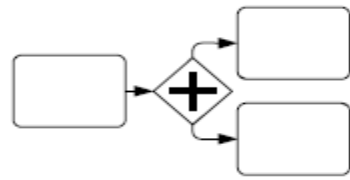
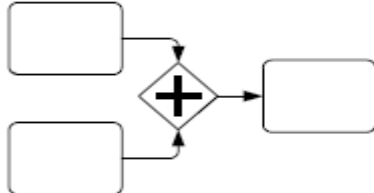


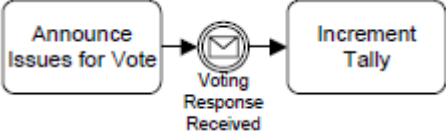


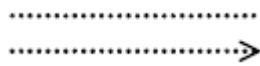



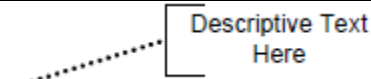
3. DESCRIPTION OF VARIOUS BUSINESS PROCESS MODEL

TABLE 1: ELEMENTS NAME USED FOR BPMN – UML(AD) AND RAPID BPM

Sr. No.	Names used for BPMN Elements	Names used for UML–AD Activity Diagram Elements	Names used for Rapid BPM Elements
1	Fork	Action Node	Start / Stop
2	Join	Accept Event Action Node	Chapter / Task
3	Activity / Task	Send Signal Action Node	Method
4	Data Object	Sub Activity Node	Person / Unit
5	Process Break	Object Node	Flows
6	Transaction	Object Node with accepting time	Choice
7	Off-Page Connector	Object Node With Signal as type	Data Storage
8	Association	Edges	Annotation
9	Pool	Decision / Marge Node	
10	Lane	Fork / Join Node	
11	Group	Initial Node	
12	Text Annotation	Activity Final Node	
13	Start Event	Flow Final	
14	Message Start Event	Partition	
15	Timer Start Event	Partition with Swim Lane	
16	Rule Start Event		
17	Link Start Event		
18	Multiple Start Event		
19	Intermediate Event		
20	Message Intermediate Event		
21	Timer Intermediate Event		
22	Exception Intermediate Event		
23	Cancel Intermediate Event		
24	Compensation Intermediate Event		
25	Rule Intermediate Event		
26	Link Intermediate Event		
27	Multiple Intermediate Event		
28	End Event		
29	Message End Event		
30	Exception End Event		
31	Cancel End Event		
32	Compensation End Event		
33	Link End Event		
34	Multiple End Event		
35	Terminate End Event		
36	Collapsed Sub-Process		
37	Expanded Sub-Process		
38	Exclusive Gateway		
39	Inclusive Gateway		
40	Complex Gateway		
41	Parallel Gateway		
42	Normal Flow		
43	Uncontrolled flow		
44	Conditional flow		
45	Default flow		
46	Exception Flow		
47	Message Flow		
48	Compensation Association		
49	Activity Looping		
50	Sequence Flow Looping		
51	Multiple Instances		

<sup>[1]</sup>TABLE 2: ELEMENTS/SYMBOL USED FOR BPMN

BPMN	Elements / Symbols																																																																						
<p>Event</p> <table border="1"> <thead> <tr> <th>Start</th> <th>Intermediate</th> <th>End</th> </tr> </thead> <tbody> <tr> <td>Start</td> <td>Intermediate</td> <td>End</td> </tr> <tr> <td>Message</td> <td>Message</td> <td>Message</td> </tr> <tr> <td>Timer</td> <td>Timer</td> <td>Exception</td> </tr> <tr> <td>Rule</td> <td>Exception</td> <td>Cancel</td> </tr> <tr> <td>Link</td> <td>Cancel</td> <td>Compensation</td> </tr> <tr> <td>Multiple</td> <td>Compensation</td> <td>Link</td> </tr> <tr> <td></td> <td>Rule</td> <td>Multiple</td> </tr> <tr> <td></td> <td>Link</td> <td>Terminate</td> </tr> <tr> <td></td> <td>Multiple</td> <td></td> </tr> </tbody> </table>	Start	Intermediate	End	Start	Intermediate	End	Message	Message	Message	Timer	Timer	Exception	Rule	Exception	Cancel	Link	Cancel	Compensation	Multiple	Compensation	Link		Rule	Multiple		Link	Terminate		Multiple		<table border="1"> <thead> <tr> <th></th> <th>Message</th> <th>Timer</th> <th>Exception</th> <th>Cancel</th> <th>Compensation</th> <th>Rule</th> <th>Link</th> <th>Multiple</th> <th>Terminate</th> </tr> </thead> <tbody> <tr> <td>Start</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>Intermediate</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>End</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </tbody> </table>		Message	Timer	Exception	Cancel	Compensation	Rule	Link	Multiple	Terminate	Start										Intermediate										End									
Start	Intermediate	End																																																																					
Start	Intermediate	End																																																																					
Message	Message	Message																																																																					
Timer	Timer	Exception																																																																					
Rule	Exception	Cancel																																																																					
Link	Cancel	Compensation																																																																					
Multiple	Compensation	Link																																																																					
	Rule	Multiple																																																																					
	Link	Terminate																																																																					
	Multiple																																																																						
	Message	Timer	Exception	Cancel	Compensation	Rule	Link	Multiple	Terminate																																																														
Start																																																																							
Intermediate																																																																							
End																																																																							
<p>Sub Process</p> <table border="1"> <tbody> <tr> <td>Collapsed Sub-Process</td> </tr> <tr> <td>Expanded Sub-Process</td> </tr> </tbody> </table>	Collapsed Sub-Process	Expanded Sub-Process																																																																					
Collapsed Sub-Process																																																																							
Expanded Sub-Process																																																																							
<p>Gateway</p> <table border="1"> <tbody> <tr> <td>Exclusive</td> </tr> <tr> <td>Inclusive</td> </tr> <tr> <td>Complex</td> </tr> <tr> <td>Parallel</td> </tr> </tbody> </table>	Exclusive	Inclusive	Complex	Parallel	<p><b>Exclusive (XOR) Data-Based</b> </p> <p><b>Event-Based</b> </p> <p><b>Inclusive (OR)</b> </p> <p><b>Complex</b> </p> <p><b>Parallel (AND)</b> </p>																																																																		
Exclusive																																																																							
Inclusive																																																																							
Complex																																																																							
Parallel																																																																							
<p>Sequence Flow</p> <table border="1"> <tbody> <tr> <td>Normal Flow</td> </tr> <tr> <td>Uncontrolled flow</td> </tr> <tr> <td>Conditional flow</td> </tr> <tr> <td>Default flow</td> </tr> <tr> <td>Exception Flow</td> </tr> <tr> <td>Message Flow</td> </tr> <tr> <td>Compensation Association</td> </tr> </tbody> </table>	Normal Flow	Uncontrolled flow	Conditional flow	Default flow	Exception Flow	Message Flow	Compensation Association																																																																
Normal Flow																																																																							
Uncontrolled flow																																																																							
Conditional flow																																																																							
Default flow																																																																							
Exception Flow																																																																							
Message Flow																																																																							
Compensation Association																																																																							

<p>Looping</p> <table border="1" style="width: 100%;"> <tr> <td>Activity Looping</td> </tr> <tr> <td>Sequence Flow Looping</td> </tr> <tr> <td>Multiple Instances</td> </tr> </table>	Activity Looping	Sequence Flow Looping	Multiple Instances	
Activity Looping				
Sequence Flow Looping				
Multiple Instances				
<p>Fork</p>				
<p>Join</p>				
<p>Activity / Task</p>				
<p>Data Object</p>				
<p>Process Break</p>				
<p>Transaction</p>				
<p>Off-Page Connector</p>				
<p>Association</p>				
<p>Pool</p>				
<p>Lane</p>				
<p>Group</p>				
<p>Text Annotation</p>				

<sup>[2]</sup>TABLE 3: ELEMENTS/SYMBOL USED FOR UML-AD

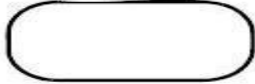

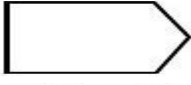


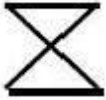
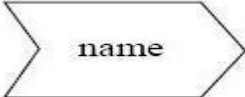







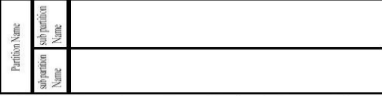




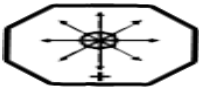


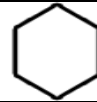


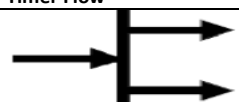
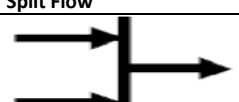

UML – AD	Elements / Symbols
Action Node	
Accept Event Action Node	
Send Signal Action Node	
Sub Activity Node	
Object Node	
Object Node with accepting time	
Object Node With Signal as type	
Edges	
Decision / Marge Node	
Fork / Join Node	
Initial Node	
Activity Final Node	
Flow Final	
Partition	
Partition with Swim Lane	

TABLE 4: ELEMENTS/SYMBOL USED FOR NEW RAPID BPM

New Rapid BPM	Elements / Symbols
<b>Start / Stop</b> <ul style="list-style-type: none"> <li>A Start symbol represents opening of any chapter means from where any trigger will be fire.</li> <li>A Stop symbol represents closing of any chapter.</li> <li>A Carry symbol represents closing of current chapter and carry on to new chapter.</li> </ul>	  
<b>Chapter / Task</b> A Chapter or Task is a unit of work. It is a job to be performed or an activity within a process flow.	
<b>Method</b> A Method is a collapsed sub process. It is used for decomposable chapter means it is also linked with another process diagram.	
<b>Person / Unit</b> It represents responsibilities for activities in a process. It can be any organization, any system or any role.	
<b>Data Storage</b> Data Storage represents information flow come through the process, may be business documents, any letters or emails. Data storage is also a place, where we can write or read data which is store lifetime for the process.	
<b>Choice</b> A Choice represents splitting. It moves the flow more than one side based on alternates or conditions.	
<b>Flows</b> <ul style="list-style-type: none"> <li>A Sequential Flow represents sequence to be executing chapter or method. It also represents flow of any process.</li> <li>A Timer Flow represents sequence to execute chapter or method with certain amount of time. It is also used for certain processes, which is ongoing or working.</li> <li>A Split Flow represent all outgoing branches are activated simultaneously.</li> <li>A Merge flow represents parallel branches, which hang around for all incoming flows to complete before generating the outgoing flow.</li> </ul>	 Sequential Flow
	 Timer Flow
	 Split Flow
	 Merge Flow
<b>Annotation</b> An Annotation represents additional documentation or information with each symbol.	

4. CONCLUSION

	BPMN	UML-AD	New Rapid BPMN
No of Symbols Used	51	15	8
Process Oriented with	Business	Activity	Business and Activity Both
Starting Event	Complexity Generated	Not Clear	Easy to Understand
Timing Task	Using Process Break	Not Used	Using Timer Flow (need not require to break process)
Role Define	Using Lane	Using swim lane	Using Specific Role (person/unit) with lane
Data storage	Using Data Object	Not Used	Using Data Storage with annotation
Annotation / Documentation	Too Much Used	Not Used	Appropriate Used
Over all Understanding	Complex	Moderate	Very Good

REFERENCES

- An Introduction to BPMN for Business People visited on [http://www.slideshare.net/Michael\\_Moyal/bpmn-for-business-people](http://www.slideshare.net/Michael_Moyal/bpmn-for-business-people) dated dec-14
- BPMN tutorial Process modeling using BPMN visited on website <http://www.bpmn-tool.com/en/tutorial/> dated dec-14

## A DETAILED STUDY ON QUALITY OF SERVICE IN COMPUTER NETWORKS

**HARIPRIYA N**  
**RESEARCH SCHOLAR**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**DKM COLLEGE FOR WOMEN (AUTONOMOUS)**  
**VELLORE**

**SANGEETHALAKSHMI G**  
**ASST. PROFESSOR**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**DKM COLLEGE FOR WOMEN (AUTONOMOUS)**  
**VELLORE**

**SIVASANKARI A**  
**HEAD**  
**DEPARTMENT OF COMPUTER SCIENCE**  
**DKM COLLEGE FOR WOMEN (AUTONOMOUS)**  
**VELLORE**

### ABSTRACT

The advancement of internet and its applications has made the world so addictive to it because of its efficient and effective use of information distribution and sharing. That is where computer network plays a leading role in performing actions such as transmitting data and quality of service (QoS). The high-speed network supports a wide range of communication more intensive for real-time applications. Hence, the next generation of networks is likely to be connection-oriented for the real-time traffic. This research paper focuses on problems in routing problem and how to overcome it. We propose few network routing algorithms for imprecision decreasing and we achieved it to the big by few assumption of networking strategies.

### KEYWORDS

QoS, GoS, QoS Routing, QoS Routing Algorithms.

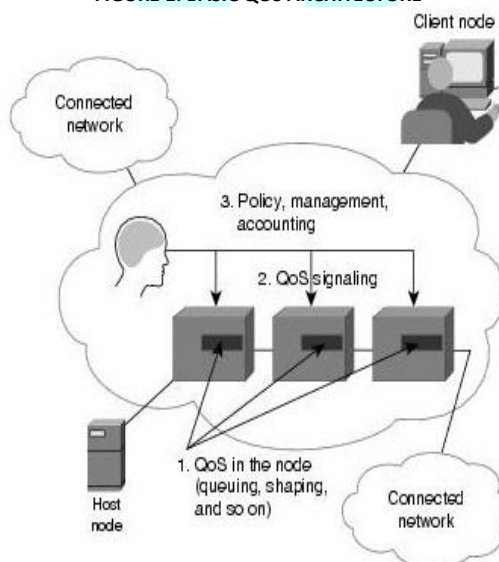
### INTRODUCTION

The Quality of Service (QoS) in Computer Networking is absolutely a new term that is defined as "The capability of a network to provide better service to selected traffic over various technologies and IP-routed networks that may use one or all the available technologies."

QoS refers to a broad collection of networking techniques and technologies. The ultimate goal is to provide guarantees on the ability of the network to deliver predictable output. The QoS elements in networking include availability (also called as uptime), bandwidth (also known as throughput), latency (otherwise called as delay) and error rate.

The concept of QoS evolved due to the market demands forced on the performance of a network by modern and advanced applications, specifically for the real time multimedia applications. Thus, these applications have set a benchmark for the acceptable limitations in time delay when service transferred over an available network.

**FIGURE 1: BASIC QOS ARCHITECTURE**



The three fundamental components of QoS Implementation are:

- The marking and identification techniques of QoS for coordination from end to end between network elements
- QoS within a single network element
- QoS policy, management, and accounting functions to control and administer end-to-end traffic across a network

Hence, it is classified into three main areas of constraints.

**I) SUBJECTIVE HUMAN NEEDS**

This is what a computing interaction can do for the process of applications such as Chatting and other Web-related applications.

**II) AUTOMATED TASKS**

Due to time constraints, the automated tasks back-ups data or information once in a day by a pre-assigned time period allotted.

**III) NEED OF APPLICATIONS**

Applications required for a transmission rate with limited jitter with temporary allocated of transmitted packets where temporal requirements are intrinsic to QoS.

QoS has become a main issue in the recent years. The concept of QoS was evolved before the applications mandated the use of the service. During the process of initial specification of IP, a *Type of Service* (ToS) byte is allocated in the IP header to accelerate QoS. Before 1980s, implementation of ToS was neglected when QoS was not so famous.

**COMPARISON OF GoS AND QoS**

Finding the standards of *Grade of Service* (GoS) that are required to support a particular QoS is not an easy task. Both GoS and QoS vary from its concepts. QoS looks at the situation from customer view and GoS looks at network view.

**REFERENCE CONFIGURATIONS**

*Reference Configuration* obtains the networks that are under consideration that generates it. This has one or more customized designs of the path of the connection can take with reference points. Thus, the interfaces are defined between all other entities.

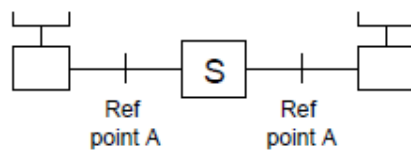
Lets for an example, consider a Telephone Network with terminals, subscriber and transit switches.

There are three ways that the call can be routed in.

1. Terminal → Subscriber Switch → Terminal

The Reference Configuration for the above is shown in Figure 2.

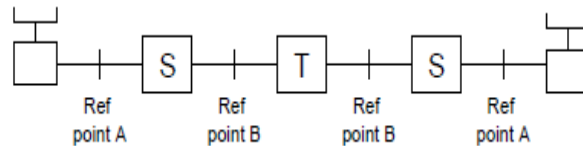
**FIGURE 2: CASE 1 REFERENCE CONFIGURATION**



2. Terminal → Subscriber Switch → Transit Switch → Subscriber Switch → Terminal

The Reference Configuration for the above is shown in Figure 3.

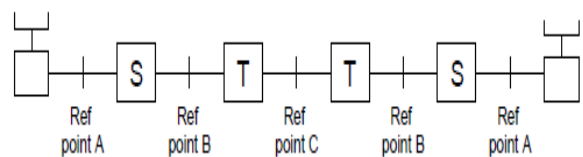
**FIGURE 3: CASE 2 REFERENCE CONFIGURATION**



3. Terminal → Subscriber Switch → Transit Switch → Transit Switch → Subscriber Switch → Terminal

The Reference Configuration for the above is shown in Figure 4.

**FIGURE 4: REFERENCE CONFIGURATION**



Based on the given requirement set for QoS, the GoS set of parameters are first selected and send on an end-to-end procedure within the network boundaries. This process takes place for each service. Thus, GoS is arrived at a derived reference points. This allows the partitioning of end-to-end GoS objectives for each network component.

**QoS PERFORMANCE MEASURES**

Quantitative measures of QoS must be carefully defined to provide a good QoS on a network. The general parameters of parameters of QoS are

- a) Bandwidth
- b) Jitter
- c) Latency and
- d) Packet Loss
- **Bandwidth** – It is the rate at which an application's traffic must be carried by the network
- **Latency** – It is the delay in tolerance of application in delivering the packet data
- **Jitter** – It is the variation in latency
- **Loss** – It is the percentage of lost data

**BANDWIDTH**

The term **Bandwidth** offers the capability to a network to provide a better service to selected network traffic within TCP/IP networks. Theoretically, the bandwidth describes the range of possible transmission frequency. In practical, bandwidth describes the size of the line of an application program that requires for communication over a network.

The significance of a channel bandwidth determines the capacity of the channel which gives the maximum rate of information that can be transmitted.

Information Transmission Rate and Channel Capacity relationship was clearly explained in Information Theory by Claude Shannon.

According to *Shannon*, if information rate is R and channel capacity is C, then, there are many possible ways to find a technique for transmitting information with low probability of error with the condition  $R \leq C$ . In reverse, it is not at all possible if  $R > C$ .

**PACKET DELAY AND JITTER**

Packet Delay is also called as Latency. There are 3 types of delay.

1. Serialization Delay

- 2. Propagation Delay
- 3. Switching Delay

**SERIALIZATION DELAY**

It is also known as **Transmission Delay**. The time taken by a device to synchronize a packet on a given rate of output is called serialization delay. This delay is the main function between the packet size and bandwidth.

**Example**

A 64 byte Packet Size takes 171µs when sent at the rate of 3Mbps. It is the same, that the packet takes 26ms for 19.2kbps.

**PROPAGATION DELAY**

**Propagation Delay** is the time taken by a bit to travel from a transmitter to a receiver. There are upper limits on speed to make the best speed of light travel. This delay is a function between travelled distance and link medium.

**SWITCHING DELAY**

**Switching Delay** is the time delay between receiving a packet and retransmitting it on a network system. It is the function of the device speed.

There are other delays that contribute for the overall performance on a network. Packet Jitter is the variation in packet delay of the system. Queuing delay is negligible when the network's performance is fast and so no congestion. When the congestions over the network takes place, queuing delay gets increased.

So, the probability (p) of n clients in a queue can be expressed as:

$$P(n) = (1-r)*r^n$$

When service rate is  $\mu$ , average queuing delay (aqd) can be expressed as:

$$aqd = 1/(1-r) \mu$$

**PACKET LOSS**

**Packet loss** is an important measure in QoS. If packet loss exceeds a specified limit, some functions of an application may not function properly or may not function at all.

**Example**

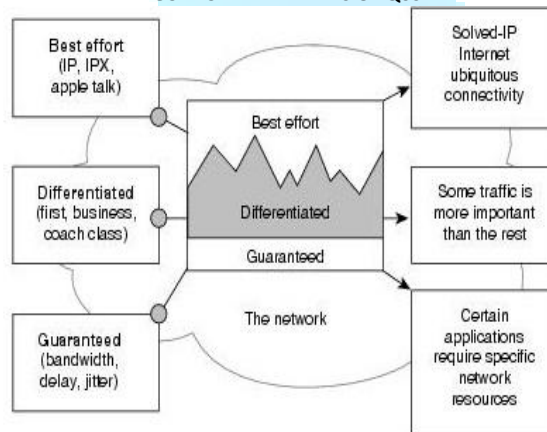
In a streaming video frames, after a certain number of frames are lost, the streaming becomes useless for user.

Thus, sometimes the number will be zero in few cases. And so, the guaranteed number of limits of lost packets is necessary for such applications for QoS implementation. Thus, at most of the times, packet loss occurs due to the drops during congestion when exceeds the queue size. Corrupt packets also cause these packet losses.

**QoS LEVELS**

There are many applications that still don't require QoS. They differ in degrees of priorities and guarantees for implementation process. We have some tasks that don't need any guarantees whereas the other end needs correct guarantees that cannot be compromised, at one end. Such levels of QoS are grouped into 3 classes such as Soft and Hard QoS and Best Effort Service.

**FIGURE 5: THREE LEVELS OF QoS**



**BEST EFFORT SERVICE**

**Best Effort Service** does not provide any guarantee. Thus following the extreme level, cannot be considered as a QoS. Most of the networking applications work on the best effort service. An example for one such is File Transfer Protocol (FTP). Guarantees or Performance measures are not necessary but the only output we expect is whether successful transmission was taken place or not.

**SOFT QoS**

**Soft QoS** is commonly called as Differentiated Service. There are no absolute guarantees in this level. Different priorities are assigned to different tasks on a network.

The applications are categorized into different priority classes. If guarantees are not necessary, most of the application traffics work much better. For example, traffic control should be given high priority to ensure the best connectivity and functionality over the network.

**HARD QoS**

QoS Networking has made developers to face challenging tasks in many fields. Many researchers have contributed to the development of fast and quick networks. Optical networks use Wavelength Division Multiplexing (WDM) technology on a fiber line for transmission rate in tera bits per second.

There are a number of factors that contributes to the issues in routing QoS. One such is diversity of requirements and guarantees of distributed computing applications running at the same time. Thus, the problem extends its applications to implement zero constraint requirements for QoS. The other major factors that cause problems in implementing QoS is maintaining network information in a large and dynamic network.

Each node on the network has to be maintained in its local state in order to maintain its network state information. And then, these local states should be combined to form the global state information.

A node maintains the network information using either the two algorithm:

- 3.1.1 Link-state Algorithm
- 3.1.2 Distance-vector Algorithm

This exchanges the local states between all the available nodes in the network in a periodical manner. However, the resulting information may not be accurate due to several other factors. Thus, dealing with uncertainty about the network global state is the biggest issue that our paper trying to solve.

**ROUTING CLASSIFICATION**

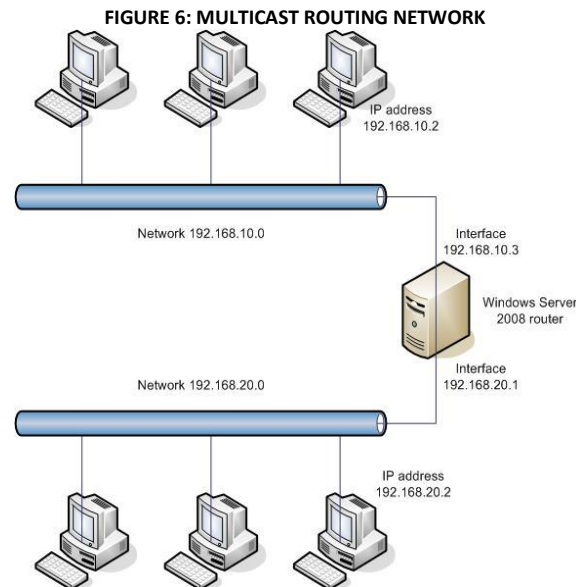
QoS routing classification done according to the destination of the searching path into two main ways:

- a) Unicast Routing Algorithms
- b) Multicast Routing Algorithms

**Unicast Routing** is where the problem is to find the best feasible path from source node to destination node satisfying the assigned constraints.



**Multicast Routing** is where the problem is to find the best feasible tree that covers the source node with the destination nodes satisfying the assigned constraints.



QoS algorithms can be classified accordingly to the search path and strategy of deployment.

#### ROUTING STRATEGIES

There are 3 main routing strategies presented in our research. They are:

1. Source Routing
2. Distributed Routing
3. Hierarchical Routing

#### SOURCE ROUTING

In **Source Routing**, feasible path is computed at source node locally. It maintains its own maintenance mechanism of the global state network information. The huge benefit of source routing is localized storage of network state information and centralized computation of path. Maintenance of global state enables source node to compute the path locally. In such cases, the complexity is smaller than distributed computing. Thus, source routing is easier for designing and implementation and guarantees loop free routing among the networks. However, this has two major problems. One is inaccuracy of state information and the other is global state precision at each node is directly proportional to update frequency. Hence, the imprecision in global state information results in failure of finding the existing feasibility.

#### DISTRIBUTED ROUTING

**Distributed Routing** is the second highest used strategy. This algorithm uses the distributed computing for path computation. We do this by the exchange of control messages and global state information stored locally at each node. Some routing algorithm doesn't require the maintenance. The biggest advantage in distributed routing is distributed computation of path that enables shorter response time. And so, it resembles better scalability. Shorter response time, and higher scalability is achieved at the expense of higher network traffic due to more exchange of messages. This is not loop-free due to the nodes are inconsistent.

#### HIERARCHICAL ROUTING

**Hierarchical Routing** is grouped into clusters and is into a higher level of clusters. This continues to build up forming a multi-level hierarchy. The aggregated state is maintained instead of global state information. The use of partial global states is maintained by logical nodes that enhances the scalability over other routing algorithms. The overall traffic in network does not get as intense as in distributed routing.

Hierarchical routing combines the advantages of both source and distributed routing. Here, the problem in this type of routing is it is not trivial but aggregation of network states introduces extra imprecision.

#### CONCLUSION

This paper concludes that the performance of routing algorithms is not designed specifically to take imprecision into account but degrades significantly as the imprecision grows. Most of the routing algorithms that are available today are not considering this uncertainty into account during implementation. In spite of it, the developers assume that it does not exist at all. Hence the nature of uncertainty is inherent. And, research has been done to evaluate the impact of neglecting the performance of different routing algorithms. Of all, we have proposed few routing algorithms with the main objective of handling intrinsic imprecision and reducing its effect.

#### REFERENCES

1. Chunhung Richard Lin and Jain-Shing Liu, "QoS Routing in Ad Hoc Wireless Networks", in IEEE Journal on Selected Areas of Communications, Volume 17, August 1999
2. Haowei Bail n y, Mohammed Atiquzzaman and David J Lilja, "Layered View of QoS issues in IP Based Mobile Wireless Networks", in International Journal of Communication Systems, 2006
3. Miguel Rio, Andrea Di Donato, Frank Saka, Nicola Pezzi, Richard Smith, Saleem Bhatti, Peter Clarke, "Quality of Service Networking for High Performance Grid Applications", in Journal of Grid Computing, 2003
4. Prof. Augustine C.Odinma and Lawrence Oborkhale, "Quality of Service Mechanisms and Challenges for IP Networks" in The Pacific Journal of Science and Technology, Volume 7, Number 1, May 2006
5. Rio M, Orellana J, Di Donato A, Saka F, Bridge I, Clarke P. "Providing Quality of Service Networking to High Performance Grid Applications", in The Engineering and Physical Sciences Research Council, September 2003
6. Wei Liang and Wenye Wand, "A Quantitative Study of Authentication and QoS in Wireless IP Networks", in IEEE 2005
7. Wei Sun, Xiaojing Yuan, Jianping Wang, Dong Han and Chongwei Zhang, "Quality of Service Networking for Smart Grid Distribution Monitoring", in IEEE, 2010
8. "Wireless LAN Medium Access Control (MAC) and Physical Layer (PHY) Specifications: MAC Quality of Service Enhancements", IEEE Std, 802.11e.2005

**TATA GROUP AND CSR: AN EXEMPLARY CASE REVIEW**

**KOMAL CHAUDHARY**  
**ASST. PROFESSOR**  
**COLLEGE OF VOCATIONAL STUDIES**  
**UNIVERSITY OF DELHI**  
**DELHI**

**ABSTRACT**

The main intent of this paper is to showcase how a business organization can be transformed or created into a legacy that runs down for posterity by adding and creating more value and nurturing life in various forms and dimensions. Tata group by far has been one such exemplary multinational conglomerate entailing diverse sectors/industries from beverages, retail to as vast as the steel industry, automobiles and chemical and services industries and many others under its purview. This paper studies certain aspects of the same discussion mentioned above in exploratory and factual manner.

**JEL CODE**

M14

**KEYWORDS**

CSR, TATA, Case.

**INTRODUCTION**

Commencing with the brief introduction about the history pertaining to the Tata group and its pioneers this paper assesses the potential and efficiency of a business on basis of its social responsibility and sustainability initiatives for which corporate social responsibility is a jargon conventionally used.

To study how the efficiency, profitability, success, goodwill of the business is affected rather improved and enhanced manifold as in this case when society is your priority stakeholder and they are highly valued.

Thus, boiling down to the essence of corporate social responsibility and how it is connected to business diversification and expansion carving a niche of its own within and outside the domestic territories thus gaining competitive advantage.

**LITERATURE REVIEW**

“Operating across borders and time zones and integrating diverse management teams and corporate governance practices do not seem to have modified the Tata imprinting. Of particular interest is the fact that Tata has not blindly embraced ready-made recipes to face the challenges of multinational management, preferring instead organizational solutions aimed at fostering mutual recognition and knowledge exchange within the multinational conglomerate”

-Andrea Goldstein, *Senior Economist Organization for Economic Co-operation and Development (OECD), Paris, France Goldstein, A. (2008)*

“What came from the people has gone back to the people many times over.”

-JRD Tata

“As an organization and in our case as a manufacturing and a mining company, one will have some negative footprint. We have to reduce, minimize, mitigate and even offset some of the impact that we have not just on the environment but also on the community,”

-Biren Bhuta, *chief, CSR, Tata Steel.*

“policy to support its companies and the improved financial profile of its entities also enhances the overall financial flexibility of Tata Motors.”

-Standard & Poor's, *December 2006*

“Our values demonstrate our commitment towards the development of cleaner mobility solutions, increasing customer delight, improving people engagement, and enhancing community development initiatives which are embedded in strong corporate governance practices. Our new Vision, Mission, Culture and Values statement is inherently tied to those issues that are of importance to us as well as our aspirations. We continuously strive to inculcate sustainable practices into every aspect of our business in order help us face existing and emerging global challenges and to create value for our stakeholders. Our innovations are geared towards customer satisfaction and we take pride in ‘customer delight’ with our products”

-Karl Slym, *Managing Director, Tata Motors Limited, 2012-13*

“In a free enterprise, the community is not just another stakeholder in business but is in fact the very purpose of its existence”

- Mr, Jamsetji N. Tata (*Founder, Tata Group*)

“In line with our strategic objective to be a responsible corporate citizen, our constant endeavor is to reduce the impact from our operations to the environment.”

- N Chandrasekaran, *CEO & MD, TCS*

**BRIEF HISTORY**

The foundation of what would grow to become the Tata Group was laid in 1868 by Jamsetji Nusserwanji Tata — then a 29-year-old who had learned the ropes of business while working in his father's banking firm — when he established a trading company in Bombay. A visionary entrepreneur, an avowed nationalist and a committed philanthropist, Jamsetji Tata helped pave the path to industrialization in India by seeding pioneering businesses in sectors such as (Tata History, 1868) In 1892, Jamsetji Tata established the JN Tata Endowment to encourage Indian scholars to take up higher studies. It was the first of a multitude of philanthropic initiatives by the Tata Group. Over generations, members of the Tata family have bequeathed much of their personal wealth to the many trusts they have created. These trusts today control 65.8 per cent of the shares of Tata Sons, the holding company of the group, and they support an assortment of causes, institutions and individual. 1903 the most dazzling of the Tata enterprises that came into being during Jamsetji Tata's lifetime was the Taj Mahal Hotel in Bombay, which opened for business in 1903. Legend has it that Jamsetji Tata set his mind on building it after being denied entry into one of the city's fancy hotels for being an Indian.

Today, the Taj Group of Hotels is a byword for luxury and quality, with standout properties across the world. 1904, Following Jamsetji Tata's death, in Germany in 1904, the chairmanship of the Tata Group passed to the elder of his two sons, Sir Dorab Tata, who accomplished the daunting task of turning his father's extraordinary ideas into reality.

By the time of Sir Dorab Tata's death in 1932, the Tata Group had consolidated in businesses while also getting in new areas, notably insurance and the production of soaps, detergents and cooking oil. The first of JRD Tata's big moves in business was born of a childhood fascination for flying. In 1929, he became one of the first Indians to be granted a commercial pilot's license. During the more than five decades that JRD Tata was at the helm, the Tata Group expanded regularly into new spheres of business. The more prominent of these ventures were Tata Chemicals (1939), Tata Motors and Tata Industries (both 1945), Voltas (1954), Tata Tea [(1962) now known as Tata Global Beverages], Tata Consultancy Services (1968) and Titan Industries (1984).

Sir Dorab was succeeded as chairman of the Group by Sir Nowroji Saklatwala. In 1938, following Sir Nowroji's demise, 34-year-old JRD Tata (left) was appointed as the new chairman. He would lead the Tata Group for the next 53 years — with wisdom, foresight and zeal. JRD blended humane business practices with

political savvy and a pioneering spirit and is remembered as India's most important and influential business leader. Strong connections with foreign groups and a well-built brand value enabled the Tata's to enter into new sectors. In the 1980s, when timid liberalization progress started. Nonetheless, the conglomerate became unwieldy, as some of the operating companies independently diversified into new businesses, sometimes with little coordination

The new millennium has seen Tata companies looking beyond Indian shores for growth opportunities and a global footprint. Acquisitions of foreign enterprises have been one way of doing this. The first big acquisition was by Tata Tea of Tetley back in 2000. In 2004, Tata Motors acquired the heavy vehicles unit of Daewoo Motors, South Korea; in 2005, Tata Steel acquired the Singapore-based NatSteel and Tata Chemicals secured a controlling stake in Brunner Mond Group, UK. The largest acquisition happened in 2007, when Tata Steel acquired Corus, the Anglo-Dutch giant, in a landmark deal, and in 2008 Tata Motors added the Jaguar and Land Rover brands to its stable. (2012, Srivastava, A. K., Negi, G., Mishra, V., & Pandey,)

### SECTORS/INDUSTRIES CURRENT UPDATE (FACTS) 2014

- Materials Metals Composites 24%
- Engineering Automotive Engineering Products Projects and Services 39%
- Energy Power Renewable Energy Oil and Gas Exploration 5%
- Consumer Products Beverages Watches and Jewellery Retailing 4%
- Services Hotels and Realty Financial Services Logistics Urban Services 5%
- Chemicals Pesticides and Seeds 3%
- Information Technology and Communications IT Services Design Services 20%

### 5 LARGEST COMPANIES UNDER TATA GROUP WITH THEIR RESPECTIVE REVENUES

- Tata Consultancy Services 510,337 cr.
- Tata Motors 143,582 cr.
- Tata Steel 45,341 cr.
- Titan Company 32,067 cr.
- Tata Power 24,179 cr.

### A GLANCE OVER THE TATA CULTURE

66% shareholding in Tata Sons, the promoter holding company. The following are the Endowments for creation of national institutions :-

- Tata Institute of Social Sciences
- Tata Memorial Hospital
- Tata Institute of Fundamental Research
- National Centre for the Performing Arts
- Indian Institute of Science

Tata Medical Center:- Development assistance –for livelihoods, health, education, micro- finance, bio-diversity, water harvesting Educational scholarships for Indians for higher studies outside India JN Tata Endowment scheme (established in 1892) Educational scholarships for studies in India ,Medical grants for individuals , disaster relief (along with Tata companies).

Committed to improving the quality of life of communities through programmers in areas such as health, education, vocational training Sustainability built into business processes active volunteering programme –over 45,000 volunteers

Tata Sustainability Group –nodal agency to synergize and evolve strategies for group companies' sustainability activities (2014:www.tata.com/reports/2014)

### ACTIVE PROGRAMMES AROUND THE WORLD INCLUDE

- India: UN award winning programme on HIV/AIDS, computer-based adult literacy, e-learning teaching application for special children, whale shark conservation
- North America: Partnership with the First Book programme
- UK: Education Business Partnership centers providing learning facilities
- China: Support Operation Smile's treatment of cleft lip patients
- Africa: Scholarships, skills transfer and training

### RESEARCH METHODOLOGY

Exhaustive literature survey regarding the topic and related concepts has been done. Secondary data inclusive of quantitative and qualitative data as well collected from various sources including books, research papers, newspapers, magazines, and websites is used for the purpose of study.

### RESULTS AND FINDINGS

The Tata group has been complying to its mission and vision aptly as its mission statement goes: "To improve the quality of life of the communities we serve globally, through long-term stakeholder value creation based on leadership with trust"

Tata companies are building multinational businesses that seek to differentiate themselves through customer centricity, innovation, entrepreneurship and trustworthiness while balancing the interests of shareholders, employees and civil society, with the core purpose of long-term stakeholder value creation based on leadership with trust. The term stakeholder means all those on whom an organization's performance and activities have some impact either directly or indirectly. This term was used to describe corporate owners beyond shareholders as a result of a book titled Strategic management: a stakeholder approach by R. Edward Freeman in the year 1984.

Yet another feather in the cap of the Tata Group, In the first installment of a two edition special, ET Corporate Dossier, in league with Futurescape and IIM Udaipur, presents the definitive listing of companies with the best programmes for Corporate Social Responsibility (CSR):

1. Tata Steel
2. Tata Chemicals
3. Mahindra Group
4. Maruti Suzuki
5. Tata Motors
6. Siemens
7. Larsen & Toubro
8. Coca-Cola India
9. Steel Authority of India
10. Infosys

Source: (<http://www.indiacsr.in/en/tag/csr-india/>)

India's Best Companies For CSR 2014: Tata Steel uses Human Development Index to keep track of CSR in villages India's Best Companies For CSR 2014: Tata Steel uses Human Development Index to keep track of CSR in villages.

The concept of CSR in India is gaining ground not only because of the government directive mandating companies to allocate 2 per cent of their net profits but also because industrial projects are increasingly facing headwinds of social unrest. CSR offers companies a chance to build goodwill in local communities.

Tata Chemicals spends Rs 12 cr on CSR every year; wildlife conservation tops priority.

Think of corporate social responsibility (CSR) and you might envision schools, hospitals and rural development. The most vivid image of CSR at Tata Chemicals, however, is a whale shark, the largest fish in the ocean, which the company has been working to save from extinction along the Gujarat coast.

## MAKING A DIFFERENCE

Noamundi Village comes under Noamundi Iron Mine of Tata Steel in Jharkhand. For the last 3 years Noamundi Iron Mine is installing solar lights in roads, public places, in its residential colony and spreading its wing of solar power towards the nearby villages too. Now seven villages under Noamundi block have been covered under this use of alternate source of energy scheme. Silent revolution of encouraging the use of solar energy in Noamundi Iron Mine of Tata Steel in West Singhbhum district of Jharkhand, has not only made this mine a unique place in this mining hub but also illuminated the lives of thousands of villagers.

Thus, connecting doing good and doing well poses new challenges in strategy formulation and execution. There are a handful of systematic guidelines that have helped disseminate best practices among future-minded corporations: the ISO 14000 Environmental Management Standard, the Global Reporting Initiative's Sustainability Reporting Guidelines, and more recently, the Social Accountability International's SA8000 code of conduct. As more companies sign on to these agreements, both the internal learning and external credibility stemming from sounder practices have become a source of competitive parity. But can a corporation blaze new competitive advantage at the junction of sustainability and business? Branzei, O., & Nadkarni, A. (2008).

Take Tata's recently announced Nano, the world's most affordable car - for some perhaps another 4-wheel greenhouse threat, for many a revolutionary new way to reposition the auto industry. But both critics and advocates agree that the \$2,500, two-cylinder car showcased at the New Delhi Auto Expo on January 10 offers an affordable transportation solution with a low carbon footprint. For Tata Motors, India's largest automobile company, the Nano is much more than a provocative new transportation choice for India's people. This little safe car stands as another bold embodiment of Tata's century of trust and cooperation with local communities. And the Nano is only one of the fruits of Tata companies' painstaking commitment to surfacing the best of business in the service of people, in India and globally.

Tata Consultancy Services Limited (TCS), a world leading provider of information technology consulting services, is winning global accolades from Business in the Community's Corporate Responsibility Index (CRI), the leading UK benchmark of responsible business practice. In 2006, TCS achieved the gold band for its performance in the Community Index with a score of 94.7 percent. Known internationally for its business success, TCS has a warm spot in the heart of many Indians for the Computer Based Functional Literacy project. This program helped illiterate adults learn how to read in their own spoken language in a span of 30 to 45 hours spread over 10 to 12 weeks. The programme is multimedia-driven, and targets 15 to 30 year olds - setting them on the path to acquiring other literacy skills, including writing and arithmetic ability without any interruption in their productive activities. Five years later, the project has spread to more than 1,000 centers in Andhra Pradesh, Tamil Nadu, Madhya Pradesh, Maharashtra, Uttar Pradesh and West Bengal, and it has helped more than 46,000 people.

## FINDINGS

As business is an integral part of the social system it has to care for varied needs of the society. Business which is resourceful has a special responsibility to the society. Social involvement of business would enhance a harmonious and healthy relationship between the society and business seeking mutual benefit for the both. Social involvement may create a better public image and goodwill for the company which further becomes instrumental in attracting customers, efficient personnel and investors.

## CONCLUSION

For bringing back and maintaining the general balance in the economic and social arena it is evident to think deeply and act wisely about CSR. Every business house owe some responsibility towards the society, nation and world in general which provide it with all human, material and natural resources. Considering the long run growth and sustainable development following the norms of CSR, devising new policies and effective implementation is inevitable to bring and sustain a balance between corporate world and society, present generation and upcoming generation, man and nature.

As far as the Tata group is concerned, it has gone a long way in fulfilling its duty and responsibility towards the society and the nation. It has reached the masses to elevate their lives, to nurture their dreams and to hone their skills justifying the statement of the founder —We do not claim to be more unselfish, more generous and more philanthropic than other people. But we think we started on sound and straightforward business principles, considering the interests of the shareholder, our own, and the health and welfare of the employees, the sure foundation of our prosperity.

Adding to the above mentioned view, also this continuous and comprehensive application of CSR from the very beginning till date with further innovation and reaching out to as diverse issues plaguing the society not only within but outside the territories of the domestic land has without an iota of a doubt has notched it up at a very high pedestal in today's competitive market and environment.

Thus, Tata group has purveyed India with a great heritage providing best quality service, returns and surely the best in CSR and becoming an epitome of greatness not only in the domestic arena but a brand worldwide.

## LIMITATIONS

While preparing this research paper Legal aspects like corporate governance, labor and employee welfare related laws have not been undertaken which would help to throw more light on the new scenario of CSR.

## REFERENCES

1. Branzei, O., & Nadkarni, A. (2008). The TATA way: evolving and executing sustainable business strategies. Ivey Business Journal Online, 72(2), 1
2. Elwin, Verrier (1958), The story of Tata Steel, Bombay: Tata Iron and Steel Co.
3. Freeman, R.E. Strategic Management: A Stakeholder Approach ( Pitman Publishing: Marshfield, MA, 1984)
4. Goldstein, A. (2008). The internationalization of Indian companies: the case of Tata. Centre for Advanced Study on India (CASI) Working Paper, (08-02.)
5. <http://www.indiacsr.in/en/tag/csr-india/>
6. <http://www.indiacsr.in/en/tag/csr-india/>
7. <http://www.tata.co.in/htm/heritage/HeritageOption1.html>
8. Srivastava, A. K., Negi, G., Mishra, V., & Pandey, S. (2012). Corporate social responsibility: A case study of TATA group. IOSR Journal of Business and Management (IOSRJBM), 3(5), 17-27.
9. [www.tata.com/reports/2014](http://www.tata.com/reports/2014)

**THREE DIMENSIONAL HEALING: BENEFITS FROM THE WELLNESS**

**DR. VANDANA DESWAL**  
**ASST. PROFESSOR**  
**MAHARAJA SURAJMAL INSTITUTE**  
**JANAKPURI**

**ABSTRACT**

All around the globe, spas are known for their significance to the physical and mental being of individuals. This industry is regaining its old charm with the promises of providing rejuvenation and relaxation to all the stressed people. Not just this, with the advent of cosmetic procedures and alternate healing methods, spas are providing anti-aging solutions to those who want to look and feel good. These benefits have gained monumental recognition and appreciation by all making spa industry one of the most promising industry in coming years. Spa industry, as a part of wellness industry, holds tremendous scope in the economy and the tourism of a destination. This paper is dedicated to finding the benefits of the spas, their services and products to the economy in general and tourism of a place in particular. For this purpose, a study was conducted in USA and India to get a comparative insight into the overall picture of paybacks derived from these services. With a sample size of 100 people in each country, a survey was conducted and then a country wise dissection is done for each item and in the end a summarized chart is drawn to present a clear picture of the prominence of the spas and their services and products to these dimensions. The vitality percentage analysis of the spas to the economy is clearly elucidated in the given paper and it has been found that apart from employment and revenue generation, the spas bring in lot of tourists to a place, consequently promoting all kinds of tourism of that destination.

**KEYWORDS**

Spas, significance, tourism, economy, dimensions.

**INTRODUCTION**

All around the globe, spas are known for their significance to the physical and mental being of individuals. This industry is regaining its old charm with the promises of providing rejuvenation and relaxation to all the stressed people. Not just this, with the advent of cosmetic procedures and alternate healing methods, spas are providing anti-aging solutions to those who want to look and feel good. These benefits have gained monumental recognition and appreciation by all and this is one of the reasons, it is counted among the most promising industry in coming years. Spa industry as a part of wellness industry holds tremendous scope in the economy and the tourism of a destination. It is a well-known fact that the spa services are beneficial to the physical and psychological health of the individuals. This paper is dedicated to finding the benefits of the spas, their services and products to the other two dimensions as well, namely the economy in general and tourism of a place in particular. Also, for a comprehensive global picture, two vastly different economies (USA and India) were chosen so as to get a comparative insight into the paybacks derived from these services. A country wise dissection is done for each dimension and in the end a summarized chart is drawn to depict the three dimensional healing of the spas.

**REVIEW OF LITERATURE**

To understand the significance of the spas, it is imperative to understand the benefits that they accrue on individuals. A look into the related literature and evidences available confirms the importance of alternate healing methods offered by spas.

**Harcup and Harrington (2005)** reiterated in a study that during the eighteenth century spring waters started getting acceptance by Italian, German and English physicians. In 'The Effects of Water' published in 1797 by Doctor James Currier, bathing in cold and warm water was suggested as a remedy for fever and other diseases. This book aroused interest in water cures through the external and internal use of water as part of the curing process.

**Lehto and Brown (2006)** in their article placed Yoga Tourism as a niche within the wellness tourism and provided empirical evidences that yoga and physical as well as mental health contribute to the propensity to travel for yoga hence giving a strong boost to the potential of Indian spas.

**Spa Wellness Association of India's Report (2006)** gives its tourism promotion as one of its five core competencies and claims to serve the industry through them. The presence of such associations is a good indicator of robust health of the spa industry in India.

**Travel News Asia(2007)** claimed that the spa, an established industry already in US and Europe now is going further east with great growing potential in Asia region and especially in China and India which are defined as the fastest growing countries over 2007 and the decade to come according to the World Travel and Tourism Council numbers.

The spa experts at **Spa Finder, Inc.(2007)** in their fourth annual prediction of the spa industry trends said that entirely new concepts will hit the scene as evolution is the new constant in the vibrant world of spa in the present scenario.

**UNIPRO SPA Industry Research (2008)** in its analysis of trends and business models in top countries gave a figure of 10.5 billion euros with 20,662 spas and 307,229 employees and 1 billion euros with 21,565 spas and 363,648 employees ; making it an industry with huge potential.

**India Hospitality Review (2012)** divulged that year 2012 started with great expectation and optimistic outlook for hospitality industry and major brands planning for expansion in the coming year.

**Ken Research (2012)** stated that the wellness industry in India grew by 16.9 per cent in 2011, mainly driven by the urban population majorly within the age group of 25-49 years, especially the working population.

Another research report on Health and wellness tourism industry by **Euromonitor International (2012)** presented the positive spa trends as the spa sales grew by only 1.3 percent in 2011 in value terms to reach US \$ 5.8billion. It also reported the several steps that the spas undertook to cut down the costs like reducing staff, offering discounts and packages with spa treatments of shorter duration. It also mentioned that health and wellness tourism is expected to increase by 18 percent in the coming year holding good promises for future.

**IMPORTANCE OF THE STUDY**

This study carries lot of significance in the modern world as the ancient old spas bring back their healing touch and reclaim their significant position in the society. Being recession proof, health industry along with wellness industry enjoys a unique position in the economies of the world. Spas have since long been a place to relax, heal and rejuvenate and it is interesting to see their contribution towards various sectors. This study brings out the benefits they endow on the economy and the tourism of a place. This would give an impetus to the allied industries like beauty and medical industry to work in collaboration with spa industry. Moreover, any industry that proves to be really beneficial to not just individuals but also to the economy; is bound to attract the attention of the government and the picture of the benefits of the services and the products of this industry brought out by this study may act as a booster to the increasing awareness about them, consequently, benefitting the industry. The significance of this study also lays in the fact that wellness industry has been projected as one of the most promising one in terms of revenue generator in the coming years and thus needs more and more research in the field. . Not just this, even the scholars conducting researches in the field can benefit from the information provided and highlighted issues can be taken up for further researches. This study hopes to fill in the research gaps and spearhead the progress of the industry.

**STATEMENT OF THE PROBLEM**

This research paper is an analysis of contribution of the spa industry towards the latter two of the three dimensions, namely individuals, economy and the tourism of an area. Also, a comparative analysis is made of two vastly different economies (USA and India) for this purpose. These economies were chosen to understand if there is a difference between developed and developing spa industries.

**OBJECTIVES**

This study is conducted with the following objectives:

- To find the benefits of this industry to the economy as a whole of an area.
- To find the payoffs to the tourism of a destination specifically due to the spa industry.
- To compare these benefits in USA and India.

**HYPOTHESES**

This study is based upon the hypothesis that better is the spa industry of a place; more would be the benefits to the individuals, economy and the tourism of the destination.

**RESEARCH METHODOLOGY**

This is an exploratory cum descriptive research. The universe of the study is confined to the spas in India and the USA. However, within the countries, the universe is limited to the people residing in and around New Delhi in India and Los Angeles in USA. The survey sample consists of 200 respondents, 100 from each country. On the recommendations of the experts, the number of respondents was kept same for the two countries. The samples were selected by applying non probability purposive sampling.

For the primary data, a single set of questionnaire was prepared for the people residing in the two countries and the responses were measured on a five point scale of satisfaction. The purpose of the survey was to understand the benefits of the spas to the three dimensions: individuals, economy and tourism. All the statements pertaining to various parts were structured and the responses of the respondents have been measured on a Likert type five point scale. The collected data was thus analyzed through both descriptive and standard statistical tools like percentage analysis and bar diagrams.

**RESULTS AND DISCUSSION**

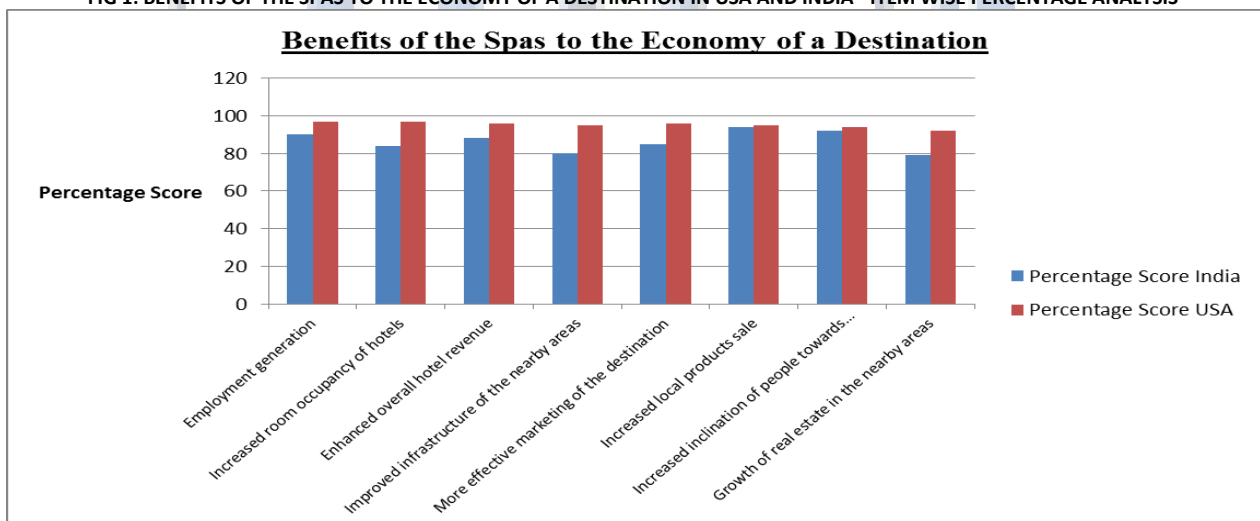
The industry offers services that claim significant three in one advantage to the clients availing of them. Physical, psychological and spiritual benefits are the most important ones with some of them offering scientific backing too. Recently, there is a surge in the number of people who are willing to stretch their spa time from hours to full days and weeks. People are making their spa visits a monthly or and even annual event. These trends are, in fact, like a revival of the ancient European tradition of Kur, the three to four week course of spa culture. The improved perception of the people about the spas and the benefits from their services and products has brought in a major push to the evolving industry. This, in turn, has benefitted the economy through more work opportunities, more revenue and overall development of the infrastructure of that area. The following table explains the benefits of the spa services specifically to the economy:

**TABLE 1: BENEFITS TO THE ECONOMY FROM THE SPA SERVICES- ITEM WISE PERCENTAGE ANALYSIS**

S. No	Benefits to the economy from the spas are :	Obtained Score N = 500		Percentage Score	
		India	USA	India	USA
1	Employment generation	451	485	90	97
2	Increased room occupancy of hotels	420	484	84	97
3	Enhanced overall hotel revenue	440	481	88	96
4	Improved infrastructure of the nearby areas	401	476	80	95
5	More effective marketing of the destination	423	478	85	96
6	Increased local products sale	422	473	94	95
7	Increased inclination of people towards healthy lifestyle	426	468	92	94
8	Growth of real estate in the nearby areas	395	458	79	92
Total	N= 4000	3378	3803	84	95

More and better spas mean more clients; it would automatically engage more people in employment. Moreover, as the spas became popular, it would add to the marketing and improvement of the destination bringing about the improvement in the infrastructure of the area. The sale of the local products increases as the spas involve authentic and indigenous experiences in their services increasing the sale of the local products. All these factors combined in one, lead to people flocking to the place as better employment opportunities and developed infrastructure raises the real estate in the nearby area. These points clearly show the benefit accruing from the spas to the economy. As an industry, they influence the allied industries positively. In the hotel industries they bring more revenues, improve the occupancy rates of the hotel rooms, thus, helping in the overall economy growth. These results supplemented by various studies done by international associations and summits like Global Spa Summit strongly associate the benefits of the spas and their services to the economy and its growth through the development of the destination, nearby areas and the growth of allied industries like hospitality, medical, real estate and tourism of the area.

**FIG 1: BENEFITS OF THE SPAS TO THE ECONOMY OF A DESTINATION IN USA AND INDIA - ITEM WISE PERCENTAGE ANALYSIS**

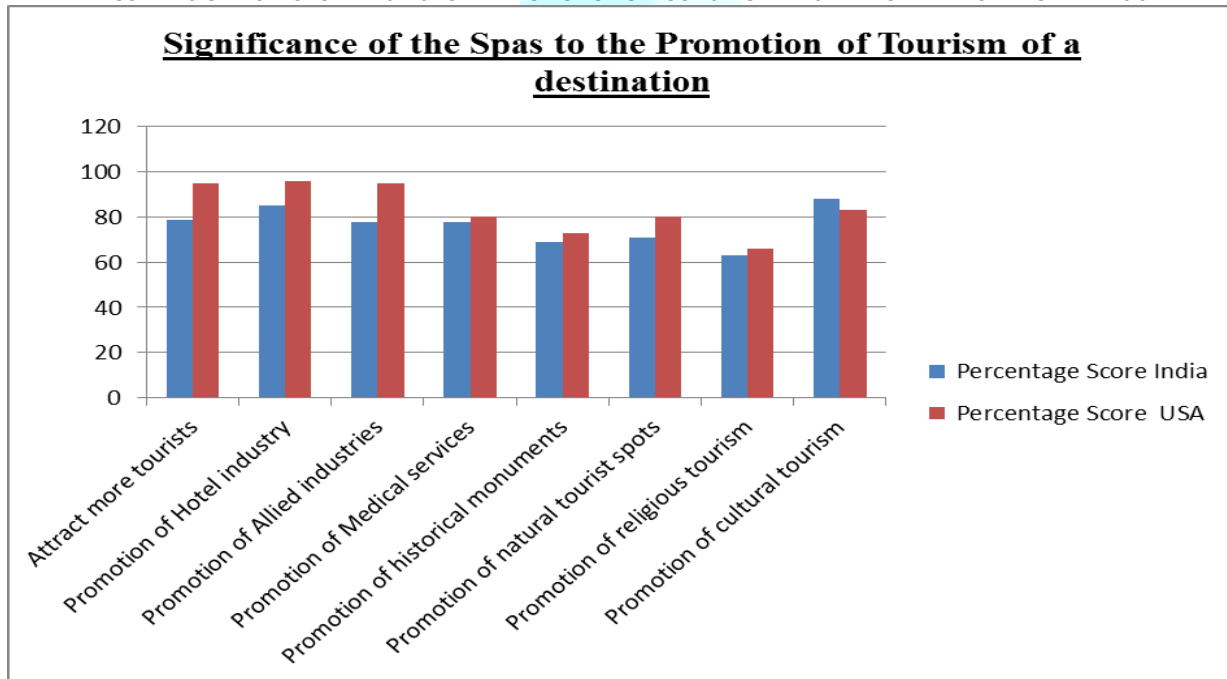


This study has brought the significance of spa services and products on individuals to the forefront by highlighting the physical and the psychological benefits to them. It has also worked on finding the contribution of spas towards the economy growth by finding the consequences of a destination’s popular spas on the development of the infrastructure, business and allied industries. This leads to the next step of recognizing the rewards of good spas to the tourism of the place. Following table indicates the advantages of the spas with a perspective of promotion of tourism:

TABLE NO. 2: CONTRIBUTION OF THE SPA TO THE TOURISM OF A PLACE – A PERCENTAGE ANALYSIS

S. No	Contribution of the spas to the promotion of tourism :	Obtained Score N =500		Percentage Score	
		India	USA	India	USA
1	Attract more tourists	393	475	79	95
2	Promotion of Hotel industry	423	481	85	96
3	Promotion of Allied industries	390	474	78	95
4	Promotion of Medical services	391	404	78	80
5	Promotion of historical monuments	345	366	69	73
6	Promotion of natural tourist spots	355	400	71	80
7	Promotion of religious tourism	315	330	63	66
8	Promotion of cultural tourism	440	415	88	83
Total	N = 4000	3052	3345	76	84

FIGURE 2: SIGNIFICANCE OF THE SPAS TO THE PROMOTION OF TOURISM OF A DESTINATION: A PERCENTAGE ANALYSIS



The spas have invariably been inviting people from near and far since ancient times for the healing properties of waters and the therapies they offer. This study was conducted to find the ways in which the tourism of a particular place is promoted by the spas. The data given above corroborates the fact that spas help in the advancement of the vacation and leisure industry. Clearly, a large chunk of the clients visiting spas believe that it helps in the promotion of hotel industry (eighty five in India, ninety six percent in USA), promotion of allied industries (seventy eight percent in India and ninety five in USA), helps in attracting more tourists (seventy nine and ninety five percent) and helps in promoting the medical industry (seventy in India and eighty percent in USA). Not just this, as more people flock to the spas of a place, it becomes popular and as a consequence the natural tourist spots become more famous, the cultural tourism, the historical monuments and even the religious tourism gets promoted.

The above data strengthens the fact that spa industry helps in elevating the status of medical services and in promoting the natural tourist spots of the area. It was also found that they help in boosting not only the cultural tourism of the place but also promote the historical monuments. The religious tourism too gets uplifted as more people visit the place because of spas and then spend time exploring the area.

The significance of the spa services and products is also elucidated by the fact that they help in improving and refining the physical and the mental well-being of an individual. They also supplement the usual medical therapies for a better and improved physical health apart from showing improvement in sleep patterns and the confidence levels. .

The findings of the survey clearly show that the spa services are highly significant to the economy and the tourism of the place. The data given above clearly show that spa services clearly benefit the individual’s physical and psychological health. The services help in improving health by boosting not just the immunity power and providing relief in chronic conditions but also by enhancing the overall confidence and self-esteem of the client. The procedures done at a medical spa can rejuvenate the skin and make one look more youthful. Moreover, the most talked about benefit that spas offer is rejuvenation of mind, body and soul. Considering the fact that medical experts cite stress as the number one factor in illnesses, stress relief is the main priority of most spa seekers. With services that focus on de-stressing the mind, body and spirit, the benefits of a spa vacation go beyond mere relaxation and beautification. In general, we can count following as the benefits of a proper spa treatment: Enhanced spiritual awareness ,increased body’s energy flow, improved flexibility of our body, reduced high blood pressure, healing of emotional distress ,reduced effects of ageing, soothing of tired muscles , toning and nourishing of the skin , detoxification of the body , stimulated circulation , reduced weight and weight-related problems , reduced insomnia, stress and fatigue. Looking at the benefits the various spa treatments provide and if spa visits are informed decisions, especially if it is regarding medical reason, we can safely assume that spas, their services and products carry lot of psychological, medical and spiritual significance. Not just that, as an industry also it is playing a momentous role in the economy.

Apart from this, the spas are a vital part of the economy with a great prospect for the future. The spa business is booming and the findings of the study corroborate with the international research reports. According to the Global Spa Economy Report released at The Global Spa Summit in New York, the global spa industry is estimated to be over \$250 billion and this amount includes \$60.3 billion in core spa industry revenues, such as spa facilities, capital investments, education, consulting, media, associations and \$194 billion in spa-related hospitality, tourism, and real estate. "The spa industry is growing at a breakneck pace, but its diversity and scope have always made it difficult to quantify its size and financial strength, as well as to harness the full power of its collaborative voice,"

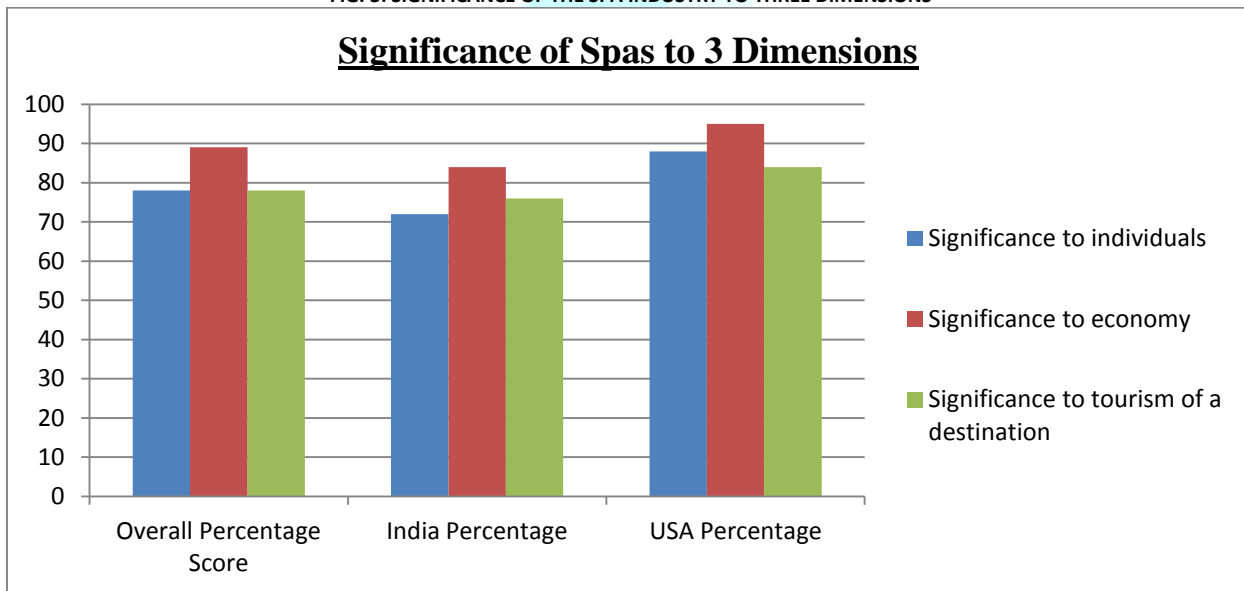
quoted Pete Ellis CEO, Spa finder and chairman of the board for the Global Spa Summit. Breaking down spa revenues by nation, the report placed United States at the top with \$12 billion, followed by Japan, Germany, France, Italy, the United Kingdom, and China. The size and significance of the spa industry has surprised the incentive planners. Even Ellen Saxe, Vice President of Los Angeles-based Carlisle Incentives, mentioned that most of the clients ask for a spa option and that this demand has been encouraged by the expanding options and improved quality of hotels' offerings. She pointed out that even on an incentive trip; individuals make their own contributions to that \$255 billion figure, as they are often willing to spend their own money for a higher-tier treatment. Individuals will pay more for extra special treatment since they are finding the benefits worth it. Consequently, the spas are adding to the revenues of the hotels, adding to the number of days guests stay there. Not just this, the spas help in employment generation as well. More than anything else, it is the economy that benefits immensely from the spas and even the tourism gets a lot of push if the spas are good and effective.

All these facts support the findings of the study and it has been as summed up in the following table:

**TABLE 3: SIGNIFICANCE OF THE SPA INDUSTRY TO THE THREE DIMENSIONS**

S.NO	Indicators of significance	Maximum Score	Obtained score	Percentage Score	Maximum Score	Obtained Score	Percentage	Obtained Score	Percentage
		Overall			India			USA	
1	Significance to individuals	32000	25093	78	16000	11507	72	14023	88
2	Significance to economy	8000	7120	89	4000	3378	84	3803	95
3	Significance to tourism of a destination	8000	6240	78	4000	3052	76	3345	84

**FIG. 3: SIGNIFICANCE OF THE SPA INDUSTRY TO THREE DIMENSIONS**



It is quite clear from the above diagram that well-run spa operations have lot of significance on various dimensions. Apart from the monetary contribution, a spa can improve the employment and infrastructure conditions of the place and bring in a competitive advantage alluring a diversified client segment. The dynamics of the spa industry empower it to persevere even in turbulent times and since the major segment of its market belongs to the affluent class, who tend to spend more on their health in stressful times; it has continued to grow despite the economic slowdown, contributing a lot to the economy of the nation. It has emerged as the dimension that benefits the most from the spas with a score of eighty four percent in India, ninety five percent in USA and eighty nine percent overall. Not just this, spas have a lot of effect on the tourism of a destination as they help in promoting the natural, cultural and historical tourism of a place. The findings support this fact (seventy six percent in India, eighty four percent in USA and seventy eight overall). Irrespective of the place, people have responded similarly in accepting the contribution of the spas and the tourism of a destination. The findings provide a lot of scope to the development of spas as it is instrumental to the improvement, expansion and growth of the tourism of a place. The allied industries get a boost as a consequence. Last but not least, the spas have a lot of impact on the improvement and maintenance of good health of individuals, thus, placing them at a vital position in today's stressful times. People accept and recognize the benefits of spas and their services to their overall health making it the second most affected dimension, hence, inviting the beauty, hospitality and medical industry to work along with it to cash in the opportunity.

**FINDINGS**

The study brings out the fact that the spa industry is highly significant to the economy of a destination as it generates more employment, increases local products sale, increases room occupancy in hotels and enhances overall revenue. Spas also help in the improvement of the infrastructure and the real estate of the place. Moreover, the popularity of the spas increases the inclination of the people towards healthy lifestyle assuming that the spas would raise the level of awareness of people about eating and living healthy. This translates into healthy workforce, less sick leaves and more productive days.

The spa industry also contributes to the physical and the psychological health of the individuals. The different spa services have different beneficial effects on the health of the individual like providing relief from chronic pain, stress and joint stiffness apart from hydrating skin, improving sleep and immunity. They also help in overall fitness, weight loss and maintaining youthfulness of the skin, skin exfoliation, hydration, nourishment and beauty enhancement, better healthy lifestyle, detoxification and improving the existing medical conditions. With benefits like weight management, better health and youthful appearance, this spa service helps a lot in improving the self-confidence of the individual.

The spa industry is a major contributor to the tourism industry as well, since it helps in attracting more tourists to a place and consequently promoting the cultural, natural and historical tourism of the destination. It also promotes the allied industries like the hotel industry, medical industry, hospitality industry of the area.

**RECOMMENDATIONS**

- The high significance of the spa industry to the physical health of individual means that the spa industry, in collaboration with the medical industry, should promote its therapies as Holistic healing experience.



- More stress should be given to the drive to increase awareness about the benefits accruing from them so that their acceptance level in the masses increases. As people start accepting the spa services and the products for their benefits, they would start exploring spas at different places. This would promote the spa industry and the tourism of the place where good spas are available.
- Also, since the spa services have significant psychological benefits like relaxation and anxiety reduction; these should be well advertised and used as the biggest selling point of the spas.
- Not just this, the spa services have been proven to boost the self-esteem of the clients by improving their looks, managing weight and reducing anxiety. So, spas should offer such therapies to the corporates, educational institutions and even to the entertainment industry where self-confidence is a pre requirement of success.
- Moreover, spa services like massages, facials, manicures and pedicures and also the cosmetic procedures have proven to support the anti-aging therapies; thus, these spa services should be brought up well. The spa industry would do well if it works in tandem with the beauty and the health industry and is endorsed by them.
- Other than the individuals, spas also help the economy as a whole through employment generation, improvement of the infrastructure and allied industries. Thus, to reap in these benefits, spas should organize themselves well especially in developing nations with proper support and acceptance from the government, media and allied industries.

## CONCLUSION

In the nutshell, apart from the benefits bestowed on the physical and psychological health of the individuals, this paper has amply illustrated the fact that the spas contribute significantly to the growth of the economy and the tourism of the area. These results, corroborated with various other studies, can act as the guiding light for taking this industry ahead as strong pillar of the economy. The allied industries, too, can look at the growth opportunity in the future if they work in tandem with the spa industry.

## LIMITATIONS

Just like every research, all possible care was taken to conduct the study in a precise manner and to keep the focus paramount in all the attempts. But just like any other study conducted at individual levels with limited resources of time, money and tools; this study also suffers from certain constraints. Hence, the recommendations or the findings of the study should be seen in the light of the following major limitations:

- The sample, being very small in comparison to the universe, might not reflect the trends of whole spa industry.
- Opinions of the respondents might not reflect their honest thoughts due to several reasons like lack of interest or awareness.
- Forecasts and conclusions may be subject to uncertainty and evolving trends.
- Actual results might vary from the projected results.
- Lack of previous research works in this particular field might lead to wrong assumptions.
- Tools to collect information in a nascent industry in a developing country like India might not be proper.
- Financial and time constraints might make some information unavailable or insufficient for the purpose.
- The secondary data used suffers from the limitations it imbibes and moreover not all the sources were freely accessible.

## SCOPE FOR FURTHER RESEARCH

This study starts a trail of further researches on the similar grounds but different and bigger samples. Bigger sample size would ensure a more comprehensive study. Moreover, a comparative study of two big growing economies India and China can prove to be very illuminating.

## REFERENCES

1. Bodeker, G., & Cohen, M. (2008). *Understanding the global spa industry spa management*. Amsterdam: Elsevier/Butterworth-Heinemann.
2. Burt, B., & Price, P. (2001). *100 best spas of the world*. Guilford, CT: Globe Pequot Press.
3. Cooper, P., & Cooper, M. (2009). *Health and wellness tourism spas and hot springs*. Bristol, UK: Channel View Publications.
4. Crebbin, B. J., & W, H. J. (2005). *The Official Guide to Spa Therapy*. The Spa Book (p. 1959). EMEA: Cengage Learning.
5. Entrepreneurial development in the health care industry and spa industry in the northeast of Thailand. (2011, February 25). *EconPapers*:. Retrieved March 17, 2011, from [http://econpapers.repec.org/article/shcjaresh/v\\_3a1\\_3ay\\_3a2009\\_3ai\\_3a2\\_3ap\\_3a209-218.htm](http://econpapers.repec.org/article/shcjaresh/v_3a1_3ay_3a2009_3ai_3a2_3ap_3a209-218.htm)
6. Essay - Spa Industry Risk Analysis: Thailand: Hospitality and Tourism: Spa Business.... (n.d.). *Research Paper on Spa Industry Risk Analysis: Thailand: Hospitality and Tourism: Spa Business ... Essays*. Retrieved March 17, 2012, from <http://www.essaytown.com/paper/spa-industry-risk-analysis-thailand-hospitality-tourism-spa-business-16267>
7. EuropeMountains.com. (n.d.). *Article Page*. Retrieved April 10, 2009, from <http://www.europe-mountains.com/wellness/brief-history.aspx>
8. Evolution of the Canadian Spa Industry. (n.d.). *Evolution of the Canadian Spa Industry*. Retrieved February 1, 2012, from [http://www.pkfcanda.com/trends\\_research/news\\_articles/2007/april.htm](http://www.pkfcanda.com/trends_research/news_articles/2007/april.htm)
9. Health and Wellness Tourism. (n.d.). Euromonitor.com. Retrieved December 1, 2012, from <http://www.euromonitor.com/health-and-wellness-tourism>.
10. Spafinder announces 4th annual spa trends. (n.d.). spafinder.co.uk. Retrieved February 5, 2011, from <http://www.spafinder.co.uk>aboutus>pressroom>
11. Holmes, G. (1988). *The Oxford illustrated history of medieval Europe*. Oxford [England: Oxford University Press.
12. Hunter-Jones, P., & Blackburn, A. (2007). Understanding the relationship between holiday taking and self-assessed health: An exploratory study of senior tourism. *International Journal of Consumer Studies*, 31(5), 509-516.
13. India Wellness Industry Outlook 2016 - Robust Growth in Alternative Therapy and Nutraceuticals Market. (n.d.). India Wellness Industry Outlook 2016 - Robust Growth in Alternative Therapy and Nutraceuticals Market. Retrieved December 4, 2012, from [http://www.researchandmarkets.com/reports/2330611/india\\_wellness\\_industry\\_outlook\\_2016\\_robust](http://www.researchandmarkets.com/reports/2330611/india_wellness_industry_outlook_2016_robust)
14. *International SPA Association U.S. Spa compensation data*. (2009). Lexington, KY: ISPA Foundation.
15. *International SPA Association U.S. Spa compensation data*. (2009). Lexington, KY: ISPA Foundation.
16. Karnik, S., & borkar, D. S. (2013). Challenges of manpower in a spa industry. *INDIAN JOURNAL OF APPLIED RESEARCH*, 3(3), 236-237.
17. Koh, S., Yoo, J. J., & Boger Jr, B. J. (2010). Importance-performance analysis with benefit segmentation of spa goers. *International Journal of Contemporary Hospitality Management*, 22(5), 718-735.
18. Lehto, X. Y. (2006, summer). Yoga Tourism as a niche within wellness tourism market. *Tourism Recreation Research*, 31, 25-35.
19. Spa + Wellness Association of India. (n.d.). Spa + Wellness Association of India. Retrieved March 3, 2014, from <http://www.spaandwellnessassociation.com>
20. UNIPRO spa industry research. (n.d.). unipro.org. Retrieved April 17, 2009, from [http://www.unipro.org/nome/it/documents/.../spa-industry..../spa\\_industry.pdf](http://www.unipro.org/nome/it/documents/.../spa-industry..../spa_industry.pdf)

**EMOTIONAL INTELLIGENCE AND JOB PERFORMANCE IN SERVICE INDUSTRY****PREETI BHASKAR****ASST. PROFESSOR****SYMBIOSIS CENTRE FOR MANAGEMENT STUDIES****NOIDA****ABSTRACT**

*In service Industry, most important factor for success is: employee-customer interface. In service sector, organization put constant pressure on their employees to perform because majority of time front line Managers are first touch point for Customer hence they need to be dynamic, meticulous, analytical, and polite yet result driven. Empirical observation reveals that service sector employee have strict time pressure of completion of task. Travel and fear of termination of job contract are very common problems among service sector. As a result, employees suffer from extremely high level of stress and emotional disturbance, which directly or indirectly affect performance. Employee is expected to give outstanding performance. To deliver these outstanding performance employees have to be engaged in their work more than which results in high stress. The stress of trying to lead and satisfy so many people's changing needs and expectations lead to emotional disturbance (Byron Stock & Associates LLC.,2010). This pressure is clearly evident within the service sector where the need for delivery, speed and customer satisfaction is enormous. Keeping this in view the present research paper investigates the factors contributing to the Emotional Intelligence in service sector. According to Thi Lam, L. and S.L.Kirby, (2000) emotional intelligence increases the productivity and performance of Employees. Various factors are studied and a list of factors affecting the emotional intelligence in drawn.*

**KEYWORDS**

Emotional Intelligence, Job Performance, Service Industry.

**INTRODUCTION**

The world of work is changing rapidly and on a daily basis. Organizations and employees change simultaneously. During past decade, service sector has undergone swift and striking amendments and policy changes due to globalization and liberalization, growing competition, entrance of more private and foreign companies, innovative technologies, etc. Owing to these changes, the service sector employees are experiencing a high level of pressure and stress which is affecting their performance. Occupational stress is becoming progressively more globalized and affects all countries, all professions and all categories of employees, as well as families and society in general (Ahmad and Ahmad, 1992). Rapid technology change, competition, globalization, expansion of the service sector and delivery speed, comes with increasing performance demands. To deliver outstanding performance, employees today are required to be much more involved in their work, not only physically, but also emotionally and mentally (Turner, Barling & Zacharatos, 2002).

The service industry forms a backbone of social and economic development. It emerged as largest and fastest-growing sectors in world economy, making higher contributions to the global output and employment. Its growth rate has been higher than that of agriculture and manufacturing sectors. It is a large and most dynamic part of the Indian economy both in terms of employment potential and contribution to national income. It covers a wide range of activities, such as trading, transportation and communication, financial, real estate and business services, as well as community, social and personal services. Services Sector Growth Rate in India GDP has been very rapid in the last few years. The Services Sector contributes the most to the Indian GDP. The Growth Rate of the Services Sector in India GDP has risen due to several reasons and it has also given a major boost to the Indian economy. In India, the share of services sector in country's Gross Domestic Product (GDP) has raised from 50.4 % in 2000-01 to 59.0% in 2011-12.

People management is an important aspect of service sector. In service sector, organization finds it difficult to differentiate their product or services from its rival organization. Unlike manufacturing organization, the absence of a tangible product make it difficult for service organization to locate opportunity for differentiating their service offering from those of competitive organization. Despite absence of enough opportunities to differentiate the service offering, service organization try to gain customer loyalty by differentiating their service on basis of their People (employee). Employee's performance plays a major role in a service organization because they are face of the organization. Customers often judge performance of a service organization by associating it with behavior and attitude of its employee. Service sector gains a competitive advantage through its employees and their superior performance. In order to survive and to retain a competitive edge, organization put constant pressure on their employees to perform. Employee performance is linked to factors viz, employee turnover, customer satisfaction, loyalty, productivity and profitability. Service sectors have become much more demanding as well as complex and ambiguous places of work. To deliver outstanding performance employees today have to be engaged in their work more than ever. Over the past decade, studies examining emotions in the workplace have become common place in organizational research (Ashkanasy & Daus, 2005).

In recent research (Mahmood Nooraei and Iraj Saie Arasi, 2011) suggested that, IQ is not the only factor responsible for managers' success and performance improvement, but also there is another factor called emotional intelligence that results in outstanding performance at work. Some researchers have found that emotional intelligence (EI) has positive and significant relation with performance (Goleman, 1998; Mount, 2006). (Mayer et al., 2000a) suggested that EI may influence work-related outcomes (e.g., job performance) and interpersonal interactions (e.g., job interviews). Goleman (1995, 1998), claimed that EI predicts life and work success. Goleman (1998), also claimed that, because EI affects almost every aspect of work life, employees who are high in EI are "star performers."

**EMOTIONAL INTELLIGENCE**

Ashforth and Humphrey (1993) argue that emotions are an integral and inseparable part of organizational life and that more attention should be given to the employees' emotional experience. Emotional intelligence has been cited as a crucial contributor to organizational success (Goleman, 1998; Salovey and Mayor, 1990; Weinberger, 2002) and many organizational behaviorists have responded to the growing significance of emotional intelligence by attempting to identify factors that influence employees' performance at work.

Since 1990, Peter Salovey and John D. Mayer have been the leading researchers on emotional intelligence. In their influential article "Emotional Intelligence," they defined emotional intelligence as, "the subset of social intelligence that involves the ability to monitor one's own and others' feelings and emotions, to discriminate among them and to use this information to guide one's thinking and actions" (1990). Salovey and Mayer proposed a model that identified four different factors of emotional intelligence: the perception of emotion, the ability reason using emotions, the ability to understand emotion, and the ability to manage emotions.

Emotional Intelligence is a set competency, which directs and controls one's feelings towards job performance (Ashforth et al, 1995). The set of competencies is the ability of the individual being to control and manage his or her moods and impulses, which contributes best of situational outcomes. Understanding one's own moods and impulses of others or any situation helps one to respond and behave according to others expectations. In a work situation workers effective use of skill and knowledge in time depends on the effective regulation of emotions at work and his readiness to contribute the best in their target accomplishment. Knowing one's emotions and feelings and tuning one's self to the changed situation, requires the emotional competency, emotional maturity and emotional sensitivity that determine the success of adaptability and adjustment with the change scenario.

Emotional Competence is "a learned capability based on emotional intelligence that results in outstanding performance at work" (Goleman, 1998b). Emotional intelligence has also been proposed as a construct that may impact performance in organizations (Anger Elfenbien, 2006; Jordan, Ashkanasy, Härtel, & Hooper, 2002). Goleman (1998) has identified 4 main dimension of emotional intelligence:

- Self-awareness: It refers to having a deep understanding of one's own emotions as well as strengths, weaknesses, values and motives.
- Self-management: This represents how well we control or redirect our internal states, impulses and resources.
- Social awareness: It is mainly about empathy, having understanding and sensitivity to the feelings, thoughts and situations of others.
- Relationship management: It refers to managing other people's emotions.

Emotional intelligence may contribute to job performance (as reflected in salary, salary increase, creativity, better supervisory abilities, leadership, integrity, company rank) by enabling people to nurture positive relationships at work, work effectively in teams, and build social capital. Job performance often depends on the support, advice, and other resources provided by others (Seibert, Kraimer and Liden, 2001). Emotional intelligence competencies enable people to regulate their emotions so as to cope effectively with stress, perform well under pressure and adjust to organizational change.

According to Cherniss (2001) and others emotional intelligence plays a vital role in satisfying these requirements. Boyatzis (1982) studied more than 2000 supervisors, middle managers and executives in 12 organisations and found that all but two of the 16 competencies that set star performers apart from average performers were emotional competencies. An analysis by Spencer and Spencer (1993) of job competencies in 286 organisations worldwide indicated that 18 of the 21 competencies in their generic model for distinguishing superior from average performers were emotional intelligence based. Various recent research studies found emotional intelligence to be predictive of job performance in a wide variety of organisational contexts and roles (Abraham, 1999; Cavallo & Brienza, 2002; Ryback, 1997; Servinc, 2001; Stagg & Gunter, 2002; Vermeulen, 2004; Weisinger, 1998; Wong & Law, 2002).

## PROBLEM STATEMENT

Role of service sector in Indian economy is on growth path and provide vast opportunity of Employment. There is a lack of literature focusing on this important aspect of Emotional intelligence. There is a need to study this concept especially in service sector which is becoming backbone of our system and responsible for large contribution to GDP. In service Industry, most important factor for success is: employee-customer interface.

In service sector, organization put constant pressure on their employees to perform because majority of time front line Managers are first touch point for Customer hence they need to be dynamic, meticulous, analytical, and polite yet result driven. Empirical observation reveals that service sector employee have strict time pressure of completion of task. Travel and fear of termination of job contract are very common problems among service sector. As a result, employees suffer from extremely high level of stress and emotional disturbance, which directly or indirectly affect performance. Employee is expected to give outstanding performance. To deliver these outstanding performance employees have to be engaged in their work more than ever (Turner, Barling & Zacharatos, 2002).

Keeping this in view the present research paper investigates the factors contributing to the Emotional Intelligence in service sector. According to Thi Lam, L. and S.L.Kirby, (2000) emotional intelligence increases the productivity and performance of Employees. Various factors are studied and a list of factors affecting the emotional intelligence in drawn. The study will be helpful in identifying the importance of Emotional Intelligence on performance in service sector.

## REVIEW OF LITERATURE

Beulah Viji Christiana.m &Dr. V. Mahalakshmi (2012) investigate that there is a positive relationship between emotional intelligence and job performance. Recruiting highly emotionally intelligent employees may have a positive impact on organizational success. The results of the present study also show that emotional intelligence moderates the relationship between job stress and job performance.

Sampath Kappagoda(2012) explore the impact of Emotional Intelligence of managers on Task Performance and Contextual Performance of non -managerial employees in Sri Lanka. The findings of this research has highlighted that the importance of EI Leadership on the improvement of the TP and CP and ultimately, that leads to the organizational success.

Puja Kaura (2011) results have confirmed that there is the strong relationship between the EI and quality of service though it is found to be weak in case of public sector banks as compared to the private sector banks. Secondly, five explanatory variables - intrapersonal, interpersonal, stress management and adaptability and General temperament are found to be significant factors affecting EI of employees of both public and private sector banks.

Shahzad (2011) investigated impact of EI on employee's performance among telecom employees in Pakistan. The results revealed that a positive relationship exists between social awareness and relationship management and employee's performance, also they found Telecom sector needs to consider meaningful features of EI as a strong predictor for efficient performance of employees.

Chaudhry & Usman (2011) examined the relationship between employees' emotional intelligence and their performance in Pakistan. The results revealed a moderately high correlation between emotional intelligence and organizational citizenship behavior. It was also established that employees' job performance can be predicted significantly based upon their emotional intelligence scores.

Ming-Ten Tsai, Chung-Lin Tsai and Yi-Chou Wang (2011) analyzed the impacts among the emotional intelligence and leadership style, self-efficacy and organizational commitment of employees in the banking industry in Taiwan. They found that a supervisor's emotional intelligence has a significant positive influence on his/her personal leadership style, that a supervisor with high emotional intelligence is able to perform excellent leading skills to elevate the employee self-efficacy, and that employees self-efficacy results in a significant positive influence on organizational commitment.

Anjali Ahuja (2011) identified Emotional Intelligence as a Predictor of Performance in Insurance Sector. Emotional intelligence is a predictor of work performance and hence success or failure of an individual in his / her professional life. So the individuals and organizations must focus on this aspect in order to enhance their efficiency.

Jung & Yoon (2011), studied the interrelationships among the emotional intelligence of employees in a deluxe hotel. The results showed that as elements of emotional intelligence, others' emotion appraisal, use of emotion, and self-emotion appraisal significantly affected counterproductive work behaviors, whereas self-emotion appraisal and use of emotion affected organizational citizen behaviors.

Nidhi Yadav(2011) discuss the effects of EI on job performance, especially of Life Insurance sales professionals. A sample of 100 sales professionals from five different life Insurance companies in Vapi region was selected. The result revealed that except Self-Management, all the rest factors contribute to EI.

Abhiruchi Singh (2011) explored emotional intelligence with its importance, applications and relationship with performance in retail. "ENCORE" E- "Emotional Awareness", N- "Neutralizing emotional dissonance" C- "Constraint" O- "Observation" R- "Realization" E- "Establishing Rapport with Others" approach can be instrumental in enhancing emotional intelligence skills of salespeople in retailing.

Chandra Mohan Patnaik, Ipseeta satpathy & Prakash Kumar Pradhan (2010) investigates the relationship between emotional intelligence and work performance of executives working in the Cooperative bank and Gramya Banks in Odisha. Their study revealed High EQ is necessary for better performance in the banking sector. But, high EQ cannot be the only requirement for good performance on the job.

Priti Suman Mishra & A. K Das Mohapatra (2010) have explored relationship between emotional intelligence and workplace performance among corporate executives. Emotional intelligence Factors i.e., competency, maturity, and sensitivity, have been found to contribute towards overall work performance, emotional competency has been identified as the major contributor to overall work performance. They also suggested hiring individuals with higher levels of emotional intelligence results in better performance

Hsi-An Shih & Ely Susanto (2010), "Conflict management styles, emotional intelligence, and job performance in public organizations" The findings indicate that EI was an antecedent of conflict management styles for integrating and compromising styles. Moreover, they illustrate the direct effects of integrating style on job performance. This study also confirms that integrating style partially mediates the relationship between EI and job performance. Finally, results demonstrate that EI within public organizations has an impact on job performance similar to that of EI within private organizations.

Reza Gharoie Ahangar (2010) studied relationship between EI and Job Performance of executives from north, south, east, and west of Iran organizations, he found presence of a strong positive association between executives' EI and performance suggested that executives' future performance could be predicted on the basis of their EI scores.

Neerpal Rathi and Renu Rastogi (2009) found that EI and occupational self-efficacy are related with a variety of organizationally desirable outcomes. Results of this study indicate that EI significantly predicts occupational self-efficacy in such a way that employees with a high level of EI exhibit a high level of occupational self-efficacy.

Hummayoun Naeem, Wajeeha Khalil, Fatima (2008) examine whether emotional intelligence is a predictor of high service quality in public and private sector banks, they found that Emotional intelligence is strongly related to dimensions of service quality indicating that when employees of organization practice skills of emotional intelligence, it enhances service quality. Use of emotional intelligence skills is high in case of private / foreign banking sector compared to public sector banks.

Souvik Ghosh and Suvarna Chakraborty (2008) in their journal paper "Emotional intelligence: the next step in knowledge process outsourcing" has done a comparative study between two companies. Results show that there exists a relationship between efficient synergistic determinants of emotional intelligence of knowledge employees and sustained competitive edge. This journal paper also shows the importance of information sharing and communication among collaborators and business partners to handle the emotions of the employees better. It's also proves that flexible emotionally intelligent and mature leadership helps achieve faster growth rate.

Rathi (2008) studied relationship between Emotional Intelligence (EI) and Occupational Self-Efficacy by examining 112 scientists of research organizations, using emotional intelligence scale developed by Hyde, Pethe and Dhar and occupational self-efficacy scale developed by Pethe, Chaudhari and Dhar Correlation and regression analysis have revealed that emotional intelligence has a positive relationship with occupational self-efficacy and is found to be one of its significant predictors. The study implies that people with higher emotional intelligence are more effective employees as compared to those with lower emotional intelligence.

Timothy Tumer (2006) examined the relationships among employees' emotional intelligence, their manager's emotional intelligence, employees' job satisfaction, and performance for food service employees. They found that employees' emotional intelligence was positively associated with job satisfaction and performance. In addition, manager's emotional intelligence had a more positive correlation with job satisfaction for employees with low emotional intelligence than for those with high emotional intelligence.

Michael Gosling (2006) explains in his PhD Thesis "Measuring emotional intelligence of managers in Singapore and the application of emotional intelligence for individual and organization effectiveness. Results show that male respondents scored higher than did their female counterparts.

Steve Langhorn (2004) describes the research in relating the emotional competencies of individual general managers to the key performance outputs under their direct control. The Bar-On Eqi is the tool used to test emotional intelligence, and the participants in the study are a group of managers operating in the pub restaurant sector of the leisure industry in the UK. Evidence was found of correlation in key areas of profit performance relating to the emotional intelligence pattern of the general manager.

H Nel W S De Villers (2004) Results show a statistically significant and positive correlation between emotional intelligence and job performance in the call centre environment. The strongest correlation with performance in the total call centre environment occurred in the cluster of self-management and the emotional competency of self-confidence. It was further established that the combination of the emotional competencies emotional self-awareness, trustworthiness, self-confidence and influence explains the greatest degree of variance in job performance in the call center environment as a whole.

Rahim (2002) investigated the relationships of the five dimensions of emotional intelligence and suggested that self-awareness is positively associated with self-regulation, empathy, and social skills; self-regulation is positively associated with empathy and social skills; empathy and social skills are positively associated with motivation; which in turn, is positively associated with problem solving strategy and negatively associated with bargaining strategy.

Focusing on these literature reviews, we find that there is importance of EI in various Organization, we also found that there is a relation between Emotional Intelligence with job performance .EI can play a very important role in service sector. In service sector, Frontline Managers are the face of the organization, so employee's need to be aware about their emotions while interacting with customers and their colleagues as well. So this study focus on identifying various factors contributing to Emotional Intelligence in Service Sectors

## OBJECTIVES OF THE STUDY

1. To identify the factors contributing to Emotional Intelligence in Service Sector.
2. To clusters the Emotional Intelligence factors in a conceptual model.

## FACTOR CONTRIBUTING TO EMOTIONAL INTELLIGENCE

On the basis of review of literature, various factor have been identified which contributes to Emotional Intelligence in enhancing the performance of employee in service sector. These factors are as follows -:

- Self-awareness – the ability to know one's emotions, strengths, weaknesses, drives values and goals and recognizes their impact on others while using gut feelings to guide decisions.
- Self-regulation – involves controlling or redirecting one's disruptive emotions and impulses and adapting to changing circumstances.
- Social skill – managing relationships to move people in the desired direction
- Empathy - considering other people's feelings especially when making decisions
- Influence: Wielding effective tactics for persuasion. People with this competence: are skilled at persuasion, Fine-tune presentations to appeal to the listener, Use complex strategies like indirect influence to build consensus and support.
- Communication: Sending clear and convincing messages. People with this competence: are effective in give-and-take, registering emotional cues in attuning their message, deal with difficult issues straightforwardly, listen well, seek mutual understanding, and welcome sharing of information fully, foster open communication and stay receptive to bad news as well as good.
- Motivation - being driven to achieve for the sake of achievement
- Self-Expression – openly expressing one's feelings verbally and non-verbally.
- Interpersonal Relationships – refers to the skill of developing and maintaining mutually satisfying relationships that are characterized by trust and compassion.
- Decision Making – the ability to be objective by seeing things as they really are and to seek out others' input into a problem or challenge.
- Stress Tolerance – involves coping with difficult situations and believing that one can manage or influence situations in a positive manner
- Social awareness- Social awareness reflects your ability to understand other people and what makes them tick
- Self-regard the ability to respect and accept oneself as basically good
- Assertiveness- the ability to express feelings, beliefs, and thoughts and to defend one's rights in a constructive manne
- Independence- the ability to be self-directed and self-controlled in one's thinking and actions and to be free of emotional dependency
- Self-actualization the ability to realize one's potential capacities
- Flexibility - Flexibility the ability to adjust one's emotions, thoughts, and behavior to changing situations
- Problem solving- the ability to identify and define problems as well as to generate and implement potentially effective solutions
- Impulse Control - Impulse Control the ability to resist or delay an impulse, drive or temptation to act
- Optimism- the ability to look at the brighter side of life
- Happiness- the ability to feel satisfied with one's life, to enjoy oneself and others
- Service orientation: Anticipating, recognizing, and meeting customer's' needs. People with this competence. Understand customers' needs and match them to services or products, Seek ways to increase customers satisfaction and loyalty

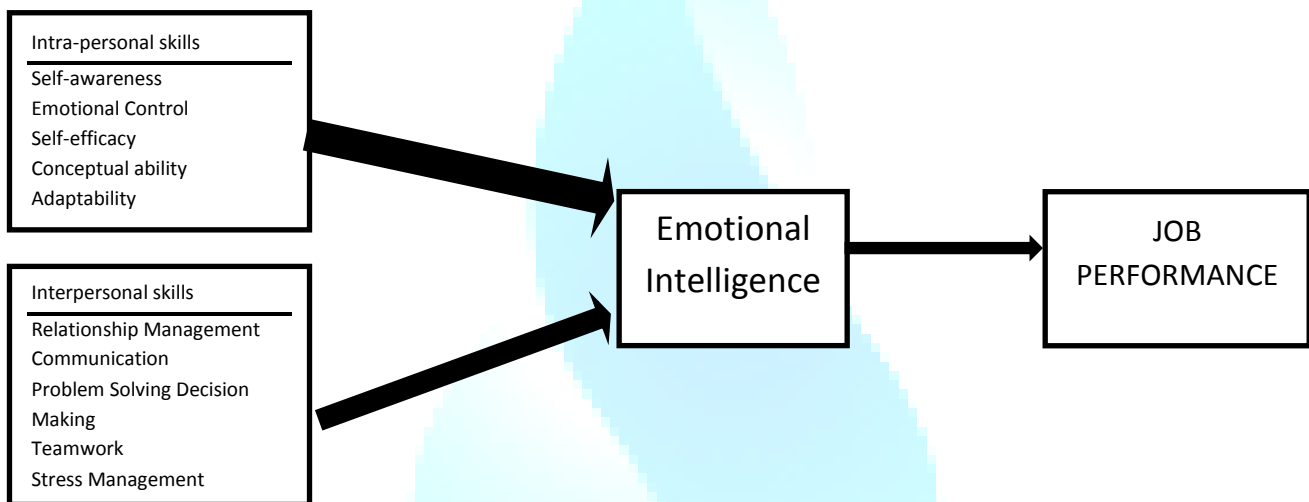
- Influence: Wielding effective tactics for persuasion. People with this competence: are skilled at persuasion, use complex strategies like indirect influence to build consensus and support
- Change catalyst: Initiating or managing change. People with this competence: Recognize the need for change and remove barriers. Challenge the status quo to acknowledge the need for change and champion the change and enlist others in its pursuit
- Conflict management: Negotiating and resolving disagreements. People with this Competence. Handle difficult people and tense situations with diplomacy and tact Spot potential conflict, bring disagreements into the open, and help deescalate
- Collaboration and cooperation: Working with others toward shared goals. People with this competence: Balance a focus on task with attention to relationships Collaborate, sharing plans, information, and resources, Promote a friendly, cooperative climate, Spot and nurture opportunities for collaboration.
- Team capabilities: Creating group synergy in pursuing collective goals. People with this competence: Model team qualities like respect, helpfulness, and cooperation. Draw all members into active and enthusiastic participation. Build team identity, esprit de corps, and commitment.

**CONCEPTUAL MODEL: EMOTIONAL INTELLIGENCE AND JOB PERFORMANCE**

Based on the above factor and review of literature Emotional Intelligence Conceptual model (Fig.1.1) has been developed. The necessary Emotional Intelligence skills have been identified. Broadly we categorize those under two heads -:

- Intra-personal skills
- Inter-personal skills

**FIG. 1.1: CONCEPTUAL MODELS: EMOTIONAL INTELLIGENCE AND JOB PERFORMANCE**



**INTRA-PERSONAL SKILLS**

Intrapersonal skills are talents or abilities that reside within the individual. These skills help him/ her in problem solving. Intrapersonal skills initiate an appropriate reaction and attitude because of positive internal dialogue, occurring within the mind. Awareness of your personal inner strength and weakness is the first step to improving your intrapersonal skills. Intrapersonal skills help in: Increasing the self confidence, which leads to forming friendships easier, working with people more effectively and taking more responsibility. Generally an increase in intrapersonal skills will increase productivity as employees learn to understand themselves they begin to understand others, which gives more tools to handle the situation. There are six main components involve intra-personal skills:

**Self-awareness**

Self-awareness is about knowing one’s internal states, preferences, strengths, and weakness. Their ability to manage themselves helps in being self-awareness which is utilized to govern their actions personally and in relation to others which leads to reduced stress and maximized skills. Employees who are self-aware examine their thoughts, motives and behaviors to discover how their work will be affected. Self awareness in job performance is required for analyzing inner strength and weakness.

**Emotional Control**

Emotional control refers to managing and handing impulses, distressing feelings and upsets rather than denying or repressing these feelings. Emotional control helps in staying compose, focused, calm and helps think clearly even under pressure. Usually Front line Managers are subject to display emotions demanded by their job they need to adhere with display fake emotions while hiding their true emotions this leads them to emotional dissonance for them. A Frontline Manager who possesses emotional control will be able to handle stress very well in comparison to others. Excellent service, with positive emotional content, is most likely to be facilitated by service providers who are emotionally self-aware and who understand others on a more emotional level (Bardzil and Slaski, 2003).

**Self-efficacy**

Bandura’s (1977) self-efficacy theory proposes that if a person has high self-efficacy (i.e. belief to his/ her ability in executing a course of action) this will not invoke his/her negative cognitive thoughts. A Frontline Manager who has high belief to use their abilities in handling job stressors can result in higher job performance.

**Conceptual ability**

Conceptual ability means the ability to think creatively about, analyze and understand complicated and abstract ideas. Using a well developed conceptual skill set, Frontline managers need to be able to look at handle the situation while interacting with the customer.

**Motivation**

The ability to self-motivate is especially critical for frontline managers. Frontline Manager who are internally driven and interested in the work , they try to develop expertise in this area .Intrinsically motivated salespeople are more likely to focus on learning more about selling by varying their behavior from one customer to the next in an attempt to adapt effectively to each customer’s needs (Weitz, Sujana and Sujana 1986). Employees who enjoy challenges and stimulation, seeks achievement, commitment, ability to take the initiative, optimism, and being guided by personal preferences in choosing goals are some element which are important in job performance for commitment, initiatives and confidence.

**Adaptability**

Frontline Manager’s ability and willingness to cope with uncertainties, and rapidly changing conditions on the job including responding effectively to emergencies, learning new tasks, technologies, and procedures helps him to maintain and improve his performance. Adaptability also includes handling work stress; adapting to different personalities, communication styles, and cultures; and physical adaptability to various indoor or outdoor work environments (Houston, 2007;Pulakos et al., 2000).

**INTERPERSONAL SKILLS**

Interpersonal skills describe the ways people interact with each other. In service sector frontline Manager need to have good interpersonal skills because it helps in Increases productivity, Reduces workplace friction, Creates happier work environments, Increases company revenue, Reduces management time spent dealing with issues arising from interpersonal conflict, Engenders proactive attitudes where employees are looking for ways to improve all areas of the business, Reduces mistakes and need for rework, Reduced complaints etc. There are six main components involve inter-personal skills:

**Relationship Management**

In service sectors, services are sold through the relationship. Organization need to maintain their long-term relationship with their customer. Frontline Manager play major role in relationship building between organization and customer. Frontline Manager use influencing skills such as persuasion, good communication with others including employees, listening skills, negotiation, co-operation, dispute resolution, ability to inspire and lead others, capacity to initiate and manage change, and ability to deal with others' emotions. Relationship management allows you to connect with others in ways that help them feel understood and supported. Managing relationships is an essential skill that enables to lead change or manage personal change.

**Communication**

In Service Sector, Communication matter a lot. Services are being sold through promise of words. Frontline Managers need to communicate effectively with customer. Communication skills involve both listening and speaking effectively. Both skills are necessary by Frontline Manager, as they directly communicate with customer to sell the service of the organization. Being a good communicator, Frontline Manager, also need to be a good receiver also. FM requires the ability to read nonverbal expressions, such as gestures and facial movements of others.

**Problem Solving**

Good problem solving skills empower Frontline Managers in their work. Good problem solving skills includes: developing creative and innovative solutions, developing practical solutions, initiative in identifying problems and solving them applying strategies to problem solving;

**Decision Making**

Positive decision making is a necessary intrapersonal skill required by Frontline Manager. When faced with the decision-making process, Frontline Manager must be able to scan through the available choices in mind, consider each alternative and come to a practical decision without inner conflict and confusion. Although decisions can be made using either intuition or reasoning, a combination of both approaches is often used

**Teamwork**

Teamwork is also a very important interpersonal skill required by Frontline Managers in service sector. Teamwork means cooperating with people in your workplace, communicating your thoughts and feelings and collaborating. Teamwork will also help to get along with superior and subordinate and help in resolutions on conflicts. Teams always work to achieve common goal

**Stress Management**

Stress management involves controlling and reducing the tension that occurs in stressful situations by making emotional and physical changes. The degree of stress and the desire to make the changes will determine how much improvement takes place. There is a high level of stress among Frontline manager of service sectors. Here, frontline Manager needs to cater various needs of the customer. This leads to more pressure on the employees.

**CONCLUSION**

Emotional Intelligence can help in improving the performance of frontline employees in service sector. To create good employee-customers interface, organization need to improve the Emotional Intelligence of their Frontline Employees. Interpersonal skill and intrapersonal skill has been identified as major factors that contribute to Emotional Intelligence in Service Sector. With the help of this conceptual framework, Emotional Intelligence skill can be identified and can be assessed with various tools. After assessing the Emotional Intelligence competencies, Frontline manager will know that which aspects of EI he/she needs to improve. Some frontline Employees may be very strong in the inter-personal skills, but may need to improve the intra-personal skill of analyzing their own emotions. This will help the organization to improve the performance of a Frontline Mangers by filling this gap. There are a number of literature is available with ideas on how to improve emotional intelligence at workplace.

**REFERENCES**

1. Abraham Carmeli (2003). The relationship between emotional intelligence and work attitudes, behavior and outcomes: An examination among senior managers, *Journal of Managerial Psychology*, 18( 8), 788 - 813
2. Austin, E. J. (2004). An investigation of the relationship between trait emotional intelligence and emotional task performance. *Personality and Individual Differences*, 36, 1855-1864.
3. Barling, Beatie, R. (1983). Self-efficacy beliefs and sales performance. *Journal of Organizational Behavior Management*, 5, 41-51.
4. Bycio, P. Hackett, R D & Alvares, K M (1990). Job Performance and Turnover: A Review and Meta-analyses. *Applied Psychology: An International Review*, 39(1), 47-76.
5. Cavazotte, F., Moreno, V., & Hickmann, M. (2012). Effects of leader intelligence, personality and emotional intelligence on transformational leadership and managerial performance. *The Leadership Quarterly*, 23(3), 443-455
6. Cherniss C. (2012) Emotional Intelligence: What it is and why it Matters: Bringing Emotional Intelligence to the Workplace. 01(03), 28-29
7. Don Chrusciel, (2006). Considerations of emotional intelligence in dealing with change decision management. *Management Decision*, 44, 644 - 657
8. Dr. D. C. Khokar and Tulika Kush (2009), Emotional Intelligence and Work Performance among Executives. *Europe's Journal of Psychology* 1/2009, 1-11
9. Freedman.J, Ghini,M and Fiedeldey-van Dijk, C(2005) emotional intelligence and performance , *Journal of Personal Relationships*, 15, 4-8
10. Gilles E. Gignac, Richard J. Harmer, Sue Jennings, Benjamin R. Palmer, (2012), EI training and sales performance during a corporate merger, *Cross Cultural Management: An International Journal*, 19, 104 – 116
11. Harmer, R. & Lutton, C. (2007) Enhancing team performance through emotional intelligence coaching, *Organizations and People*, 14, 41-8
12. Higgs, M. (2004). A study of the relationship between emotional intelligence and performance in UK call centres. *Journal of Managerial Psychology*, 19(4), 442-454
13. Hsi-An Shih, Ely Susanto. (2010). Conflict management styles, emotional intelligence, and job performance in public organizations. *International Journal of Conflict Management*, 21, 147 – 168
14. Hummayoun, Naeem, M. Iqbal Saif, Wajeheha Khalil & Fatima Jinnah. (2008) Emotional Intelligence And Its Impact On Service Quality – Empirical Evidence, 12, 55-62
15. Joshi, J.J. (2010) Emotional Intelligence and Performance Improvement, *HRM Review*, "Emotional Intelligence", 10, 38-42
16. Lam, L.T. & Kirby, S.L. (2002). Is emotional intelligence an advantage? An exploration of the impact of emotional and general intelligence on individual performance. *The Journal of Social Psychology*, 142 (1), 133-143.
17. Lyons, J. B., & Schneider, T. R. (2005). The influence of emotional intelligence on performance. *Personality and Individual Differences*, 39(4), 693-703.
18. Ming-Ten Tsai, Chung-Lin & i-Chou Wang (2011) A study on the relationship between leadership style, emotional intelligence, self-efficacy and organizational commitment. *African Journal of Business Management*, 5(13), 5319-5329
19. Mishra, Mohapatra, P.M. & A.M (2010). Relevance of Emotional Intelligence for effective job performance: An Empirical Study. *Vikalp- The journal for Decision Makers*, 35, 53-61
20. Monica. M, & Dr. L.Vijayashree (2012) A study of emotional intelligence at a public sector unit in Bangalore. *International journals – research journal of commerce and behavioral science*, 01, 15-28

21. Myleen M. Leary, Michael D. Reilly, F. & William Brown, (2009). A study of personality preferences and emotional intelligence. *Leadership & Organization Development Journal*, 30, 421 - 434
22. Nafukho, F. M. (2009). Emotional intelligence and performance: Need for additional empirical evidence. *Advances in Developing Human Resources*, 11(6), 671-689
23. Nel, H. & De Villiers, W.S. (2004). The relationship between emotional intelligence and job performance in a call Centre environment. *South African Journal of Industrial Psychology*, 30 (3), 75- 81.
24. Palmer, B.R. and Jennings, S. (2007). Enhancing sales performance through emotional intelligence development, *Organization and People*, 14, 55-61.
25. Pandey Hari Shankar (2010). Evaluating Characteristics & Emotional Intelligence among Workers in Organizations in the State Of Rajasthan. *International Research Journal*.
26. PritiSuman Mishra & A K Das Mohapatra (2010) Relevance of Emotional Intelligence for Effective Job Performance: An Empirical Study . *Vikalp- The journal for Decision Makers*, 35, 53 –61
27. Puja kaura (2011) Enormity of emotional intelligence in Indian banking sector, *APJRBM* 2(1)
28. Rosete, D., & Ciarrochi, J. (2005). Emotional intelligence and its relationship to workplace performance outcomes of leadership effectiveness. *Leadership & Organization Development Journal*, 26(5), 388-399.
29. Rozell, E. J., Pettijohn, C. E., & Parker, R. S. (2006). Emotional intelligence and dispositional affectivity as predictors of performance in salespeople. [Article]. *Journal of Marketing Theory & Practice*, 14(2), 113-124.
30. Salovey, P., & Mayer, J.D. (1990). Emotional intelligence. *Imagination, Cognition, and Personality*, 9, 185-211.
31. Sjoberg, L., Littorin, P. & Engelberg, E. (2005), Personality and emotional intelligence as factors in sales performance, *Organizational Theory and Practice*, 2, 21-37.
32. Slaski, M., & S. Cartwright. (2002). Health, performance and emotional intelligence: an exploratory study of retail managers. *Stress and Health*, 18, 63-68
33. Steve Langhorn, (2004), How emotional intelligence can improve management performance", *International Journal of Contemporary Hospitality Management*, 16(4) 220 - 230
34. Steve Langhorn, (2004). How emotional intelligence can improve management performance. *International Journal of Contemporary Hospitality Management*, 16, 220 – 230
35. Sy, T., Tram, S., & O'Hara, L. A. (2006). Relation of employee and manager emotional intelligence to job satisfaction and performance. *Journal of Vocational Behavior*, 68(3), 461-473.
36. Troy Heffernan, Grant O'Neill, Tony Travaglione, Marcelle Droulers (2008) Relationship marketing , The impact of emotional Intelligence and trust on bank performance , 26(3), 183-199
37. U.W.M.R. Sampath Kappagoda (2012) Emotional Intelligence and its impact on task performance and contextual performance. 2(4), 32-36
38. Zeidner (2004). Emotional intelligence in the workplace: a critical review, *Applied Psychology: An International Review*, 53(3), 371-399



**AN OVERVIEW OF THE BANKING INDUSTRY IN INDIA****DR. SHILPAN D. VYAS****SR. LECTURER****AMCOST****ANAND****PARINA S. VYAS****ASST. PROFESSOR****DEPARTMENT OF ELECTRONICS & COMMUNICATION****SHRI P.M. PATEL COLLEGE OF E&C****ANAND****ABSTRACT**

*The Banking Industry in India has splendid history, good present and brilliant future. This paper gives you the overview of Banking Industries' from World War I, their phases & establishment, progress and growth of banking industry in India. It also gives the aggregate performance of the banking industry, government policies, implications of policy measures, credit policy implication, and crystal gazing. This paper tries to highlight the progress of commercial and private banks, prospects & achievements of Indian Banks, the credit scenario and the need for proxy banking in India as the branch banking in rural area is loss making.*

**KEYWORDS**

Banking, Commercial Banking, Phases &amp; Establishment, Policy, Proxy Banking.

**INTRODUCTION**

A bank is a financial institution that provides banking and other financial services to their customers. A bank is generally understood as an institution which provides fundamental banking services such as accepting deposits and providing loans. There are also nonbanking institutions that provide certain banking services without meeting the legal definition of a bank. Banks are a subset of the financial services industry.

Banking in India was defined under Section 5(A) as "any company which transacts banking, business" and the purpose of banking business defined under Section 5(B), "accepting deposits of money from public for the purpose of lending or investing, repayable on demand through cheque/draft or otherwise".

During Britishers' time, three Presidency Banks were opened in Bengal (1809), Bombay (1840) and Madras (1843) with powers to issue Notes. In the year 1921, due to banking crisis during First World War, the three Presidency Banks merged to form Imperial Bank of India. In the year 1955, after Independence, Imperial Bank of India was nationalized and renamed as State Bank of India (SBI) with a primary mandate to go to rural areas by opening at least 400 branches immediately. In the year 1957, the seven banks that were earlier catering to the rulers of different areas or States viz., Patiala, Bikaner, Jaipur, Indore, Saurashtra, Hyderabad, Mysore, Travancore, became subsidiaries of SBI. In 1969 and 1980, Government of India nationalized 14 and 6 major banks respectively. After the merger of New Bank of India with Punjab National Bank during the era of Financial Sector Reforms, the number of PSBs became 27, which are under present study.

The type and nature of businesses handled by the Public Sector Banks have not been merely confined to primary functions. The authorities were confident of delivering credit to the needy masses through the channel of Public Sector Banking in the name of "Priority Sector Advances" combining the subsidy or margin money supported schemes. All these were aimed at generating income or employment to large number of rural masses comprising weaker sections of society, artisans, agriculturists and self-employed persons including educated unemployed youth.

**NEED OF THE BANKS**

To provide the security to the savings of customers.
To control the supply of money and credit.
To encourage public confidence in the working of the financial system, increase savings speedily and efficiently.
To avoid focus of financial powers in the hands of a few individuals and institutions.
To set equal norms and conditions (i.e. rate of interest, period of lending, etc.) to all types of customers.

**FROM WORLD WAR I TO INDEPENDENCE**

The period during the First World War (1914-1918) through the end of the Second World War (1939-1945), and two years thereafter until the independence of India were challenging for Indian banking. The years of the First World War were turbulent, and it took its toll with banks simply collapsing despite the Indian economy gaining indirect boost due to war-related economic activities. At least 94 banks in India failed between 1913 and 1918 as indicated in the following table:

Years	Number of banks that failed	Authorized capital (Rs. Lakhs)	Paid-up Capital (Rs. Lakhs)
1913	12	274	35
1914	42	710	109
1915	11	56	5
1916	13	231	4
1917	9	76	25
1918	7	209	1

**INDIAN BANKING INDUSTRY**

The Indian Banking industry, which is governed by the Banking Regulation Act of India, 1949 can be broadly classified into two major categories, non-scheduled banks and scheduled banks. Scheduled banks comprise commercial banks and the co-operative banks. In terms of ownership, commercial banks can be further grouped into nationalized banks, the State Bank of India and its group banks, regional rural banks and private sector banks (the old/ new domestic and foreign). These banks have over 67,000 branches spread across the country.



India has a long history of both public and private banking. Modern banking in India began in the 18th century, with the founding of the English Agency House in Calcutta and Bombay. In the first half of the 19th century, three Presidency banks were founded. After the 1860 introduction of limited liability, private banks began to appear, and foreign banks entered the market.

The beginning of the 20th century saw the introduction of joint stock banks. In 1935, the presidency banks were merged together to form the Imperial Bank of India, which was subsequently renamed the State Bank of India. Also that year, India's central bank, the Reserve Bank of India (RBI), began operation. Following independence, the RBI was given broad regulatory authority over commercial banks in India. In 1959, the State Bank of India acquired the state-owned banks of eight former princely states. Thus, by July 1969, approximately 31 percent of scheduled bank branches throughout India were government controlled, as part of the State Bank of India.

In July 1969, the government nationalized all banks whose nationwide deposits were greater than Rs. 500 million, resulting in the nationalization of 54 percent more of the branches in India, and bringing the total number of branches under government control to 84 percent. Between the time of the 1969 nationalizations and the present, over 58,000 bank branches were opened in India; these new branches, as of March 2003, had mobilized over 9 trillion Rupees in deposits.

In April of 1980, the government undertook a second round of nationalization, placing under government control the six private banks whose nationwide deposits were above Rs. 2 billion, or a further 8 percent of bank branches, leaving approximately 10 percent of bank branches in private hands. The share of private bank branches stayed fairly constant between 1980 to 2000.

Since 1980, has been no further nationalization, and indeed the trend appears to be reversing itself, as nationalized banks are issuing shares to the public, in what amounts to a step towards privatization. The considerable accomplishments of the Indian banking sector not with standing, advocates for privatization argue that privatization will lead to several substantial improvements.

Recently, the Indian banking sector has witnessed the introduction of several "new private banks," either newly founded, or created by previously extant financial institutions. The new private banks have grown quickly in the past few years, and one has grown to be the second largest bank in India. India has also seen the entry of over two dozen foreign banks since the commencement of financial reforms. While we believe both of these types of banks deserve study, our focus here is on the older private sector, and nationalized banks, since they represent the overwhelming majority of banking activity in India.

**PHASES & ESTABLISHMENT OF BANKING INSTITUTES**

**PHASE I**

During the first phase the growth was very slow and banks also experienced periodic failures between 1913 and 1948. There were approximately 1100 banks, mostly small. To streamline the functioning and activities of commercial banks, the Government of India came up with The Banking Companies Act, 1949 which was later changed to Banking Regulation Act 1949 as per amending Act of 1965 (Act No. 23 of 1965). Reserve Bank of India was vested with extensive powers for the supervision of banking in India as the Central Banking Authority.

Institute	Year	Established By
The General Bank of India	1786	
Bank of Bengal	1809	The East India Company
Bank of Bombay	1840	
Bank of Madras	1843	
Imperial Bank of India	1920 (Merger of Bank of Bengal, Bank of Bombay, Bank of Madras)	
Allahabad Bank	1865	First by Indians
Punjab National Bank Ltd.	1894	
Bank of India Central Bank of India Bank of Baroda Canara Bank Indian Bank Bank of Mysore	Between 1906 To 1913	
Reserve Bank of India	1935	

**PHASE II**

Government took major steps in this Indian Banking Sector Reform after independence. In 1955, it nationalised Imperial Bank of India with extensive banking facilities on a large scale especially in rural and semi-urban areas. It formed State Bank of India to act as the principal agent of RBI and to handle banking transactions of the Union and State Governments all over the country.

Seven banks forming subsidiary of State Bank of India was nationalised in 1960 on 19th July, 1969, major process of nationalisation was carried out. It was the effort of the then Prime Minister of India, Mrs. Indira Gandhi. 14 major commercial banks in the country was nationalised.

Second phase of nationalisation Indian Banking Sector Reform was carried out in 1980 with seven more banks. This step brought 80% of the banking segment in India under Government ownership.

**STEPS BY THE GOVERNMENT OF INDIA TO REGULATE BANKING INSTITUTIONS**

Year	Steps
1949	Enactment of Banking Regulation Act
1955	Nationalisation of State Bank of India
1959	Nationalisation of SBI subsidiaries
1961	Insurance cover extended to deposits
1969	Nationalisation of 14 major banks
1971	Creation of credit guarantee corporation
1975	Creation of regional rural banks
1980	Nationalisation of seven banks with deposits over 200 crore

The Commercial Banking Structure in India Consists of:  
 Scheduled Commercial Banks in India  
 Unscheduled Banks in India

Scheduled Banks in India constitute those banks which have been included in the Second Schedule of Reserve Bank of India (RBI) Act, 1934. RBI in turn includes only those banks in this schedule which satisfy the criteria laid down vide section 42 (6) (a) of the Act.

"Scheduled banks in India" means the State Bank of India constituted under the State Bank of India Act, 1955 (23 of 1955), a subsidiary bank as defined in the State Bank of India (Subsidiary Banks) Act, 1959 (38 of 1959), a corresponding new bank constituted under section 3 of the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970 (5 of 1970), or under section 3 of the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1980 (40 of 1980), or any other bank being a bank included in the Second Schedule to the Reserve Bank of India Act, 1934 (2 of 1934), but does not include a co-operative bank".

"Non-scheduled bank in India" means a banking company as defined in clause (c) of section 5 of the Banking Regulation Act, 1949 (10 of 1949), which is not a scheduled bank".

Top Five Scheduled Banks in India		
Public Sector	Private Sector	Foreign Banks
State Bank of India	ICICI Bank	Standard Chartered Bank
Punjab National Bank	HDFC Bank	Hongkong and Shanghai Banking Corporation
Bank of Baroda	Axis Bank	Citi Bank N. C.
IDBI Bank	Yes Bank	Deutsche Bank A.G.
Syndicate Bank	Kotak Mahindra Bank	Barclays Bank PLC

### PHASE III

This phase has introduced many more products and facilities in the banking sector in its reforms measure. In 1991, under the chairmanship of M Narasimham, a committee was set up by his name which worked for the liberalisation of banking practices.

The country is flooded with foreign banks and their ATM stations. Efforts are being put to give a satisfactory service to customers.

Phone banking and net banking is introduced. The entire system became more convenient and swift. Time is given more importance than money.

The financial system of India has shown a great deal of resilience. It is sheltered from any crisis triggered by any external macroeconomics shock as other East Asian Countries suffered.

This is all due to a flexible exchange rate regime, the foreign reserves are high, the capital account is not yet fully convertible, and banks and their customers have limited foreign exchange exposure.

### INDIAN BANKS ASSOCIATION (IBA)

The Indian Banks Association (IBA) was formed on the 26th September, 1946 with 22 members. Today IBA has more than 156 members comprising of Public Sector banks, Private Sector banks, Foreign banks having offices in India, Urban Co-operative banks, Developmental financial institutions, Federations, merchant banks, mutual funds, housing finance corporations, etc.

### CURRENT SCENARIO

The industry is currently in a transition phase. On the one hand, the PSBs, which are the mainstay of the Indian Banking system are in the process of shedding their flab in terms of excessive manpower, excessive Non Performing Assets (Npas) and excessive governmental equity, while on the other hand the private sector banks are consolidating themselves through mergers and acquisitions.

PSBs, which currently account for more than 78 percent of total banking industry assets are saddled with NPAs (a mind-boggling Rs 830 billion in 2000), falling revenues from traditional sources, lack of modern technology and a massive workforce while the new private sector banks are forging ahead and rewriting the traditional banking business model by way of their sheer innovation and service. The PSBs are of course currently working out challenging strategies even as 20 percent of their massive employee strength has dwindled in the wake of the successful Voluntary Retirement Schemes (VRS).

The private players however cannot match the PSB's great reach, great size and access to low cost deposits. Therefore one of the means for them to combat the PSBs has been through the merger and acquisition (M& A) route. Over the last two years, the industry has witnessed several such instances. For instance, HDFC Bank's merger with Times Bank ICICI Bank's acquisition of ITC Classic, Anagram Finance and Bank of Madura. Centurion Bank, Indusind Bank, Bank of Punjab, Vysya Bank are said to be on the lookout. The UTI bank- Global Trust Bank merger however opened a Pandora's box and brought about the realization that all was not well in the functioning of many of the private sector banks.

Private sector Banks have pioneered internet banking, phone banking, anywhere banking, mobile banking, debit cards, Automatic Teller Machines (ATMs) and combined various other services and integrated them into the mainstream banking arena, while the PSBs are still grappling with disgruntled employees in the aftermath of successful VRS schemes. Also, following India's commitment to the WTO agreement in respect of the services sector, foreign banks, including both new and the existing ones, have been permitted to open up to 12 branches a year with effect from 1998-99 as against the earlier stipulation of 8 branches.

Talks of government diluting their equity from 51 percent to 33 percent in November 2000 has also opened up a new opportunity for the takeover of even the PSBs. The FDI rules being more rationalized in Q1FY02 may also pave the way for foreign banks taking the M& A route to acquire willing Indian partners.

### AGGREGATE PERFORMANCE OF THE BANKING INDUSTRY

Aggregate deposits of scheduled commercial banks increased at a compounded annual average growth rate (Cagr) of 17.8 percent during 1969-99, while bank credit expanded at a Cagr of 16.3 percent per annum. Banks' investments in government and other approved securities recorded a Cagr of 18.8 percent per annum during the same period.

In FY01 the economic slowdown resulted in a Gross Domestic Product (GDP) growth of only 6.0 percent as against the previous year's 6.4 percent. The WPI Index (a measure of inflation) increased by 7.1 percent as against 3.3 percent in FY00. Similarly, money supply (M3) grew by around 16.2 percent as against 14.6 percent a year ago.

The growth in aggregate deposits of the scheduled commercial banks at 15.4 percent in FY01 percent was lower than that of 19.3 percent in the previous year, while the growth in credit by SCBs slowed down to 15.6 percent in FY01 against 23 percent a year ago.

The industrial slowdown also affected the earnings of listed banks. The net profits of 20 listed banks dropped by 34.43 percent in the quarter ended March 2001. Net profits grew by 40.75 percent in the first quarter of 2000-2001, but dropped to 4.56 percent in the fourth quarter of 2000-2001.

## INDIAN BANKING AT A GLANCE

Particulars	FY00	FY01	FY02	FY03	FY04	FY05	FY06
Number of Commercial Banks	298	300	297	292	290	289	222
Scheduled Commercial Banks	297	296	293	288	286	285	218
Regional Rural Banks	196	196	196	196	196	196	133
Non-Scheduled Commercial Banks	2	5	4	4	5	4	4
Number of Bank Offices	67868	67937	68195	68500	69170	70373	71177
Rural	32852	32585	32503	32283	32227	30790	30769
Semi Urban	14841	14843	14962	15135	15288	15325	15503
Urban	10994	11193	11328	11566	11806	12419	12747
Metropolitan	9181	9316	9402	9516	9750	11839	12158
Population Per Office (thousands)	15	15	15	16	16	16	16

On the Capital Adequacy Ratio (CAR) front while most banks managed to fulfill the norms, it was a feat achieved with its own share of difficulties. The CAR, which at present is 9.0 percent, is likely to be hiked to 12.0 percent by the year 2004 based on the Basle Committee recommendations. Any bank that wishes to grow its assets needs to also shore up its capital at the same time so that its capital as a percentage of the risk-weighted assets is maintained at the stipulated rate. While the IPO route was a much-fancied one in the early '90s, the current scenario doesn't look too attractive for bank majors.

## BANK GROUPS: KEY INDICATORS

Particulars	FY01	FY02	FY03	FY04	FY05	FY06
<b>Net Profit/Total Assets (%)</b>						
State Bank Group	0.55	0.77	0.91	1.02	0.91	0.86
Nationalised Banks	0.33	0.69	0.98	1.19	0.89	0.81
Public Sector Banks	0.42	0.72	0.96	1.12	0.87	0.82
Old Private Sector Banks	0.59	1.08	1.17	1.2	0.33	0.59
New Private Sector Banks	0.81	0.44	0.9	0.83	1.05	0.97
Foreign Banks	0.93	1.32	1.56	1.65	1.29	1.52
<b>All SCBs</b>	<b>0.49</b>	<b>0.75</b>	<b>1.01</b>	<b>1.13</b>	<b>0.89</b>	<b>0.88</b>

## INTEREST RATE SCENE

The two years, post the East Asian crises in 1997-98 saw a climb in the global interest rates. It was only in the later half of FY01 that the US Fed cut interest rates. India has however remained more or less insulated. The past 2 years in our country was characterized by a mounting intention of the Reserve Bank of India (RBI) to steadily reduce interest rates resulting in a narrowing differential between global and domestic rates.

The RBI has been affecting bank rate and CRR cuts at regular intervals to improve liquidity and reduce rates. The only exception was in July 2000 when the RBI increased the Cash Reserve Ratio (CRR) to stem the fall in the rupee against the dollar. The steady fall in the interest rates resulted in squeezed margins for the banks in general.

## GOVERNMENTAL POLICY

After the first phase and second phase of financial reforms, in the 1980s commercial banks began to function in a highly regulated environment, with administered interest rate structure, quantitative restrictions on credit flows, high reserve requirements and reservation of a significant proportion of lendable resources for the priority and the government sectors. The restrictive regulatory norms led to the credit rationing for the private sector and the interest rate controls led to the unproductive use of credit and low levels of investment and growth. The resultant 'financial repression' led to decline in productivity and efficiency and erosion of profitability of the banking sector in general.

This was when the need to develop a sound commercial banking system was felt. This was worked out mainly with the help of the recommendations of the Committee on the Financial System (Chairman: Shri M. Narasimham), 1991. The resultant financial sector reforms called for interest rate flexibility for banks, reduction in reserve requirements, and a number of structural measures. Interest rates have thus been steadily deregulated in the past few years with banks being free to fix their Prime Lending Rates (PLRs) and deposit rates for most banking products. Credit market reforms included introduction of new instruments of credit, changes in the credit delivery system and integration of functional roles of diverse players, such as, banks, financial institutions and non-banking financial companies (Nbfcs). Domestic Private Sector Banks were allowed to be set up, PSBs were allowed to access the markets to shore up their Cars.

## IMPLICATIONS OF SOME RECENT POLICY MEASURES

The allowing of PSBs to shed manpower and dilution of equity are moves that will lend greater autonomy to the industry. In order to lend more depth to the capital markets the RBI had in November 2000 also changed the capital market exposure norms from 5 percent of bank's incremental deposits of the previous year to 5 percent of the bank's total domestic credit in the previous year.

The move to increase Foreign Direct Investment FDI limits to 49 percent from 20 percent during the first quarter of this fiscal came as a welcome announcement to foreign players wanting to get a foot hold in the Indian Markets by investing in willing Indian partners who are starved of net worth to meet CAR norms. Ceiling for FII investment in companies was also increased from 24.0 percent to 49.0 percent and have been included within the ambit of FDI investment.

The abolishment of interest tax of 2.0 percent in budget 2001-02 will help banks pass on the benefit to the borrowers on new loans leading to reduced costs and easier lending rates. Banks will also benefit on the existing loans wherever the interest tax cost element has already been built into the terms of the loan. The reduction of interest rates on various small savings schemes from 11 percent to 9.5 percent in Budget 2001-02 was a much awaited move for the banking industry and in keeping with the reducing interest rate scenario, however the small investor is not very happy with the move.

Some of the not so good measures however like reducing the limit for tax deducted at source (TDS) on interest income from deposits to Rs 2,500 from the earlier level of Rs 10,000, in Budget 2001-02, had met with disapproval from the banking fraternity who feared that the move would prove counterproductive and lead to increased fragmentation of deposits, increased volumes and transaction costs. The limit was thankfully partially restored to Rs 5000 at the time of passing the Finance Bill in the Parliament.

#### APRIL 2001 – CREDIT POLICY IMPLICATIONS

The rationalization of export credit norms will bring greater operational flexibility on banks, and also reduce the borrowing costs for exporters. Thus this move could trigger exports growth in the future. Banks can also hope to earn increased revenue with the interest paid by RBI on CRR balances being increased from 4.0 percent to 6.0 percent.

The stock market scam brought out the unholy nexus between the Cooperative banks and stockbrokers. In order to usher in greater prudence in their operations, the RBI has barred Urban Cooperative Banks from financing the stock market operations and is also in the process of setting up of a new apex supervisory body for them. Meanwhile the foreign banks have a bone to pick with the RBI. The RBI had announced that forex loans are not to be calculated as a part of Tier-1 Capital for drawing up exposure limits to companies effective 1 April 2002. This will force foreign banks either to infuse fresh capital to maintain the capital adequacy ratio (CAR) or pare their asset base. Further, the RBI has also sought to keep foreign competition away from the nascent net banking segment in India by allowing only Indian banks with a local physical presence, to offer Internet banking.

#### CRYSTAL GAZING

On the macro economic front, GDP is expected to grow by 6.0 to 6.5 percent while the projected expansion in broad money (M3) for 2001-02 is about 14.5 percent. Credit and deposits are both expected to grow by 15-16 percent in FY02. India's foreign exchange reserves should reach US\$50.0 billion in FY02 and the Indian rupee should hold steady.

The interest rates are likely to remain stable this fiscal based on an expected downward trend in inflation rate, sluggish pace of non-oil imports and likelihood of declining global interest rates. The domestic banking industry is forecasted to witness a higher degree of mergers and acquisitions in the future. Banks are likely to opt for the universal banking approach with a stronger retail approach. Technology and superior customer service will continue to be the imperatives for success in this industry.

Foreign banks are likely to succeed in their niche markets and be the innovators in terms of technology introduction in the domestic scenario. These banks will continue to be the early technology adopters in the industry, thus increasing their efficiencies. Already, banks such as ICICI Bank and HDFC Bank have forged alliances with Prudential Life and Standard Life respectively. This is one segment that is likely to witness a greater deal of action in the future. In the near term, the low interest rate scenario is likely to affect the spreads of majors. This is likely to result in a greater focus on better asset-liability management procedures.

In India, till the eighties, the banks operated in a protected environment characterized by administered interest rates, high levels of pre-emption in the form of reserve requirements and directed credit. Financial and Banking sector reforms were initiated in India in 1991 against the backdrop of challenges faced by the Indian banks from within and outside the banking system in the country as well as forces of globalization operating worldwide.

The Indian banking sector is growing at a fast pace along with the Indian economy. In this age of globalization, foreigners are also making investments in India and so Indian banks are planning global strategies. Thanks to liberalization, that the Indian banks have been able to make a mark for themselves in the world map.

In the present scenario of banking industry, competition among the banks is very severe. The banks have been trying to find new avenues not only to retain the present customer strength but also attracting new customers by offering hassle-free services. In the process, strategies of certain banks, specially Public Sector Banks, are aiming to divide customers into different segments on the basis of the type of service they would like to render and also trying to segregate their servicing counters in their respective branches to enable customer to have easy access to a particular transaction (Srinivasa Rao, K.S. and Rama Rao, U., 1998).

On the other side, Foreign Banks and old and new Private Sector Banks in India, have progressed well in the areas of technology up-gradation in operations, extending the business hours, introduction of new products and services like "Any Where Banking", "Any Time Money", "Electronic Fund Transfer", "Electronic Clearing", "Tele-Banking", etc.. These new tools enabled them to improve the quality of service and introduce Value Added Products (Saraf, W.S., 1997).

The Indian economy under Liberalization, Privatization and Globalization (LPG) throws mind-boggling process for existence and growth of the sector. WTO was established in 1995 and signing of WTO Agreement by Indian Government meant greater competition from foreign and domestic bankers in terms of speed, sophistication and professionalism. The banks are now expected to maintain transparency in their operational and financial statements. However, in the deregulated virtual market, small banks with high Return On Equity (ROE) will have an edge over the large banks. In fact, modern commercial banks have to be much more agile in order to stay in the competitive market. Adoption of Information Technology is vital for survival and growth of the sector and will fix the future of commercial banks in the LPG economy (S. K. Bose, 2001).

#### NUMBER OF BANKS, GROUP WISE

Bank Groups	FY02	FY03	FY04	FY05	FY06
State Bank Group	8	8	8	8	8
Nationalised Banks	19	19	19	19	20*
Public Sector Banks	27	27	27	27	28*
Old Private Sector Banks	22	21	21	21	19
New Private Sector Banks	8	9	9	8	8
Foreign Banks	40	33	33	31	29
<b>All SCBs</b>	<b>97</b>	<b>93</b>	<b>90</b>	<b>87</b>	<b>84</b>

Includes Industrial Development Bank of India Ltd.

Currently, India has 88 scheduled commercial banks (SCBs) - 27 public sector banks (that is with the Government of India holding a stake), 29 private banks (these do not have government stake; they may be publicly listed and traded on stock exchanges) and 31 foreign banks. They have a combined network of over 53,000 branches and 17,000 ATMs. According to a report by ICRA Limited, a rating agency, the public sector banks hold over 75 percent of total assets of the banking industry, with the private and foreign banks holding 18.2% and 6.5% respectively.

**BRANCHES/ATMS/STAFF IN BANKS (NUMBER)**

Particulars	State Bank Group	Nationalised Banks	Public Sector Banks	Old Private Sector Banks	New Private Sector Banks	Foreign Banks	All SCBs
Branches							
Rural	5229	12990	18219	936	97	-	19252
Semi Urban	4043	7103	11146	1447	322	1	12916
Urban	2449	6990	9439	1236	674	37	11386
Metropolitan	2110	6929	9039	947	857	221	11064
Total	13831	34012	47843	4566	1950	259	54618
ATMs							
On Site	1775	4812	6587	1054	2255	232	10128
Off Site	3668	2353	6021	493	3857	648	11019
Employees							
Officers	82499	165771	248270	21308	44519	18958	333055
Clerks	122409	208576	330985	29301	4469	1551	366306
Subordinates	65703	93152	158855	9048	261	490	168654
Foreign Offices	27	66	93	9	4		106

**GROWTH IN THE INDIAN BANKING INDUSTRY**

The growth in the Indian Banking Industry has been more qualitative than quantitative and it is expected to remain the same in the coming years. Based on the projections made in the "India Vision 2020" prepared by the Planning Commission and the Draft 10th Plan, the report forecasts that the pace of expansion in the balance-sheets of banks is likely to decelerate. The total assets of all scheduled commercial banks by end-March 2010 is estimated at Rs 40, 90,000 crores. That will comprise about 65 per cent of GDP at current market prices as compared to 67 per cent in 2002-03. Bank assets are expected to grow at an annual composite rate of 13.4 per cent during the rest of the decade as against the growth rate of 16.7 per cent that existed between 1994-95 and 2002-03. It is expected that there will be large additions to the capital base and reserves on the liability side.

**PROGRESS OF COMMERCIAL AND PRIVATE BANKS**

The commercial banks have made tremendous progress with respect to its profitability, capital adequacy, risk management etc. The private banks too are playing an important role in the Indian banking industry. The private banks are growing at a rate of 35% per annum. As a result the share of the private banks has increased to nearly 16%. The limit of FDI has also been increased from 49 % to 74% in the private banks.

The Public Sector Banks (PSBs), which are the base of the Banking sector in India account for more than 78 per cent of the total banking industry assets. Unfortunately they are burdened with excessive Non Performing assets (NPAs), massive manpower and lack of modern technology. On the other hand the Private Sector Banks are making tremendous progress. They are leaders in Internet banking, mobile banking, phone banking, ATMs. As far as foreign banks are concerned they are likely to succeed in the Indian Banking Industry.

In the Indian Banking Industry some of the Private Sector Banks operating are IDBI Bank, ING Vyasa Bank, SBI Commercial and International Bank Ltd, Bank of Rajasthan Ltd. and banks from the Public Sector include Punjab National bank, Vijaya Bank, UCO Bank, Oriental Bank, Allahabad Bank among others. ANZ Grindlays Bank, ABN-AMRO Bank, American Express Bank Ltd, Citibank are some of the foreign banks operating in the Indian Banking Industry.

Banking industry in India has evolved lately under the impact of the stimulus packages announced by the Government. According to the Annual Policy 2008-09 of the Reserve Bank of India (RBI), the central bank, key monetary aggregates have witnessed some growth in 2008-09. This is reflected in the changing liquidity positions arising from domestic and global financial conditions and the policy initiatives taken by the government. Also, reserve money variations during 2008-09 have largely reflected an increase in currency in circulation and reduction in the cash reserve ratio (CRR) of banks.

According to a study by Dun & Bradstreet (an international research body)—"India's Top Banks 2008"—there has been a significant growth in the banking infrastructure.

**PROSPECTS AND ACHIEVEMENTS OF INDIAN BANKS**

India has the second largest financially excluded households (about 135 million) and it is expected that nearly 60 million house hold will be added in India's bankable pool by 2009. So it is quite clear that the banking industry is going to grow very rapidly. Indian banks are also very advanced in terms of technology and have vast network of branches. Nine Indian banks have made their mark in the list of top 50 Asian Banks. The leaders are HDFC and ICICI bank. State Bank of India (SBI) was the top loan arranger in the Asia - Pacific region in 2007 and Indian banks were the top provider of educational loans in 2007.

Just recently on 21<sup>st</sup> November 2014, Rana Kapoor, the Founder, Managing Director and CEO of 'YES BANK' was awarded the 'C. Rangarajan Award for Excellence in Banking', instituted by SKOCH (Sameer Kochhar) for outstanding contribution to the Banking sector and in post-economic liberalisation reform era in India.

**THE CREDIT SCENARIO**

The year-on-year (y-o-y) aggregate bank deposits stood at 21.2 per cent as on January 2, 2009. Bank credit touched 24 per cent (y-o-y) on January 2, 2009 as against 21.4 per cent on January 4, 2008. The year-on-year (y-o-y) growth in non-food bank credit at 23.9 per cent as on January 2, 2009 was higher than that of 22.0 per cent as on January 4, 2008. Increase in total flow of resources from the banking sector to the commercial sector was also higher at 23.4 per cent as compared with 21.7 per cent a year ago. The incremental credit-deposit ratio rose to 81.4 per cent as on January 2, 2009, as against 63.1 per cent as on January 4, 2008. Also, during 2008-09 so far, the total flow of resources to the commercial sector from banks stood at US\$ 58.83 billion upto January 2, 2009. Scheduled commercial banks' credit to the commercial sector expanded by 27.0 per cent (y-o-y) as on November 21, 2008, as compared with 23.1 per cent a year ago.

There has been variation in credit expansion across bank groups. Credit expansion as on January 2, 2009 for public sector banks stood at 28.6 per cent, scheduled commercial banks (SCBs) including the regional rural banks (RRBs) at 24 per cent, foreign banks at 6.9 per cent and private sector banks at 11.8 per cent, according to the Annual Policy for 2008-09 of Reserve Bank of India.

Several measures initiated by the Reserve Bank have resulted in banks reducing their deposit and lending rates between November 2008 and January 2009. The range for deposit rates for public sector banks varied from 5.25 to 8.5 per cent, foreign at 5.25 to 7.75 per cent and private sector banks at 4 to 8.75 per cent. In the post-crisis quarter caused due to collapse of Lehman Brothers, large corporates like Infosys moved their deposits to State Bank of India (SBI), the country's largest bank. Infosys has revealed that it transferred deposits of nearly US\$ 200.61 million from ICICI Bank to SBI last year.

Deposits as on January 2, 2009 for public sector banks stood at 24.2 per cent, scheduled commercial banks (SCBs) including the regional rural banks (RRBs) at 21.2 per cent, foreign banks at 12.1 per cent and private sector banks at 13.4 per cent, according to the Annual Policy for 2008-09 of the Reserve Bank of India. The prime lending rates of public sector banks stood at 12 to 12.5 per cent, private sector banks at 14.75 to 16.75 per cent and foreign banks 14.25 to 15.50 per cent as on January 2009.

Bank loans rose 18.1 per cent on year-on-year basis as on March 13, the RBI has said in its Weekly Statistical Supplement released on March 27, 2009. Outstanding loans rose to US\$ 541.82 billion in the two weeks to March 13. The non-food credit rose to US\$ 530.19 billion in the two weeks, while food credit stood at US\$ 9.61 billion in the same period.

Since October 2008, the central bank has cut the cash reserve ratio, or the proportion of deposits that banks set aside, and the repo rate, or the rate at which it lends to banks, by 400 basis points each to inject liquidity into the system and activate a lower interest rate regime. Also, the reverse repo rate has been lowered by 200 basis points to discourage banks from parking surplus funds with RBI. Till April 7, 2009, the CRR had further been lowered by 50 basis points, while the repo and reverse repo rates have been lowered by 150 basis points each. Public sector banks have pruned their benchmark prime lending rates (BPLRs) by 150-200 basis points. Also, in April 2009, private sector banks such as Axis and Bank of Rajasthan have reduced their BPLRs by 50 basis points. Only few foreign banks such as Citibank have pared home loan rates by 50 basis points to 13.75 per cent.

The rupee depreciated during 2008-09, reflecting varied developments in international financial markets and portfolio outflows by foreign institutional investors (FIIs). The rupee exchange rate was between 48.37 to 49.19 against the US dollar and 63.60-68.09 against the Euro in January 2009.

### PROXY BANKING IN INDIA

Indian villages were miles away from mutual funds, insurance and even equity trading. Thanks to Internet Kiosk and the ATM duo which has made it possible for rural India. This kiosk has been set up by ICICI Bank in partnership with network n-Logue Communications in remote villages of Southern part of the country. This is known as Proxy Banking. With the help of fiber optic cables, this kiosk works on wireless in local loop technology.

*Following are the reasons for setting-up of Proxy Banking:*

58% of rural households still do not have bank accounts.

Only 21% of rural households have access to credit from a formal source.

70% of marginal farmers do not have deposit account.

87% households have no formal credit.

Only 1% rural households rely on a loan from a financial intermediary. · The loans take between 24 to 33 weeks to get sanctioned.

Branch banking in rural is a loss-making.

### CURRENT SITUATION

Currently, banking in India is generally fairly mature in terms of supply, product range and reach-even though reach in rural India still remains a challenge for the private sector and foreign banks. In terms of quality of assets and capital adequacy, Indian banks are considered to have clean, strong and transparent balance sheets relative to other banks in comparable economies in its region. The Reserve Bank of India is an autonomous body, with minimal pressure from the government. The stated policy of the Bank on the Indian Rupee is to manage volatility but without any fixed exchange rate-and this has mostly been true.

With the growth in the Indian economy expected to be strong for quite some time-especially in its services sector-the demand for banking services, especially retail banking, mortgages and investment services are expected to be strong. One may also expect M&As, takeovers, and asset sales.

In March 2006, the Reserve Bank of India allowed Warburg Pincus to increase its stake in Kotak Mahindra Bank (a private sector bank) to 10%. This is the first time an investor has been allowed to hold more than 5% in a private sector bank since the RBI announced norms in 2005 that any stake exceeding 5% in the private sector banks would need to be vetted by them.

In recent years critics have charged that the non-government owned banks are too aggressive in their loan recovery efforts in connection with housing, vehicle and personal loans. There are press reports that the banks' loan recovery efforts have driven defaulting borrowers to suicide.

In India, the RBI constituted several committees from time to time with different objectives, headed by experts in different fields or Academicians, some of them during eighties and nineties. Public Sector Banks have started experiencing the ill effects of traditional methods adopted till then. Change in policy at the apex level, advent of technology, threat of competition from foreign and private sector banks was felt during the late eighties. Host of recommendations by all such Expert Committees resulted in remarkable changes in products and policies of the banks in India.

Technology and competition have brought about notable changes in the Indian banking today. From Internet Banking to Cash Management Services, technology has changed both in retail and wholesale banking. Banks have been slow to adapt to the changing times finding themselves behind technology-savvy competitors. It applies particularly, to some of the state owned banks opposed to introduction of new technology. Moreover, with lines of demarcation between banks and financial institutions blurring, the focus has shifted to offering all assets (e.g. loans) and liabilities (e.g. deposits) products under one roof heading towards Universal Banking (A.K.Trivedi, 2002).

The impact of reforms on banking sector varies from changing their constitution, cost of operations, reporting norms and ultimately their profitability. The predominance analysis of banks was undertaken. The reforms associate themselves with vision, vigour and vitality and a mission to strengthen the Indian economy (AV. Aruna Kumari, 2002).

Globalization can lead to suspicion, protectionism, and policies that are ultimately self-destructive. Such fears cannot be allowed to frustrate the great potential of a world. The author believes that countries can face the challenges of globalization positively (M.Lakshmi Narasaiah, 2002).

Banking in the new millennium will be marked by high expectations of customers who are well informed and possess technical knowledge. Computers are rapidly taking over the functions and personalized service will continue to have relevance. The sum and substance of banking activity in future will boil down to one simple prescription: Customer Delight (K.Sivaloganathan, 2002).

Sathye (2003) measured the productive efficiency of banks in India. It was done using Data Envelopment Analysis. The study shows that the mean efficiency score of Indian banks compares well with the world mean efficiency score and the efficiency of private sector commercial banks, as a group is paradoxically lower than that of public sector banks and foreign banks in India. The existing policy of reducing Non-Performing Assets and rationalization of staff and branches may be continued to obtain efficiency of Indian banks internationally competitive.

To sum up, Indian Public Sector Banks as well as others have transformed from mere collectors of deposits and purveyors of credit as per directions of the Government or RBI to highly competitive financial outfits in course of the past 12 years ever since Financial Sector Reforms were introduced. Various measures taken by the regulator were (1) Prudential Norms and transparency of Balance Sheets (2) Capital Adequacy requirements and 4-way classification of Assets (Loans and Investments) (3) Gradual reduction of SLR and CRR stipulations (4) Provisioning Norms (5) Deregulation of Interest Rates (6) Creation of Debt Recovery Tribunals, BIFR, etc., (7) Enactment of new laws or amendments to Negotiable Instruments Act, and others by Government (8) implementation of Asset Liability Management measures (9) introduction of Risk Management in Banks (10) Recovery measures like Compromise Settlements, Corporate Debt Restructuring, Rehabilitation facilities to sick units (11) Computerization of branches (12) Closure or shifting or combining of loss making branches (13) Voluntary Retirement Scheme for employees (14) Investment in Hardware, Software and training of staff (15) permission for Online Banking, Internet Banking, ATMs, etc.

## BELOW TABLE LISTING TOP 5 BEST BANK RANKINGS IN YEAR 2014

Rank	Bank	Score	Balance sheet size (Rs crore) (End-March2014)	Total Income (Rs cr)	Net Profit (Rs crore)
<i>Large Banks (Balance sheet size more than Rs 2,00,000 crore)</i>					
1	HDFC Bank	3.42	4,91,600	49,055	8,478
2	ICICI Bank	4.36	5,94,642	54,606	9,810
3	Axis Bank	4.29	3,83,245	38,046	6,218
4	Bank of Baroda	6.30	6,59,505	43,402	4,541
5	State Bank of India	6.54	17,92,235	1,54,904	10,891
<i>Mid-Size Banks (Balance sheet size Rs 75,000 – Rs 2,00,000 crore)</i>					
1	IndusInd Bank	4.86	87,026	10,144	1,408
2	Kotak Mahindra Bank	5.19	87,585	10,167	1,503
3	Yes Bank	5.20	1,09,016	11,703	1,618
4	The Jammu & Kashmir Bank	6.03	78,620	7,157	1,182
5	Indian Bank	6.88	1,87,327	16,621	1,159
<i>Small Banks (Balance sheet size less than Rs 75,000 crore)</i>					
1	Federal Bank	4.63	74,594	7,640	839
2	ING Vysya Bank	4.52	60,413	6,072	658
3	The South Indian Bank	5.92	54,986	5,384	507
4	City Union Bank	5.99	24,994	2,847	347
5	Tamilnad Mercantile Bank	6.48	26,398	2,923	301
<i>Foreign Banks (Balance sheet size greater than Rs 5,000 crore)</i>					
1	Citibank	4.17	1,44,981	12,199	2,893
2	Bank of America-Merrill Lynch	3.97	26,930	2,367	703
3	HSBC	5.54	1,31,881	8,987	1,490
4	Deutsche Bank	5.65	57,695	4,030	729
5	The Bank of Nova Scotia	5.68	10,500	1,132	293

(Source – BUSINESSWORLD)

**CONCLUSION**

The Banking Industry in India has splendid history, good present and brilliant future. This paper gives you the overview of Banking Industries' from World War I, their phases & establishment, progress and growth of banking industry in India. It also gives the aggregate performance of the banking industry, government policies, implications of policy measures, credit policy implication, and crystal gazing. This paper tries to highlight the progress of commercial and private banks, prospects & achievements of Indian Banks, the credit scenario and the need for proxy banking in India as the branch banking in rural area is loss making.

**REFERENCES**

1. An Introduction to computers and their application in banking – by T. N. Srivastava, McMillan Publications
2. BUSINESSWORLD December '14 ISSN: 0970819-7
3. <http://allabtbanks.blogspot.com/2009/08/proxy-banking-in-india.html>
4. <http://best-custom-writing-service.com/corporate-finance-in-a-bank/>
5. <http://business.mapsofindia.com/india-industry/banking.html>
6. [http://en.wikipedia.org/wiki/Banking\\_in\\_India](http://en.wikipedia.org/wiki/Banking_in_India)
7. <http://mostusefulariclesforever.blogspot.com/2014/11/do-you-know-history-of-banking-in-india.html>
8. <http://shodhganga.inflibnet.ac.in>
9. <http://welcometobookhives.blogspot.com/2013/05/banking-and-finance.html>
10. <http://www.dnb.co.in/bfsisectorinindia/BankC1.asp>
11. [http://www.readymadeproject.com/filesapproved/mba/Finance%20Management/project\\_report\\_on\\_idbi\\_bank.doc](http://www.readymadeproject.com/filesapproved/mba/Finance%20Management/project_report_on_idbi_bank.doc)
12. <http://www.slideshare.net/valliappan1991/indian-banking-industry-overview-2013>
13. <http://www.yourarticlelibrary.com/banking/indian-banking-system-3-phases-of-indian-banking-system/23493/>
14. <https://banksguide.wordpress.com/2011/08/21/banking-system-in-india-for-bank-exams-and-other-exams/>
15. <https://www.dnb.co.in/topbanks/overview.asp>
16. <https://www.scribd.com/doc/13131233/A-COMPARATIVE-STUDY-OF-CUSTOMER-PROVIDED-BY-ICICI-AND-SBI>
17. <https://www.scribd.com/doc/14612433/Can-Public-Sector-Banks-in-India-compete-with-Private-and-Foreign-Banks>
18. <https://www.scribd.com/doc/23763307/6248608-Summer-Training-Project-Report-on-Idbi-Bank>
19. <https://www.scribd.com/doc/24861826/Karnataka-Bank-Project>
20. <https://www.scribd.com/doc/251429094/Thesis>
21. <https://www.scribd.com/doc/26327770/A-Summer-Training-Project-Report-on-FINANCIAL>
22. <https://www.scribd.com/doc/26608370/Banking-Structure-in-India>
23. <https://www.scribd.com/doc/29928060/Universal-Banking>
24. <https://www.scribd.com/doc/45485821/History-and-evolution-of-banks-ppt>
25. Indian Banking 2005, The ICAI Journal of Professional Banker, February pp 7-10
26. Rao N. K. (2005): "Indian Banking System: The Forward March"
27. [www.banknetindia.com](http://www.banknetindia.com)
28. [www.financialexpress.com](http://www.financialexpress.com)
29. [www.rbi.org.in](http://www.rbi.org.in)

**COUNTERFEITING GOODS IN GULF BUSINESS: ANY ECONOMIC IMPACT?****DR. THRESIAMMA VARGHESE****ASST. PROFESSOR  
FACULTY OF BUSINESS  
SOHAR UNIVERSITY  
SULTANATE OF OMAN****KARIMA AL. QARTOPI****LECTURER  
FACULTY OF BUSINESS  
SOHAR UNIVERSITY  
SULTANATE OF OMAN****ABSTRACT**

The illegal counterfeiting industry costs the global economy hundreds of billions of dollars every year. Through a descriptive approach, this article is trying to have an overlook on counterfeiting culture around the world and Gulf Countries in particular and little more details of its menace in Oman. The objective of the study is to explore the economic impact behind the buying habits of counterfeit goods in GCC'S. The study is an explorative in nature. This gave an elaborate way of actual situations in counterfeit goods business in GCC'S.

**KEYWORDS**

Counterfeit goods, Gulf countries, Imitate, Patent goods.

**1. INTRODUCTION**

To counterfeit means to illegally imitate something. The word *counterfeit* frequently describes both the forgeries of currency and documents, as well as the imitations of works of art, toys, clothing, software, pharmaceuticals, watches, electronics and company logos and brands. In the case of goods, it results in patent infringement or trademark infringement. The Agreement on Trade-related Aspects on Intellectual Property Rights (the TRIPS Agreement) defines counterfeiting as "counterfeit trademark goods" shall mean any goods, including packaging, bearing without authorization a trademark which is identical to the trademark validly registered in respect of such goods, or which cannot be distinguished in its essential aspects from such a trademark, and which thereby infringes the rights of the owner of the trademark in question under the law of the country of importation". (Arabian Business, 2008). Technically, the English term "counterfeiting" only refers to specific cases of trademark infringement. However, in practice, the term is allowed to encompass any making of a product which so closely imitates the appearance of the product of another as to mislead a consumer that it is the product of another. Hence, it may also include the unauthorized production and distribution of a product that is protected by other intellectual property rights, such as copyright and neighboring rights. This is in line with the German term "Produktpiraterie" and the French term "contrefaçon", which both cover a broader range of intellectual property right infringement (Clark, 1997). Through a descriptive approach, this article is trying to have an overlook on counterfeiting culture around the world and little details of its menace on Gulf Countries in particular. A case of Pharmaceutical and cosmetics sector have given a little emphasize in this research paper because there are significant increase in counterfeiting medicines and cosmetics and it has dangerous consequences too. This paper also tries to take an effort to look at the economic impact of counterfeiting culture around the world.

**2. THE COUNTERFEITING INDUSTRY AROUND THE WORLD**

The illegal counterfeiting industry costs the global economy hundreds of billions of dollars every year. The trade in fake goods in the region is now worth billions of dollars a year, with governments, law enforcement agencies and major companies battling to tackle a global problem. (Arabian Business-2010). Counterfeit goods are so cheap is because they use inferior materials and manufacturing processes. The counterfeit market is widespread all over the world. In UK for example 20-25% of the market is counterfeit (Business Today, June-2011). In South Africa, as a result of a concerted effort, it comes to 5% of total business. For Brazil is also a big problem because it is so close to Paraguay one of the largest counterfeit cigarette producers after China, reflect how much a government can lose in revenues through lost tax. While the legitimate market in Paraguay is worth around US\$3bn, the country has an installed manufacturing capacity of over US\$50bn. In other words, Paraguay has the potential to make US\$50bn worth of cigarettes but only US\$3bn worth of tax is declared. It costs US\$ 20 bn loss to government (British American Tobacco, BAT, 2010).

Attitudes towards luxurious commodities may be a contributory factor to the increase in the counterfeiting of luxury goods in Europe. The United Kingdom and Italy, in particular, have become notorious for counterfeit fashion wear. Significant evidence of this trend came to light when UK customs officials smashed a £4.25 million racket in 1997 involving 100 000 counterfeit designer labels (HM Customs, 1997). The batches included labels for Ralph Lauren, Calvin Klein and Timberland, among others. The labels would most likely have been sewn into cheap fashion garments such as shirts, jeans and T-shirts made in the United Kingdom. In Perfume market American brands are popular targets for counterfeits, particularly Calvin Klein. (Comité Colbert, 1997).

Nintendo, the largest producer of video game products, claims that China, Chinese Taipei and Hong Kong (China) are the largest sources of counterfeit video games in the world. Trade in pirated software is said to be carried out through cartels with connections in all three countries and the United States. The operations of these cartels cost some US\$800 million in losses to the US market for Nintendo in 1996 (Reuters News Service, 1990-97).

**3. COUNTERFEITING CULTURE IN GULF COUNTRIES**

According to Richard Partridge, a London Based business executive, "I got Paco Rabanne aftershave for myself, Chanel perfume for my wife, and loads of Marlboro cigarettes. I don't even smoke, but at these prices I just had to buy from Dubai," he says. *Is it Counterfeiting?* While UAE consumes a relatively low volume of pirated goods compared to its neighbors it serves as a major transit hub because of its strategic locations, excellent shipping and logistics facilities. These facilities made it as a distribution hub. Counterfeiters even take advantage in passing on illegal products from origin to markets –utilizing free zone areas to import, store and re-export to the rest of the world. This could be harmful to the countries reputation and to the legitimate business operating here. It also affects business attractiveness in terms of offering solid protection for intellectual property rights. The counterfeit products are becoming increasingly sophisticated and harder to detect. We can see advanced imitations of the boxes and even the security holograms which is used to identify original products. (Arabian Business, February, 2008). Yemen is losing 70% to 80% of the total market to counterfeiting. Saudi It is as high as 30% to 40 %.(Gulf Business, September, 2011)

Another major issue in the Middle East region is fake auto parts. The value of counterfeit auto parts in 2011 is around \$150-200 million. (Gulf Business, September, 2011) The share of counterfeit spare parts in the region is between 12.5% and 40 %.( Gulf Business, September, 2011). The reports suggest that these



may be responsible for around half of all road fatalities in Saudi Arabia. Counterfeit brake pads have been found to consist of a mixture of sawdust and wood particles. If installed in the vehicle, high chance that to catch fire. Counterfeit spare parts can affect the other parts of the vehicle also. Likewise counterfeit windshields are mostly made from a one layer glass which, in case of an impact, will shatter in particles of different and uncontrolled sizes. An Economic Impact Study Analyzing Counterfeit Products in the United Arab Emirates, in association with Dubai's Brand Owners Protection Group (BPG), reveals that the value of fake goods in the UAE topped US\$696m in 2006 with auto parts at the top of the list at 68.5%. Counterfeit tobacco totaled 22.2%, while cosmetics reached 5.9%, food and beverage, 2.5%, household products, 0.6% and pharmaceuticals 0.2%. (Arabian Business, August, 2010) These goods won't be found in shopping centers and malls but can end up on the many street markets of the region. If no counterfeit goods were bought or sold in the UAE, the report estimates that the UAE could have increased its non-oil GDP by US\$1.72bn, its tax collection by over US\$110m and its employment level by around 31,000 positions. But it is not only the UAE economy which suffers, it is the brands themselves.

The Royal Oman Police (ROP) have foiled a second attempt recently to smuggle counterfeit cigarettes into Oman from the Wadi Jizzi border post near Buraimi, according to a press release from the police (May-22/2011). The officers at the customs check point at Wadi Jizzi detected 700 packs of counterfeit cigarettes concealed in a water tank. Last time the customs officers had recovered counterfeit cigarettes worth 10,000 Omani riyals but this time the value of the contraband has not been revealed by the police. But the country of origin of this counterfeit is still not available. (The Week, October, 2011). Dubai is particularly attractive for counterfeiters because of its close proximity to the Persian Gulf between Asia, Europe and Africa. Records show that nearly one third of all counterfeit goods in Europe came through the UAE.

#### 4. COUNTERFEITING IN PHARMACEUTICAL AND COSMETICS

Counterfeit medical products are defined by the WHO as ones that are "deliberately and fraudulently mislabeled with respect to identity and/or source" (WHO/IFPMA, 1992). Today they are members of organized transitional criminal enterprises with complex distribution networks (Arabian Business, August, 2009). There are significant increases in the number of countries where counterfeit medicines have breached the legitimate supply chains – from just seven in 2006 to 50 in March 2011. Six of these countries are in the MENA region: Egypt, Jordan, Kuwait, Libya, Saudi Arabia and U.A.E. These products are made in locations that are unlicensed, unregulated, not inspected and insanitary. (Gulf Business, October, 2011). A variety of factors account for why medicines are attractive for counterfeiting. Medicines are high value items in relation to their bulk and the demand for medicines is vast. Furthermore, for the counterfeiter, ingredient costs can be very low if cheap substitutes are used or if these are omitted altogether, as is often the case. Last year Dubai Customs announced they had seized five million counterfeit tablets and out dated food products from a warehouse belonging to Euro Gulf Trading in the Jebel Ali Free Zone. (Gulf Business, September, 2011)

The US-based Centre for Medicines in the Public Interest predicts that counterfeit drug sales will reach US\$75bn globally in 2010 - up more than 90% from 2005. And in many cases these counterfeit drugs are fatal. In 1999 at least 30 people in Cambodia died as a result of taking counterfeit anti-malarials prepared with an older less-effective anti-malarial which were sold as Artesunate. In 1995 over 80 children in Haiti and 30 infants in India died after taking a paracetamol cough syrup containing a toxic chemical commonly used in antifreeze products. We are not even imagine the situation where the parent, who thinks their child has been protected from pneumococcal diseases, never finds out that in fact they were given a counterfeit that has no active ingredient. (Interview- Robert Essner, CEO of Wyeth Pharmaceuticals)

Counterfeit cosmetics are also proving to be a growing market, and like medicine is a highly profitable trade with sometimes dangerous consequences. The counterfeit cosmetic industry is such a lucrative business because if you take any good brand and offer a product that looks the same but is cheaper than the product in terms of price. People don't knowingly want to buy counterfeit cosmetics because ultimately they are applying it to the skin and the effects can be quite harmful. The biggest issue with counterfeit cosmetics is microbiological contamination because they simply do not have the same high standard of manufacturing process or quality of raw materials that the branded companies use because these are factors which help keep the cost low. Oman showcased the rampant spread of counterfeit fragrances in Oman. (The Week, September, 2011). Omar bin Faisal al Jahaadmi the Director General of consumer services and market control at the Ministry Of Commerce and Industry had admitted that ministry is well aware of this menace but it's pretty difficult to move off these products from market by department level. The pharmaceuticals from Dubai Customs' September, 2011 seizure were traced back to China - the beginning of a trading route which continues to Hong Kong, the UAE, Britain and the Bahamas. If the drugs had made it to the Bahamas, they would have eventually been sold to customers in America who would have been led to believe the products originated from Canada.

#### 5. THE ECONOMIC IMPACT OF COUNTERFEITING

Counterfeiting is not limited to a few products and or to a certain countries but it's a global menace affecting a wide range of industries and moreover it has a devastating impact on society as a whole. Industries worldwide lose billions of dollars to counterfeits. Economy-wide, counterfeiting and piracy undermine creativity and innovation, which is key to economic growth. (Arabian Business, 2008). In the US, the copyright industries provide 11% of GDP through companies such as Disney or Pixar. Pan Arab region could enjoy the same economic benefits from creativity but large countries like Saudi and Egypt not having adequately protected copyrights. These same countries have 90% of the piracy rates. While Emirates have created an environment for creativity through free trade zones. The home entertainment segment loses 500 million Saudi Riyals every year – let alone the losses to the retail, merchandising, advertising, promotion, media and videogames. (Gulf Business, 2011). The economic impact of counterfeiting can be placed into different areas; costs to the right holder, costs to countries where counterfeiting takes place, costs to countries where counterfeits are sold and social costs:

##### 5.1. COSTS TO THE RIGHT HOLDER

It has been estimated that industry world-wide loses billions of dollars every year to counterfeiters which adversely affecting the country's economy in different ways. First of all, industries which find themselves in direct competition with counterfeiters suffer a direct loss in sales. Certain markets are even dominated by counterfeiters, creating blockade of entry for the producers of the authentic product. Some would argue that the buyers of the fakes would not have bought the genuine item but that is a very narrow argument and can only apply to a small segment of luxury goods. Many counterfeit products today are of higher quality and compete directly with the genuine items. In addition, consumers who are deceived into believing that they bought a genuine article when it was in fact a fake, blame the manufacturer of the genuine product when it fails, creating a loss of goodwill. (OECD, 1998) Even cheaper and obvious copies that are bought in good faith represent a serious threat to the company that wants its brands associated with quality and exclusivity. One should not forget the expenditure involved in protecting and enforcing intellectual property rights. The right owner becomes involved in costly investigations and litigation when combating counterfeiters and may also have to spend further sums on product protection. The budget for anti-counterfeiting is rarely well defined within an organization, but spans across several departments such as marketing, human resources, product development and legal departments.

##### 5.2. COSTS TO COUNTRIES WHERE COUNTERFEITING TAKES PLACE

Counterfeiting affects global business in many ways sooner or later. Firstly, Foreign producers of reputable products become reluctant to manufacture their products in countries where counterfeiting is widespread as they cannot rely on the enforcement of their intellectual property rights. Hence, such countries not only lose direct foreign investment but also miss out on foreign know-how. Second, if many products from such countries, including genuine ones, gain a reputation of being of poor quality, this will cause export losses which in turn implies both job losses and loss of foreign exchange. It could be argued that the counterfeiting industry creates jobs but these jobs are often poorly paid, often involve substandard working conditions and sometimes use child labor. Third, the foundation for new business development in a country is the existence of a legal system to protect the rights of the entrepreneur and to promote fair competition. (OECD, 1998). The prevalence of counterfeiters in a market discourages inventiveness in that country since it deters honest producers from investing resources in new products and market development. A further direct loss for the government of countries that become havens for counterfeiters, are tax losses, since the counterfeits are normally sold through clandestine channels and counterfeiters are not generally keen to pay tax on their ill-gotten gains. Fiscal losses are increasingly shown to justify action by enforcement officials.

**5.3. COSTS TO COUNTRIES WHERE COUNTERFEITS ARE SOLD**

The economic cost of counterfeiting is much higher for countries which have strict enforcement of intellectual property rights. (OECD, 1998) These countries faces more job losses missed sales opportunities and lost tax revenues. In the long run counterfeiting discourages investment in product development since a company will not get all the benefit from its investment. The governments of countries where counterfeits are sold will also have to expend increasing amounts of money in funding police and other investigation and enforcement operations. Furthermore, the judicial authorities, including the courts and prison service, need to spend additional time and money in sentence.

**5.4. SOCIAL COST**

However, many consumers believe they are getting a bargain when they buy counterfeits, the actual value of the product is normally much lower. Hence, they end up paying an excessive price for an inferior product. The inferior quality of many counterfeits, particularly those relating to health and safety, has had disastrous effects. It is no longer rare to find counterfeit parts in aircraft and other vehicles causing death and injuries, or counterfeit pharmaceuticals in hospitals. Workers in factories where counterfeits are produced are frequently exploited. They often work in a poor working environment and are repeatedly exposed to health and safety risks. In addition, they are generally poorly paid. Counterfeiting has attracted both organised and petty criminals who have not only derived huge profits from this trade but have also used it, both as a means to invest the proceeds of crime and to finance other crimes.

**6. CONCLUSION**

Counterfeiting is a severe problem and the common perception is that it is increasing in considerable level. However, it is virtually impossible to find accurate statistics to substantiate these perceptions, not least because of the clandestine nature of the activity. The overall costs of counterfeiting in the world today are normally estimated to be 5-7 per cent of world trade. (Arabian Business, 2010) There is no substantial aggregated data to support the high percentages, but the figures are now accepted and used to illustrate the extent of the counterfeiting problem. Most companies that market their products internationally have experienced some problems with counterfeiting. Yet, for many, it is only during the last few years that they have formulated any systematic anti-counterfeiting policy. Strategies are now discussed in wider groups and most conferences on product counterfeiting will have at least one company sharing its experiences of combating counterfeiting. Anti-counterfeiting work is regarded as goodwill rising, and more and more companies are seeing the advantages of publicising their efforts. It is not only the most heavily counterfeited industries, such as software and music, but also companies from the wine and spirits and motor industries that participate at these conferences.

With counterfeiting soaring more and more companies are taking a proactive role in preventing their products from being counterfeited. (The Week, October-2011). It would be unrealistic to expect any measures to eliminate counterfeiting forever, but the aim should be to make it unattractive for the fraudsters to target the company's products. Safeguards against counterfeiting within private organizations have three main ingredients: anti-counterfeiting policy, technologies and legal enforcement. Co-operation between private industry and enforcement agencies needs to be re-enforced. Police and customs officers lack sufficient expertise to be able to identify goods that infringe a company's intellectual property rights. Infringers employ various modus operandi and are very innovative. Both parties – business and officials – have now realised that the internationalisation of fraud, its growth in magnitude, and the sophistication of infringers, renders it impossible for any company to successfully address the problem in isolation. On October 1, 2011 the governments of eight nations including Japan and the United States signed the Anti-Counterfeiting Trade Agreement (ACTA), which is designed help protect intellectual property rights, especially costly copyright and trademark theft. (The Week, October-2011). The signing took place a year after lengthy negotiations among 11 parties: Australia, Canada, the European Union, Japan, the Republic of Korea, Mexico, Morocco, New Zealand, Singapore, Switzerland and the United States. The EU, Mexico and Switzerland have not yet signed the agreement. Some commentators argue that the agreement is worthless without Chinese involvement, as China is the main source of the world's counterfeit goods products.

Under the patronage of EH Sultan BinSalim Al Habsi, Undersecretary, Omani Ministry Of Finance, The Brand Owners Protection Group (BPG), the largest non-profit organization in the Gulf committed to combating counterfeit trade, in association with the Oman Association for Consumer Protection, is staging a training workshop to enhance the skills of customs inspection officials in detecting illegal merchandise and distinguishing the counterfeited products from authentic branded products. (The Week, October, 2011). The Brand Owners Protection Group (BPG), the largest non-profit organisation in the Gulf, is conducting the session to enhance the skills of customs officials in detecting illegal merchandise when it arrives on the Sultanate's shores. As the Counterfeit traders pose health hazards and endanger the lives of members of society as they extend their ventures into pharmaceuticals and fast moving consumer goods, and this is one aspect that this is the peak time to build new relationships with authorities and consumer protection organizations in the GCC and the greater Middle East region to focus on to prevent counterfeit goods.

**REFERENCES****ARTICLES**

1. Clark, Andrew (1997), *Enforcement of Intellectual Property Rights*, University of Warwick, United Kingdom.
2. Cohen, Laurence J. (1990), "Warding off the Foe: How Trade Marks still can Offer some Protection against Parallel Imports", *European Intellectual Property Rights*, Belgium.
3. Comite, Colbert (1997), Paper on the effects on counterfeit goods on the French Industry, France
4. COTTRELL, Howard (1996), "The Investigator: Last Resort or Useful Resource?", *Trademark World* Vol. 3, United Kingdom.
5. Cratchley, Liz (1995), "Managing a Large Trade Mark Portfolio", *Managing Intellectual Property, Trade Mark Yearbook 1995*, United Kingdom.
6. Eck, Robert (1994), "Notorious Trade Marks: A Call for Broader Protection", *Managing Intellectual Property, Trade Mark Yearbook 1994*, United Kingdom.
7. Her Majesty's Customs and Excise (1997), various press releases on seizures of IP infringing goods, United Kingdom.
8. OECD, (1998), "*Counterfeiting Culture*", 2 rue André-Pascal, 75775 Paris, Cedex 16, France.

**MAGAZINES AND WEBSITES**

9. Arabian Business, "*counterfeiting culture in GCCS*" Issue-September, 2008
10. British American Tobacco, "Counterfeiting in Cigarettes" News letter, BAT, 2010).
11. Business Today, "Counterfeiting of consumer goods", issue September, 2011
12. Gulf Business Magazine, "*Pan gulf Region and counterfeiting culture*" Issue -October, 2011
13. Press releases and interviews, *Various press releases and interviews with CEOs on counterfeiting culture in Gulf countries and seizures of infringing goods.* 2006- 2011
14. Reuters News Service, 1990-97
15. The Week Magazine, "*Counterfeiting in Oman*", Issue-October-2011

**GREEN MARKETING: AN INDIAN EXPERIENCE**

**KANCHAN SEHRAWAT**  
**ASST. PROFESSOR**  
**SRI RAM COLLEGE OF COMMERCE**  
**UNIVERSITY OF DELHI**  
**DELHI**

**AMOGH TALAN**  
**RESEARCH SCHOLAR**  
**CENTRE FOR MANAGEMENT STUDIES**  
**JAMIA MILLIA ISLAMIA**  
**DELHI**

**DR. A. K. TYAGI**  
**ASST. PROFESSOR**  
**COLLEGE OF VOCATIONAL STUDIES**  
**UNIVERSITY OF DELHI**  
**DELHI**

**GAURAV TALAN**  
**ASST. PROFESSOR**  
**UNIVERSITY SCHOOL OF MANAGEMENT STUDIES**  
**GGSIU**  
**DELHI**

**ABSTRACT**

*Green marketing has been a defining trend for a lot of corporations in the more environmentally conscious world. The corporations which follow the practices of green marketing thrive in other business practices as well, suggesting a positive relation between the two. In our paper we have highlighted some examples of green marketing initiatives undertaken by a few Indian corporations, and the implications such practices have on their performance. We also highlight the suggestions for other business leaders on the same ground.*

**JEL CODE**

L00

**KEYWORDS**

Green marketing, companies.

**INTRODUCTION**

According to Green Markets International, Inc. Green marketing is "the marketing of products that are presumed to be environmentally preferable to others". Companies involved in green marketing make decisions relating to the entire process of the company's products, such as methods of processing, packaging and distribution.

Green, ecological and eco-marketing are a piece of the new marketing methodologies which don't simply refocus, change or upgrade existing promoting thinking and practice, however look to test those methodologies and give a generously alternate point of view. In more detail green, natural and eco-marketing have a place with the gathering of methodologies which try to address the absence of fit between marketing as it is as of now rehearsed and the environmental and social substances of the more extensive promoting environment (Belz F., Peattie K. 2009).

The term Green Marketing came into prominence in the late 1980s and early 1990s (Dodds, John, May 21, 2007) The American Marketing Association (AMA) held the first workshop on "Ecological Marketing" in 1975 (Curtin, Emily, 2006-09-14). The proceedings of this workshop resulted in one of the first books on green marketing entitled "Ecological Marketing" (Karl E., Henion; Thomas C. Kinnear, January 1976).

**OBJECTIVE**

Objective of this paper is to highlight the accomplishments of a few Indian corporations in the domain of Green Marketing to show how Indian corporations have covered the long distances to reach to this level and to show how these corporations, despite their substantial investment in green marketing continue to thrive, and to set an example for future leaders and managers of other companies to undertake such initiatives.

**LITERATURE REVIEW**

Ben & Jerry's set an example of green marketing who supplemented the monetary report by a more noteworthy view on the organization's ecological effect. In 1987 a report constructed by the World Commission on Environment and Development characterized sustainable development as addressing "the needs of the present without compromising the ability of future generations to meet their own need", which got to be known as the Brundtland Report and was an alternate step towards the board thinking on sustainability in regular activities. Two substantial turning points for wave 1 of green marketing came as distributed books, both of which were called Green Marketing. They were by Ken Peattie (1992) in the United Kingdom and by Jacquelyn Ottman (1993) in the United States of America.

As indicated by Jacquelyn Ottman, (author of "The New Rules of Green Marketing: Strategies, Tools, and Inspiration for Sustainable Branding" (Greenleaf Publishing and Berrett-Koehler Publishers, February 2011)) from an organizational viewpoint, ecological contemplations ought to be coordinated into all parts of

marketing — new product development and communications and all points in between. The comprehensive nature of green marketing additionally proposes that other than suppliers and retailers new stakeholders be enrolled, including teachers, parts of the group, controllers, and NGOs. Environmental issues ought to be adjusted with primary customer needs.

The previous decade has demonstrated that outfitting buyer force to impact positive environmental change is far easier said than done. The alleged "green buyer" developments in the U.S. and other nations have attempted to achieve basic mass and to stay in the cutting edge of customers' minds (Dodds, John, August 11, 2006). While general assumption surveys taken since the late 1980s have demonstrated reliably that a noteworthy rate of shoppers in the U.S. and elsewhere maintain a strong eagerness to support ecologically cognizant items and organizations, buyers' endeavors to do so real life have stayed crude at best (Green Markets International, Inc.). One of green marketing's challenges is the absence of guidelines or public consensus about what constitutes "green," as indicated by Joel Makower, an author on green marketing (Elkington, J., Hailes, J., & Makower, J. 1990). Fundamentally, there is no definition of "how good is good enough" in the matter of a product or organization making green marketing cases. This absence of agreement by customers, marketing, activists, controllers, and compelling individuals has reduced the development of green products, says Makower, in light of the fact that organizations are frequently hesitant to advance their green characteristics, and shoppers are regularly incredulous about cases.

Regardless of these difficulties, green marketing has kept on gaining disciples, especially in light of becoming worldwide worry about environmental change. This worry has driven more organizations to promote their dedication to decrease their atmosphere effects, and the impact this is having on their products and services (Mendleson, Nicola; Michael Jay Polonsky, 1995, McDaniel, Stephen W.; David H. Rylander, 1993).

## GREEN MARKETING INITIATIVES BY INDIAN CORPORATIONS

### ITC

ITC has been carrying out green initiatives mainly to reduce Green House Gas emissions through energy conservation, use of renewable sources of energy and identifying ways of mitigating the adverse effects of climate change caused by global warming.

ITC has implemented several CDM projects under the Kyoto Protocol and ensured carbon dioxide (CO<sub>2</sub>) sequestration through large-scale social and farm forestry initiatives.

Energy efficiency practices of ITC have helped in achieving world-class standards of energy utilisation in several units. Through a rigorous process of audits supported by benchmarking, specific energy consumption has been reduced year on year. ITC has proactively aligned its strategies and joined international efforts in mitigating/delaying the adverse impacts of climate change. All ITC businesses strive to minimize energy consumption and wherever possible use environment friendly sources of energy.

30.9 % of ITC's energy consumption is from renewable sources. Flowing from its commitment to the triple bottom line philosophy, ITC has chosen Wind Energy as a focus area for enhancing its positive environmental footprint. The Company has already invested in wind energy generation in Tamil Nadu to meet the requirements of its Packaging business in Chennai. This 14 megawatt Clean Energy Initiative has delivered performance parameters which exceed original projections. The Company's investments in Wind Energy are eligible for Carbon Credits under the Clean Development Mechanism of the Kyoto Protocol, resulting in substantial cost savings.

ITC's social and farm forestry initiatives have created a green cover of over 125,000 hectares, consolidating its position as a 'Carbon Positive' corporation for six years in a row. ITC invests significantly in research and development to create clonal saplings that are disease resistant, grow faster, and have higher survival rates. These are provided to farmers to enable them to convert their private degraded wastelands into viable pulpwood plantations.

In addition, it provides sustainable raw material sources for the Company's Paperboards business, and also creates livelihood opportunities for disadvantaged tribals and farmers in rural areas. This initiative has already created 56 million person days of employment.

### PAPER AND PAPER PRODUCT MANUFACTURE FROM RENEWABLE PLANTATIONS

ITC businesses have already registered 8 CDM projects, with the CDM-EB (Clean Development Mechanism – Executive Board), set up by UNFCCC (United Nations Framework Convention on Climate Change) under the Kyoto Protocol which include two unique projects – one on social forestry, the first of its kind in India and ITC Sonar, the only hotel in the world to earn carbon credits.

### WATER POSITIVE CORPORATION

At 170,000 sq feet, ITC Green Centre is the world's largest 0% water discharge. ITC's sustainability initiatives, in the area of water, focuses on:

1. Achieving the lowest specific water consumption (water used per unit of production) through conservation, audit and benchmarking.
2. Zero water discharge – treating and recycling all waste water, thereby not only reducing fresh water intake but also preventing pollution of fresh water resources.
3. Creating a positive footprint – through rainwater harvesting, both within our own units and across different watershed areas.

### ITC's WoW INITIATIVE

ITC's Wealth Out of Waste is a recycling initiative that works towards spreading awareness about recycling, and encouraging people to segregate and dispose waste responsibly. WOW is an internationally recognised initiative by Bureau of International of Recycling. BIR is a world wide international trade federation representing the world's recycling industry, promoting recycling across the globe.

WOW initiative started in a small way in April 2007 with an average monthly collection of 100 tonnes per month is now spread across South India with an average monthly collection of 5000 tonnes per month with a potential of collecting 10,000 tonnes per month by the end of 2012 within South India.

The WOW programme encourages people to segregate their waste at the source which is their households. This reduces the amount of waste filling up the landfills – and provides industries with clean raw materials. For example, ITC's Kovai unit is exclusively dependent on recycled fibre, as are some machines in Bhadrachalam as well. By end 2011, ITC PSPD would be using close to 210,000 tonnes of waste paper per annum. WOW helps ITC collect this raw material from India.

### SHELL INDIA LTD.

In 2008, Shell Foundation launched a pilot scale project in Karnataka to raise awareness on hazards of smoke from kitchen. Under the program called 'My Kitchen, My Pride', it reached to 112 villages in the state and organized interactive activities like display of wall posters, wall paintings, mobile van campaigns, flipchart stories and street plays about air pollution and health hazards from kitchen smoke.

Shell Foundation and Envirofit have created a viable clean cook stove business in India and established distribution centers to reach rural homes.

### MODERN RENEWABLE ENERGY SERVICES TO POOR VILLAGERS

Shell Foundation has created "The Excelerate Programme" to provide modern energy services for the poor at a nominal cost. Under this initiative, the foundation supports a lighting and power company, D.light Design to distribute solar lanterns at cheap cost to villagers in Uttar Pradesh and Maharashtra states. The program aims to bridge the gap between modern energy services and the supply of appropriate technologies to meet that demand.

### AID FOR RURAL ELECTRIFICATION WITH RENEWABLE ENERGY TECHNOLOGY

Shell Foundation supports a rural electrification company, Husk Power Systems to generate and supply power for rural people in Bihar state at affordable costs. The electric company employs a renewable energy technology, biomass gasification to produce power with rice husk wastes as feed material. The fund provided by Shell Foundation has helped increase electrification rates from about 2% to around 95% in the villages of Bihar.

### WORK WITH EMBARQ FOR SUSTAINABLE TRANSPORT SOLUTIONS

Shell Foundation works with the World Resources Institute's Centre for Sustainable Transport, EMBARQ as a strategic partner to implement transport solutions including Bus Rapid Transport (BRT) systems, bus retrofits, cycling & pedestrian infrastructure, improved public spaces and transport-oriented urban planning measures in India.

**FOCUS ON ENERGY DEBATE IN MASS MEDIA**

Shell in India runs a unique program with a media partner NDTV for debate of energy and related issues to the country. The program aims to increase the country's coherent focus on energy as a global economic player with responsibilities.

Few topics included in the program are:

- Urja ki Jung – "Energy Saving is the war cry"
- Paani ki Pareshaani – "Water – the real crisis of global warming"
- Vikas ki Keemat – "Environment is the price we pay for Economic Development"
- Education

**MANGROVE CULTIVATION FOR COASTAL ECOSYSTEM RESTORATION**

Shell Foundation works in collaboration with Hazira LNG, port companies and other state bodies in four villages around the Hazira peninsula to develop mangrove trees in the "Coastal Area Eco-restoration Project". The partnership has resulted in completion of successful mangrove plantation on over 1100 ha including more than 50,00,000 mangrove trees to conserve integrity in the coastal ecosystem. Besides it, 35,000 saplings (non mangrove trees) have been planted at the wada land, temples, cremation areas, pond boundaries and on village commons along the coast.

**BAJAJ AUTOS****DISTRIBUTION OF PLANT SAPLINGS TO CUSTOMERS**

Bajaj Auto distributed plant saplings for every motor bike, sold at Mumbai to its customers in 2010. It was an effort to promote greener and cleaner environment.

**RURAL PEOPLE' EXPERIENCE ON FUEL EFFICIENCY OF BIKES**

Bajaj Auto organized its "Discover Mileage Challenge Camps" in rural areas of four Indian states (Maharashtra, Gujarat, Madhya Pradesh & Chhattisgarh) where 1445 local participants were invited to experience the fuel efficiency of its product launch then. Participants, achieved higher mileage in the test run were awarded prizes by local dignitaries.

**RURAL PEOPLE' EXPERIENCE ON FUEL EFFICIENCY OF BIKES**

Bajaj Auto organized its "Discover Mileage Challenge Camps" in rural areas of four Indian states (Maharashtra, Gujarat, Madhya Pradesh & Chhattisgarh) where 1445 local participants were invited to experience the fuel efficiency of its product launch then. Participants, achieved higher mileage in the test run were awarded prizes by local dignitaries.

**WATER CONSERVATION PROJECTS IN VILLAGES OF MAHARASHTRA**

As part of CSR activities in rural areas by Bajaj Auto' trust, Jankidevi Bajaj Gram Vikas Sanstha, water conservation projects have been implemented in 24 remote and backward villages in Khed and Maval talukas of Pune, Paithan and Gangapur talukas of Aurangabad in Maharashtra to improve rural lives and agricultural productivity.

**HINDUSTAN PETROLEUM****RAIN WATER HARVEST ARRANGEMENT FOR MUMBAI REFINERY**

Hindustan Petroleum plans to augment the rain water harvest from the hills adjoining its refinery plant at Mumbai. It would enable the oil firm to regulate its municipal water intake for plant operations. During 2011-12, it has harvested 60,000 KL of rain water from this site.

**EXPLOITATION OF RENEWABLE ENERGY IN MARKETING UNITS**

Hindustan Petroleum has made use of renewable energy for lighting at its marketing locations in India. In Tamilnadu at Ennore Oil Terminus, the company has installed solar street lights for peripheral activities.

**ENERGY CONSERVATION MEASURES FOR REFINERIES**

HPCL' refineries at Mumbai and Visakh have implemented in total 24 energy conservation initiatives that save 0.99 million GJ of energy annually. The firm has developed a LEED certified green building at Visakh terminal which functions on natural light by sky light installations.

**RAIN WATER HARVESTING – JALTARANG FOR DROUGHT PRONE REGIONS**

Throughout India, HPCL has engaged in water conservation projects in rural areas, prone to drought. In co-operation with social bodies, rain water harvesting projects have been initiated at the following locations with social bodies in the respective states:

1. Thane district of Maharashtra with Impact India Foundation
2. Kanchipuram district of Tamilnadu with Dhan Foundation
3. Pudukottai & Karasanur districts of Tamilnadu with MS Swaminathan Research Foundation
4. Makunda Village, Ranchi district of Jharkhand with Xavier Institute of Social Service (XISS)

**JOINING LABL INITIATIVE OF TERI**

HPCL has joined TERI' LABL (Lighting A Billion Lives) initiative which aims to alleviate electricity deficiency faced by the rural people in India. Under this program, solar lanterns will be rented at nominal fee from charging stations to villagers. Project with TERI leads to establishment of solar charging stations in three energy scarce, poor villages of Madhya Pradesh.

**IMPROVED CONVEYOR SYSTEMS TO SAVE ENERGY**

In the process of identifying defective cylinders, HPCL has replaced its conventional correction loop conveyor with an automated conveyor belt, resulted in reduction of hours of operation from 16 to 2 and saved net energy of 62,664 units of power in a single conveyor belt per annum in bottling plants.

As per the Economic Times' article by **George Wyeth** "Eco-friendly: Going green a priority for Indian companies":

One of the greenest company on Yale's Environmental Performance Index has been Godrej and Boyce. Its programme Good and Green includes (a) greening company operations, (b) developing greener or socially-beneficial products, and (c) supporting educational programmes to train more skilled shopfloor workers. Godrej makes energy-efficient air-conditioners, and is one of the first makers in the world to market products with extremely-low-GHG refrigerants.

It has "greened" its operations to make maximum reuse of discarded materials, minimise energy and water use, and cut GHG emissions by switching from diesel to biomass fuel. A visit to Godrej's factory in Shirwal revealed that its sustainability targets were displayed in the factory's conference room. That showed sustainability is a serious priority. Some other companies are also making a mark in this arena.

Hindustan Unilever, for example, has set aggressive goals for its own operations, aiming to cut carbon emissions by 22%, water use by 29% and waste by 77% per product manufactured.

ITC has received global recognition for its efforts to keep small farmers economically viable. Kirloskar Brothers is marketing a line of highly-energyefficient pumps, significant because pumping water is one of the major drivers of energy demand. The Tata Group has embedded sustainability into its organisational DNA.

When Tata scores each of its component companies on measures ranging from leadership to business results, it looks for evidence of action being taken to combat climate change, reduce waste and use sustainability strategically as part of their business planning. So, sustainability is part of the main corporate strategy. Ashutosh Pandey, CEO of Delhi-based investment firm Emergent Ventures, estimates that between 50 and 100 companies are addressing sustainability in a comprehensive way (that is, addressing issues beyond energy and climate).

Nitin Kalothia, with consulting firm Frost and Sullivan, offered similar numbers but says that awareness has risen dramatically in the last 2-3 years among many firms. Industry associations such as the CII actively encourage their members to be more sustainable. India, unlike the US, has an official Action Plan on Climate Change and has launched an innovative energy efficiency programme called Perform, Achieve and Trade.

**IMPLICATIONS**

Business leaders around the country must note how the corporations in the examples above thrive in their business processes despite their major investments in the green marketing.

Perhaps such an investment may have an indirect effect on the companies' financial performance as well.

**CONCLUSION**

With the help of this paper we have shown certain examples of green marketing by Indian corporations. Such examples may become basis of further research into the subject whether how the green marketing affects the operating and financial performance of the company. As the companies mentioned have been doing great when it comes to their operating and financial performance, it is highly hypothesized that there should be a positive relation.

**REFERENCES**

1. Belz F., Peattie K. (2009): Sustainability Marketing: A Global Perspective. John Wiley & Sons.
2. Curtin, Emily (2006-09-14). "Lower East Side Green Market". Retrieved January 2008.
3. Dodds, John (August 11, 2006). "Geek Marketing 101". Retrieved January 2008.
4. Dodds, John (May 21, 2007). "Green Marketing 101". Retrieved January 2008.
5. Elkington, J., Hailes, J., & Makower, J. (1990). The green consumer. New York: Penguin Books.
6. Karl E., Henion; Thomas C. Kinnear (January 1976). "Ecological Marketing". American Marketing Association. p. 168. ISBN 0-87757-076-0, ISBN 978-0-87757-076-9.
7. McDaniel, Stephen W.; David H. Rylander (1993). "Strategic green marketing". Journal of Consumer Marketing (MCB UP Ltd) 10 (3): 4-10.
8. Mendleson, Nicola; Michael Jay Polonsky (1995). "Using strategic alliances to develop credible green marketing". Journal of Consumer Marketing (MCB UP Ltd) 12 (2): 4-18.
9. Ottman, J. A., & Herbert, H. (1993). Green marketing. Illinois—USA: NTC Business Books.
10. Peattie, K., & Charter, M. (2003). Green marketing. The marketing book, 5, 726-755.

**WEBSITES**

11. [www.eai.in](http://www.eai.in)
12. [www.economicstimes.indiatimes.com](http://www.economicstimes.indiatimes.com)
13. [www.itcportal.com](http://www.itcportal.com)



## ROLE OF RBI AND GOVERNMENT OF INDIA TOWARDS FINANCIAL INCLUSION OF THE RURAL POOR: ISSUES AND SUGGESTIONS

**MANOHAR LAMANI**  
**ASST. LECTURER**  
**DEPARTMENT OF SOCIAL WORK**  
**RANI CHANNAMMA UNIVERSITY BELAGAVI**  
**S. R. KANTHI P. G. CENTRE**  
**BAGALKOT**

**SANGANAGOUDA PATIL**  
**JR. LECTURER**  
**DEPARTMENT OF ECONOMICS**  
**RANI CHANNAMMA UNIVERSITY BELAGAVI**  
**S. R. KANTHI P. G. CENTRE**  
**BAGALKOT**

### ABSTRACT

No doubt India is said to live in its villages, it's a valid statement considering that more than half of the countries population lives there, however a significant exportion of our 6,50,000 odd villages does not have single bank branch to boast of, leaving swathes of rural populace in financial exclusion. Therefore it is imperative to bring the unbanked population within the ambit of banking system. Invariably, financially excluded people still depend on money lenders even for their day to day needs, borrowing at exorbint rates to finally they get caught in a debt trap. So providing financial access to the poor by linking them with banks has always been an important priority of the governmentof India. So the government of India and reserve bank of India have to take care of the India's large financially excluded population especially rural population of India to boost financially inclusion in India. RBI has been constantly encouraging the banking sector to develop the banking network both through setting up of new branches, installation of new ATMs, information and communication technology (ICT). This article focuses on the RBI and Gol initiatives and policy measures, current status and future prospects of financial inclusion in India on the basis of facts and data provided by various secondary sources. It is concluded that financial inclusion shows positive and valuable changes because of change in strength and technological changes. Therefore, adequate provisions should be needed to ensure that the poor are not driven away from banking. This requires training the banks forefront staff and managers as well as business correspondents on the human resource development side of banking.

### KEYWORDS

Financial Inclusion, Banks, Financial Access, RBI.

### INTRODUCTION

Financial inclusion denotes delivery of financial services at an affordable cost to the vast sections of the disadvantaged and low-income groups. The various financial services include credit, savings, insurance and payments and remittance facilities. The objective of financial inclusion is to extend the scope of activities of the organized financial system to include within its ambit people with low incomes. Through graduated credit, the attempt must be lift the poor from one level to another so that they come out of poverty. Financial inclusion mainly focuses on the poor who do not have formal financial institutional support .The concept of Financial Inclusion is not a new one. It has become a catchphrase now and has attracted the global attention in the recent past. Lack of accessible, affordable and appropriate financial services has always been a global problem. It is estimated that about 2.9 billion people around the world do not have access to formal sources of banking and financial services. India is said to live in its villages, a convincing statement, considering that nearly 72% of our population lives there. However, a significant proportion of our 6, 50,000 odd villages do not have a single bank branch to boast of, leaving swathes of the rural population in financial exclusion. RBI has reported that the financial exclusion in India leads to the loss of GDP to the extent of one per cent (RBI, Working Paper Series (DEPR): 8/2011).

RBI defines Financial Inclusion as "a process of ensuring access to appropriate financial products and services needed by all sections of the society in general and vulnerable groups such as weaker sections and low income groups in particular, at an affordable cost in a fair and transparent manner by regulated mainstream institutional players". Therefore, the objective of Financial Inclusion (FI) is to extend financial services to the large hitherto unreserved population of the country to unlock its growth potential. Thus, keeping in view of the interests of the poor people, the Government of India (Gol) has taken a number of measures so that the underprivileged sections of the society can reap the benefits of the financial services.

Financially excluded people in India

- Marginal farmers.
- Landless labourers
- Self employed and unorganized sector enterprises
- Urban slum dwellers
- Migrants
- Ethnic minorities and socially excluded groups
- Senior citizens and women, etc.

Consistently, depend on money lenders even for their day to day needs, borrowing at excessive rates to finally get caught in a debt trap. In addition, people in far-off villages are completely unaware of financial products like insurance, which could protect them in adverse situation. "Nearly forty years after nationalization of banks, 60% of the country's population does not have bank accounts and nearly 90% do not get loans," India has been currently the second-highest number of financially excluded households in the world. While, 40% of India's population has bank accounts, and about 10% have life insurance cover, a meagre 0.6% has non-life insurance cover.

Financial services actively contribute to the human & economic development of the society. These lead to social safety net & protect the people from economic shocks. Hence, each & every individual should be provided with affordable institutional financial products/services popularly called "Financial Inclusion". Therefore, financial inclusion is a big necessity for our country as a large chunk of the for poverty reduction and social cohesion.

### OBJECTIVES

1. To examine the government programs for financial inclusion in India;

2. To examine the various RBI policies towards the financial inclusion of the excluded class in the society especially rural poor;
3. To suggest policy measures for the inclusion of financially excluded.

## METHODOLOGY

The objective of the paper is to access the Indian experience in the field of Financial Inclusion. The secondary data has been used from various sources to analyze the role of Reserve Bank of India and Government of India in promoting Financial Inclusion. The descriptive and empirical studies and special references of some articles has been also are used to analyze role of RBI & GoI in achieving full financial inclusion in India by 2015. The required data has been collected from RBI bulletin, annual reports of RBI and Ministry of Finance, GoI, Report on trend and progress of banking in India, various reputed journals, newspapers and websites of RBI, NABARD (National Bank for Agricultural and Rural Development) and Ministry of Finance, Government of India (GoI).

## THE REVIEW OF GOI AND RBI POLICIES FOR FINANCIAL INCLUSION IN INDIA

Reserve Bank of India and Government of India is navigating the path to financial inclusion by means of policies and supervision. To remove all obstacles and hurdles in the way of financial inclusion RBI and GoI has taken a lot of initiatives and policy measures, which includes the following;

### NO-FRILLS ACCOUNTS

People in the financially excluded zone find it quite difficult to meet the requirements of normal savings accounts. Recognizing this problem, RBI, in the year 2005, took an initiative and has made it compulsory for the banks to provide no-frills savings accounts without a minimum balance requirement. The transaction charges are reasonable and small overdrafts are also allowed. This initiative of RBI proved to be very effective as the banking system has opened 139 million no frill accounts amounting to Rs.126 billion by March, 2012 under the Financial Inclusion Plan (FIP).The figures, respectively, were 105 million and Rs.76 billion in March, 2011 (Table 2).

### OVERDRAFT FACILITIES IN SAVING ACCOUNT

Banks are providing overdraft (OD) facility in saving account and also Small Overdrafts in No-frills accounts. Banks have been advised and directed to provide small OD in such accounts. Banks had provided 2.7 million ODs amounting to Rs.1.1 billion till March 2012. The figures, respectively, were 0.6 million and Rs. 0.3 billion in March 2011 (Table 2).

### OVERCOMING LANGUAGE BARRIER

Large sections of the Indian population are not familiar with English and Hindi, the languages mostly used in bank forms. Banks are therefore required to provide forms pertaining to account opening disclosure etc. in the regional language as well.

### SIMPLIFICATION OF KNOW YOUR CUSTOMER (KYC) NORMS AND GUIDELINES

To open a Regular Account, a customer has to provide documents on (a) Proof of identity, and (b) Proof of address, as per RBI guidelines. But customers face difficulties in providing the requisite documentation for opening regular bank accounts. Also, most rural inhabitants do not have any of the identity documents that are required for account opening and compliance with Know Your Customer (KYC) norms. For that reason, the account opening process has been simplified for people who intend to keep balances not exceeding Rs.50,000 and whose total credit in all the accounts taken together is not expected to exceed Rs.100,000 in a year. Small accounts can now be opened on the basis of an introduction from another account holder who has satisfied all the KYC norms. In addition to this, a Sub-Group of senior officers of some public sector banks (PSBs), constituted by Department of financial services, has suggested uniform KYC guidelines and a common list of documents, for guidance and adoption by the PSBs.

### SIMPLIFICATION OF SAVINGS BANK ACCOUNT OPENING FORM

To ease the opening of bank account by the migratory labor, street hawkers and other poorer sections of the society, "Simplified Account Opening Form" has been designed. Banks have been requested to put in place a system to enable the customer to fill the account opening form on an „online“ mode. This form contains sections for Small Accounts, Accounts with Introduction and Basic Saving Bank Deposit Account.

### FINANCIAL LITERACY PROGRAM

Financial Literacy Programs have been initiated by RBI to improve financial education and literacy so that people will become aware about the basic financial terms and services provided by banks and financial institutions. RBI provides support to Financial Literacy and Credit Counseling Centers (FLCCs).The broad objective of the FLCCs will be to provide free financial literacy/education and credit counseling.

### SIMPLIFIED BRANCH AUTHORIZATION

With the objective of facilitating uniform branch growth, RBI has permitted banks to freely open branches in tier III to tier VI centers with population less than 50,000 under general permission consent, subject to reporting (since December 2009).On the other hand, banks can open branches in any centre-rural, semi-urban or urban – in the North-east without applying for permission each time, again subject to reporting.

### GENERAL CREDIT CARDS (GCCs)

Banks have been advised to consider introduction of a General Purpose Credit Card (GCC) facility up to Rs.25, 000/- at their rural and semi-urban branches. The credit facility is in the nature of revolving credit entitling the holder to withdraw up to the limit sanctioned. Based on assessment of household cash flows, the limits are sanctioned without insistence on security or purpose. Interest rate on the facility is completely deregulated. Banks had offered 2.1 million GCCs with an amount of Rs. 42 billion by the end of March, 2012. The figures, respectively, were 1.7 million and Rs. 35 billion as of March,2011

### KISAN CREDIT CARDS (KCCs)

Kisan Credit Cards to small time farmers have been issued by banks. As on March 2012, the total number of KCCs issued has been reported as 30 million with a total amount outstanding to the tune of Rs.2, 068 billion. The figure, respectively, were 27 million and Rs.1, 600 billion on March, 2011(Table I.2).

### BUSINESS CORRESPONDENTS (BCS) AND BUSINESS FACILITATORS (BFS) MODEL

The Reserve Bank permitted banks to engage BCs and BFs as intermediaries for providing financial and banking services. The BC model allows banks to provide doorstep delivery of services, especially cash-in-cash-out transactions, thus addressing the last-mile problem. With effect from September 2010, profit companies have also been allowed to be engaged in BCs. Under FIP out of total banking outlets in villages BCs are 1, 41,136 by the end of March, 2012. The figure was 80,802 in March, 2011. The urban locations covered through BCs are 5,891 by the end of March, 2012. The figure was 3,771 in March, 2011 (Table 2).

**SHG Bank-Linkage Programme**-The credit linkage of Self Help Groups (SHG) and Joint Liability Groups (JLG) by Commercial Banks is one of the major initiatives to bring low income poor people into the banking stream. The poor people come together and pool the savings of group and dispense small loans for meeting the individual requirements of members. Up to 31-03-2012, 79.60 lakh SHGs were linked and 43.54 lakh SHGs were linked with various banks across the country.

**Opening of branches in unbanked rural locations**-To target excluded section of society in rural locations attention was given to expansion and opening of bank branches in those centres. Consequently, banks have been mandated in the Monetary Policy Statement to target at least 25 per cent of the total number of branches to be opened during a year in unbanked rural centres (April 2011).

**Use and promotion of ICT in Banking**-Financial inclusion approach basically focuses on the exercise of ICT (Information and Communication Technology) to expand access to banking facilities and services. The Government and the RBI supporting and promoting commercial and cooperatives banks to offer banking facilities to the society by using modern technology i.e. ATM, micro-ATMs, mobile banking and business correspondents, E-banking, smart cards, Aadhaar Enabled Payment Systems (AEPS) etc.

**Branch Expansion/Coverage of villages**-Till March,2012,Banks have opened banking outlets in 1,81,753 villages up from just 1,16,208 as on March,2011.Out of these,37,471 villages have been covered through brick and mortar branches,1,41,136 through BC outlets and 3,146 through other modes like mobile vans etc. providing banking services at the door step of villagers through Smart Cards (Table2).

**Rural Infrastructure Development**-Under Rural Infrastructure Development Fund (RIDF), NABARD grant loans to State Governments for the creation of rural infrastructure, broadly under agriculture and related sectors, rural connectivity and social sector. The annual allocation of funds announced in the Union Budget



has gradually increased from Rs. 2,000 crore in 1995-96 to Rs. 18,000 crore in 2011-12. The aggregate allocations have reached Rs. 1,52,500 crore. In the Budget speech 2012-13, allocation of Rs. 20,000 crore has been made.

**Creation of Funds for Financial Inclusion**-Financial Inclusion Fund and Financial Inclusion Technology Development Fund were created by Central Government for meeting the costs of development, and promotional and technology interventions, A fund of Rs.5,000 crore in NABARD was also created to enhance its re-finance operations to short term co-operative credit institutions.

**TABLE 1: BRANCHES REGION-WISE AND POPULATION GROUP-WISE NEW BANK BRANCHES OPENED DURING 2011-12**

Region	Rural	Semi Urban	Urban	Metropolitan	Total
1	2	3	4	5	6
Central	543	483	240	119	1,385
Eastern	301	352	217	89	959
North- Eastern	43	60	49	-	152
Northern	450	425	187	205	1,267
Southern	647	871	315	247	2,080
Western	269	387	122	297	1,075
<b>Total</b>	<b>2,253</b>	<b>2,578</b>	<b>1,130</b>	<b>957</b>	<b>6,918</b>

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012, RBI

Opening of New Bank Branches-Scheduled Commercial Banks have opened 6,503 branches during 2012-13, out of which 2,051 are in rural areas, 2,479 in semi-urban areas, 1,065 in urban areas and 908 branches in metropolitan areas (Annual Report 2012-13, Ministry of Finance, GoI). In accordance with the efforts put forward by the Reserve Bank for opening new bank branches in rural areas, more than two-thirds of total new branches opened during 2011-12 were in rural or semi-urban areas. Expansion of banking network is done through the opening of new bank branches in various regions. The distribution of new branches Region-wise and Population Group-wise is shown in Table 3. Among the regions southern region accounted for almost 30 per cent of total new bank branches opened

**TABLE 2: PROGRESS IN ROADMAP FOR PROVIDING BANKING OUTLETS IN VILLAGES WITH POPULATION OF MORE THAN 2000 (As on March 31, 2012)**

Region	No. of villages Covered(March 2010)	Banking outlets opened in villages with population>2000 during April 2010-March 2012				Total no. of villages covered (March 2012)	Banking Penetration in villages in March 2012 as multiple of position of March 2010
		Branches	BC	Other Modes	Total		
Northern	4,363	241	7,868	67	8,176	12,539	2.9
North-Eastern	1,093	382	2,795	7	3,184	4,277	3.9
Eastern	6,767	444	19,019	579	20,042	26,809	4.0
Central	6,935	491	19,256	535	20,282	27,217	3.9
Western	3,409	208	6,849	816	7,873	11,282	3.3
Southern	5,894	727	13,587	328	14,642	20,536	3.5
All-India	28,461	2,493	69,374	2,332	74,199	1,02,660	3.6

Source: Report on Trend and Progress of Banking in India for the year ended June 30, 2012, RBI

As at end-March 2012, 99 per cent of the identified villages have been provided with banking outlets. Four States, viz., Uttar Pradesh, Bihar, West Bengal and Andhra Pradesh accounted for more than 50 per cent of these newly opened banking outlets. On a positive note, all identified villages in the north-eastern have been provided with banking outlets. Region-wise analysis of the progress made in banking penetration indicated that significant progress has been made in eastern as well as north-eastern region on this front. The details of Progress in Roadmap for providing Banking Outlets in Villages with Population of more than 2000.

## RECENT PROJECTS FOR FINANCIAL INCLUSION

**ADHAR:** Millions of people have lack of proper proof as driving license, Pan card, credit cards etc. so that they face difficulties to access public services like bank account, ATM facility, loan facilities etc. The project ADHAR (The brand name of UID) serves the KYC guidelines for the people who have lack of Identity. Thus, UID (Unique Identification Number) could act as a tool to drive financial inclusion for the rural a poor people.

**SWAVALAMBAN:** A co-contributory pension scheme launched on September 26, 2010 for workers of unorganized sector. Under this scheme the worker of unorganized sector who contribute a sum of Rs. 1000 to Rs. 12000 per year in their pension account during financial year 2010-2011, the central government will contribute a sum of Rs. 1000 per annum. Swavalamban scheme totaling to 40 lakhs subscribers by March 2014.

**SWABHIMAN:** The central government has launched in a way to achieve financial inclusion programme Swabhiman on February 10, 2011 in which five crore household of 73000 villages would be provided access to banking services in unbanked area by opening 50,000,000 crore no frills account till march 2012.

**PFRDA** (Pension Fund Regulatory & Development Authority's) Government has set a regulatory body for the pension sector on August 23, 2003. PFRDA's effort is an important milestone in the development of the sustainable & efficient voluntary defined contributor based pension system of India. PFRDA also works for financial literacy and awareness campaigns as a part of its strategy to protect the interest of subscribers under Swavalamban scheme.

**PRADHAN MANTRI JAN DHAN YOJANA:** it is an ambitious scheme for comprehensive financial inclusion launched by the Prime Minister of India, Narendra Modi on 28 August 2014 He had announced this scheme on his first Independence Day speech on 15 August 2014. Run by Department of Financial Services, Ministry of Finance, on the inauguration day, 1.5 Crore (15 million) bank accounts were opened under this scheme. By September 2014, 3.02 crore accounts were opened, with around 1500 crore (US\$240 million) were deposited under the scheme, which also has an option for opening new bank accounts with zero balance.

SBI, India's largest bank had opened 11,300 camps for Jan Dhan Yojana over 30 lakhs accounts were opened so far, which include 21.16 lakh accounts in rural areas and 8.8 lakh accounts in urban areas. On the contrast, even taking together all the major private sector banks, have opened just 5.8 lakh accounts.

## KEY FINDINGS

The paper found that a large no. of population and rural households of India do not have access to banking and other financial services. Therefore, to provide access to these services to them RBI and GoI has taken various initiatives. The target of RBI and GoI is to achieve 100% financial inclusion. Many obstacles are there in the path of promoting and achieving financial inclusion. It should not be taken as an obligation by banks and financial institutions but should be seen as a future prospect and opportunity for growth and for tapping and targeting untapped and unorganized market.

## SUGGESTIONS

In order to achieve a inclusive financial inclusion banking facilities to the rural poor man are to be suggestive as below:

- A hugely expanded bank branch and cooperative network
- A greater focus on credit rather than other financial services like savings and insurance, although the banks and cooperatives did provide deposit facilities;
- Lending targets directed at a range of 'priority sectors' such as agriculture, weaker sections of the population, etc;
- Interest rate ceilings;

- Significant government subsidies channeled through the banks and cooperatives, as well as through related government programs.
- A dominant perspective that finance for rural and poor people was a social obligation and not a potential business opportunity

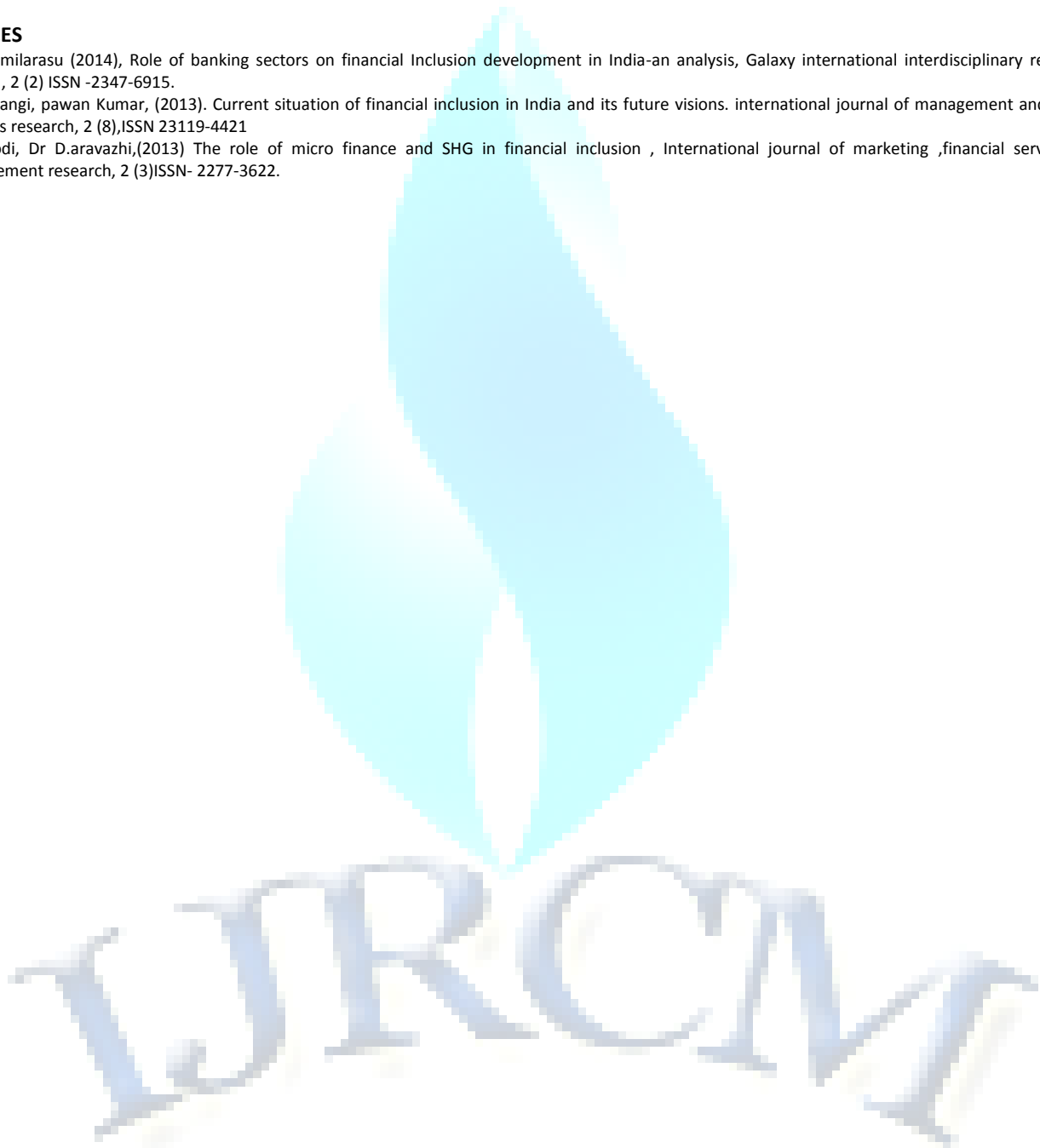
## CONCLUSION

For achieving complete financial inclusion and for inclusive growth, the RBI, Government, NABARD and the implementing agencies will have to put their minds and hearts together so that the financial inclusion can be taken forward. There should be proper financial inclusion regulation in our country and access to financial services should be made through SHGs and MFIs. Thus, financial inclusion is a big road which India needs to travel to make it completely successful. Miles to go before we reach the set goals but the ball is set in motion.

Importance of financial inclusion is increased, because the benefits of the financial services are not provided to all the people of the society. Inclusive growth is very essential for the development of the country. Various studies examined that there is a close relationship between financial inclusion and development. But due to the various constraints the inclusive growth is prohibited such as lack of financial literacy, poverty, lack of advanced technology etc. There is a huge need to adopt various strategies for the financial inclusion such as adaptation of advanced technology, opening up the bank branched in rural areas, introduction of new saving schemes for low income people etc.

## REFERENCES

1. Dr.A.Tamilarasu (2014), Role of banking sectors on financial Inclusion development in India-an analysis, Galaxy international interdisciplinary research journal , 2 (2) ISSN -2347-6915.
2. Neha dangi, pawan Kumar, (2013). Current situation of financial inclusion in India and its future visions. international journal of management and social sciences research, 2 (8),ISSN 23119-4421
3. S.Porkodi, Dr D.aravazhi,(2013) The role of micro finance and SHG in financial inclusion , International journal of marketing ,financial services & management research, 2 (3)ISSN- 2277-3622.



**CORPORATE SOCIAL RESPONSIBILITY: REGULATION AND ITS SURVEILLANCE**

**RACHANA VISHWAKARMA**  
**RESEARCH SCHOLAR**  
**FACULTY OF COMMERCE**  
**BANARAS HINDU UNIVERSITY**  
**VARANASI**

**ABSTRACT**

*The Corporate Social Responsibility is the commitment of the companies for the equitable growth & sustainable development of the society. Under the new Companies Act, 2013, passed by Parliament in August 2013, profitable companies will have to spend at least 2 per cent of their average net profit over the preceding three years on CSR activities. In this context the present paper examines the corporate social responsibility spending of the Indian companies for the year 2012-13 along with the detail discussion on regulation regarding the compliance of corporate social responsibilities enacted with the clause 135, Companies Act, 2013. The paper also identify the CSR intervening activities that targets by the Indian companies. The study revealed that the corporate social responsibility spending is less than 2 % of profit after tax of the Indian companies and Education and health are the activities that mostly target by the Indian companies followed by enhancement, environment, skill development, women empowerment, disaster relief, sports and others. The findings can assist the policy makers to ensure that the Indian companies increased their Corporate Social Responsibility spending.*

**KEYWORDS**

Corporate social responsibility, Regulation, Companies Act 2013.

**INTRODUCTION****CORPORATE SOCIAL RESPONSIBILITY- AN OVERVIEW**

Corporate Social Responsibility as an idea has roots at least six decades long but it has become more familiar to the public only a few years ago. Corporations around the world are struggling with a new role, which is to meet the needs of the present generation without compromising the ability of the next generations to meet their own needs. Organizations are being called upon to take responsibility for the ways their operations impact societies and the natural environment. They are also being asked to apply sustainability principles to the ways in which they conduct their business. *Sustainability* refers to an organization's activities, typically considered voluntary, that demonstrate the inclusion of social and environmental concerns in business operations and in interactions with stakeholders.

Corporate social responsibility (CSR) assumes the responsibility of the corporations towards the community and society. CSR policy functions as a built-in, self-regulating mechanism whereby a business monitors and ensures its active compliance with the spirit of the law, ethical standards, and international norms. CSR is a process with the aim to embrace responsibility for the company's actions and encourage a positive impact through its activities on the environment, consumers, employees, communities and all other stakeholders. Corporate social responsibility is a management concept whereby companies integrate social and environmental concerns in their business operations and interactions with their stakeholders. CSR is generally understood as being the way through which a company achieves a balance of economic, environmental and social imperatives (Triple-Bottom-Line Approach), while at the same time addressing the expectations of shareholders and stakeholders. In this sense it is important to draw a distinction between CSR, which can be a strategic business management concept, and charity, sponsorships or philanthropy.

The World Business Council for Sustainable Development defines *Corporate Social Responsibility as the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as of the local community and society at large*. The CSR definition used by Business for Social Responsibility is *Operating a business in a manner that meets or exceeds the ethical, legal, commercial and public expectations that society has of business*. On the other hand, the European Commission hedges its bets with two definitions wrapped into one concept *whereby companies decide voluntarily to contribute to a better society and a cleaner environment, a concept whereby companies integrate social and environmental concerns in their business operations and in their interaction with their stakeholders on a voluntary basis*.

All in all, the definitions of the CSR are focused on the Triple Bottom Line (TBL) approach. The TBL approach means expanding the traditional company reporting framework to take into account not just financial outcomes but also environmental and social performance starting from the base (bottom) and following three objectives (triple-line) that are:

- Social justice.
- Environmental quality.
- Economic prosperity.

The definition of CSR varies from company to company and many use other terms such as sustainable growth, corporate responsibility, social responsibility or corporate citizenship. No matter how it is described, CSR considers the human being as the centre of the economic system. The universal values of the individuals and their needs are seen as fundamental and unrepeatable resources. Hence, CSR is the business contribution to sustainable development, meaning the way a company balances its economic, environmental and social objectives while addressing stakeholder expectations and enhancing shareholder value.

Corporate social responsibility may also be referred to as "corporate citizenship" and can involve incurring short-term costs that do not provide an immediate financial benefit to the company, but instead promote positive social and environmental change. Companies' obligations have gradually shifted from narrow shareholder vision, to cover more vast groups of stakeholders. Due to the high-speed information of social media, the asymmetry of knowledge has grown so little that it is impossible or impractical to hide doubtful actions. This means that ethical operations are seen more and more as a norm for viable business. Companies' obligations have gradually shifted from narrow shareholder vision, to cover more vast groups of stakeholders. Due to the high-speed information of social media, the asymmetry of knowledge has grown so little that it is impossible or impractical to hide doubtful actions. This means that ethical operations are seen more and more as a norm for viable business.

In addition, a stark and complex shift has occurred in how organizations must understand themselves in relation to a wide variety of both local and global stakeholders. The quality of relationships that a company has with its employees and other key stakeholders—such as customers, investors, suppliers, public and governmental officials, activists, and communities—is crucial to its success, as is its ability to respond to competitive conditions and corporate social responsibility (CSR). These major transformations require national and global companies to approach their business in terms of sustainable development, and both individual and organizational leadership plays a major role in this change.

So, a firm must now focus its attention on both increasing its bottom line and being a good corporate citizen. Keeping abreast of global trends and remaining committed to financial obligations to deliver both private and public benefits have forced organizations to reshape their frameworks, rules, and business models. To understand and enhance current efforts, the most socially responsible organizations continue to revise their short- and long-term agendas, to stay ahead of rapidly changing challenges.

## CORPORATE SOCIAL RESPONSIBILITY IN GLOBAL CONTEXT

Globally, corporate social responsibilities are gaining much attention from researcher, practitioner, Academician etc. Most multinational corporations (MNCs) identify corporate social responsibility (CSR) as a business tool to promote a positive image to business stakeholders and as a way to improve the quality of life among citizens of the host countries. Multinational companies (M. N. C.) are those when that company manages its operation or production or service delivery from more than a single country. It also known as International corporation.. Many multinational corporations operate in countries characterized by extreme poverty and inequality, inadequate or dysfunctional institutions, and undemocratic political systems. At the same time, multinational corporations are in a powerful position to promote change in developing countries, individually and/or collectively.

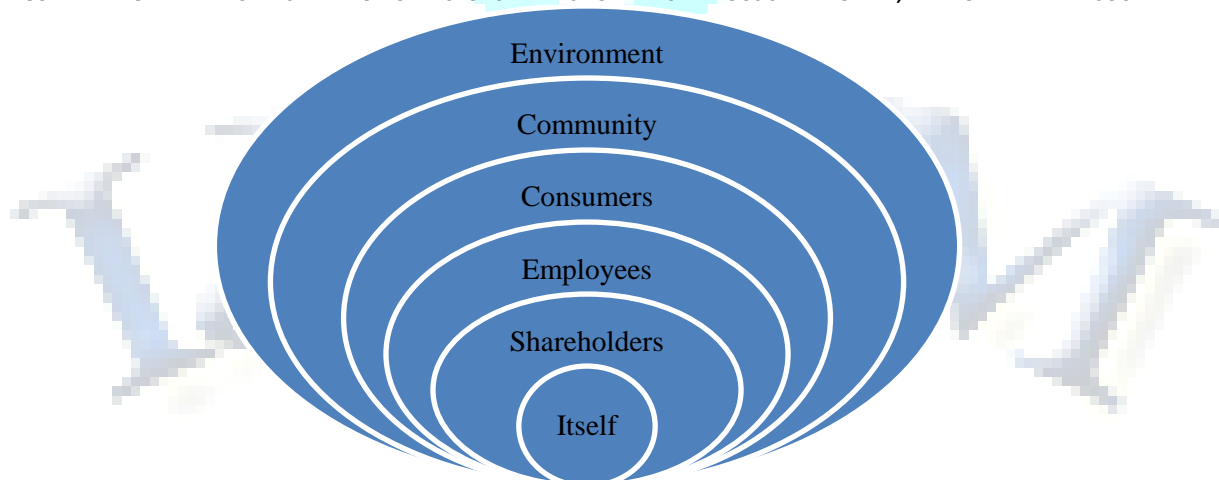
Apart from playing an important role in globalization and international relations, these multinational companies even have notable influence in a country's economy as well as the world economy. Presently, there are 21 multinational companies whose headquarter present in India. These are India's Global Powerhouses, Asian Paints, Bharat Forge, Bharti Airtel, Cyient, Dishman Pharmaceutical and Chemicals, Dr. Reddy's Laboratories, Essel Propack, Hindalco Industries, Infosys, KPIT Technologies, Larsen & Toubro Infech, Mahindra Group, Micromax Mobile, Oil and Natural Gas Corporation, Profoundis ,Ranbaxy Laboratories ,State Bank of India ,Suzlon Energy ,Tata Group and Thermax.

## CORPORATE SOCIAL RESPONSIBILITY IN INDIAN CONTEXT

India has been quite sensible in taking up CSR initiatives and integrating them in their business processes. It has become progressively projected in the Indian corporate setting because organizations have recognized that besides growing their businesses, it is also important to shape responsible and supportable relationships with the community at large. Companies now have specific departments and teams that develop specific policies, strategies and goals for their CSR programs and set separate budgets to support them. Most of the time, these programs are based on well-defined social beliefs or are carefully aligned with the companies' business domain. CSR is the procedure of assessing an organization's impact on society and evaluating their responsibilities. It begins with an assessment of the following aspects of each business: Customers, Suppliers, Environment, Communities and Employees. Triumphant CSR plans take organizations ahead of compliance with legislation and lead them to respect moral values and respect people, communities and the natural environment. Corporate social responsibility is sustainable – involving activities that an organization can uphold without negatively affecting the business goals. CSR is not only about ecological accountability or having a recycling policy. It is about considering the whole representation of the company, from internal processes to your clients, taking in every step that a business takes during day-to-day operations. Rising economies such as India have also observed a number of companies enthusiastically engaged in CSR activities. Corporate social responsibility consists with mainly following major's responsibilities:

- 1. RESPONSIBILITY TOWARDS ITSELF-** It is the responsibility of each corporate entity run business and to work towards growth, expansion and stability and thus earn profits. If the corporation is to achieve social and economic ends, organizational efficiency should be boosted up.
- 2. RESPONSIBILITY TOWARDS EMPLOYEES-** Employees is the most important part of an organization. Following are some of the responsibilities which a business entity has towards its employees-
  - Timely payment
  - Hygienic environment
  - Good and impartial behavior
  - Health care through yoga
  - Recreational activities
  - Encouraging them to take part in managerial decisions
- 3. RESPONSIBILITY TOWARDS SHAREHOLDERS-** It is the responsibility of corporate entity to safeguard the shareholders investment and make efforts to provide a reasonable return on their investment.
- 4. RESPONSIBILITY TOWARDS COMMUNITY-** This can include raising money for local charities, providing volunteers, sponsoring local events, employing local workers, supporting local economic growth, engaging in fair trade practices, etc. Out of the profit available, the state is entitled to a certain share as per the income tax laws. Utmost transparency has to be exerted regarding the profit & loss account and the balance sheet.
- 5. RESPONSIBILITY TOWARDS CONSUMERS-** The Company should maintain high quality standards at reasonable prices. It should not resort to malpractices such as hoarding and black marketing. Companies that ethically market to consumers are placing a higher value on their customers and respecting them as people who are ends in themselves. They do not try to manipulate or falsely advertise to potential consumers. This is important for companies that want to be viewed as ethical.
- 6. RESPONSIBILITY TOWARDS ENVIRONMENT-** It is the responsibility of the organization to contribute to the protection of environment. It should produce eco-friendly products. Moreover, industrial waste management must be taken care of. It also includes recycling, water management, renewable energy, reusable materials, 'greener' supply chains, reducing paper use etc.

FIGURE 1: DIAGRAMMATIC PRESENTATION OF RESPONSIBILITIES TOWARDS VARIOUS STAKEHOLDER, ENVIRONMENT AND SOCIETY



## OBJECTIVES OF THE STUDY

The various objective of the study are:

- To throw some light on the rule and regulation regarding the compliance of corporate social responsibilities.
- To examines the corporate social responsibility spending of the Indian companies for the year 2012-13
- To identify the CSR intervening activities that targets by the Indian companies.

**REGULATION AND GOVERNANCE OF CORPORATE SOCIAL RESPONSIBILITIES IN INDIA**

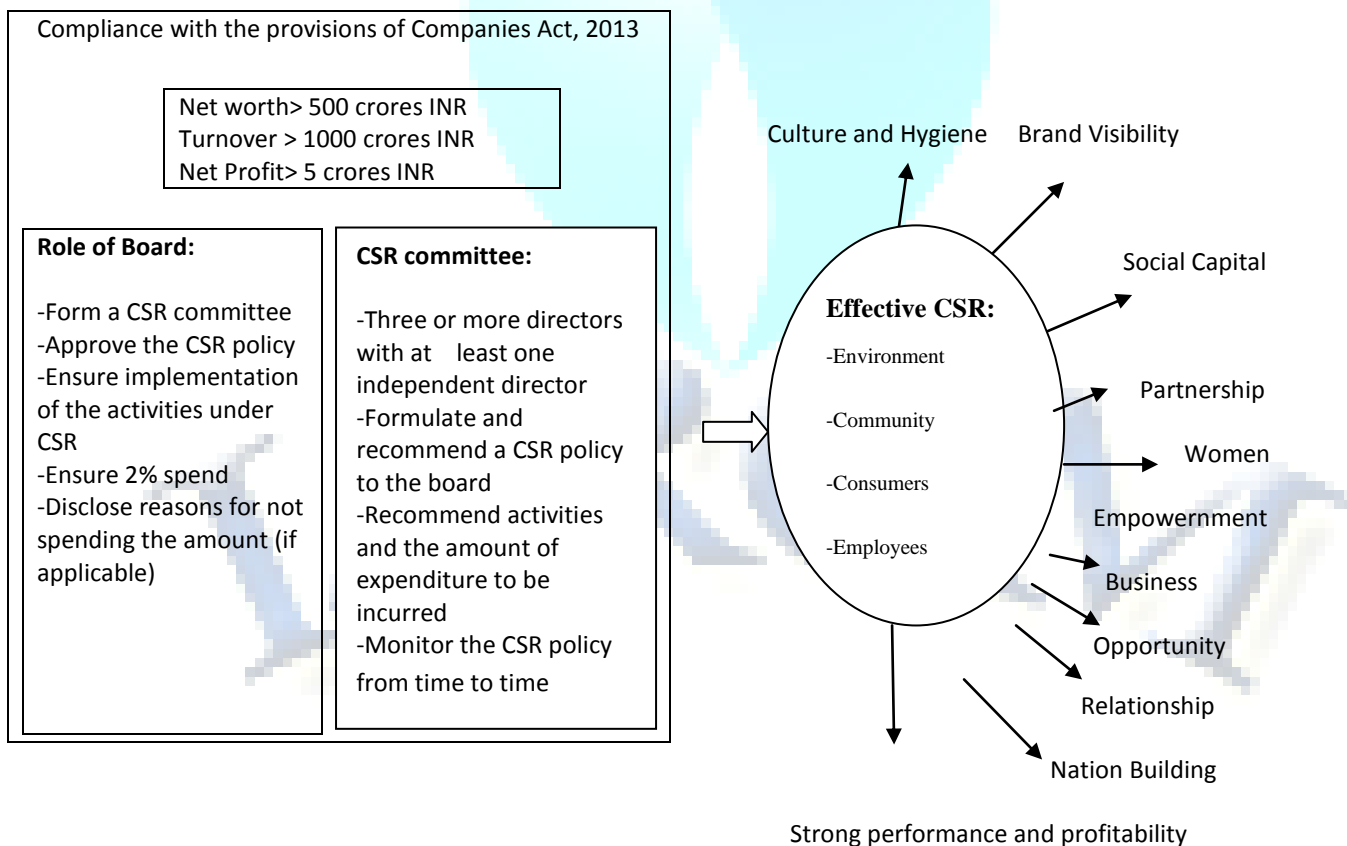
The concept of CSR is governed by clause 135 of the Companies Act, 2013, which was passed by both Houses of the Parliament, and had received the assent of the President of India on 29 August 2013. The CSR provisions within the Act is applicable to companies with an annual turnover of 1,000 crore INR and more, or a net worth of 500 crore INR and more, or a net profit of five crore INR and more. The new rules, which will be applicable from the fiscal year 2014-15 onwards, also require companies to set-up a CSR committee consisting of their three or more board members, including at least one independent director. The Act encourages companies to spend at least 2% of their average net profit in the previous three years on CSR activities.

The ministry's draft rules, that have been put up for public comment, define net profit as the profit before tax as per the books of accounts, excluding profits arising from branches outside India. The Board's report under sub-section (3) of section 134 shall disclose the composition of the Corporate Social Responsibility Committee. The Corporate Social Responsibility Committee shall, — (a) Formulate and recommend to the Board, a Corporate Social Responsibility Policy which shall indicate the activities to be undertaken by the company as specified in Schedule VII; (b) Recommend the amount of expenditure to be incurred on the activities referred to in clause (a); and (c) Monitor the Corporate Social Responsibility Policy of the company from time to time. The Board of every company also referred to in sub-section (1) shall,— (a) after taking into account the recommendations made by the Corporate Social Responsibility Committee, approve the Corporate Social Responsibility Policy for the company and disclose contents of such Policy in its report and also place it on the company's website, if any, in such manner as may be prescribed; and (b) ensure that the activities as are included in Corporate Social Responsibility Policy of the company are undertaken by the company. The Board of every company referred to in sub-section (1), shall ensure that the company spends, in every financial year, at least two per cent. of the average net profits of the company made during the three immediately preceding financial years, in pursuance of its Corporate Social Responsibility Policy: Provided that the company shall give preference to the local area and areas around it where it operates, for spending the amount earmarked for Corporate Social Responsibility activities: Provided further that if the company fails to spend such amount, the Board shall, in its report made under clause (a) of sub-section (3) of section 134, specify the reasons for not spending the amount. Besides this, companies also do other reporting requirement mandated by the government of India, including CSR is by the SEBI which issued a circular on 13 August 2012 mandating the top 100 listed companies to report their ESG initiatives. These are to be reported in the form of a BRR as a part of the annual report. SEBI has provided a template for filing the BRR. Business responsibility reporting is in line with the NVG published by the Ministry of Corporate Affairs in July 2011.

The Act lists out a set of activities eligible under CSR. Companies may implement these activities taking into account the local conditions after seeking board approval. The indicative activities which can be undertaken by a company under CSR have been specified under Schedule VII of the Act. Among the eligible activities included in the act are:

- Eradicating extreme hunger and poverty;
- Promotion of education;
- Promoting gender equality and empowering women;
- Reducing child mortality and improving maternal health;
- Combating human immunodeficiency virus, acquired immune deficiency syndrome, malaria and other diseases;
- Ensuring environmental sustainability;
- Employment enhancing vocational skills;
- Social business projects;
- Contribution to the Prime Minister's National Relief Fund or any other fund set up by the Central Government or the State Governments for socioeconomic development and relief and funds for the welfare of the Scheduled Castes, the Scheduled Tribes, other backward classes, minorities and women; and
- Such other matters as may be prescribed

**FIGURE 2 : FRAMEWORK OF EFFECTIVE CORPORATE SOCIAL RESPONSIBILITY**



**RESEARCH METHODOLOGY**

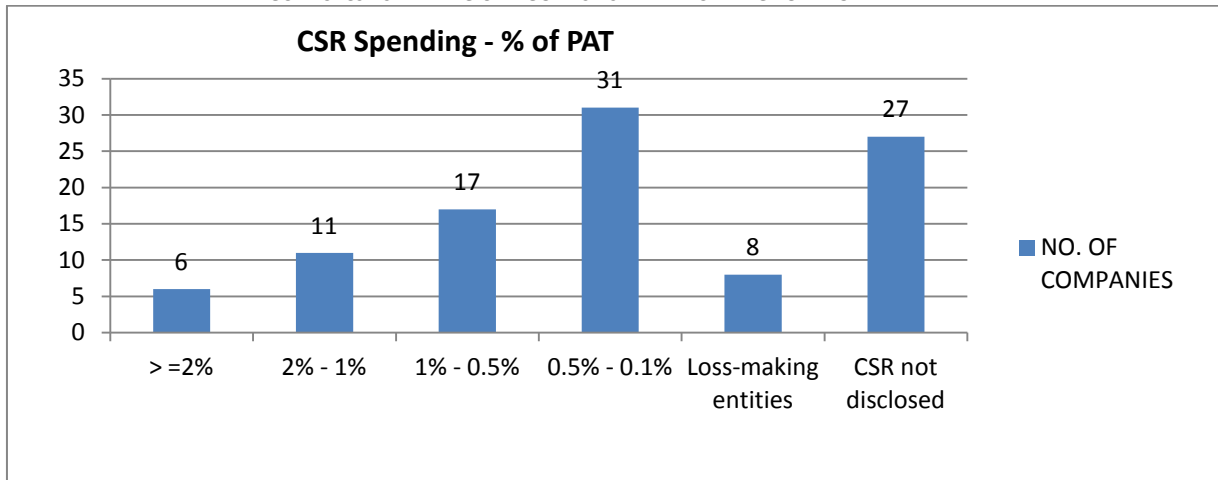
In this study, Top 100 companies during the year 2012-13 have been selected for the showing the spending scenario of Indian companies towards CSR activities. While doing this study, one of the immediate problems faced for undertaking such a study was that very little data is available on CSR and a major factor faced

while analyzing the CSR spending has been lack of information on actual spending by the corporate. Thus, for serving the purpose of paper, secondary data were used which are taken from an India CSR Report of India which is published by Socio Research & Reform Foundation (NGO) for the year 2012-13.

**AN ANALYTICAL REVIEW OF 'CSR' SPENDING IN INDIA**

As per Indian companies act 2013, every corporation of India must to pay at least 2% of their average profit in the previous three years on CSR activities which is having an annual turnover of 1,000 crore INR and more, or a net worth of 500 crore INR and more, or a net profit of five crore INR and more and net profit defined as the profit before tax as per the books of accounts, excluding profits arising from branches outside India. For the purpose of this section "average net profit" shall be calculated in accordance with the provisions of section 198. From the data which are shown in the report, we can interpret that ranging from Rs 27000 crores to Rs 15000 crores, have been made about CSR spending. For CSR to have any meaningful impact, it is important that spending on CSR related activities is quantified and hence its usefulness can be evaluated. Following are the figures that show the percent of profit after tax spending by the companies.

**FIGURE 3: CSR SPENDING CATEGORIES AS PER PERCENTAGE OF PROFIT AFTER TAX**



Source: Socio Research & Reform Foundation (2013)

The above chart is clearly showing that out of 100 companies, 27 companies are not disclosing any information about the amount spend on the CSR activities and 8 companies are loss making entities which do not require to spend on CSR activities. Most of the Companies have spent below 1 percent of their profit on CSR activities. Only 17 companies have spent on CSR activities more than 1% of their Profit during the year 2012-13, out of which only 6 companies are spending more than 2% of their profit. Individually, Reliance Industries has the largest spending on CSR activities which counts over Rs 357 crores during FY 2012-13. Top five CSR investors are:

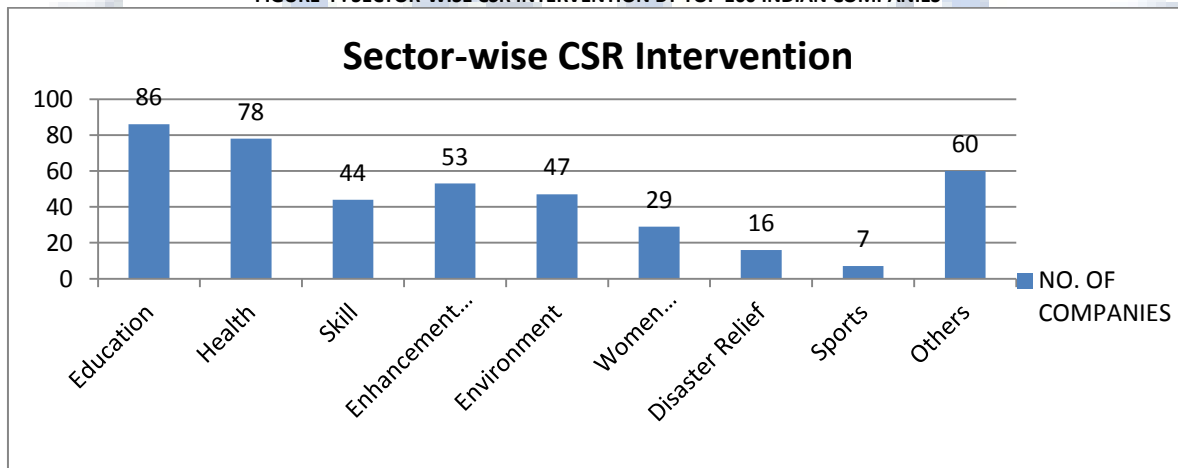
1. Reliance Industries Rs 357 crores
2. Coal India Rs 151 crores
3. Tata Steel Rs 146 crores
4. State Bank of India Rs 123 crores
5. ONGC Rs 121 crores

The Major Findings are as follow:

- Currently, CSR spending of top 100 companies can be estimated as approximately Rs 2650 crores.
- Since there are 27 companies which have not disclosed their CSR amount, hence their CSR contribution has been estimated in proportion to the companies who have disclosed their CSR contribution.
- Total CSR Spending as disclosed by 73 out of 100 companies in a financial year (based on latest financial year data available) is around Rs 2380 crores.
- If the CSR amount is estimated for the remaining 27 corporates who have not disclosed their CSR spending (although published financial statements or other information available indicates that they are undertaking CSR), it comes to an additional amount of Rs 270 crores.
- Presently most companies are not meeting with the proposed 2% CSR norms under the new Companies Bill for the private sector and with the Govt. guidelines in case of public sector organizations. Out of 100 companies only 6 corporate are complying with these norms. Further 11 companies are spending between more than 1% and less than 2%. For more understandings a complete picture is given in the adjacent chart.

Thus, we can say that only 6 companies are complying with the rules and regulation of Companies act, 2013. In fact presently companies selected in this sample are spending only around 35% of the amount that the Government is proposing. If the companies start following the norms, CSR amount required by top 100 companies would be Rs 6280 crores and an increment of around 2.5 times of the present contribution.

**FIGURE 4 : SECTOR-WISE CSR INTERVENTION BY TOP 100 INDIAN COMPANIES**



Source: Socio Research & Reform Foundation (2013)

From the charts, it can be concluded that Most CSR programme interventions span several sectors such as Health, skill development, Environment, women empowerment, sports, etc in which most popular being Education and Health on which 86 and 78 companies respectively have spent their money. Out of 100 companies examined, as many as 86 CSR programmes have made interventions in Education and 78 programmes are intervening in Health issues. Traditionally several CSR programmes directly support school and college related activities, though now the trend is changing and interventions are being made to associate with the Government to enhance education in the rural areas at a much broader level. Other popular interventions are Livelihood and Financial Inclusion (53) and Environment (47). For example most banks under the Government financial inclusion programmes are intervening in this sector. Another popular programme is relating to Skill enhancement, where almost 44 out of 100 CSR programmes are intervening. Surprisingly, only around 29 CSR programmes are formally undertaking the projects which are related to women empowerment and only in 16 cases, interventions have been made in Disaster Relief and it can be also seen that only 7 companies have supported the programmes related to Sports. One reason for this could be that sport is more and more being perceived as a commercial activity, rather than a social activity.

## CONCLUSION

Through this study the attempt is made to throw some light on the contribution of Indian companies towards the corporate social responsibility (CSR) along with compliance of regulation of CSR by clause 135, Companies Act, 2013. With the enactment of this law, many companies have give more attention towards CSR activities. According to Indian Institute of Corporate Affairs, a minimum of 6,000 Indian companies will be required to undertake CSR projects in order to comply with the provisions of the Companies Act, 2013 in which many companies are undertaking these initiatives for the first time. Further, some estimates indicate that CSR commitments from companies can amount to as much as 20,000 crore INR. From the above, we can be concluded that only 6 companies are complying with the rules and regulation of Companies act, 2013. In fact presently companies selected in this sample are spending only around 35% of the amount that the Government is proposing. If the companies start following the norms, CSR amount required by top 100 companies would be Rs 6280 crores and an increment of around 2.5 times of the present contribution. Moreover, CSR intervention of companies are covering the three bottom line- social, economic and environment following the Global Reporting Initiative (GRI) G3.1 guidelines along with National Voluntary guidelines issued by Ministry of corporate affairs that consists with Culture and Hygiene, Brand Visibility, Social Capital, Partnership, Women Empowerment, Business Opportunity, Relationship, Strong performance and profitability and thereby overall nation building take place. Most CSR programme interventions span several sectors such as Health, skill development, Environment, women empowerment, sports, etc in which most popular being Education and Health on which 86 and 78 companies respectively have spent their money followed by enhancement, environment, skill development, women empowerment, disaster relief, sports and others.

But still there are ambiguities regarding the CSR regulation. Rules have not clearly discribed about the foreign companies and branches of Indian companies outside India. Multinational corporations operating in India have sought clarity on the corporate social responsibility norms. The Act says that its provisions will apply to "companies incorporated under this Act or under any previous company law". And as per the law, foreign companies are not bound to follow CSR norms. As a part of our global practice, do CSR in locations MNCs operate in but are they bound to do it as per the law is yet to be clarified. The government needs to amend the law to get foreign firms in ambit of CSR norms. Moreover, MNC businesses in India were under pressure to prove that their rural strategies weren't just about doing well from a CSR perspective. They also needed to show head office that these strategies were doing well from a business perspective.

## REFERENCES

1. Akanksha Jain (2014) "The Mandatory CSR in India: A Boon or Bane", Indian Journal Of applied Research, Volume : 4 | Issue : 1, pp 301-304.
2. Alessia D'Amato, Sybil Henderson and Sue Florence (2009). Corporate Social Responsibility And Sustainable Business- A Guide to Leadership Tasks and Functions .ISBN 978-1-60491-063-6, Published by CCL Press.
3. Chandrakanta Sahoo (2011) "Corporate Social Responsibility: Issues and controversies", Journal of Business and Management Vol 3, No 2, ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online), pp 1-4.
4. Dean Roy Nash (2012) "CSR: contributions of Maharatna Companies of India", Asian Journal of Research in Business Economics and Management, Vol.2 Issue 4, April 2012.
5. Gahlot Sushmita (2013), "Corporate Social Responsibility: Current Scenario", Research Journal of Management Science, Vol. 2(12), 12-14, December (2013), pp12-14.
6. Giddings, B.; Hopwood, B.; O'Brien, G. Environment, economy and society: Fitting them together into sustainable development. Sustainable Development 2002: 187-196.
7. Handbook on Corporate Social Responsibility in India, developed by PwC India for CII.
8. India CSR Report of Socio Research & Reform Foundation (NGO), August 2013.
9. Leiserowitz, A., Kates, R., Parris, T. 2006. Sustainability values, attitudes and behaviours: A review of multinational and global trends. Ann. Rev. Environ. Resources 31: 413-444.
10. Rajeev Prabhakar and Ms. Sonam Mishra (2013) "A Study of Corporate Social Responsibility in Indian Organization: An-Introspection", International Business Research Conference, Ryerson University, Toronto, Canada.
11. Vivek Wankhade (2014), Analysis Of Corporate Social Responsibility Spending Of The Indian Companies, Abhinav International Monthly Refereed Journal Of Research In Management & Technology, Volume 3, Issue 4 (April, 2014), Online Issn-2320-0073.

## WEBSITES

12. www.academia.edu
13. www.careskillsacademy.org/CSR.aspx
14. www.ccl.org/Leadership/capabilities/e...
15. www.csim.in/csr.php
16. www.empowercsr.com/csr1.html
17. www.scribd.com
18. www.triplepundit.com
19. www.unido.org
20. www.utar-csdcsr.info/#!series1/cvpu

**N.KANCHANA**  
**ASST. PROFESSOR & RESEARCH SCHOLAR**  
**SCHOOL OF INFORMATION TECHNOLOGY & SCIENCE**  
**DR.G.R.DAMODARAN COLLEGE OF SCIENCE**  
**COIMBATORE**

### ABSTRACT

*The Web is a place where we can find lot of information. The main aim of the web site is to provide relevant information to the users to satisfy their needs. A major challenge in web mining research is to find relevant document or pages by neglecting the noise and outliers. In this paper we compare different type of page rank algorithms that supports web content mining and web structure mining.*

#### KEYWORDS

Web Mining, Page Rank, Web Content Mining, Web Structure Mining, Outliers.

#### I. INTRODUCTION

Web Mining is one of the application of data mining techniques to extract knowledge from web content. The WWW is a place in which the information and contents expand in size and complexity. Retrieving the required web page on the WWW efficiently and easily is becoming a major challenge. The Huge amount of information becomes very difficult for the users to find, extract, filter or evaluate the relevant web page. This challenge rises to find some technique to solve these problems. Most of the popular search engine such as Google, yahoo, Amazon etc are famous because of their crawling and ranking methods. These search engines download, index and store millions of web pages. So, web content mining and web structure mining becomes very important for effective information retrieval. Existing web mining algorithms do not consider documents containing outliers. Generally, Outlier mining is dedicated to finding data objects, which differ significantly from the rest of the data. Outlier mining has been extensively studied in statistics and recently data mining. However, exploring the Web for outliers has received very little attention in the mining community. Web content outliers are documents with 'varying contents' compared to similar Web documents taken from the same domain. Mining Web content outliers may lead to the identification of competitors and emerging business patterns in electronic commerce. This paper proposes Signed approach page rank algorithm for mining Web content outliers using a domain dictionary.

#### II. WEB MINING

Web Mining is the application of data mining techniques to extract knowledge from web data, including web documents, hyperlinks between documents, usage logs of web site etc.

##### A. Categories of Web Mining

Web Mining is broadly divided into three distinct categories, Web Content Mining, Web Structure Mining, and Web Usage Mining.

1) *Web Content Mining*: Web Content Mining is the process of extracting useful information from the contents of web page. The web page is unstructured and contains a mix of text, images, audio, video or structures records such as tables and lists. Web Content Mining is concerned with the retrieval of information from WWW into more structure form and indexing the information to retrieve it quickly. The technologies that are normally used in web content mining are Natural Language Processing and Information Retrieval.

2) *Web Structure Mining*: Web Structure Mining is the process of discovering structure information from the WWW and finds the similarity and relationships between different web sites. It is the processes by which we can also find the link structure of hyper links at inter document level and the intra document level. Page Rank also falls in to this category.

3) *Web Usage Mining*: Web Usage Mining is the process of data mining techniques to predict the user behavior while the user interacts with the web. Usage data captures the identity or origin of web users along with their browsing behavior at a web site. It extracts data stored in server access logs, referrer logs, agent logs, client-side cookies, user profile and meta data. It also uses the secondary data on the web.

#### III. KEY CONCEPTS

##### A. Outlier Mining

Outliers are the data that obviously deviate from others, disobey the general mode or behavior of data and disaccord with other existing data. Web content outliers are such as noise, irrelevant and redundant page from the web documents. Also, Web content outliers mining can be used to determine pages with entirely different contents from their parent web sites.

##### B. Page Rank

Ranking is important as it helps the users to look for "Quality" pages that are relevant to the query. Page Rank is a numeric value that represents how important a page is on the web. It is the Google's method of measuring a page's "important" when all other factors such as Title tag and Keywords are taken into account, Google uses page rank to adjust results so that more "Important" pages move up in the results page of a user search result display.

#### IV. PAGE RANK ALGORITHMS

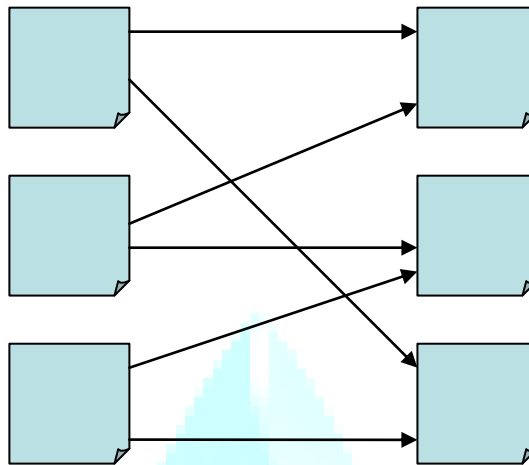
With the increasing number of web pages and users on the web, the number of queries submitted to the search engines are also increasing rapidly. Therefore, the search engines needs to be more efficient in its process. Web mining techniques are employed by the search engines to extract relevant documents from the web database and provide the necessary information to the users. The search engines become very successful and popular if they use efficient ranking mechanism. Page ranking algorithms are used by the search engines to present the search results by considering the relevance, importance and content score and web mining techniques to order them according to the user interest. Some ranking algorithms depend only on the link structure of the documents i.e. their popularity scores (Web Structure Mining), whereas others look for the actual content in the documents (Web Content Mining), while some use a combination of both i.e. they use content of the document as well as the link structure to assign a rank value for a given document. If the search results are not displayed according to the user interest then the search engine will loose its popularity. So the ranking algorithms become very important. There are number of algorithms proposed based on Web Content Mining and Web Structure Mining. Three important algorithms HITS (Hyper-link Induced Topic Search), Weighted Page Content Rank, and Signed Approach Page Rank algorithm.

##### A. HITS

Klienberg gives two forms of web pages called as hubs and authorities. Hubs are the pages that act as resource lists. Authorities are pages having important contents. A good hub page is a page which is pointing to many authoritative pages on that content and a good authority page is a page which is pointed by many good hub pages on the same content. A page may be a good hub and a good authority at the same time [8,9]. The HITS algorithm treats WWW as directed graph  $G(V,E)$ , where  $V$  is a set of vertices representing pages and  $E$  is set of edges corresponds to link. Figure 1 shows the hubs and authorities in web .



FIG. 1 HUBS AND AUTHORITIES



**Hubs Authorities**

It has two steps:

1. Sampling Step:- In this step a set of relevant pages for the given query are collected.
  2. Iterative Step:- In this step Hubs and Authorities are found using the output of sampling step.
- Following expressions (1,2) are used to calculate the weight of Hub ( $H_p$ ) and the weight of Authority ( $A_p$ ).

$$H_p = \sum_{q \in I(p)} A_q \dots\dots\dots(1)$$

$$A_p = \sum_{q \in B(p)} H_q \dots\dots\dots(2)$$

where  $H_q$  is Hub Score of a page,  $A_p$  is authority score of a page,  $I(p)$  is set of reference pages of page p and  $B(p)$  is set of referrer pages of page p, the authority weight of a page is proportional to the sum of hub weights of pages that link to it. Similarly a hub of a page is proportional to the sum of authority weights of pages that it links to.

**1) Constraints with HITS Algorithm**

Following are some constraints of HITS algorithm

- Hubs and authorities: It is not easy to distinguish between hubs and authorities because many sites are hubs as well as authorities.
- Topic drift: Sometime HITS may not produce the most relevant documents to the user queries because of equivalent weights.
- Automatically generated links: HITS gives equal importance for automatically generated links which may not have relevant topics for the user query.
- Efficiency: HITS algorithm is not efficient in real time.

HITS was used in a prototype search engine called Clever for an IBM research project. Because of the above constraints HITS could not be implemented in a real time search engine.

**B. Weighted Page Content Rank**

Weighted Page Content Rank Algorithm (WPCR) is a proposed page ranking algorithm which is used to give a sorted order to the web pages returned by a search engine in response to a user query. WPCR is a numerical value based on which the web pages are given an order. This algorithm employs web structure mining as well as web content mining techniques. Web structure mining is used to calculate the importance of the page and web content mining is used to find how much relevant a page is? Importance here means the popularity of the page i.e. how many pages are pointing to or are referred by this particular page. It can be calculated based on the number of in links and out links of the page. Relevancy means matching of the page with the fired query. If a page is maximally matched to the query, that becomes more relevant.

**Algorithm:** WPCR calculator

**Input:** Page P, In link and Out link Weights of all back links of P, Query Q, d (damping factor).

**Output:** Rank score

Step 1: Relevance calculation:

- a) Find all meaningful word strings of Q (say N)
- b) Find whether the N strings are occurring in P or not?
- Z= Sum of frequencies of all N strings.
- c) S= Set of the maximum possible strings occurring in P.
- d) X= Sum of frequencies of strings in S.
- e) Content Weight (CW)= X/Z
- f) C= No. of query terms in P
- g) D= No. of all query terms of Q while ignoring stop words.
- h) Probability Weight (PW)= C/D

Step 2: Rank calculation:

- a) Find all back links of P (say set B).
- b)  $PR(P)=(1-d)+d (PR(T1)/C(T1)+.....PR(Tn)/C(Tn))$
- c) Output PR(P) i.e. the Rank score

Using the Weighted Page Content Rank user can get relevant and important pages easily as it employs web structure mining and web content mining. The input parameters used in Page Rank are Backlinks, Weighted Page Rank uses Backlinks and Forward Links as Input Parameter and Weighted Page Content Rank uses Backlinks, Forward Link and Content as Input Parameters.

**C. Signed Approach Page Rank Algorithm**

In the proposed Algorithm, web documents are extracted from the search engines by giving query by the user to the web. Then the obtained web documents D is preprocessed, i.e., stop words, stem words and except text other data such as hyperlinks, sound, images etc are removed. The output is a set of documents with white-spaced separated words and it is indexed in two dimensional format (i,j), where 'i' represent web pages and 'j' represent words. Therefore, first word from first web page is indexed as (1,1), second word from the first page is indexed as (1,2) etc., The domain dictionary is arranged in such a way that, all 1-letter word will be indexed first, followed by 2-letter words, then 3-letter words similarly up to 15-letters word which is a very reasonable upper bounds for number of characters in a word. Each page is mined individually to detect relevant and irrelevant documents using signed approach. Finally, a relevant web document is obtained which contains required information catering to the user needs.

The proposed algorithm explores the advantages of full word matching and signed approach using organized domain dictionary where the indexing is done based on the length of the word. First, the input web document is preprocessed and separated into white spaced words. The full word profile for the document is generated in matrix form (i.e.,  $w_{1,4}$  - represents 4<sup>th</sup> word in 1<sup>st</sup> page). Then the  $j^{th}$  word from  $i^{th}$  page is taken and its length is calculated ( i.e.,  $|W_{ji}|$  ) and depending on the number of characters, the respective index on the domain dictionary is searched. Using Binary search If the word ( $w_{ji}$ ) is found in the dictionary, then positive count is incremented by one else negative count is incremented by one. This process is carried out for all words in that web page. Finally, positive count is compared with the negative count to check the relevancy of that web page. If the positive count is less than the negative count, then that page is irrelevant, otherwise it is considered as more relevant and rank is calculated for that page.

**Algorithm :** Signed Approach Page Rank

**Input:** Domain Dictionary, Web Document D, In link and Out link Weights of all back links of P.

**Output:** Relevant Pages, Rank Score and Irrelevant Pages.

**OtherVariable:**Pos\_count, Neg\_count

- a) Extract the input web document D after preprocessing. Where
- b) D contains Pages P1,P2,.....Pn.
- c) Read the contents of web pages P1 to Pn
- d) Generate full word profile in to matrix for  $W_{ij}$  (Where  $i$  represent Page and  $j$  represent Word)

for (  $i=1;j<=n;i++$  )

```
{
Pos_count=0; Neg_count=0;
for(j=1;j<=m;j++)
```

```
{
Using BINARY SEARCH find  $W(i,j)$  word exists in dictionary
```

```
If so { Pos_count++;}
else { Neg_count++; }
```

```
if (Pos_count++>=Neg_count)
{
```

```
i) Print  $P_i$  as relevant web page ;
```

```
ii) Find all back links of  $P_i$  (say set B).
```

```
iii) Calculate the Rank using the formula  $PR(P_i)$ 
 $=(1-d)+d(PR(T_1)/C(T_1)+.....PR(T_n)/C(T_n))$ 
```

```
iv) Output  $PR(P_i)$  i.e. the Rank score } else Print  $P_i$  as irrelevant web page.
```

This signed approach ensure that memory space, search time and run time gets reduced by using domain dictionary, Binary search, and rank calculation than other approaches for checking the relevancy of the web documents. As the efficiency of web content is increased, the quality of the search engines also gets increased. This method is very simple to implement. The proposed method is can be used by business personals to keep track of all the positive and negative aspects related to their business.

## V. COMPARISON OF VARIOUS PAGE RANK ALGORITHMS

Table1 shows the difference between above three algorithms

TABLE I: COMPARISON OF HITS, WEIGHTED PAGE RANK AND SIGNED APPROACH PAGE RANK

Content	HITS	Weighted Page Content Rank	Signed Approach Page Rank Algorithm
<b>Mining Technique used</b>	WSM and WCM	WSM and WCM	WSM and WCM
<b>Complexity</b>	<math>O(\log N)</math>	<math>O(\log n)</math>	<math>O(\log n)</math>
<b>Working Procedure</b>	Computes scores of n highly relevant pages on the fly	Gives sorted order to the web pages returned by a search engine as a numerical value in response to a user query	Gives sorted order to the web pages returned by a search engine as a numerical value in response to a user query and domain dictionary
<b>Input/output parameters</b>	Back links, Forward links and content	Backlinks, forward links and content	Backlinks, forward links and content
<b>Advantages</b>	Relatively small, some times rich in relevant pages about the query	It provide important information and relevancy about a given query by using web structure and web content mining	It provide important information and relevancy about a given query by using web structure and web content mining
<b>Search Engine</b>	IBM Search engine Clever	Research Model	Research Model
<b>Limitations</b>	Topic drift and efficiency problem	No limitation best as comparison to Page Rank and Weighted Page Rank	Needs to work along with page rank and best as compared to Weighted page content

## VI. CONCLUSION

Web mining is the Data Mining technique that automatically discovers or extracts the information from web documents. HITS, Weighted Page Rank algorithms, and Signed approach page rank are used in Web Structure Mining to rank the relevant pages. In this paper HITS and Weighted Page Rank algorithms may not produces the required relevant documents easily, but in the new algorithm Singed approach page rank user can get relevant and important pages easily as it employs web structure mining and web content mining. As part of the future work is to carry out performance analysis for Singed approach page rank and to work on finding required relevant and important pages more easily and quickly using any mathematical tools for mining the web content.

## REFERENCES

1. Ashutosh Kumar Singh, Ravi Kumar P, "A Comparative study of Page Ranking Algorithms for Information Rerieval" International Journal of Electrical and Computer Engineering 4:7 2009.
2. G. Poonkuzhali, K.Thiagarajan, K.Sarukesi and G.V.Uma, "Singed Approach for Mining Web Content Outliers", World Academy of Science, Engineering and Technology 56,2009.
3. Rekha Jain, Dr G.N.Purohit, "Page Ranking Algorithms for Web Mining," International Journal of Computer application,Vol 13, Jan 2011.
4. Tamanna Bhatia, "Link Analysis Algorithms for Web Mining," International Journal of Computer application,Vol 2, June 2011.
5. Wenpu Xing and Ali Ghorbani, "Weighted Page Rank Algorithm", Proceedings of the Second Annual Conference on Communication Networks and Services Research (CNSR '04), IEEE, 2004.

**WEB CONTENT MANAGEMENT SYSTEM: COMPONENTS AND SECURITY**

**OMOSEBI, PAUL ADEOYE**  
**RESEARCH SCHOLAR**  
**CENTRE FOR ECONOMETRIC & ALLIED RESEARCH**  
**UNIVERSITY OF IBADAN**  
**IBADAN**

**OLORUNLEKE, FEHINTOLUWA E.**  
**STUDENT**  
**LIBRARY & INFORMATION STUDIES DEPARTMENT**  
**UNIVERSITY OF IBADAN**  
**IBADAN**

**ABSTRACT**

*Web Content Management Systems (WCMS) have grown in importance as more and more organizations communicate and publish their information via the web. A WCMS typically has automated templates, scalable expansion, easily editable content, workflow management, authoring, storage and publishing features. In the same vein, many are now experiencing problems because WCMS vulnerabilities are attractive targets for potential attackers. In this paper, we explore the common components of WCMS, security concerns and suggested precautionary measures.*

**KEYWORDS**

web content management, security, components, document management.

**INTRODUCTION**

With the explosive growth of the Internet, fundamental content management needs have also grown. No longer can information be published online in a manual process and be left unattended.

Almost every enterprise these days needs a website to communicate with customers, partners, shareholders, and so on, providing up-to-date information on the enterprise, its products and services. Online information must be continually reviewed and updated by content editors so that other content consumers, including customers and search engines, have access to the most up-to-date version.

Content management refers to the system and processes whereby information is created, managed, published, and archived. Information typically passes through this lifecycle for a finite period of time. A content management system (CMS) provides the necessary infrastructure for multiple persons to effectively contribute content and collaborate throughout these lifecycles.

Some of the Web Content Management (WCM) products are rooted in document management, while others have developed from customer relationship management, e-commerce, and software configuration management. In the crowded Web Content Management (WCM) marketplace, there are basic components of web content management system. As the volumes of information provided by organisations on the Web increase, so do the problems of managing that information. The aim of this paper is to explore the common components of WCMS, security concerns and to develop precautionary measures.

**WEB CONTENT UPDATING – THE CURRENT SCENARIO**

There has been an explosion of content on Web sites as the potential of the web for internal and external communication is recognized. For a web site to “live and breathe” it must be fed with new content and out of date content must be removed due to the dynamic nature of modern business. Therefore, building and setting up a website is not a one-time project. Different departments in the enterprise will have areas of content they need to add to and update.

There are several ways of uploading web content to the web server. One of the methods includes the use file transfer programs such as FTP (file transfer protocol). Another common approach is to create an upload function within a Web interface allowing different content owners to select appropriate files and upload them via the client/server protocol that defines how messages are formatted and transmitted on the World Wide Web (WWW), HyperText Transfer Protocol (HTTP). Both methods are common, and still used by web hosting companies and small & medium enterprises (SMEs).

Traditionally, technical staff would have to assist a content editor who needs to update a site by translating the content into a suitable web page format (i.e. HTML) and uploading it to the web server on their behalf. This iterative process often led to delays in publishing, and is obviously not an efficient process given the high mutual dependence required between the content provider and the technician. Managing the website updating process is another problem with older approach. Sometimes a web page may consist of several content areas that require input and material from several different enterprise departments. When more than one person is able to update web pages simultaneously, the problem of logging and tracing “who has amended what” and “what the latest version of a page is” becomes serious.

**ESSENTIAL FUNCTIONALITIES AND ORIGIN OF WEB CONTENT MANAGEMENT**

A web CMS simplifies the process by which content contributors create, publish, and update website content. Merker, L. (2013). The Web Content Management Systems (WCMS) that have appeared more recently are designed to tackle the problems with conservative perspective of content uploading, and make it easier to collaboratively update a website. Simply put, a web CMS:

1. Enables authors and editors outside the web team to contribute
2. Puts the responsibility for content accuracy in the hands of those responsible for that content
3. Decreases the time and costs associated with web content maintenance

Moving from conservative to collaborative approach is what brings about a WCMS. It facilitates a group of collaborative users, usually from different departments across an enterprise, to maintain and organise web content in an effective and manageable way. Web content can include text, images, audio and video. A modern WCMS can also include workflow features so that the authoring, storing, and updating of web pages, along with approval sub-procedures, can be streamlined.

**Authoring:** The authoring environment is the most important aspect of a content management system (CMS), for without content authors, there would be nothing to manage or publish. There are a wide range of possible authoring environments that can be used with a content management system, including:

- WYSIWYG authoring
- Markup-based authoring
- Template-based authoring
- Authoring using a desktop application

- XML-based authoring
- Importing from data sources

**Workflow** is the process of creating cycles of sequential and parallel tasks that must be accomplished in the CMS. The CMS workflow engine records an audit with comments on each step. Upon final approval, content is automatically published online.

**Storage** is placing of authored content into a repository. beyond this, it is also the versioning of the content, so that access conflicts between multiple authors cannot arise and so that previous versions can be found and restored if required. These can be stored as records in a database or as Extensible Markup Language (XML) files.

**Publishing:** As with many new IT trends, Web content management (WCM) is in part a practical response to a pressing business problem – how to organize and manage large-scale Web sites – and in part a technology push on the part of software suppliers.

### COMPONENTS OF WCMS IN BRIEF

Many WCMS are programmed in languages such as Java and PHP, and run on a web server. In addition to the web server, WCMS may also contain additional components such as workflow engines, search engines, and email integration modules. Web content and data is normally stored in data repositories or databases such as MySQL (open source) or Oracle (commercial). This could include text and graphic material to be published. Older versions of web pages from a particular site under management may also be stored in the database. Generally, draft web pages are not uploaded directly to the production web server. Instead, users keep copies of draft pages offline until they are approved for publication. Then, once approved and signed-off, a file transfer program runs automatically, uploading and linking in the final pages on the production web server. Compass Design (2014). A WCMS is essentially a web application supported by a backend database, with other features such as search engine, and perhaps integration with a translation engine. The general security threats applicable to web applications, such as cross-site scripting, injection flaws and/or malicious file execution, can all be applied to a WCMS.

In a broad term, data and content sent to a web server is considered public information. If it is necessary to store sensitive information on WCMS servers, appropriate data encryption and authentication measures should be put in place. Content duties are segregated by dividing users into two groups—content editors and content administrators—where only content administrators have final publishing authority. The role of technical personnel would be in building web page templates and maintaining the consistency of web page layouts and a common look-and-feel. Government of the Hong Kong Special Administrative Region (2008).

### BENEFITS OF WEB CONTENT MANAGEMENT SYSTEM

The key goal of a WCMS is the increased integration and automation of the processes that support efficient and effective internet delivery.

A Web Content Management System is not just another software system. It is the communication vehicle that connects your company's stakeholders, executives, marketers, and developers, with your customers. The CMS you choose must be able to engage customers at many levels and through many marketing channels. You must have a CMS that has the power, flexibility, and expansion to meet your current and future needs. Emery (2001), Omozebi (2012).

There are a wide range of business benefits that can be obtained by implementing a CMS, these include:

1. More efficient workflows: faster turnaround time for new pages and changes. Requests for changes and updates to a site are simplified under a WCMS framework. Users across different departments can add and apply changes to web content with a pre-defined and agreed-upon workflow process. Should an element need to be changed, you only need to edit one file. Change a product price in the right place and, once saved and published, the entire site reflects the change instantaneously.
2. Quicker response times: Your website takes up less space and requires less data by reducing repetition. Making new web content such as marketing materials available on the web is much quicker because content owners can update materials to a website directly, without the need to assign such tasks to technical personnel
3. Increased security: under a WCMS framework, content is only published after approval by designated supervisors or managers. This reduces the chance of publishing material by mistake, which is usually due to human error. In addition, most WCMS systems provide audit trails of publishing activities all of which help maintain accountability;
4. Other benefits include greater capacity for growth, improved version tracking, integration with translation servers, and consistency of page presentation through the use of common page layouts and controlled templates. Also, New pages can be created very quickly as many of the elements already exist. Only the fresh elements, such as specific content or images, need to be created.

Web content management has grown in importance over the past few years, and commercial as well as open source WCMS products are now available in the market.

### SECURITY CONCERNS AND PRECAUTIONARY MEASURES

Security continues to be a growing concern for everyone, as it is in secular world so it is in the IT world. As identity theft proliferates, it's important for websites to employ the safest security measures when storing and processing data. WCMS is an application built on top of existing web technology. Like other web applications, a WCMS is subject to the same security threats and operation process vulnerabilities as other web applications. Hallikainen *et al* (2002).

#### SECURITY CONCERNS

Given that a WCMS is a software application, it is prone to bugs just like any other program. Vulnerabilities have been found in WCMS. As one example, a vulnerability called "absolute path traversal vulnerability" was found in the open source product OpenCMS in 2006. Drupal Association (2006). Another security concern lies with protection of authentication credentials when accessing a WCMS. Many WCMS products are designed primarily to solve the content management problem of websites rather than building a secure product. Some WCMS products do not provide adequate protection for logins and passwords for example, and these passwords— including the administrator password—are sent as plain text over the network. Hackos (2002), Boiko (2001), Robertson (2003). Similarly, as part of the publishing/uploading process, a WCMS might use file transfer protocols such as FTP to transfer files from the WCMS data storage server to the web server. FTP is not a secure protocol in the sense that authentication credentials and passwords are sent as plain text over the network. In addition, because publishing is an automatic process from the WCMS to the production web server, FTP credentials might be hard-coded in certain configuration files. Usually a hard-coded login password like this will not be changed regularly. As a result, any leakage of this password could allow someone illegally access to web content on the production web server. If the WCMS includes other modules, individual subsystems may have their own bugs and introduce their own vulnerabilities to the WCMS. For example, if the WCMS has an email module, it might be prone to the same common threats faced by email server such as email spoofing. Government of the Hong Kong Special Administrative Region (2008). On top of this, the backend database server of the WCMS may have its own vulnerabilities as well.

#### PRECAUTIONARY MEASURES

There are a number of precautionary measures that should be done proactively to mitigate the security threats.

1. Follow best practices by applying the latest security patches to all web server software. Any alerts or warnings about vulnerabilities on the WCMS product being used should be addressed immediately, especially if the WCMS can be accessed directly from the Internet. Any patch management process should also address additional WCMS modules, including email subsystems, backend database servers, JAVA runtime environments, and so on.
2. A strict password policy should be defined. This should include a minimum password length, initial assignments to personnel, restricted words and formats, and a limited password life cycle.

3. Logins and passwords sent over the Internet should be protected by Secure Socket Layer (SSL)/Transport Layer Security (TLS), so that attackers can't sniff them over the network. In general, access to administration pages should be further controlled and these should not be open to Internet access.
4. When publishing any web content from the WCMS to the production web server, file transfer programs such as FTP should be replaced by a Secure Shell (or SSH) that protects transmission channels by encrypting data. Some SSH implementations also support a feature that controls which IP addresses are allowed to connect to the destination server.
5. To enforce data security, many WCMS implementations have built-in access control whereby groups of users are segregated into editor and administrator (approver) roles. These roles and their corresponding access rights should be clearly defined and reviewed periodically.
6. A good WCMS should keep an audit trail, logging all editing and approval activities. These audit trails should be retained for a period commensurate with their usefulness, and should be secured so they cannot be modified and can only be read by authorised persons.

The issue of security in Web Content Management System also ties back to hosting provider, too. Vulnerabilities can arise if web server is not secure or encrypted properly. Shared servers pose an additional risk if someone else on your server is compromised. Just as important as WCMS is, a proactive hosting provider is equally critical. Meike *et al.* (2009), Omosebi (2012). Additionally, if payment processing is incorporated into a WCMS and is outsourced, third party vendor needs to also maintain a high level of due diligence with regard to security.

Other precautionary measures that can go a long way towards securing a Web site include regular backups, prompt updates to the release and a good web host. The hosting service should have a very reliable and up to date backup of data in their database to prevent unforeseen loss of data. Omosebi (2012).

## CONCLUSION

Overall, CMS platforms offer a great framework in which to build websites that are relatively easy to update and maintain. Just like any other website, though, security is an issue that must not be overlooked. It's advisable to assign a web programmer to maintain the system's security, or to budget for the assistance of a contractor or service on an ongoing basis.

While a good WCMS can facilitate businesses to better control their web content, making it more responsive in today's dynamic business environment, end-users should also be aware of the possible security impact on the enterprise if inappropriate material was published on the site.

Users should be aware of what is being published. Only approved content should be involved in the publishing process and passwords should be promptly changed if they are suspected of being, or have been, compromised or if they have been given to vendors for maintenance and support. Likewise, automatic protection features, such as a password protected screen saver, should be activated if there has been no activity for a predefined period to prevent any attempt at illegal system access. Also, when a member of a content editing and updating group ceases to provide services in that group or organisation, his or her WCMS user-IDs and access privileges should be terminated as soon as possible. Software patches and updates should be applied to user machines regularly, including web browsers, Java runtime environments and so on, on a regular basis.

## REFERENCES

1. Boiko, B. (2001). "Understanding Content Management". *American Society for Information Science and Technology*; Vol 28 issue 1 pp 8-13.
2. Compass Design (2014): "How Many Websites Use Joomla: 30 million?" viewed April 03, 2014 [www.compassdesigns.net/joomla-blog/How-Many-Websites-Use-Joomla-30-million-.html](http://www.compassdesigns.net/joomla-blog/How-Many-Websites-Use-Joomla-30-million-.html)
3. Drupal Association (2006): "Writing Secure Code". Viewed June 2014 <http://drupal.org/writing-secure-code>.
4. Emery, P. (2001). "The Content Management Market: What you really need to know". *American Society for Information Science and Technology*; Vol 28 issue 1 pp 22-26.
5. Government of the Hong Kong Special Administrative Region HKSAR (2008): "Web Content Management System" Viewed on May 2014 <http://www.infosec.gov.hk/english/technical/files/web.pdf>
6. Hackos, J. T (2002). "Content Management for Dynamic Web Delivery". ISBN 0-471-08586-3 PP 18
7. Hallikainen, P., Kivijärvi, H., and Nurmimäki, K., (2002): "Evaluating Strategic IT Investments: An Assessment of Investment Alternatives for a Web Content Management System," *Proc. 35th Hawaii Int'l Conf. on System Sciences*, IEEE CS Press, pp. 238-248.
8. Meike, M., Sametinger, J., and Wiesaeuer, A. (2009), "Security in Open Source Web Content Management Systems," Accessed June 2014 <http://doi.ieeecomputersociety.org/10.1109/MSP.2009.104>
9. Merker, L. (2013): "A Guide to Web Content Management System Evaluation". Viewed on April 03, 2014 <http://www.omniupdate.com>
10. Omosebi, P. A. (2012): "Web based Housing Management System (Senior Staff) University of Ibadan" Thesis, ARCIS University of Ibadan, Ibadan Nigeria.
11. Robertson, J. (2003). "So, what is a content management system?" Sydney: Step Two Designs Pty Ltd.



**DETERMINANTS AND PROSPECTS OF ECONOMIC GROWTH IN ETHIOPIA**

**HABTAMU NIGATU ELALA**  
**STUDENT**  
**DEPARTMENT OF ECONOMICS**  
**ARTS COLLEGE, OSMANIA UNIVERSITY**  
**HYDERABAD**

**ABSTRACT**

*Economic growth is an important factor in the development of the livelihood of an individual and the overall society. Ethiopia has been showing very high economic growth for the consecutive five year. However the distribution of income from the growth has been inequitable. The majority of the people are excluded from the growth system but also those who are include in the growth process gain from the growth process very less amount. And large share of income goes to the few people. Hence unknowingly the growth process empowers a few people. The government should rethink or review to bring inclusive growth basically broad based growth, shared growth and pro poor growth. It decreases the rapid growth rate of poverty and increase involvement of people into the growth process of the country.*

**KEYWORDS**

economic growth, Ethiopia.

**1. INTRODUCTION**

Economic growth is the basic for the development of any nation it implies an increase in the net national production in a given period say a year. In other word economic growth means the transformation of an economy from the state of under development to a state of development from agrarian to a highly industrialized society from a low save to high a predominately urbanized society. The Ethiopian attempt to build a developmental state in the current form dates back to the early 1990s when an interim regime of the Ethiopian People's Revolutionary Democratic Front (EPRDF) was established by ousting the previous socialist dictatorship by military force. With the coming of the Interim Government in July 1991, Ethiopia abandoned economic planning and adopted a market-oriented economic system. During the transition period from 1991 to 1995, important policies were adopted and incorporated into key policy documents. The policy thrust of the Interim Government was proclaimed in Economic Policy for the Transitional Period in 1992, which contained a shift toward market orientation, removal of most restrictions on private sector activities, and liberalization and reforms in sectoral, investment, and public enterprise laws. Meanwhile, the Interim Government retained some features of the previous regime such as the state ownership of land and development centered on agriculture and rural areas. The idea of ADLI took concrete shape as an overarching economic strategy between 1992 and 1994, and An Economic Development Strategy for Ethiopian February 1994 highlighted the concept of ADLI to define its strategic direction. On the political front, the Charter of the Interim Government in July 1991 upheld peace and democracy as guiding principles, and introduced federalism based on ethnic autonomy. The Communist Military Junta (Derg) of the previous regime was replaced by a multi-party political system.

In September 2010 Minstar of finance and economic development (MOFED) introduce a new document which describes Ethiopia's growth and transformation plan (GTP).

This document describes Ethiopia's Growth and Transformation Plan (GTP), a medium term strategic framework for the five-year period (2010/11-2014/15). As the GTP is in the preparation process, it has been passing through an extensive process of consultation with citizens, the private sector, and civil society including women and youth organizations, religious institutions, the academia including professional associations both at regional and federal levels.

Ethiopia launches 150 billion USD green growth strategy in November 19 2012 .whose implantation requires 150 billion over 20 year dubbed climate resilient green economy(CRGE) ,the initiative sets out the dual objective of lifting Ethiopian to middle income economy by 2025 while keeping green gas emissions constant.

**2. LITERATURE REVIEW****I. TRADITIONAL THEORY OF GROWTH**

Classical economists, such as Adam Smith (1776), David Ricardo (1817) and Thomas Malthus (1798), and much later, Frank Ramsey (1928), Allyn Young (1928), Frank Knight (1944) and Joseph Schumpeter (1934), provided many of the basic ingredients that appear in modern theories of economic growth (Barro & Sala-i-Martin(2004), 2<sup>nd</sup> edition Economic growth,(p.16) .

The classical school consists of famous Adam Smith, analyst David Ricardo and the wise T.R.Malthus. These writers have expressed similar views on economic matters, through not exactly the same thing on all points. These economists were more concerned with the problems of can economy as a whole. This approach to economic development was macro in character, in comparison to the neo-classicals' approach which was essentially Micro in nature.

They made important contribution to study of economic development by focusing their attention as to "how does the growth of an economy occur?"(M.LTaneja, R.M. Myer (2011) *economic development & planning, 12th modified Edition , p.93*)

According to Smith, in a developing economy, both income level and capital stock rise. In addition to this, the rate of capital accumulation also shows a tendency to increase. This leads to increase in the capital stock in successive periods as investment keeps on increasing. Another important factor which contributes to the progress of an economy is the successive decline in the incremental capital output ratio due to the influence of capital on the productivity of labor. These factors reinforce each other and accelerate the pace of development of the economy. This development continues until a point where the economy's capital grows large enough to eliminate any change of profits. At this stage the economy has reached its stationary state.

In Adam Smith's system the stationary state is distinctly different from the state of underdevelopment. Having reached the stationery state, the common characteristics of the economy becomes unchanged population, constant income, subsistence wages, complete elimination of profits, and absence of net investment. According to Smith an economy which reaches a stationery state in its growth process has reached the highest level of propensity consistent with its present natural resources.

Adam Smith has identified the rate of profit as a vital and strategic factor in the economic growth process. He stressed on the point that the rate of economic progress would only rise if the rate of investment rose. However, the savings and investment rates were primarily dependent on the excess of the market rate of profit over the minimum compensation for bearing risk. Since these factors depended mainly on the socio-economic framework in the country, Institutions where his solution to the problem of economic growth. Adam Smith was firmly in favors of the policy of free trade and did not approve of any sort of government intervention. He is opposed to any kind of planning for economic development.

According to Ricardo, and Economy which has reached the stationary state, is characterized by wages at the subsistence level, maximum possible population, profits which are merely enough to compensate the risk, constant capital, Stock and a fixed quantity product. Ricardo didn't visualize any economy reaching the stationery state anytime in the near future. In Ricardo countries required a more rapid growth of capital stock. This same remedy couldn't be applied to countries with dense population, as rapid increase in capital stock would promote more population growth, and this would make matter worse for the country. Ricardo, thus suggested that the only remedy for these densely populated countries was a population control, by a change in the consciousness of the working class.

Malthus also gave light on three main factors which he thought sometimes arrest economic growth. Firstly, he refers to a backward sloping curve of effort for both Workers and managers, meaning that the incentive to do hard work was missing on account of many factors such as market size etc. He suggested the a remedy to the problem of small size of markets was in the promotion of international trade and by improving the transport and communication at a domestic level. Secondly, inability of an economy, to structurally transform itself into an industry based economy, may lead to economic retardation. Technological progress generates employment in the industrial sector by allowing providing jobs to people from the agricultural sector. Where technology fails, income tends to fall and there is a rise in unemployment. The introduction of land reform, so as to provide the ownership of the land to the actual land tillers so as to generate an incentive to raise output, was the solution provided by Malthus, but he himself stated that this was only temporary. Thirdly, intersect oral analysis of Malthus suggested that technological progress in a country had to be rapid enough to permit large investment in the industrial sector, whereby the impact of diminishing returns to increased employment on the land can be neutralized. Often such progress could not be accomplished in industries while diminishing returns in agriculture put a break on its development.

Malthus contended that the development of the industrial sector in a background economy is limited by under development of the agricultural sectors in the economy.

To sum up the general view of Malthus, the limited effective demand in less developed countries prevent development in both the agriculture and industrial sectors.

Labor intensive techniques of production in the agricultural sector does not permit the absorption of most of the countries, labor force, but it doesn't generate high enough income / wages of the laborers, and therefore it does not lead to an increase in the effective demand of the economy, nor to an increase in the rate of economic growth.

## II. NEOCLASSICAL THEORY OF GROWTH

### HARROD – DOMAR MODEL

The neo-classical growth theorists of the late 1950s' and 1960s recognized this modeling deficiency and usually patched it up by assuming that technological progress occurred in an exogenous manner.

This device can reconcile the theory with a positive, possibly constant per capital growth rate in the long run, while retaining the prediction of conditional convergence. The obvious shortcoming, however, is that the long –run per capital growth rate is determined entirely by an element the rate of technological progress – that is outside of the model.

The long-run growth rate of the level of output also depends on the growth rate of population on other element that is exogenous in the standard theory. Thus we end up with a model of growth that explain everything but long-run growth, on obvious unsatisfactory situations. (Barro & Sala-i-Martin(2004), economic growth ,2<sup>nd</sup> edition p.16).

Harrod and Domar are interested in discovering the rate of income growth necessarily for the smooth and uninterrupted working of the economy through their models differ in detail ,yet they arrive at similar conclusion.Harrod and Domar assigned key role in investment in the economic growth.(M.L. Jhingan(2004),Macroeconomics theory ,11<sup>th</sup> edition and Enlarged).

Domar's growth model is one ,which can be used for finding out the dynamic conditions for the stability relevant to the growth process of underdeveloped economy. The main modification to be introduced in Domar's model is to shift the emphasis from the demand sufficiency to supply sufficiency .This shift in emphasis becomes necessary ,because in the developed economy,the balance is likely to be disturbed by the efficiency or deficiency of the effective demand ,while in underdeveloped economy, the balance is likely to be disturbed by the inefficiency of the supply or deficiency of capital. With this shift emphasis ,the Domar's analysis can be used for constructing a model of growth with stability for the underdeveloped economy(M.L.Taneja,R.M.Myer(2011) :Economic of development and Planning :Domar Model P.226.).

The Solow neo-classical growth model, for which Rober M.SoloW of the Massa chusetts institute of Technology received the Nobel Prize in economists, is probably the best known model of economic growth.

Solow growth model is expanded on the Harrod Domar formulation by adding a second factor, labour and introducing a third independent variable technology to the growth equation.

Technological progressive become the residual factor explaining long-term growth and its level was assumed by Solow to determined exogenously, that is, independent of all other factor. Because the rate of technical progress is given exogenously the Solow neo-classical model is sometimes called an "exogenous" growth model.

The developing countries have broadly focused on two strategies of developed "balanced growth" and "unbalanced growth". Albert Hirschman has propounded the theory of unbalanced growth theory has been supported by H.W.Singer, C.P. Kindle Berger, Faul Streeten and W.W. Rostow. But the credit goes to Hirschman for propounding the doctrine of unbalanced growth in a systematic manner.

He is of the opinion that the best way to accelerate economic development is to create deliberate imbalances in the economy.

On the other hand western economists like Ragnar Nurskey. Arthur Lewis, Anyng Young, Rosen Stein Road have advocated the strategy of balanced growth for underdeveloped countries.

Prof.D.K.Shukla has constructed theoretical model of growth for underdeveloped economy. The theoretical model was the topic of his paper "A theoretical model and its application for economic growth in India". Read at the Indian economic conference at Madras (Chennai) in 1967.This model is the modified version of Domar's Model.Underdeveloped countries wish to achieve their objective of growth with stability may be considered the prime objectives that less developed countries would attempt to achieve. There can be a difference of opinion about the degree of "reasonable price stability". But there were can not be opinion about the objective to be realized by the underdeveloped countries .

### III. MODERN VIEW ON ECONOMY GROWTH

Joseph Stiglitz ,Who won the 2001 novel prize delivered his suggestions on the Indian growth and inflation and he preferred growth is more important than inflation. He said; "In a trade-off between growth and moderate inflation, I would plump for growth."That clearly is a cut for the reserve bank of India, from Novel prize winning economist Joseph Stiglitz. "The rate agency are the one that need credibility, not the notations or other entities they rate," he said, although he is quick to add there are still same out their in the financial markets who perversely take this agencies seriously ,meaning that the rating are not completely beside the point .But Joseph Stiglitz doesn't know waffle when he gave his opinion.

Prof.S.Indrakant from Osmania University and reserve bank of India(RBI) Chair Professor, councilor for social development said that "Inflation has not been significantly affecting the rich because the growth process compensates them. They get higher income through the growth processes, whereas the poor have been negatively affected due to the low income."

K.Chandramouli,I.A.S.Commissioner, APARAD, government of Andra Pradesh gave emphasis with his topic inclusive growths and social welfare in India.He said " we are happy on one side about our country's GDP growth rate ,but are equal worried on the other because any rapid growth like this always bring along new challenges and new questions about the spread of the benefits of this growth across the different segment of our varied socio-economic ,religious ,political, ethic and cultural group. Moreover as war clearly warned by the UNDP the market driven technological Innovation tends to miss out on the goal of equity,povey eradication and enhanced human security.

Prof.R.G.Desai,Chairman department of Economics ,CACEE, BangaloreUniveristy again gave emphasis in the topic inclusive growth under a neo-liberal policy frame work key note address at the UGC national seminar. Inclusive growth term is defined differently by different scholars and organizations. The United Nation development program(UNDP) has defined in inclusive growth as "the process and the outcome where all group of people have participate in the organization of growth and have benefited equitably from it." (UNDP2008)In other words ,inclusive growth should include all section as the beneficiaries as well as partners in growth and that inclusion of excluded should be embedded in the growth process .Basely etal (2007), has defined inclusive growth as the " growth that has high ,elasticity of povey reductions " ,i.e.it should have higher reduction in povey per unit of growth. There is

now enough evidence to show that the extent to which economic growth translates into poverty reduction and to human development depends on what happened to inequality during the process of growth (UNDP .2010; Suryanarayan.2008)

It was as though the Prime Minister Dr. Man Mohan Singh was endorsing the concerns raised by the greens within the state congress in the run up to the Emerging Kerala meet. Inaugurating the Emerging Kerala 2012 investors meet here on Wednesday, Prime Minister Dr. Man Mohan Singh said that the development initiatives of the state of should be “sustainable and mindful of environmental concerns.” He added, “We would like the state to embark on a path of people-focused inclusive growth driven by knowledge and innovation and mindful of environmental concerns.”

JagdishBhagwati and ArvindPanayariya are university professors of economics at Colombia University argue that growth can reduce poverty and that slow economic growth will hurt social development. In a joint response to question from Economic Times (ET), the authors dwell in the message in their book, revive Kerala model Vs Gujarat debate and attack economists such as Nobel laureate AmartyaSen for his “anti-growth assertions.” The message in their book growth is the single most important instrument of poverty reduction; and India needs both accelerate growth and make it more inclusive through track I reforms and make its redistribution programmers more effective through track II reforms.

As for our rivalry, it is with the practitioners of bad economics who are continuously at work to drive out good economics. It is interesting that, in evidence riposte to the recent anti-growth assertions of Prof. Sen, and taking a leaf from our extensive arguments in defense of the growth strategy, the prime minister of India the growth has asserted forcefully that growth is a matter of both economic policy and sustainable development policy.

The continued inclusive economic growth needed by developing countries to reduce poverty and improve well being; and improved environmental management needed to tackle resource scarcities and climate change. (Green Growth and Developing Countries; A Summary for Policy Makers P.S June, 2012)

**GREEN GROWTH OUTCOMES:**

**ECONOMIC**

1. Increase and more equitably distributed GDP-Production of Conventional goods and services.
2. Increase production of un priced ecosystem services (or their reduction prevented)
3. Economic diversification, i.e. improved management of economic risks
4. Innovation; access and up take of green technologies i.e. improved market confidence environmental
5. Increased productivity and efficiency of natural resource use
6. Natural capital used within ecological limits.

**IV. EMPIRICAL LITERATURE REVIEW**

*Agriculture as an engine of growth:* GDP growth rate was calculated for the three regimes to measure the performance of the overall economy and also to evaluate agriculture’s role in GDP changes. It declined by 1.82 percentage points in the socialist era compared to the monarch’s period and grew by 3.09 percentage points in the current period compared to its level in the socialist period. Further disaggregation of GDP into the different sectors reveals that decline in GDP growth rates in the socialist era was on aggregate caused by sharp declines in the service and manufacturing sectors.

**TABLE 2.1: AVERAGE GROWTH RATES AND SECTORAL SHARES**

Year	AGR		MAN		SER		GDP GR
	GR	SH	GR	SH	GR	SH	
1963-1974	0.9	68	7	5	7	25	3.5
1975-1991	1.3	55	1.2	6.5	2.6	34	17
1992-1998	2	50	7	6.4	8	39	4.8

Source: author’s calculation based on MEDaC data. GR stands for growth rate and SH for share.

GDP grew by 3.09 percentage points in the current period (1992-1998) compared to its growth rate in the socialist period. This is attributed to increased performance in the manufacturing and service sectors than the agricultural sector. *“Improved availability of inputs and spare parts to the highly incapacitated manufacturing sector made possible by the intensive emergency recovery and rehabilitation effort and the accompanied economic reform program which helped rectify factor and product market distortions, are the major factors behind the profound growth registered in the industrial sector”.* (MEDaC, 1999). Growth in the agricultural sector, estimated at 0.62 percentage points in the same period, is the lowest compared to the 5.38 and 5.78 percentage points growth rates registered in the manufacturing and service sectors, respectively.

**TABLE 2.2 GROWTH DECOMPOSITION BY SECTOR IN ETHIOPIA ECONOMY FROM THE PERIOD 2000/01 – 2004/05 AND 2005/06 – 2009/10 GIVEN AS FOLLOWS**

	2000/01-2004/05	2005/06-2009/10
	Share in total GDP	Share in total GDP
Agriculture	41.5	33.2
Industry	17.1	11.7
Service	41.4	55.2

Source: EEA/EEPRI Computation data

The agricultural sector which had a significant contribution to growth with a magnitude equivalent to that of the service sector in terms of its share in growth. Its contribution to growth has decline from about 42% during SDRP to 33% during the last five years. This was not, however, because value added in the Agriculture Sector decelerated during the period of PASDEP over the SDRP. In fact value added in this sector has accelerated from 5.6 percent during SDRP to 8.4% during PASDEP. The reason for the decline in its share in the overall GDP growth was due to the extraordinary high rise of the value added in the service sector. The growth in the service sector has more than doubled from 6.7% to 14.3% during the last five years compared to the preceding five years.

**3. IMPORTANCE OF THE STUDY**

The study of economic growth has a tremendous effect for change of livelihood of the poor people. Ethiopia has registered very high economics growth for the last few years and the study of the growth system of the Ethiopia is very essential to ensure for betterment of Ethiopia economic growth. Holding this truth to make sure does this system benefit the whole society? In fact, it doesn’t but there is a growth it needs careful analysis to bring up equitable distribution of income and to included all the society group in the growth system.

**4. STATEMENT OF THE PROBLEM**

Economic growth is the basic and crucial issue in the development of one country. Ethiopia is one of fastest growing economies in the world and the non- oil export country in the east of Africa.

Basically, Ethiopia economy is dependent on the the agricultural production and the share of agriculture sector in the economy is around 33.2% in this share the people, who are engaged in the agriculture is 85% of the total population. Thus agriculture in Ethiopia is the dominant sector in the of economic development .The contribution of the other sector for the economic growth of Ethiopia from the service sector 55.2 % and the industrial sector 11.7% ( EEA/EEPRI(2011) computations using data from MoFED,P. 5-10).

Every one agree Ethiopia had been registering fast economic growth since 2005/04 – 2009/10 .However ,There is a problem ,the first and the most one question where is the growth ? if there is a growth why the people livelihood of the poor society didn’t change ? This question come from different side .But everybody should hold the truth GDP isn’t the good measurement and it is an indicator of the presence of growth. Moreover, GDP is calculated as the value of good and service produce with in a country without adjustments for any change in environment assets or citizens well-being . The second



problem, the growth system empower a few people the majority of the society aren't included in the growth process. There should be some adjustment to bring the fair distribution of income throughout the poor.

**5. OBJECTIVE**

Identifying the main problems and constraints in the growth process of Ethiopia economy and providing opportunities to bring preferable options.

**SPECIFIC OBJECTIVE ARE**

- ❖ To test how the growth process going on
- ❖ To see some theoretical and practical situation regarding the growth process.
- ❖ To come up with some possible conclusion and recommendations.

**6. HYPOTHESIS**

The majority of the people of Ethiopia believe that the growth process of the country is not bring the change on the society living standard so there is no growth.

On the other hand the other group said there is a growth in Ethiopia but the process doesn't included the majority of the society. According to the above idea there is need of clarification and constrictive definition of growth. Hence in the project work very briefly defined the determinates and prospect of economics growth process of Ethiopia.

**7. RESEARCH METHODOLOGY**

In my project work I used secondary data from different well established institutions and ministries such as WB,IMF,EEA.....etc. The project work also includes annual report, conference proceedings quarterly bulletins, statistical abstract journal and books. The institution like IMF, WB and EEA are the main sources of the secondary time series data. The sample size taken for the project work 30 years of data in order to obtain the optimum results and possible estimates of the analysis. Finally the method employed in developing the project paper is description analysis by using tables, ratio, percentage, and graph.

**8. DATA ANALYSIS PRESENTATION**

**I. DETERMINATE OF ECONOMIC GROWTH**

In theoretical terms, analyzing influence of fundamental economic variables on the economic growth and development is base on the basic macroeconomic relation. This relation represents expenditure base approach for calculating gross domestic production in one country.

$$Y = G + C + I + X - M \dots\dots\dots (1)$$

Here y is gross domestic product  
 G- Budget consumption  
 C- Private expenditure  
 I- investments  
 X- Exports  
 M- Imports

Identify (I) represent equilibrium between aggregate supply and aggregate demand in open economy. It is also used for examining functional dependant of some macroeconomic variable, variables, measure of economic activity, and polygon for implementation adequate mix of economic policy (monetary policy, fiscal policy, balance of payment .....e.t.c)

At the same times it clearly shows connection between internal (real and monetary) sector and external section in an economy. Macroeconomic variables which are including in the growth equation (1) represent the basic indicator of economic activity in any country. But it doesn't mean that only the traditional theories used these variables in their analysis growth development of the countries. Modern theories of growth (theory of endogenous growth, of theory of location, supply side economies,.e.t.c) use these determinates of growth too, but less then they use component of human capital ( ideas ,acknowledge, trainings ,learning by doing....e.t.c).

Much attention is given to day to derived determinates of growth such as composite indicators, distance of equator, the birth rate.....e.t.c

Let us start the empirical analysis with the fundamental macroeconomic identity, i.e the growth equation(1).

On principle, the economics analysis is positioned to analyze the influence of fundamental macroeconomics variables on economic growth and development.

Starting from the key macroeconomic relation, with an aim to consider the impact that relevant economic variable have on economic growth and development, the equation (1) was enlarged by the influence of inflation rate, direct foreign investments, the real national interest rate (r) and real exchange, per capital GDP, Government consumption, investment ratio, terms of trade, international openness.

$$Y = IR + GRC + INF + OPN + TOT + ER \dots\dots\dots \text{equation (2)}$$

IR - investment ratio  
 INF- inflation rate  
 GRC- Government  
 ER – Exchange rate  
 TOT- terms of trade

**II. GROWTH DOMESTIC PRODUCT (GDP)**

Gross domestic product (GDP) is the market value of an officially recognized final goods and services produced within a country in a given period of time. That is, GDP is the total market value of a country's output produced within a given period. There are two most popular approaches of computing GDP: The expenditure approach and the income approach.

The functional relationship between the growth and its main determinate can be found using the expenditure approach method.

$$Y = C + I + (X - IM) + G$$

Growth determining variables can be exogenous variable or endogenous variables.

The endogenous variables are consumption, investment..... etc. some of the exogenous variable which determine the growth process are such as rule of law, democracy, education, fertility..... etc.

GDP can also be measured with other measurement.

1. Nominal or current dollar, GDP and
2. Real or constant dollar, GDP.

**TABLE 4.1 NOMINAL GROWTH RATE (NGDP) % OF THE 3 DECADE**

1 <sup>st</sup> Ten Year Growth (GDP)			2 <sup>nd</sup> Ten Year Growth (GDP)			3 <sup>rd</sup> Ten Year Growth (GDP)		
Date	NGDP	ΔGDP	Date	NGDP	ΔGDP	Date	NGDP	ΔGDP
1982	0.916	-	1992	-8.673	-1.536	2002	1.515	-6.786
1983	8.235	7.319	1993	13.143	21.816	2003	-2.161	-3.676
1984	-2.843	-11.083	1994	3.19	-9.953	2004	13.572	15.733
1985	-11.144	-8.296	1995	6.128	2.938	2005	11.819	-1.753
1986	9.661	20.805	1996	12.426	6.298	2006	10.835	-0.984
1987	13.86	4.199	1997	3.134	-9.292	2007	11.456	0.621
1988	0.503	-13.357	1998	-3.458	-6.592	2008	10.789	-0.667
1989	-0.361	-0.864	1999	5.162	8.62	2009	8.502	-1.987
1990	2.726	3.087	2000	6.073	0.911	2010	9.937	1.135
1991	-7.137	-9.863	2001	8.301	2.228	2011	7.299	-2.638
AGDP	1.1441%	-0.853		4.546%	1.5438		8.3863	-0.1002

Source of data WB/World Bank data/

The average growth rate for the first decade from 1982-1991 showed 1.144% it was very low as compare to 2<sup>nd</sup> decade and 3<sup>rd</sup> decade. The first decade economic policy was socialist. So the private sector was limited in the growth process. The growth process was driven by the public sector. This and other factor limited the growth process to be low. On the other hand during this time Ethiopia had been in a great internal war. At the beginning of the 1990 the socialist government changes his policy to become mixed economic system. This should show a little bit improvement. And the growth rate over the year showed in consistent due to the subsistence Agriculture.

The method of production of Agriculture was poor and the farmers were dependant on the rain fall. Therefore the rain fluctuation was the major cause of inconsistent growth rate. The second decade the average Growth rate from 1992-2001 showed 4.516%. This was 3 times more than the first decade. The war was end up and EPRDF came to power May 1991. There was not out change in the economic policy of the country. The free market system and privatization or disinvestment policies of the government which helped the private sector to plan a crucial role in economic growth. The economic growth strategies have been Agricultural development led industrialization (ADLI) which brought a great change in Agricultural production.

The third decade average growth rate was 8.386% which was 1.84 times more than the 2<sup>nd</sup> decade there was also impressive improvement in the growth. The government gave great emphasis on growth strategies ADLI. On the other hand the government was used different technical and marketing research to diversify agricultural production. The market oriented production was the major factor in the change and growth of Agriculture production.

In the Previous government i.e. first decade the major agriculture production for sale was few such as coffee ..... But the current coffee market became lower price as compare the previous to overcome the problem. The government diversifies the Agricultural production to different crop and non-crop production such as oil seed, flower, chats..... e.t.c.

This was very crucial for the growth of economy in the 3<sup>rd</sup> decade. In addition to this the government was used massive agricultural input such as fertilizers, irrigation, training, high yield seed etc.

**8.II.1. INFLATION (INF)**

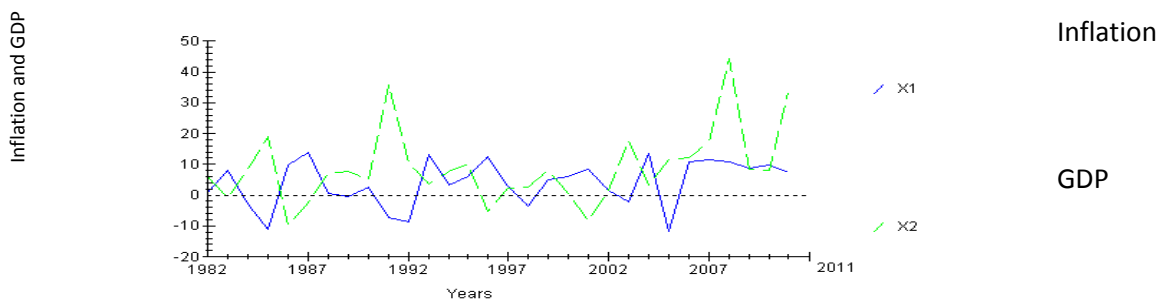
The term inflation is a persistent of continuous rise in the general level of prices. Inflation is a long time process of calculating price rises and hence any accessional rise of price may not be called inflation. Two to distinct cause of inflation known as demand pull inflation and cost push inflation.

**TABLE4.2: INFLATION WITH EXCHANGE RATE TRENDS FOR THE 3 DECADE**

1 <sup>st</sup> Decade Inflation			2 <sup>nd</sup> Decade Inflation			3 <sup>rd</sup> Decade Inflation		
Date	INF	Forex	Date	INF	Forex	Date	INF	Forex
1982	5.89	2.06Birr	1992	10.527	2.06	2002	1.654	8.15
1983	-0.675	2.06Birr	1993	3.543	2.06	2003	17.762	8.15
1984	8.417	2.06Birr	1994	7.594	2.06	2004	3.256	8.15
1985	19.065	2.06Birr	1995	10.022	5.88Birr	2005	11.611	8.65Birr
1986	-9.809	2.06Birr	1996	-5.091	5.88Birr	2006	11.611	8.39Birr
1987	-2.429	2.06Birr	1997	2.395	5.88Birr	2007	17.238	8.39Birr
1988	7.081	2.06Birr	1998	2.583	5.88Birr	2008	44.391	9.67Birr
1989	7.817	2.06Birr	1999	7.941	5.88Birr	2009	8.468	13.39Birr
1990	5.152	2.06Birr	2000	0.662	8.15Birr	2010	8.137	13.33Birr
1991	35.723	2.06Birr	2001	-8.238	8.15Birr	2011	33.224	16.85Birr
AV INF rate	7.62%			3.19%			15.80%	

Source of data WB/World Bank data/

**FIG. 4.1: TIME SERIES GRAPH OF INFLATION AND GDP**



Inflation in the first ten year average rate was 7.62%. In the Drug regime the inflation was limited because the government very much controlled. The major cause of the inflation was due to import price of good. During the period the exchange rate system was fixed exchange. And so the exchange rate are fixed it was set by the Government. On the 2<sup>nd</sup> decade the average inflation rate 3.19% as compare the 1<sup>st</sup> and 3<sup>rd</sup> decade the inflation was very low rate.

The 2<sup>nd</sup> decade year the policies of the Government changed. And it also gave a great emphasis on the Agricultural production and then there was a great reduction in the food price. The 3<sup>rd</sup> decade the average inflation rate 15.80% the inflation was very high as compare the past year. The major cause of the inflation was the increase in import price to motivate export price.

Although the country can't cover the consumer goods, the government promotes export rather than import. There was in compatibility between population increase and domestic production. On the other hand there was massive export without satisfy the local market demand and this create food price to be higher and the input shortage for the local small scale industry.

Due to reduce purchasing power, the inflation became very high which has been affecting the poor society such as government workers, pensioners.

**8.II.2. TERMS OF TRADE AND INTERNATIONAL OPENNESS**

**International openness.** The degree of international openness is measured by the ratio of export plus imports to GDP.

**Openness index:**

1. Any measures of openness
2. The ratio of a country's trade
3. Exports plus imports to its GDP

**Open economy.** An economy that permits transactions with the outside world, at least including trade of some goods Contrasts with closed economy.

**Terms of trade:** This variable is measured by the growth rate of the terms of trade (export price relative to import prices).

The rate of which one good is exchanged for a unit for a unit of another in the international market is called terms of trade. The formula can be expressed as follows:-

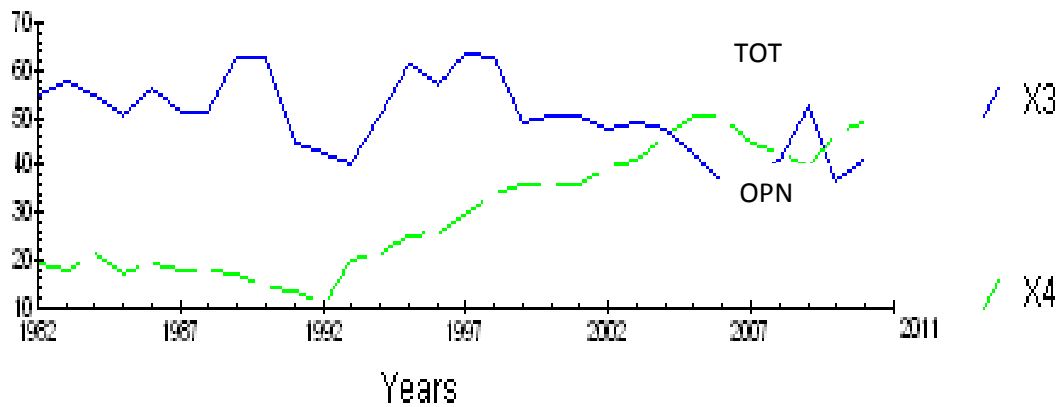
$$(TOT) \quad \text{Terms of Trade} = \frac{\text{Export price index} \times 100}{\text{Import price index}}$$

**TABLE 4.3: TERMS OF TRADE AND INTERNATIONAL OPENNESS**

1 <sup>st</sup> Decade TDT/Openness			2 <sup>nd</sup> Decade TDT/Openness			3 <sup>rd</sup> Decade TDT/Openness		
Date	TOT	OPN	Date	TOT	OPN	Date	TOT	OPN
1982	0.549	0.192	1992	0.422	0.108	2002	0.474	0.392
1983	0.574	0.178	1993	0.401	0.201	2003	0.486	0.407
1984	0.548	0.215	1994	0.505	0.212	2004	0.472	0.465
1985	0.507	0.173	1995	0.616	0.254	2005	0.426	0.505
1986	0.563	0.190	1996	0.569	0.255	2006	0.379	0.504
1987	0.512	0.176	1997	0.636	0.292	2007	0.397	0.448
1988	0.508	0.174	1998	0.627	0.334	2008	0.370	0.422
1989	0.626	0.171	1999	0.488	0.358	2009	0.366	0.395
1990	0.628	0.144	2000	0.502	0.360	2010	0.413	0.466
1991	0.443	0.132	2001	0.505	0.357	2011	0.529	0.487
Average	0.495	0.1569		0.527	0.270		0.4312	0.449

Source of data WB/World Bank data

**FIG. 4.2: TIME SERIES GRAPE OF TERMS OF TRADE AND INTERNATIONAL OPENNESS**



The first decade the average terms of trade was 0.495 a unit of good imported exchange with 2.02 export goods. Since country export Agricultural raw production. The elasticity of agriculture product inelastic. The imports were higher than the export. The openness for the 1<sup>st</sup> decade average rate was 0.1569 or The GDP equal to 6.37 times the sum of import plus export. There was closed economic system in the 1<sup>st</sup> decade. And the 2<sup>nd</sup> decade the average TOT was 0.527 which was equal to a unit of good imported exchange with 1.89 exported goods. The openness showed improvement as a result of the economic power change i.e. free market system. The GDP equal to 3.70 time sum of export and import.

The 3<sup>rd</sup> decade the average TOT was 0.431 which was equal to a unit of good imported exchange with 2.31 exported goods.

This was higher terms of trade as compared past 2 decades. This change was due to the increase of foreign exchange currency from 8.15 in 2000 to 16.85 in May 2011. The openness in the 3<sup>rd</sup> decade GDP equal to 2.22 time the export plus import. Again openness increase in this decade as compare the past 2 decade.

**8.II.3. GOVERNMENT CONSUMPTION RATIO**

The real government consumption to real GDP was adjusted by subtracting the estimates ratio to real GDP of year spending on defense and non capital real expenditure on education.

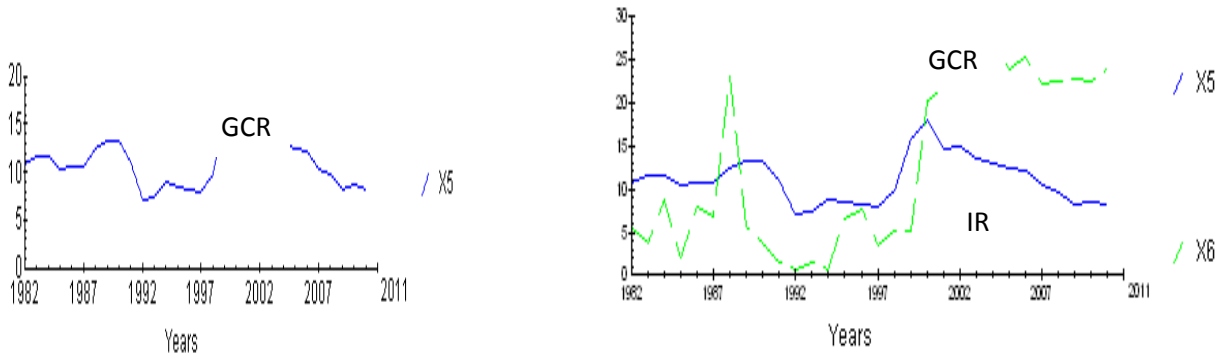
General government final consumption expenditure (formerly general government consumption) includes all government current expenditures for purchases of goods and services (including compensation of employees). It also includes most expenditure on national defense and security, but excludes government military expenditures that are part of government capital information.

**TABLE 4.4: GOVERNMENT CONSUMPTION RATIO TREND**

GD/GDP 1 <sup>st</sup> Decade		GD/GDP 2 <sup>nd</sup> Decade		GD/GDP 3 <sup>rd</sup> Decade	
Date	GC/GDP	Date	GC/GDP	Date	GC/GDP
1982	0.107	1992	0.072	2002	0.148
1983	0.116	1993	0.073	2003	0.134
1984	0.115	1994	0.089	2004	0.130
1985	0.103	1995	0.084	2005	0.123
1986	0.106	1996	0.083	2006	0.121
1987	0.106	1997	0.080	2007	0.104
1988	0.123	1998	0.098	2008	0.097
1989	0.133	1999	0.156	2009	0.082
1990	0.132	2000	0.179	2010	0.859
1991	0.110	2001	0.146	2011	0.081
Average	0.105		0.106		0.188

Source of data WB/World Bank data

FIG. 4.3: TIME SERIES GRAPE GOVERNMENT CONSUMPTION RATIO (GCR ) & INVESTMENT RATIO



The average government expenditure for purchase of goods and service for the first decade was 10.5% of the GDP. The second decade it was almost similar to the first which was 10.6% of the GDP. Apart from this the third decade the average government expenditure was increase very high at the begin and gradually decreased.

In this decade the average government expenditure was 18.8% of the GDP. This was one of the major causes for the inflation rate to the increase at higher.

**8.II.4. INVESTMENT RATIO**

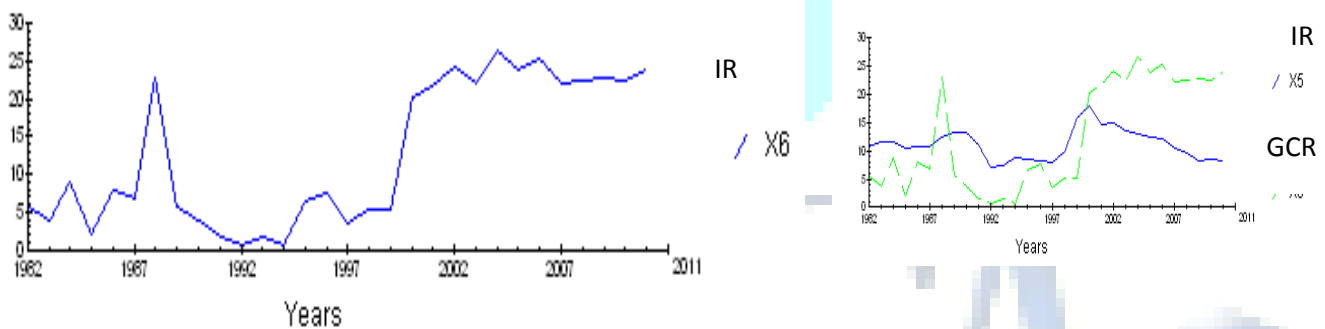
The rate of real gross domestic investment (Private plus public) to new GDP. This ratio gives the share of GDP that is used by the public and private sector. For investment (rather than being used for e.g. consumption or export).

TABLE 4.5: INVESTMENT RATIO

1 <sup>st</sup> decade I/GDP		2 <sup>nd</sup> decade I/GDP		3 <sup>rd</sup> decade I/GDP	
Date	GC/GDP	Date	GC/GDP	Date	GC/GDP
1982	0.05545	1992	0.00627	2002	0.24118
1983	0.03783	1993	0.0644	2003	0.22204
1984	0.08803	1994	0.07525	2004	0.26516
1985	0.02094	1995	0.0239	2005	0.23755
1986	0.07956	1996	0.0757	2006	0.25202
1987	0.06837	1997	0.03435	2007	0.2212
1988	0.022855	1998	0.05242	2008	0.22356
1989	0.05739	1999	0.0525	2009	0.22716
1990	0.03853	2000	0.2028	2010	0.22349
1991	0.01552	2001	.21528	2011	0.23963
Average	00690		0.0803		0.2352

Source: Economy watch.com

FIG4.5 TIME SERIES FIG/GRAPE/ INVESTMENT RATIO (IR) AND WITH GCR



The first decade the investment to GDP ratio was sources very low which was average of 6.90% the GDP. The role of the private investment in the 1<sup>st</sup> limited became the socialist system. The 2<sup>nd</sup> and 3<sup>rd</sup> decade the investment to GDP ratio share Gradual incensement. This near the government and private sectors play a great role for two decades.

The 2<sup>nd</sup> decade investment to GDP ratio average was apart from two decades the 3<sup>rd</sup> decade the investment to GDP ratio was very high which was 0.2352 or 23.52% of GDP. The government high investment on development and non-development which was the major cause for the inflation to be high over the past few years.

## 9. FINDINGS

Determinates and GDP	Indicator	Problems	Solution
GDP	The GDP over the past 30 year from 1982-2011 average growth rate showed growing. The last two decade economic growth was dynamic growth.	There was a very attractive growth rate however no one considers the environment and people The process create very unfair distribution of income and very low income society.	The growth and it's meaning need s clear definition in the country. The growth process in the country should be pro-people focused inclusive growth with consideration of environment.
INF	The inflation from 1982-2011 Average rate show up and down.	The major cause of inflation 1.The increase of import price 2. Government over expenditure on development program.	The government should control the inflation rate at low using the 1.monetary and fiscal policy. 2. Import substitution
TOT	TOT average rate 0.495 and then increase 0.527 finally it became 0.4312.This show ups and down.	The economics policy previous was close system. Since 1992 the open economic system has been used.	To improve terms of trade it need more domestic production and reduces import.
OPN	OPN average rate very low at the began which was 0.1569 and then there was a dynamic change 0.527 and it fall to 0.4312.	The economics policy previous was close system. Since 1992 the open economic system has been used.	The openness of the country should need careful management. Because most of our export is Agriculture raw material. in addition we should make local demand satisfied .
GRC	Government consumption to real GDP For first ten year and the next ten year the rate are the same 1.06. The expenditure from 2002 to 2011 increase at very high rare.	Government function increase in different sector this creates very huge expenditure.	Minimize the government expenditure to control the dynamic increase of inflation.
IR	The first and second ten year investment ratio more or less similar very low but from 2002-2011 the investment ratio increase at very high rate.	There is high government investment with less involvement of private sector.	Limit government function and motivate private sector.

## 10. RECOMMENDATION

- i. The EPRDF announce the strategies ADLI in 1994 the policy still it has been continuing work more than one –half decade but there is no time period for the agriculture development maturity and so the following sector i.e. Industrial sector start growth. In contrasts to this the industrial sector share of GDP shrink from 17.6% to 11.7%. This implies there is a need of new strategies or make some adjustment mechanism for further growth and development of agriculture and industrial sector.
- ii. The agriculture sector share in the economy decline as the economy of one country grows. On the other hand, the industrial sector grows. There is complementary relationship between the two sectors. And The condition in Ethiopia doesn't work in contrast to this as the share of the agriculture decline from 41.5% to 33.2% the people engaged in the sector remain there. Hence there is a structural rigidity problem it needs a great economic solution.
- iii. The Ethiopia financial sector is a very fast growing sector and it is also a base to the economic growth .However the role of financial sector is very limited in the growth process. There is no state (region) agriculture and industrial sector financing system. The role of the central bank or national bank of Ethiopia (NBE) is very much limited and under performance in the growth and development process. Therefore, I recommend there should be financial system reform.
- iv. Government had not given attention to the local industry so the local production totally distracted and replaced by the new technology. People who are work in small scale industry in the local shouldn't get financial, technical, and raw material support from the government. This and other factor which cause the local industry contribution drastically became approach to zero. There should need a great attention to promote the local producer for the further expansion of industrial development.
- v. I suggest that the government of Ethiopia should use inclusive growth strategies to include the exclude majority of the people. Inclusive growth is a very essential element in the reducing poverty and inequality among the people. I would like to repeat prime minister of India Dr. Manmohan Singh statement " we would like the state to embark on a path of people-focused inclusive growth driven by knowledge and innovation and mindful of environment concerns".

## 11. CONCLUSION

In the project work I attempt to examine determinant of economic growth and its prospect. I have been analyzed to see the problems and I concluded from the result of study as follows:-

1. After the 1992 the economic growth for two decade averagely between 4.5% to 8.5% however the value gain from the growth goes to few trader and brokers. The poor farmer sale his farm production with less price. there for there is a need of some adjustment to fair payment or distribution of income.
2. The inflation in 3<sup>rd</sup> decade from 2002- 2011 G.c had been registered very high than the rest of the year. These were extremely affecting the poor society such as government workers, pensioners...e.t.c
3. The inflation and growth fig showed that inflation rate was very high than the growth rated. The very high increase of inflation cause to reduce saving then to retard growth.

In the last ten year from 2002 -2011 the import price became higher than the average terms of trade showed lower than the rest years.

4. The international openness of country show increase from decade to decade .This is an indicator of the international trade growth.
5. The government expenditure for the first and second decade was similar but the last decade which was from 2002-2011. The government expenditure increase at higher percentage this was one of the cause of higher inflation.

6. The investment ratio was should that for two decade very low but the last decade show very high increment .The government have been doing very high investment on infrastructure ,electric generation ,damp for irrigation ,education center ,health center....e.t.c .There was excess of expenditure which create very high inflation and adversely affecting the poor society.

## 12. LIMITATIONS

The project has been taken for the Ethiopia economic growth the recommendation and conclusion regarded only to Ethiopia.

Some of the data taken from Ethiopia investment commission was not sufficient as I inquired .Holding this and other truth I did my project in very attractive and convenient way therefore any one can understand easily .Even though there are so many constraint and limitation.

## 13. SCOPE FOR FURTHER RESEARCH

The research has taken in the Federal Democratic Republic of Ethiopia the conclusion and recommendation also applicable in these boundaries only. The economic growth is non stopping process since the need of the society is unlimited. In fact there maybe interruption by different natural and manmade problems. The economic growth of any country need very careful study and research work year to year. So it is very important for those who want to study further in this area.

## REFERENCES

1. Ethiopia Economic Association (2011), "Annual Report on the Ethiopia economy" Addis Ababa, Ethiopia, pp5-10.
2. GRI ,Development forum(GDF) for the first round of policy dialogue between Ethiopia and Japan(2009): " Democratic developmentalizm and Agricultural development Led industrialization" Chapter V ,p107-146.
3. Ministry of finance and Economic development/MoFED/ (Sep 2010) "Growth and transformation (GTP) 2010 - 2015 draft" Government of Ethiopia, Addis Ababa.
4. <http://www.ethio-civility.com/> . Climate Resilient Green Economy (CRGE): the green growth strategy, updated on( Nov- 2012), cited (Feb-2013)
5. <http://hdr.undp.org/en/> . Human development report(2011), <http://hdrstats.undp.org/en/countries/profiles/ETH.html>
6. Robert J.Barro and Sala-i-Martin(2004) "Economic Growth." 2<sup>nd</sup> Edition Prentice Hall Of India New Delhi.
7. M.L Taneja, R.M Myer (2011) "Economic development and planning." 12<sup>th</sup> Edition VISHAL PUBLISHING Co. Delhi 110 002 India.
8. <http://www.wikipedia.org/> . Classical theory of growth and stagnation; updated November, cited January, 2013), [http://en.wikipedia.org/wiki/Classical\\_theory\\_of\\_growth\\_and\\_stagnation](http://en.wikipedia.org/wiki/Classical_theory_of_growth_and_stagnation)
9. M.L JHINGAN (2004)," Macro economic theory." 11<sup>th</sup> Revised and Enlarged Edition, VRINDA publications LTD: Haryan, India.
10. Prof.D.K Shukla (1967) " A theoretical model and its application for the economic growth in India" India economic conference at Madras (Chennnai), India.
11. Joseph Stigliz (Oct 18 2012) " Growth is More Important than Inflation" The Economic Times News Paper [www.economictimes.com](http://www.economictimes.com)
12. K.Chandramouli, I.A.S Commissioner, APARAD (Sep 26, 2012) " Inclusive Growths and Social Welfare in India" Bulletin of Government Degree College KHAIRATABAD, Hyderabad, India.
13. Prof. R G Desai.(Sep 26 ,2012) "Definition of Inclusive Growth" Bulletin of Government Degree College, Hyderabad, India.
14. Prime Minister Dr. Manmohan Singh(sep 13 ,2012) " Sustainable and Mindful of Environmental Concerns" The Economics Times News Paper, Hyderabad, India [www.economictimes.com](http://www.economictimes.com)
15. Jagdish Bhagwanti and Arvind Dphanayariya( professors of economics at Colombia University(Jan 2 ,2013) " Kerala Model Vs Gujarate " The Economics Times News Paper, India [www.economictimes.com](http://www.economictimes.com)
16. William Hynes, Shannon Wang (june2012), OECD, Green Growth and Developing Countries: A summary for policy makers, pp 5-9.
17. Zerihun Gudeta , (Dec 2009) How Successful the Agriculture Development Led Industrialization Strategy (ADLI) will be Leaving the Existing Land Holding System Intact: major Constraints for the Realization of ADLI'S Targets, Ethiopia e-Journal for Research and innovation foresight Vol. 1 , No.1 –Inaugural issue: pp 19 -35.
18. [www.wikipedia.org](http://www.wikipedia.org) . Land – reform – in –Ethiopia Updated (Nov-2012), cited (Feb-2013) available at [http://en.wikipedia.org/wiki/Land\\_reform\\_in\\_Ethiopia](http://en.wikipedia.org/wiki/Land_reform_in_Ethiopia)
19. Demissie Chanyalew, Birhanu Adnew and John Mellur(Sep 15 2010),"Ethiopia's Agricultural Sector Policy and Investment Framework (PIF) 2010-2020." Draft Final Report Addis Ababa, Ethiopia.
20. Government of Ethiopia, (August 2002) Industry Development Strategy of Ethiopia(p. 14)
21. Tilman Altenburg(Feb 2010), Industrial Policy in Ethiopia: Discussion Paper pp.5-6.
22. <http://www.nationsencyclopedia.com/> . Ethiopian Industry. Feb-2010, Available at <http://www.nationsencyclopedia.com/economies/Africa/Ethiopia-INDUSTRY.html>.
23. World bank/IFC(2006), Report in Industry.
24. [www.facta.junis.ni.ac.rs/](http://www.facta.junis.ni.ac.rs/) Macro Determinants of Economic Growth available at <http://facta.junis.ni.ac.rs/eao/eao201001/eao201001-02.pdf>
25. <http://www.worldbank.org> available at <http://www.worldbank.org/en/country/ethiopia>

# HIGHLY SECURED LOSSLESS IMAGE CRYPTOGRAPHY ALGORITHM BASED ON HAAR WAVELET TRANSFORM

MAHIMA GUPTA  
STUDENT  
SHOBHIT UNIVERSITY  
MEERUT

## ABSTRACT

Along with the rapid increasing growth of computer and network technologies, images are being transmitted more and more frequently. Security of image is a big issue. Image information is lively and visual, and has been an important means of expressing information of person. There are many encryption algorithm had been available each one having some strength and weakness. Image cryptography can use text cryptosystems to encrypt images directly, since image size is greater than text. Image encryption can be classified into lossy and lossless encryption methods. Lossless encryption methods are more applicable than lossy encryption methods when marginal distortion is not tolerable. In the proposed system, find the hash value of image using by image hashing toolbox. Image hashing is very easy to the tamper with digital data without leaving any clues. Under these circumstances, integrity verification has become an important issue in the digital world. After finding the hash value, the image is transformed into the frequency domain using the wavelet transform, Image processing and analysis based on the continuous or discrete image transforms are classic techniques. The image transforms are widely used in image filtering, data description, etc. Nowadays the wavelet theorems make up very popular methods of image processing, denoising and compression. The image transform theory is a well-known area characterized by a precise mathematical background. Considering that the Haar functions are the simplest wavelets, these forms are used in many methods of discrete image transforms and processing then the image sub-bands are encrypted in a such way that guarantees a secure, reliable, and an unbreakable form. The encryption involves scattering the distinguishable frequency data in the image using a reversible weighting factor amongst the rest of the frequencies. The algorithm is designed to shuffle and reverse the sign of each frequency in the transformed image before the image frequencies are transformed back to the pixel domain. The decryption algorithm reverses the encryption process and restores the image to its original form.

## KEYWORDS

Wavelets, Haar Transform, Lossless image encryption/decryption, Symmetric key encryption, Image hashing, Block based matrix transformation.

## INTRODUCTION

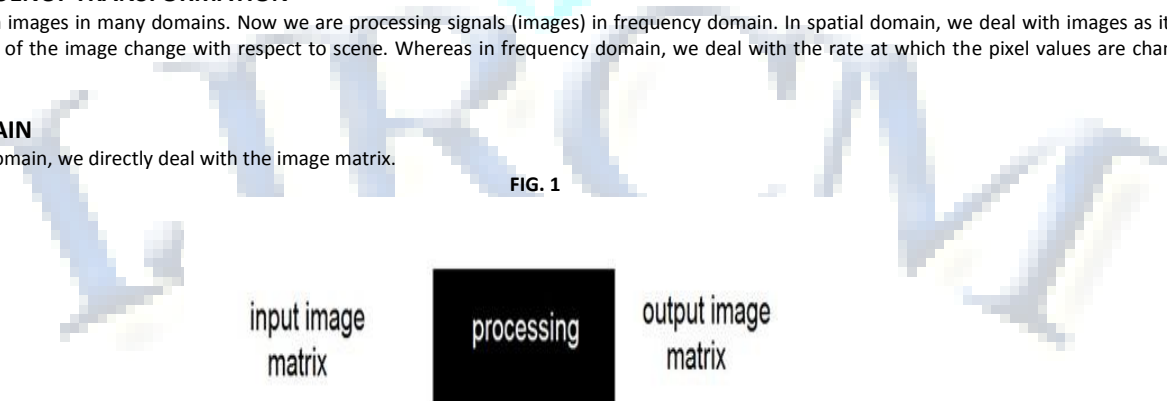
Cryptography is a method of storing and transmitting data in a particular form so that only those for whom it is intended can read and process it. It is an effective way of protecting sensitive data stored on media or transmitted over unsecured network communication paths. With the rapid development of communication and internet technology, there is always a growing concern about the security of multi-media information such as image. A major challenge is to protect the confidentiality and integrity of such images so that the visual data cannot be misused. Applications like information storage, information management, patient information security, satellite image security, telemedicine, military information security etc. which require information security. Different cryptographic methods are used by different organization for protecting their confidential data. But cryptography hackers are always trying to break the cryptographic method. For this reason cryptographers are trying to develop new cryptographic method to keep the data safe as far as possible. For this reason, cryptographers are always trying to propose new methods and techniques to keep data/information secure. Until now, several data encryption algorithms had been presented such as DES, AES, IDEA, RSA, etc. most of which are used for encrypting text data. It is not suitable to use them for multimedia data because multimedia data is different from text message, has larger scale of data, higher redundancy and stronger correlation between pixels. Image encryption methods can be classified into either lossy or lossless. In lossy encryption methods, were the image details are somewhat distorted, the resulting decrypted image is different from the original image. Due to the characteristics of human perception, and depending on the application, a decrypted image with little distortion is usually acceptable. However, lossless encryption methods are more applicable in applications where the distorted-free original image is required. If attacker tempers or modifies the image's sub band then target user cannot analyzed that receiving image is original or not. So by hashing we can provide the integrity as well as authenticity to the image over the unsecure network. In the proposed algorithm, the image is transformed into the frequency domain using the Discrete Wavelet Haar Transform (DWT) with two levels of decomposition, where the image sub-bands are processed in such a way that ensures that the original image can never be recovered without using the proposed decryption algorithm. The image decryption is also applicable in the frequency domain where the image sub-bands are converted back to their original form by reversing the encryption process.

## SPATIAL FREQUENCY TRANSFORMATION

We have deal with images in many domains. Now we are processing signals (images) in frequency domain. In spatial domain, we deal with images as it is. The value of the pixels of the image change with respect to scene. Whereas in frequency domain, we deal with the rate at which the pixel values are changing in spatial domain.

## SPATIAL DOMAIN

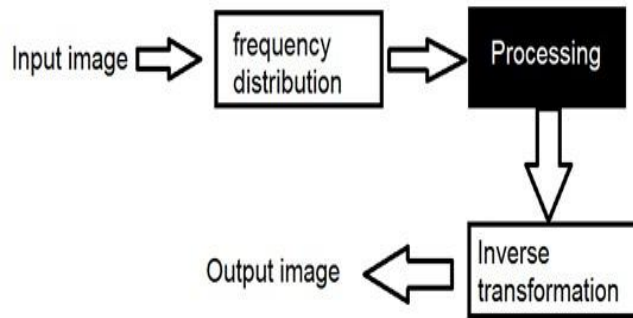
In simple spatial domain, we directly deal with the image matrix.



## FREQUENCY DOMAIN

We first transform the image to its frequency distribution. Then our black box system performs whatever processing it has to perform, and the output of the black box in this case is not an image, but a transformation. After performing inverse transformation, it is converted into an image which is then viewed in spatial domain.

FIG. 2: IMAGE PROCESSING IN FREQUENCY DOMAIN



In this research, the DWT Haar transform is used. Proposed algorithm is simple, effective, and secure. Compared to the rest of the algorithms in this domain, the proposed algorithm introduces lossless image cryptography that surpasses the lossy algorithms by preserving every single detail in the image; hence it is the category under which this research falls. The purpose of image transformation is to represent the image's highly correlated data in another de-correlated form, by switching from the spatial to the frequency domain. Any transformation technique should be reversible and computationally tractable with low memory requirement and a low number of arithmetic operations. Image based transform methods yield better results at the cost of extra complexity, so in this research, DWT is chosen as the transformation method.

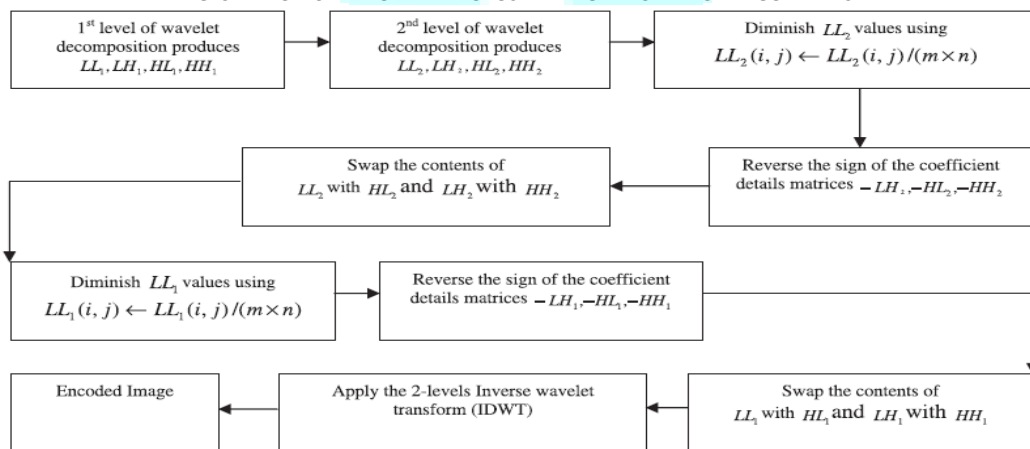
**IMAGE HASHING**

Hash functions are frequently called message digest functions. Their purpose is to extract a fixed-length bit string from a message (image, documents, etc.). Hash functions have found varied applications in various cryptographic, compiler and database search applications. In cryptography, hash functions are typically used for digital signatures to authenticate the message being sent so that the recipient can verify its source. Recently, there has been a lot of interest in using hash functions in multimedia applications both for security and indexing. A key feature of conventional cryptographic hashing algorithms such as message digest 5 (MD5) and secure hash algorithm 1 (SHA-1) is that they are extremely sensitive to the message, i.e. changing even one bit of the input will change the output dramatically. However, multimedia data such as digital images go through various manipulations such as compression, enhancement, cropping, and scaling. An image hash function should instead take into account the changes in the visual domain and produce hash values based on the image's visual appearance. Such a hash function would be useful in identifying images in databases, in which the image possibly undergoes incidental changes (such as compression and format changes, common signal processing operations, scanning or watermarking). A second significant application of a perceptual image hash could be for robust image authentication. In such cases, the hash must be invariant under perceptually insignificant modifications to the image but detect malicious tampering of image data. Several other applications can be identified in the areas of watermarking and information embedding in images.

**ENCRYPTION ALGORITHM**

The encryption algorithm uses the DWT to encrypt the image and compute (wavelet decomposition) the approximation coefficients matrix and details coefficients matrices of the target (original) image using the Haar transform in the first wavelet decomposition. The approximation coefficients matrix is then used to produce the second wavelet decomposition, i.e. encryption process repeated again on the 1<sup>st</sup> level of wavelet decomposition. The use of two-levels of wavelet decompositions keeps the algorithms' complexity low, i.e., lower number of computations compared to N-levels of wavelet decompositions. Weighting factor can be used as the encryption key in this algorithm. In proposed system 2-levels Inverse Discrete Wavelet Transform (IDWT) of the image is performed. The image frequencies are transformed back to the pixel domain, with the pixel values changed and the image details concealed.

FIG. 3: A FLOWCHART OF THE PROPOSED IMAGE ENCRYPTION ALGORITHMS



There are following steps of encryption algorithm

- Weighting factor can be used as the encryption key in this algorithm.
- 1<sup>st</sup> level of wavelet decomposition produces LL1, LH1, HL1, and HH1, where LL1 is the approximation matrix and LH1, HL1, HH1 are detail coefficients.
- 2<sup>nd</sup> level of wavelet decomposition (matrix LL1 is used) produces LL2, LH2, HL2, HH2.
- Diminish LL2 values using  $LL_2(i, j) \leftarrow LL_2(i, j)/(m \times n)$ , where m and n are matrix dimension.
- Reverse the sign of the coefficient details matrices  $LH_2 \leftarrow -LH_2 \times -1$ ,  $HL_2 \leftarrow -HL_2 \times -1$ ,  $HH_2 \leftarrow -HH_2 \times -1$ , the reason behind performing the sign reverse operation is that the magnitude of the sinusoid corresponds to its contrast (the difference between the darkest and brightest peaks of the image).
- A negative magnitude represents contrast-reversal, i.e. the bright become dark, and vice-versa.
- Swap the contents of LL2 with HL2 and LH2 with HH2.
- Diminish LL1 values using  $LL_1(i, j) \leftarrow LL_1(i, j)/(m \times n)$ .
- Reverse the sign of the coefficient details matrices  $-LH_1, -HL_1, -HH_1$ .

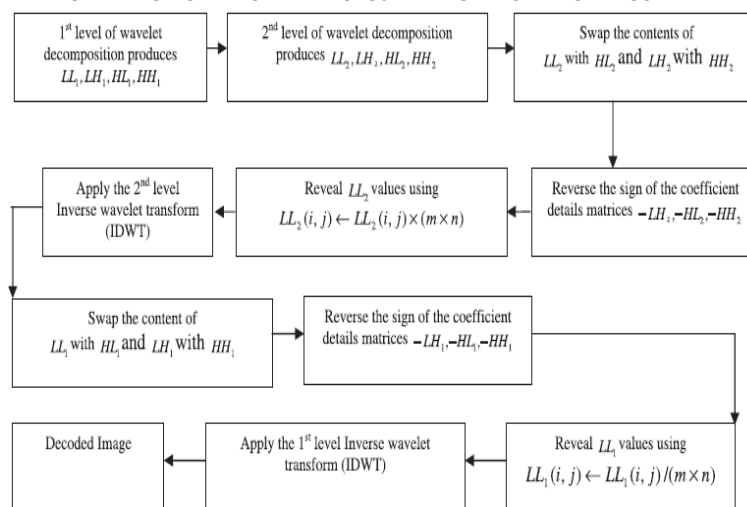


- Swap the contents of LL1 with HL1 and LH1 with HH1.
- Apply the 2-levels Inverse wavelet transform.
- Encoded Image.

## DECRYPTION ALGORITHM

The decryption algorithm reveals the image's original details. This process is inverse of encryption process. The decoding process of the 1st wavelet decomposition is similar to that of the 2nd level. Thus, decoding the 1st level of the wavelet decomposition is achieved. In the last stage, the inverse discrete wavelet transform of the image is performed. The image frequencies are transformed back to the pixel domain, with the pixel values unaffected and the image details revealed. Using the proposed encryption/decryption algorithm, the decrypted image pixels will have the same values as the original image.

FIG. 4: A FLOWCHART OF THE PROPOSED IMAGE DECRYPTION ALGORITHM



There are following steps of encryption algorithm:

- 1<sup>st</sup> level of wavelet decomposition produces LL1, LH1, HL1, and HH1, where LL1 is the approximation matrix and LH1, HL1, HH1 are detail coefficients.
- 2<sup>nd</sup> level of wavelet decomposition (matrix LL1 is used) produces LL2, LH2, HL2, HH2.
- Swap the contents of LL2 with HL2 and LH2 with HH2.
- Reverse the sign of the coefficient details matrices  $LH2 \leftarrow LH2 \times -1$ ,  $HL2 \leftarrow HL2 \times -1$ ,  $HH2 \leftarrow HH2 \times -1$ .
- Reveal LL2 values using  $LL2(i, j) \leftarrow LL2(i, j) \times (m \times n)$ , where m and n are matrix dimension.
- Apply the 2-levels Inverse wavelet transform.
- Swap the contents of LL1 with HL1 and LH1 with HH1.
- Reverse the sign of the coefficient details matrices  $-LH1$ ,  $-HL1$ ,  $-HH1$ .
- Reveal LL1 values using  $LL1(i, j) \leftarrow LL1(i, j) \times (m \times n)$ .
- Apply the 1<sup>st</sup> level Inverse wavelet transform.
- Decoded Image.

## CONCLUSION

Now a day's images play an important role in our lives, it is used in many applications. Therefore it is essential to protect the integrity and confidentiality of images. In this paper we presented survey of various image encryption techniques. Each technique having some advantages and disadvantages, so there is a need to design algorithm that reduce the correlation between the image pixels and increase the entropy so it is very difficult to decrypt by hacker. The proposed technique shuffles the image pixel position perfectly and changes the value of each pixel.

## REFERENCES

1. N. Sethi, D. Sharma, Novel method of image encryption using logistic mapping, Int. J. Comput. Sci. Eng. 1 (2) (2012) 115–119
2. S. Maniccam, N. Bourbakis, Lossless image compression and encryption using SCAN, Elsevier J. Pattern Recognit. 34 (6) (2001) 1229–1245
3. S. Tedmori, N. Al-Najdawi, Lossless image cryptography algorithm based on discrete cosine transform, Int. Arab J. Inform. Technol. 9 (5) (2012) 471–478;
4. S. Tedmori, N. Al-Najdawi, Lossless image cryptography algorithm based on discrete cosine transform, Image Proc. 24 (3) (1983) 363–381.
5. Sinha, K. Singh, A technique for image encryption using digital signature, Elsevier J. Opt. Commun. 218 (4–6) (2004) 229–234.
6. X. Zhang, Scalable coding of encrypted images, IEEE Trans. Image Process. 21 (6) (2012) 3108–3114.

## **REQUEST FOR FEEDBACK**

**Dear Readers**

At the very outset, International Journal of Research in Computer Application & Management (IJRCM) acknowledges & appreciates your efforts in showing interest in our present issue under your kind perusal.

I would like to request you to supply your critical comments and suggestions about the material published in this issue as well as on the journal as a whole, on our E-mail [infoijrcm@gmail.com](mailto:infoijrcm@gmail.com) for further improvements in the interest of research.

If you have any queries please feel free to contact us on our E-mail [infoijrcm@gmail.com](mailto:infoijrcm@gmail.com).

I am sure that your feedback and deliberations would make future issues better – a result of our joint effort.

Looking forward an appropriate consideration.

With sincere regards

Thanking you profoundly

**Academically yours**

Sd/-  
**Co-ordinator**

## **DISCLAIMER**

The information and opinions presented in the Journal reflect the views of the authors and not of the Journal or its Editorial Board or the Publishers/Editors. Publication does not constitute endorsement by the journal. Neither the Journal nor its publishers/Editors/Editorial Board nor anyone else involved in creating, producing or delivering the journal or the materials contained therein, assumes any liability or responsibility for the accuracy, completeness, or usefulness of any information provided in the journal, nor shall they be liable for any direct, indirect, incidental, special, consequential or punitive damages arising out of the use of information/material contained in the journal. The journal, nor its publishers/Editors/Editorial Board, nor any other party involved in the preparation of material contained in the journal represents or warrants that the information contained herein is in every respect accurate or complete, and they are not responsible for any errors or omissions or for the results obtained from the use of such material. Readers are encouraged to confirm the information contained herein with other sources. The responsibility of the contents and the opinions expressed in this journal is exclusively of the author (s) concerned.

## ABOUT THE JOURNAL

In this age of Commerce, Economics, Computer, I.T. & Management and cut throat competition, a group of intellectuals felt the need to have some platform, where young and budding managers and academicians could express their views and discuss the problems among their peers. This journal was conceived with this noble intention in view. This journal has been introduced to give an opportunity for expressing refined and innovative ideas in this field. It is our humble endeavour to provide a springboard to the upcoming specialists and give a chance to know about the latest in the sphere of research and knowledge. We have taken a small step and we hope that with the active co-operation of like-minded scholars, we shall be able to serve the society with our humble efforts.

### *Our Other Journals*

