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THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

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The Institute of Cost Accountants of India

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA (erstwhile The Institute of Cost and Works Accountants of India) was first established in 1944 as a registered company under the Companies Act with the objects of promoting, regulating and developing the profession of Cost Accountancy.

On 28 May 1959, the Institute was established by a special Act of Parliament, namely, the Cost and Works Accountants Act 1959 as a statutory professional body for the regulation of the profession of cost and management accountancy.

It has since been continuously contributing to the growth of the industrial and economic climate of the country.

The Institute of Cost Accountants of India is the only recognised statutory professional organisation and licensing body in India specialising exclusively in Cost and Management Accountancy.

MISSION STATEMENT

The CMA Professionals would ethically drive enterprises globally by creating value to stakeholders in the socio-economic context through competencies drawn from the integration of strategy, management and accounting.

VISION STATEMENT

The Institute of Cost Accountants of India would be the preferred source of resources and professionals for the financial leadership of enterprises globally.

IDEALS THE INSTITUTE STANDS FOR

- *to develop the Cost and Management Accountancy profession*
- *to develop the body of members and properly equip them for functions*
- *to ensure sound professional ethics*
- *to keep abreast of new developments*

Behind every successful business decision, there is always a ***CMA***

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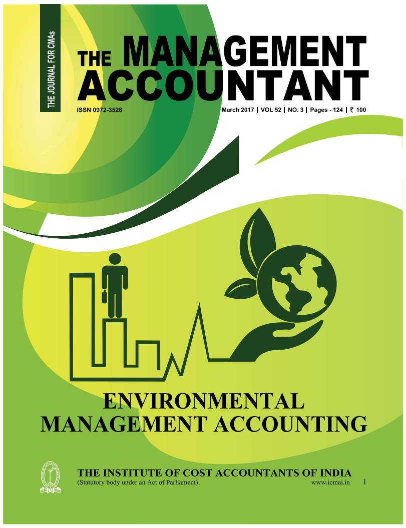
MARCH 2017



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EDITORIAL

Greetings!!!

Businesses have become progressively more aware of the environmental implications of their operations, products and services. Environmental risks cannot be ignored, they are now as much a part of running a successful business as product design, marketing, and sound financial management. Poor environmental behaviour may have a real adverse impact on the business and its finances. Punishment includes fines, increased liability to environmental taxes, loss in value of land, destruction of brand values, loss of sales, consumer boycotts, inability to secure finance, loss of insurance cover, contingent liabilities, law suits, and damage to corporate image. Nearly, all aspects of business are affected by environmental pressures, including accounting. From an accounting perspective, the initial pressures were felt in external reporting, including environmental disclosures in financial reports and/or the production of separate environmental accounts. However, environmental issues cannot be dealt with solely through external reporting. Environmental issues need to be managed before they can be reported on, and this requires changes to management accounting systems.

Companies and organizations must assess, mitigate, and monitor certain risks involved with their daily operations. A specific area of risk that must be identified is that on the local and global environment. Accidents, natural events, and deliberate assaults are all possible ways for an enterprise to cause pollution or other risks. In order to limit, and hopefully prevent these situations, environmental risk management places a strong emphasis on targeting the problems that could arise and implements a system of metrics that help with prevention. This practice is used by both public and private sectors of the economy. An organization must establish procedures that manage the uncertainty of its operations, which involves following certain protocol and implementing tools that will ensure conformance to those procedures. These procedures must be applied to day-to-day activities that may be a threat to environmental well-being, as well as overall infrastructure assessment, to lower or eliminate damage to the environment caused by the organization.

Environmental auditing is a management tool which simply inspects the environmental management activities performed by the industries or organizations and makes them aware of new cleaner technology. For the impact of industries and their product on natural resources and environmental quality it is necessary to have "Environmental Audit" to ensure sustainable industrial developments.

Environmental Management Accounting:

EMA is the generation and analysis of both financial and non-financial information in order to support internal environmental management processes. It is complementary to the conventional financial management accounting approach, with the aim to develop appropriate mechanisms that assist in the identification and allocation of environment-related costs. The major areas for the application for EMA are:

- product pricing
- budgeting
- investment appraisal
- calculating costs and
- savings of environmental projects, or setting quantified performance targets

Environmental and other sustainability issues can affect business in several ways. Stringent environmental legislation and regulation has imposed an additional compliance burden and a need to monitor activities and outputs more closely for the stakeholders including auditors. Increasing shortages of natural resources including increasing energy costs are reflected directly in market prices, which is encouraging organizations to review their products and processes to recognize and respond to changing cost structures and risks. The need for organizations to report on their environmental performance is globally accepted. The purpose of environmental accounting and reporting is to provide information to stakeholders for decision-making purpose. Environmental reporting is a component of triple-bottom-line or sustainability reporting, addressing economic, environmental and social performance. Here CMAs, with their multi-disciplinary and techno-commercial skills are the apt professionals to conduct Green Audit to ensure Compliance of Environmental Laws, effective assessment of Environment Cost, Environment Impact Assessment and Carbon Credit.

This issue presents a good number of articles on the cover story theme 'Environmental Management Accounting' by distinguished experts and authors. We look forward to constructive feedback from our readers on the articles and overall development of the journal. Please send your mails at editor@icmai.in. We thank all the contributors to this important issue and hope our readers enjoy the articles.

THE JOURNAL FOR CMAs

THE MANAGEMENT ACCOUNTANT

-: PAPERS INVITED :-

Cover stories on the topics given below are invited for 'The Management Accountant' for the four forthcoming months.

Theme: Municipality, Panchayati Raj and Rural Development — April 2017

Subtopics

- Accounting & Audit of Local Bodies
- Smart Cities and e-Town
- Women Empowerment
- NPAM and Control Systems
- Impact of Decentralized Planning
- Livelihoods missions
- Project appraisal through Cost Benefit Analysis
- Performance evaluation - role of CMAs

Theme: Activity Based Costing & its applications — May 2017

Subtopics

- Applications in:
  - ✔ Railways
  - ✔ Aviation
  - ✔ Ports
  - ✔ SME sector
  - ✔ Services sector
- Global practices
- Success and failure of Activity Based techniques
- Time-driven Activity Based Costing
- Activity Based Planning and Budgeting
- Activity Based Management

Theme: Global Economic Sustainability — June 2017

Subtopics

- Prospective Cost Competitiveness
- Sustainable Cost Leadership strategies
- New regulatory frameworks and smart policies
- Strengthening International Cooperation
- Global trends and challenges to sustainable development
- Government initiatives for business success
- Business Models for Sustainability
- Role of CMAs in Economic sustainability

Theme: Ease of Doing Business in India — July 2017

Subtopics

- Business regulations in India
- Entrepreneurship & Skill development
- Business environment
- Make in India & GOI initiatives
- Benchmarking & Economy rankings
- Role of World Bank, ADB and other International agencies
- Role of CMAs

The above subtopics are only suggestive and hence the articles may not be limited to them only.

Articles on the above topics are invited from readers and authors along with scanned copies of their recent passport-size photograph and scanned copy of declaration stating that the articles are their own original and have not been considered for publication anywhere else. Please send your articles by e-mail to editor@icmai.in latest by the 1st of the previous month.

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PRESIDENT'S COMMUNIQUÉ

Our greatest weakness lies in giving up. The most certain way to succeed is always to try just one more time.
-- Thomas A. Edison

CMA MANAS KUMAR THAKUR
President
The Institute of Cost Accountants of India

My Dear Professional Colleagues,

Namaskar.

On behalf of the Institute and on my personal behalf, I convey heartiest wishes to all members, students, stakeholders and their families on the occasion of the festival of colours, HOLI. HOLI represents the bright colours of our diverse multicultural society and the spirit of tolerance and harmony that has been the essence of our culture and civilisation. May this festival of colours bring happiness, good health and prosperity to all!

Placement Months

At the outset, I am thankful to the Industry and Corporates for their continued support in terms of finding their future managers through the placement program of the Institute. The excellent professional track record of Institute's members has been amply demonstrated not only within the country but also globally over a period of 7 decades. The recently qualified CMAs of the Institute are exposed to the real life business situations as many of them are either working in various enterprises or have undergone training imparted by various arms of the Institute with knowledge on the specialized domain of cost & management accounting techniques, finance & accounting, auditing, taxation, management and information technology and hence are capable of handling real time challenges of the business.I am happy to inform that the Institute is planning to schedule the campus placement program for the recently qualified CMAs of December 2016 term examination **during the months of March and April 2017 at prominent locations throughout the Country.**We are targeting a 100% placement record at our Institute and I order to achieve this, I urge all the members, especially those who are in service, to help the Institute for placing the passed out students and also take up the issue with the management of their respective organisations.

Meeting with Competition Commission of India (CCI)

Competition Commission of India (CCI) has been in the process of developing an advocacy strategy based on specific consultations termed as Focused Group Discussions (FGD). It was my pleasure to meet Shri Manoj Pandey, IRS, Advisor (Advocacy & Legal Division), Competition Commission of Indiaon 8th February 2017 at New Delhi andto discuss the proposal contemplated to organise a Focussed Group Discussion (FGD) of the diverse groups of stakeholders to understand their knowledge, perception and attitudes about competition law and have a communication and engagement with external stakeholders at Kolkata in March 2017.

Meeting with VIPs

- I along with CMA Biswarup Basu, Council Member and Senior Officials of the Institute met the Hon'ble Governor of West Bengal, Shri Keshari Nath Tripathy, at the Governor House on 7th February, 2017 and discussed with him the role to be played by various activities of the Institute.

- I got an opportunity to meet Hon'ble Dr. Kiran Bedi, Lieutenant Governor of Puducherryand Hon'ble Shri V. Narayanasamy, Hon'ble Chief Minister of Puducherryon 12th February 2017 and discussed with them the role to be played by the CMA professional in the economic development of the state.
- I got an opportunity to meet Dr. Kartikeya V Sarabhai at Ahmedabad on 24th February 2017. The discussion during the meeting was focussed round the role of Cost and Management Accountants in Environmental Management Accounting. I am thankful to CMA AG Dalwadi, fellow Member of the Institute for his initiatives to hold this important meeting.

Felicitation of Padma Awardees

- I along with CMA Biswarup Basu, Council Member and Secretary of the Institute visited IIEST and felicitated the Padma Shri Awardee in the field of Science and Engineering, Professor Ajoy Kumar Ray, Director of IIEST on 6thFebruary 2017 at Kolkata. He proposed various tie-ups with the Institute and discussed at length in extending all possible linkages with the Institute for various matters of mutual interest.
- I also had the privilege to felicitate Shri Bipin Ganatra, Padma Shri Awardee towards social service and for being a valiant fire fighter and saving numerous lives of citizens of Kolkata in various fire incidents in and around Kolkata. CMA Amal Kumar Das, and CMA Harijiban Banerjee, Past Presidents of the Institute and other senior Officials of the Institute were also present at the felicitation.

MoU with West Bengal State University

I wish to inform that on behalf of the Institute, I signed one Memorandum of Understanding (MOU) with the West Bengal State University (WBSU) on 9th February 2017 at the premises of the University. On behalf of the West Bengal State University Prof. Basab Choudhuri, Vice Chancellor signed the MoU. The purpose of the said MOU is to enhancethe employability skills of general students during their pursuing the college course under the said University and its colleges and also to extend support to the Government of West Bengal by doing joint research activities. The MoU was signed in the presence of CMA Biswarup Basu, Council Member-ICAI, CMA Bibekananda Mukhopadhyay, Chairman, ICAI-EIRC and other senior officials of the Institute and the University.

Union Budget 2017

The Union Budget 2017-18, presented by Hon'ble Shri Arun Jaitely, Union Finance Minister on was very balanced and growth oriented one. Steps taken for MSMEs, Tourism and Rural habitats will improve the capacity building of the nation. Conducive environment for banking industry, which at present is struggling with NPAs, is expected to be created by proposing Tax concession on provisions for bad loans. Affordable housing getting infrastructure status will enable efficient supply of housing stock in the country and provide benefits to all associated with it. Steps proposed by the Finance Minister will help the GDP to be bigger and cleaner after demonetization which helped in transfer of resources from tax evaders to government. All in all it seems that the Finance Minister has given deep thought to resource mapping and optimum utilization of scarce resources of the Country. We sincerely hope that all announcements, proposals and allocations will go a long way in providing strength to the Indian Economy and boost the morale of each and every segment of the society. We hope that announcements like restricting cash transactions, donation to political parties, moving towards cashless economy, digitization and tax relief to salaried personnel are the steps in right direction. I on behalf of the Institute and CMA fraternity congratulated the Union Finance Minister and extended wholehearted support to the Government of India in all of its endeavours.

Interactive Discussion Meet on Emerging Issues

I along with the Vice President and other Council Colleagues attended an "Interactive Discussion Meet" on Demonetization, Budget, GST and other emerging issues, on 13thFebruary 2017 in Institute's Auditorium at Kolkata. The event organised by the Institute, was a grand success with participation of more than 100 Post-Graduate students and faculties from various universities like Rajiv Gandhi University-Arunachal Pradesh; Bhawanipur Education Society; Army Institute of Management; Globsyn Business School; Jadavpur University and Amity University-Kolkata. Padma Shree Bipin Ganatra was the Chief Guest of this event and Dr. Pankaj Kumar Roy, Principal, Jogesh Chandra Chowdhury College was the Guest of Honour. The dignitaries offered their deliberations on various topics like Demonetization and its impact on Indian Economy, Budget-2017, GST& its implications, Accounting Standards, Cost and Management issues, etc.

Proposal for DDUGKY project

I am pleased to share that the West Bengal Government is considering our proposal for Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDUGKY) project. To discuss the implementation of this project, I had the occasion to discuss the project with the Chapters from West Bengal on 21st February at Kolkata. I am quite hopeful to see the project helping the youth of West Bengal. Similar initiatives are being taken in the States of Tamil Nadu and Gujarat.

Results of December 2016 term

The Institute has been able to successfully declare Foundation, Intermediate and Final results for December 2016 term of Examination. I take this opportunity to congratulate all the passed out students and wish them a bright future. I also wish best of luck to all those who could not cross the line this time.

Initiatives by various departments of the Institute

Continuing Professional Development

- I am pleased to inform that the Institute organized a 24 Hours Seminar on "Companies Act 2013, Insolvency & Bankruptcy Code etc." from 6am of 24th February 2017 to 6am of 25th February 2017 at New Delhi. The main speaker in the seminar was CMA Dr P V S Jagan Mohan Rao, Council Member. The seminar was well received by the members and student of the Institute.
- Institute in association with PHD Chamber of Commerce & Industry organised National GST Conclave on "One Nation One Tax - Pivotal Tax Reforms" on 9th February 2017 at New Delhi.
- I am pleased to inform you that the Institute is organizing **National Conference on the theme "Sustainable Infrastructure" on 23rd March 2017 at Hotel Taj Mahal, New Delhi** to showcase the importance of Good Infrastructure for the economy and role of CMA professionals. It is pertinent to

mention that sustainable infrastructure enables sound economic development and enhances quality of life, increases positive impacts, helps protect our vital natural resources and environment, and promotes a more effective and efficient use of financial resources. CMA fraternity is committed to encourage development of Sustainable Infrastructure by encouraging optimum use of materials, pollution prevention, reduced carbon emissions, and better labor & community relations. I urge you to be a part of this conference.

- I sincerely appreciate our Regional Councils and Chapters for organizing various programs, seminars and discussions on the topics of professional relevance and importance for the members such as Union Budget, GST, Demonetization-Effect on Economy, IND AS and IBC etc.

International Affairs

- I am happy to inform you that Prof. Lakshman R Watawala, President, CMA-Sri Lanka visited the Institute on 15thFebruary 2017 to discuss the matters of professional interest, to enter into a new Memorandum of Understanding (MoU) in the interest of members and students of both the Institutes. It was proposed to have some educational exchange programmes under a reciprocal arrangement through Mutual Recognition Arrangement (MRA). It was agreed to engage into a joint research work in the interest of both the countries. Further, it was agreed to have a global conference of CMA Bodies either in India or in Sri Lanka.
- In order to maintain cordial relation with CMA Sri Lanka, the Vice President and Chairman, WTO, International Affairs and Sustainability Committee of the Institute visited Colombo, Sri Lanka to attend meetings with officials of CMA Sri Lanka and other Government officials during 26th to 28th February 2017. Vice President represented the Institute as a resource person for the Integrated Reporting seminar organised by the CMA Sri Lanka.
- The WTO, International Affairs and Sustainability Committee is planning to organise an International Conference which will connect the CMA professionals across the globe to discuss the importance of Cost and Management Accounting structure to achieve excellence.
- The Institute represented in a meeting on 2ndFebruary 2017 at Ministry of Commerce & Industry, under Chairmanship of Shri Sudhanshu Pandey, Joint Secretary, Department of Commerce, to discuss the relevance of ISO in services related standards in the context of Australia's proposal on Domestic Regulations on Technical Standards. In view of the discussions, the Chair suggested to draft a counter proposal by India.
- The Institute represented in a "Workshop on Trade Facilitation in Services (TFS)" jointly organised by FICCI, Department of Commerce (Government of India) and Centre for WTO Studies on 21stFebruary 2017. India has recently presented a Paper on "Possible Elements of a TFS Agreement" in WTO. The TFS Agreement would play a critical role in addressing the key issues that are pertinent to facilitating trade in services, such as transparency, streamlining procedures, and eliminating bottlenecks. The workshop provided an opportunity to get a better understanding of the agreement and the challenges faced by the Indian industry.
- The Committee is also planning to conduct webinars for members on the topics of professional relevance and global importance. We would be happy to receive some suggestive topics of your interest. I request you to please send your suggestions on intlaffairs@icmai.in.

Membership Department

The new financial year looming in the horizon will bring in its own bouquet of challenges, opportunities and obligations. Members are kindly aware that Membership fee and Certificate of Practice (CoP) renewal fee falls due on at the start of the financial year. I request the members to clear their dues at an early date preferably by online mode or by sending remittances to the Institute. For renewal of CoP for the FY 2017-18 an advisory has been uploaded on the Institute's website and has also been published in this Journal for general guidance to CoP holders.

Research and Journal Department

- I wish to inform that I attended the inaugural session of a UGC Sponsored International Conference cum Research Methodology Workshop organized by the Institute in collaboration with the department of Commerce with Farm Management of Vidyasagar University based on the theme 'Emerging Issues in Accounting and Finance' on 10th and 11thFebruary 2017 at the premises of the University in Midnapore. Professor Damodar Mishra, Dean, Faculty of Arts and Commerce, Vidyasagar University, Professor Malayendu Saha, Chairman of the West Bengal Joint Entrance Examination Board and Former Vice-Chancellor, University of Kalyani, Professor Ravindran Ramasamy from the Graduate School of Business, University Tun Abdul Razak, Malaysia and Dr .S. Anand, Director, Postgraduate Studies and Research Department, College of Banking and Financial Studies, Sultanate of Oman, CMA Prof. Kalpataru Bandopadhyay, Professor and Head, Department of Commerce and Jt. Org. Secretary, EIAF 2017 and Dr. Abhijit Sinha, Assistant Professor and Jt. Org. Secretary, EIAF 2017, CMA Prof. Kartick Chandra Paul, Dr.Sibaram Chatterjee, Mr. Sourav Hansda, Prof. Mauli Sanyal and Prof. Radhagovinda Basak were among the eminent dignitaries present in the workshop. The two day workshop was highly interactive and received overwhelming response from the participants.
- I am pleased to inform that the Institute has taken the noble initiative to introduce National Skill & Entrepreneurship Development Programme (NSEDP) for the selective college and university students to promote entrepreneurship and skill development for creating self-employment through enterprise creation as a part of nation building process. It is a pleasure to inform that the Institute has already entered into two path breaking MoUs with NSDA and EDI to enable offering various collaborative activities for promoting and to encourage skill and entrepreneurship development pan India basis through enhancing entrepreneurial competencies and capacity building activities. Three colleges in West Bengal, namely Mahadevananda Mahavidyalaya, Barrackpore, Chakdaha College, Ramnagar College Purba Medinipur have already been enlisted for this programme which is scheduled to be commenced from March 2017. This initiative has been supported by Hindustan Aeronautics Ltd., Helicopter Division, Barrackpore through its CSR activities.
- I am pleased to attend the one-day national seminar cum ca-

reer awareness programme on 'Management and Commerce Education and Beyond- The Professional Edge' at Bipin Chandra Paul Seminar Hall, Assam University, Silchar on 16th February 2017. The program was inaugurated by Professor D.C. Nath, Vice Chancellor of Assam University. Other eminent dignitaries present in the seminar include, CMA Prof. A.L. Ghosh, Head of the Department of MBA, Professor A. Mazumdar, Dean, JNSMS, Assam University, CMA Mrityunjay Acharjee, Associate Vice President, Balmer Lawrie & Co, Mr Diptendu Moulik, Multi Commodity Exchange (MCX) of India Limited, CMA Dr. Debaprosanna Nandy, Director, Research & Journal and Examination of the Institute and they all enlightened the students with their thought provoking speeches. The entire session was highly enthusiastic and would surely bolster the confidence of the students and urge them to pursue various professional courses in near future. More than 500 students and faculty members from the University and different colleges attended the seminar.

Technical Directorate

CASB

I thank members and industry for their valuable suggestions/ comments on the Exposure Draft regarding the impact of IndAS in Cost Accounting Standards. The Cost Accounting Standards Board (CASB) is considering these suggestions/ comments in its next meeting before finalizing the "Limited Revision of Cost Accounting Standards". The secretariat of CASB has already worked out the impact of GST on Cost Accounting Standards and the Board also considered this agenda item in its meeting held in November 2016 to bring the "Limited Revision of Cost Accounting Standards". The impact of GST was approved by the Board based on Rules as contained in the Model GST Law released by Government of India prior to 22nd November 2016. The exposure draft for the cost accounting standards having impact of GST will be released by the Board for public comments/ suggestions as soon as the Government releases the revised Rules under GST.

CAASB

The Cost Auditing and Assurance Standards Board (CAASB) has already released the Exposure Draft of Frequently Asked Questions (FAQs) on the "*Standards on Cost Auditing*" (SCA 1 to SCA 4) for public comments/ suggestions. I request members and other stakeholders to send in their comments/ suggestions to Institute latest by 9th of March 2017 to enable the Institute to improve these FAQs before they are released by the Institute in final form. The members may refer to Institute website for more details. I would also like to inform the members that after release of "Limited Revision of Cost Accounting Standards" having impact of IndAS and GST, the CAASB will undertake the CRA-1 for revision and will send the suggestions to Ministry of Corporate Affairs to revise CRA-1 so that the principles enshrined in CRA-1 are in sync with the Cost Accounting Standards.

Peer Review

The Council of the Institute has already approved the "Peer Review System" and also constituted a "Peer Review Board". The Board has been empowered by the Council to formulate, implement and oversee the Peer Review System under the overall supervision of the Council. The "Peer Review System" along with list of members of the Board is available on the Institute website. A separate website for Peer Review Board is being launched on the subject matter by the Institute soon.

Insolvency Professional Agency of the Institute (IPA of ICAI)

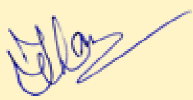
I congratulate all those Insolvency Professionals (IPs) enrolled with IPA of ICAI for passing "*Limited Insolvency Examination*" conducted by Insolvency and Bankruptcy Board of India (IBBI). After passing examination, they have been enrolled afresh by IPA of ICAI and again registered with IBBI on regular basis. After passing "Limited Insolvency Examination" some of the new Insolvency Professionals have also enrolled with IPA of ICAI during the month of February 2017. A list of professional members registered with IBBI through enrolment with IPA of ICAI is available at www.ipaicmai.in along with other details such as eligibility conditions, Rules, and Regulations framed under Insolvency and Bankruptcy Code 2016. I am happy to note that Regional Councils and Chapters of the Institute are regularly conducting the Seminars and Programs on "Insolvency and Bankruptcy Code 2016" towards capacity and skill development of the members of the Institute.

Initiatives by Regions &Chapters

- I was invited to attend the Regional Cost Conference-2017 organised by the Western India Regional Council and Ahmedabad Chapter of the Institute on the theme "Paradigm Shift in doing business" at Ahmedabad on 25th and 26th February 2017. The theme of the RCC was very timely and went well with national policies being implemented by the Government of India for the resurgence of the economy. Hon'ble Dr. Kiritbhai Solanki, Member of Parliament inaugurated the Conference. The event also included a Technical Session on "*Insolvency and Bankruptcy Code & NCLT and Role of Cost Accountants/ Professionals*" which was taken by CMA J K Budhiraja, CEO of IPA of ICAI.
- Dhanbad-Sindri Chapter of the Institute organised its Annual Seminar on the theme "Goods & Services Tax (GST) - way ahead" on 26thFebruary 2017 at Dhanbad. I was invited as the Chief Guest of the seminar. I addressed the participants and said that GST is the buzz word these days and to update the members on the progress of proposed GST structure and its implication, this was a very appreciable initiative taken by the Chapter. This not only enlightened the members but also brought them closer to stakeholders for making consensus and facilitating smooth implementation of GST.
- I attended seminar on GST organised by the Raipur Chapter on 14th February 2017, which was inaugurated by Shri Amar Agarwal, Hon'ble Finance Minister of Government of Chhattisgarh.
- Three seminars/programs on Insolvency and Bankruptcy Code have also been conducted in the month of February 2017 at Metur Salem Chapter, Jaipur Chapter and Northwest Delhi CEP Study Circle.

I wish prosperity and happiness to members, students and their families on the occasion of Holi, Chaitra Navaratri, Gudi Padwa, Ugadi and pray for the success in all of their endeavours.

With warm regards,



(CMA Manas Kumar Thakur)
1stMarch 2017

ICAI-CMA SNAPSHOTS

Felicitation of Shri Keshari Nath Tripathi, Governor of West Bengal at Raj Bhawan, Kolkata

Smt. Nirmala Sitharaman, Hon'ble Minister of State (Independent Charge) for Ministry of Commerce & Industry being felicitated by CMA Sanjay Gupta, Vice-President and CMA Amit Anand Apte, Council Member, March 1, 2017, New Delhi

Padmashri Ajoy Kumar Ray, Director, IIEST, Shibpur being felicitated by CMA Manas Kumar Thakur, President, CMA Biswarup Basu, Council Member and CMA Kaushik Banerjee, Secretary of the Institute, at Indian Institute of Engineering, Science and Technology, Shibpur

CMA Manas Kumar Thakur, President, CMA Niranjan Mishra and CMA H Padmanabhan, Council Members of the Institute felicitating Dr Kiran Bedi, Former IPS officer, social activist and current Lieutenant Governor of Puducherry

Shri V Narayanasamy, Hon'ble Chief Minister, Government of Puducherry being presented the knowledge report containing a brief synopsis of various pivotal roles played by the Cost and Management Accountants as a part of professional as well as social responsibility towards the Government, Economy and Society. CMA Manas Kumar Thakur, President, CMA Niranjan Mishra, CMA P. Raju Iyer, CMA Dr I Ashok, CMA Papa Rao Sunkara and CMA H Padmanabhan, Council Members of the Institute are seen

Felicitation of Padmashri Bipin Ganatra, a social worker and volunteer firefighter, at Headquarters of the Institute

CMA Manas Kumar Thakur, President of the Institute addressing the group of representatives from Northern India Regional Council and Chapters under NIRC at the 'Regional Council and Chapters Co ordination Meet' organised at Noida on February 5, 2017.
From Right: CMA Vijender Sharma, CMA Balwinder Singh, Council Members, CMA Sanjay Gupta, Vice President, CMA Niranjan Mishra, Chairman, Regional Council & Chapters Co ordination Committee, CMA Ravi Kumar Sahni, Chairman, NIRC, CMA Prashant Deshmukh, Chairman, Noida Chapter.

A 'Training Program' for the representatives of Southern India Regional Council & Chapters under SIRC of the Institute was organised at Pondicherry on February 12, 2017. Mr. P.S Vasudevan, a well known 'Life Coach' took the session.
CMA Manas Kumar Thakur, President of the Institute along with Council Members and the representatives of the Regional Council & Chapters also attended the session

Felicitation of Prof. Lakshman R. Watawala, President, Institute of Certified Management Accountants of Sri Lanka at Delhi office by CMA Manas Kumar Thakur, President and CMA Sanjay Gupta, Vice President of the Institute

Felicitation of Shri Mohandas Pai, Chairman, Manipal Global Education Services Private Limited by CMA Sanjay Gupta, Vice President of the Institute during his visit to Delhi office

Felicitation of CA. Nilesh Shivji Vikamsey, President The Institute of Chartered Accountants of India by CMA Sanjay Gupta, Vice President of the Institute at Delhi Office

CMA Manas Kumar Thakur, President and CMA Sanjay Gupta, Vice President signed a MoU with Indian Railways on behalf of ICWAIMARF on January 30, 2017. Shri BN Mohapatra, IRAS, Additional Member (Finance), Railways Board, Shri Shazad Shah, IRAS, Financial Commissioner (Railways), Shri Naresh Salecha, IRAS, Advisor (AR), Railways Board and Shri S K Kaushik, IRAS, CPM, Northern Railways are also seen

The launching function of a project of Indian Railways and ICWAIMARF, chaired by Shri R K Kulshrestha, General Manager, Northern Railway, attended by senior officials from Northern Railway and CMA Manas Kumar Thakur, President, CMA Sanjay Gupta, Vice President and senior officials of the Institute

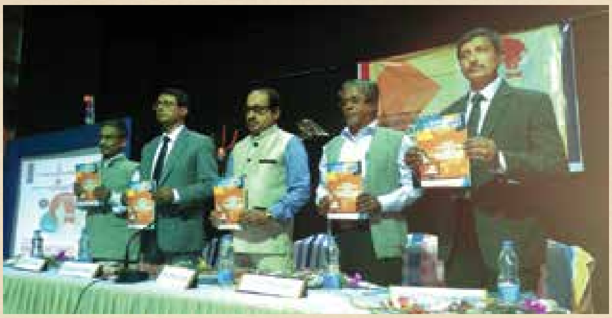
An 'Interactive Discussion Meet' on Demonetization, Budget, GST and other emerging issues was held on February 13, 2017 at Headquarters, Kolkata

CMA Ashok B. Nawal, Council Member of the Institute, Dr. Pankaj Kumar Roy, Principal, Jogesh Chandra Chowdhury College, CMA Manas Kumar Thakur, President of the Institute, Padmshree Bipin Ganatra, CMA Sanjay Gupta, Vice President of the Institute, CMA Biswarup Basu , CMA P Raju Iyer, CMA Balwinder Singh, CMA Papa Rao Sunkara, Council Members of the Institute were among the eminent dignitaries attending the Meet

CMA Sanjay Gupta, Vice President addressing this 'Interactive Discussion Meet' on February 13, 2017 at Headquarters, Kolkata

The 'Regional Council and Chapters Co ordination Meet' for SIRC and its Chapters organized at Pondicherry on February 11, 2017.
From Right: CMA H. Padmanabhan, Council Member, CMA V. Murali, Chairman, SIRC, CMA Papa Rao Sunkara, CMA Niranjan Mishra, CMA Dr. I. Ashok, Council Members, CMA A. Padmapriya, Secretary, Pondicherry Chapter & CMA P. Raju Iyer, Council Member at the programme

CMA Biswarup Basu, Council Member presenting a flower of bouquet to Shri Andrew Wan Kupar Langstieh, Chairman of Damodar Valley Corporation on February 23, 2017 at DVC Towers, Kolkata



National Seminar on "Management and Commerce Education and Beyond" organized jointly with Assam University, February 16, 2017. President CMA Manas Kr. Thakur and Prof. D.C. Nath, Vice Chancellor of Assam University with other delegates on the dais

MOU signed with West Bengal State Univeristy, Prof. Basab Choudhury, Vice Chancellor WBSU, CMA Manas Kr. Thakur, President, CMA Biswarup Basu, Council Member, CMA Kaushik Banerjee, Secretary of the Institute, and CMA Bibekananda Mukhopadhyay Chairman EIRC at the event

CMA V. Murali, Chairman, SIRC addressing at the PD Programme on 'New Role of the Board of Directors under the Companies Act – 2013'.

From Left: Dr. B. Ravi, Company Secretary and CMA H. Padmanabhan, Council Member of the Institute are seen

ENVIRONMENTAL MANAGEMENT ACCOUNTING REPORTING & ANALYSIS IN PHARMACEUTICAL COMPANY

A CASE STUDY

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Now a day's business organizations and policymakers of the firms are deficient in information required to understand the potential environmental impacts of their decisions, and the economic implications of changes to their environment and natural resources. In contrast, wealth of economic information is obviously available about production and generates income, which policymakers use to understand the state of the economy, monitor trends, and make projections that inform policy debates. Similarly, environmental accounts have the potential to provide key information that policymakers can use to understand the state of the environment, how it is changing over time, and the consequences of various policy options.

Extremely, said that environmental accounting near about two decades since accounting practices were criticised by academician for limiting itself within the economic arena of businesses and ignoring negative aspects generated from the use of natural resources. Within the boundary of sustainability, accounting functions of business entity restricted itself to the economic territory and remained at a distance from the social and environmental responsibilities of firms (Gray and Babbington, 2001; Schaltegger, 1997). Environmental Management Accounting (EMA) is a great effort and the collective perception of scholars, researchers, academicians, and practitioners, which improvised conventional management accounting with environmental thinking. EMA has been defined as a set of methods, tools, and practices that can be employed by organizations to develop physical and financial flows of materials, water, energies, and resources, and help management regarding environmentally responsive decision making (IFAC, 2005).

Environmental accounting is emerged field of accounting. It provides reports for both internal users (management and decision makers) purpose generating environmental information to help make management decisions regarding pricing, controlling overheads, resources control and capital budgeting, and external user's purpose disclosing environmental information of interest parties such as public and to the financial stakeholder. Internal use is better termed environmental management accounting (Bartolomeo et al., 2000). Currently an increasing number of companies and other organizations are engaging in environmental management as part of their management strategies to specify measures for dealing with environmental issues and to internally carry out environmental conservation activities. Environmental accounting is a tool to supplement environmental management. Environmental accounting is an important tool for understanding the role played by the natural environment in the economy. Environmental accounts provide data which highlight both the contribution of natural resources to economic well-being and the costs imposed by pollution or resource degradation. EMA is a subset of environmental accounting as a whole.

What is Environmental Management Accounting (EMA)

Environmental management accounting is simply a specialized part of the management accounts that focuses on things such as the cost of energy, materials, water and the disposal of waste and effluent. It is important to note at this point that the focus of environmental management accounting is not all on purely financial costs. It includes consideration of matters such as the costs and benefits of buying from suppliers who are more environmentally aware, or the effect on the public image of the company from failure to comply with environmental regulations. EMA is comprehensively focus on internally but not on externally and focus on information for internal decision making merely. It should not be concerned with how environmental information is reported to stakeholders, although it could include consideration of how such information could be reported internally.

Environmental management accounting uses some standard accountancy techniques to identify, estimate, analyse, manage and finally, focus on reduce environmental costs in a way that provides mutual benefit to the company and the environment, although sometimes it is only possible to provide benefit to one of these parties. For example, activity-based costing may be used to ascertain more accurately the costs of material used to produce the drugs. The energy used to mixing the material here, power is an environmental cost; the cost driver is "mixing". EMA term is defined as the generation, analysis and use of financial and related non-financial information, to support management within a company or business (Bartolomeo et al., 2000). EMA integrates corporate environmental and business policies, and thereby provides guidance on building a sustainable business.

International Federation of Accountants (IFAC) in 1998 originally defined environmental management accounting as:

- 'The management of environmental and economic performance through the development and implementation of appropriate environment-related accounting systems and practices. While this may include reporting and auditing in some companies, environmental management accounting typically involves lifecycle costing, full cost accounting, benefits assessment, and strategic planning for environmental management.'

- The United Nations Division for Sustainable Development (UNDSD) defined in 2001, Environmental management accounting systems generate information for internal decision making rather than external decision making.

From the above definition UNDSD stated that the widely accepted distinction between two types of information: physical information and monetary information. Hence, broadly defined EMA to be the identification, collection, analysis and use of two types of information for internal decision making:

- Physical information on the use of resources, flows and destinies of energy, water and materials including wastages.
- Monetary information on environment-related cost, earnings and savings.

From the above two definitions emphasized the broad types of information organizations typically consider under EMA, as well as some common EMA data analysis techniques and uses. The specific types of physical and monetary information included under this definition of EMA. On the other hand it should not be concerned with how environmental information is reported to stakeholders, although it could include consideration of how such information could be reported internally. For example, Hansen and Mendoza (1999) stated that environmental costs are incurred because of poor quality controls. Therefore, they advocate the use of a periodical environmental cost report that is produced in the format of a cost of quality report, with each category of cost being expressed as a percentage of sales revenues or operating costs so that comparisons can be made between different periods and organizations. The categories of costs would be as follows:

Table1. Environmental Cost categorization

Cost Categorizations	Environmental Issues and Scope
Pollution Prevention Costs	Costs incurred to prevent air and water pollution along with water treatment facilities and other activities.
Environmental Protection Costs	Costs of energy saving measures as well as costs of global warming reduction measures.
Costs of Resource Recycling	Costs incurred for waste reduction and disposal as well as for water conservation, rainwater usage and other measures aimed at efficient resources usage.
Environmental Restoration Costs	Cost of environmental restoration operations (eliminating soil and ground water contamination, environmental compensation, etc.)
Management Costs	Management-related environmental protection costs including environmental promotion activities and costs associated with acquiring and maintaining ISO 14001 certification.
Social Promotion Activities Costs	Environmental protection costs stemming from participation in social activities such as participation in organizations concerning with environmental preservation etc.
Research and Development Costs	Environmental protection costs for research and Development activities and costs of environmental solutions business activities (Green product/environmental technology design and development costs, environmental solutions business costs, others) etc.
Environmental internal failure costs	Costs incurred from performing activities that have produced contaminants and waste that have not been discharged into the environment.
Environmental external failure costs	Costs incurred on activities performed after discharging waste into the environment.

Source: GAAP of India and Bangladesh

It is clear from the suggested format of this quality type report that Hansen and Mendoza's definition of 'environmental cost' is relatively narrow. However, the latest categorization of environmental accounts by the international community include four types of accounts (i) Natural resource asset accounts, (ii) pollution and material physical flow accounts, (iii) monetary and hybrid accounts, and finally,(iv) environmentally-adjusted macroeconomic aggregates. Environmental accounting may be regarded as a sub-category of social accounting, integrating the relationship between the organization and the natural environment (Eugénio et al., 2010).

Environmental management is based on management accounting with Activity-Based Costing (ABC) as a main analytical approach to determining environmental costs and to quantify cost savings due to environmental performance. Environmental effects are established by setting hypotheses for whether or not to adopt proactive practices: pollution prevention and accounting for environmental costs-to-causes.

Need for the Study

The pharmaceutical industry is now a day's facing new challenges in how to controlling and preventing environmental pollution and wastage as it is expanding. In this connection this study is to measure the Environmental Reporting Disclosures of the selected company. In this context, research has considered environmental information, expressed in quantitative terms, physical or financial, that affects environment due to company activity and that can affect company as well as its stakeholders. Costs are traced it is associated with environmental aspects of a product or process, return on environmental investment, savings achieved through reductions in resource usage, prevention of pollution or waste recycling, etc. By and large most of the companies have an estimate of their environmental costs, it is usually underestimated. Moreover, savings and profitability of waste reduction programs cannot be reliably estimated without a proper implementation of EMA. Disclosure of environmental related cost accounting information is a solution method in performing accountability. As a result, environmental management accounting helps companies and other organizations enhance their stakeholder trust and confidence and are associated with receiving a fair assessment.

Review of Literature

Environmental management accounting derived from corporate environmental accounting and it is the branch of management accounting. It is obviously understand through the review of literature that very few studies as so far been made on Environmental Accounting and Reporting practices.

USEPA (1995)1 organization was the first and foremost to circulate the environmental cost accounting (ECA) and generate environmentally approachable cost information. This was followed by waste accounting methodology, developed under the sponsorship of UNDSD (2001). The waste accounting methodology was the first accounting motivated methodology that used environmental cost drivers to identify and classify environmentally aware accounting data from the accounting ledgers. This method was very straightforward to implement and successfully piloted around the world.

Harte & Owen (1991)2 explained that Environmental Accounting (EA) as voluntary issue without much strict requirement and that without any external standard to act in accordance with.

Power (1991)3 recognised the significance of particular rights to environmental information by accepting the challenging nature of voluntary disclosure practices.

Maunders and Burritt (1991)4 explained about deep green approach they are vague about accounting's role, inclining towards the view that accounting has no role at all in "Ectopia".

Cooper (1992)5 stated that introduction of green accounting; however well thought out, will, under the present phallogocentric system of accounting, do nothing to avert today's environmental crisis. In fact, it could make matters even worse.

Gallhofer and Jim (1997)6 emphasized to find the nature of regulations for incorporating Environmental Accounting in Annual Reports of the companies. Good environmental management has frequently been related to Sustainable development (SD).

Bartolomeo (2000)8 emphasized that Environmental management accounting (EMA) is explained as the generation, analysis and use of financial and related non-financial information, to support management within a company or business.

Lally (1998)9 stated that environmental accounting is development of environmental cost accounting (ECA). Cost accounting is defined as use of the accounting record to directly assess costs to products and processes.

Yousef (2003)10 conducted research about environmental awareness, environmental involvement, and environmental reporting, were the focus areas of his research. He examined no dissimilarity in the circumstances that lead to environmental reporting in UAE and Jordan.

Nikolaou (2007); and Schaltegger (2012)11 emphasized about the EMA techniques integrated environmental perspective in other decision making activities.

Nakajima,(2009)12 stated that EMA helped to grow as a management technique to analyse the internal processes of the organization and reduce environmental impacts by improving material yields and resource efficiencies.

Objective of the Study

The prime objective of the study is to ascertainment of environmental related cost disclosures in select company annual reports. In order to prove the prime objective of the study is to be considering the following secondary objectives as:

- Tracing the activities of environmental related cost in pharmaceutical companies.
- Ascertainment and procedure of Environmental related resources or cost how to meet the cost objectives i.e., medicines, drugs and capsules.
- Assessment and disclosure of environment-related costs information in the select company financial accounting and annual reports.
- Assessment and draw on of environment-related physical and monetary information uses to Environmental Management Accounting (EMA).
- Analysis of raw material stocks and flows of natural resources in terms of both physical and monetary value.

Hypothesis of the Study

In order to examine the stakeholder trust and confidence regarding improving environmental performance can lead economic advantages. It can possible way through the enhance management of resources, reducing environment related costs and increasing profit of the selected pharmaceutical company. In this regard disclosures of environment related costs are tested and formulated through the following hypothesis.

Ho: There is no significant consistency in disclosures of environment related cost of select pharmaceutical company during the study period.

Sample size of the Study

Recently, the Telangana state government has announced as Hyderabad city surroundings going to becoming the hub of pharmaceutical companies in South India. Many more companies are planning to establish their manufacturing plants in Hyderabad. On the other hand well established Pharma Company is Dr .Reddy's Lab is being selected as sample sige it is based in Hyderabad, Telangana. Moreover, the company reported in India's third largest pharmaceutical company in terms of market capitalisation, which was valued at Rs. 56,638.13 Crore on 15 June 2015.

Data Sources and Research Methodology

The present research is an analytical in nature work. This study is based on the Primary Data collected from annual reports, sustainability reports, corporate and social responsibility reports and select company website. The study is analyses the environmental related cost based for the year 2008-09 to 2015-16. However, the study also mainly focuses on the quantity and quality analysis of the environmental reporting practices of the select company. The data is processed and analysed through the averages, growth ratio and simple ratios, in addition the environmental related costs consistency is examined through the M.G Kendall Trend analysis, which are research method for making replicable and valid inferences form data of select companies.

Environmental Related Activities

In pharmaceutical companies to present all possible environmental related costs of activities that should be recorded separately in new EMA accounts would be impossible, because each pharmaceutical company will have a different authenticity. List of environmental related costs of activities that could be considered the most significant, and that should be recorded in separate accounts could be produced. The list of environmental related costs of activities is exhibited in table 2.

Table 2: Environmental related Activities in Pharmaceutical companies

S. No	List of Environmental related Activities
1	Material usage
2	Energy consumption
3	Oil and gas consumption
4	Packaging

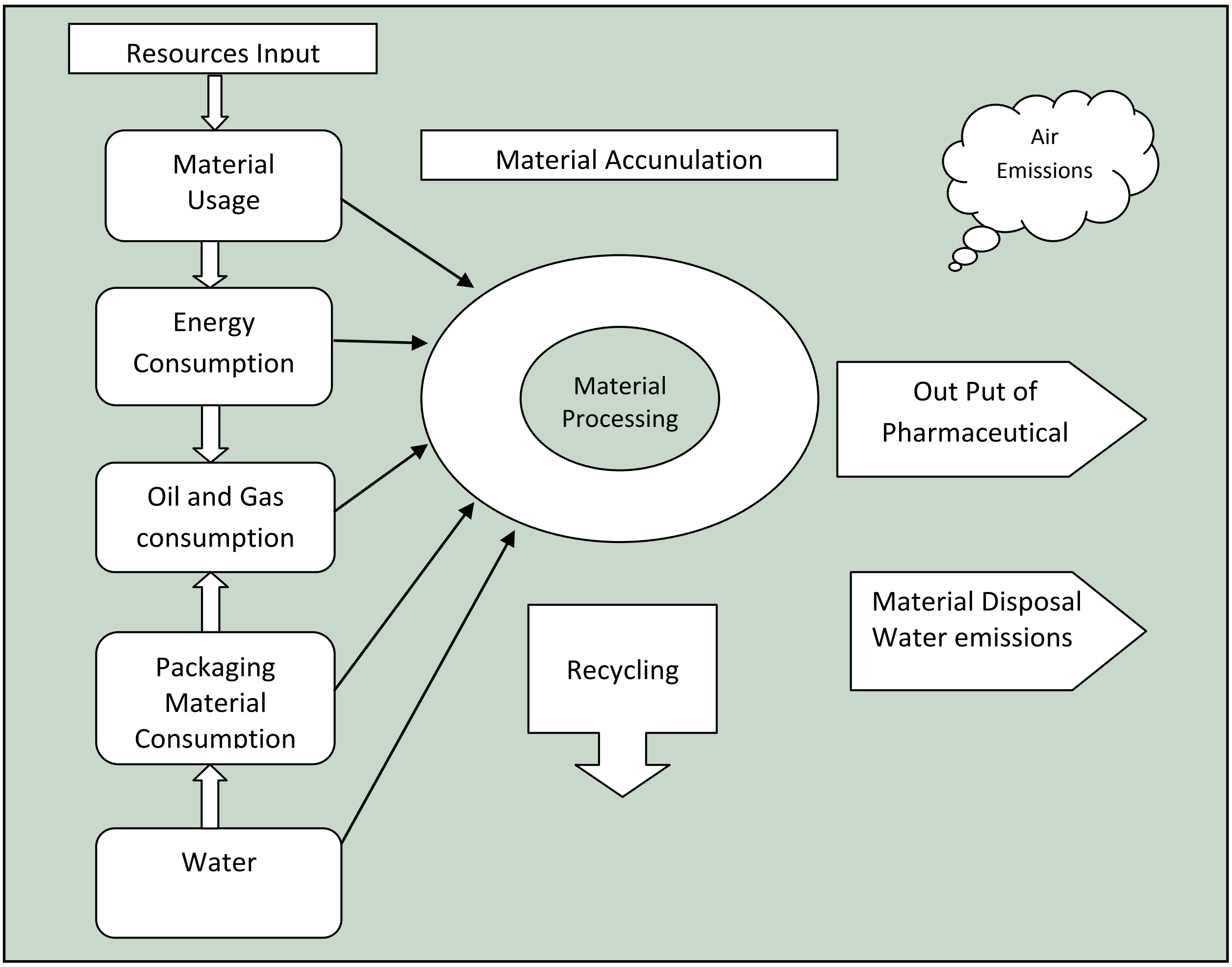
5	Pollution control equipment/mitigation measures
6	Transportation costs
7	Waste
8	Water resource use.
9	Atmospheric emissions waste
10	Green House Gases(GHG) emissions
11	Air Quality Control

Source: Research Work

Practice and flow of Environment Related Costs in Phaemaceutical Companies

This method uses not only environment cost flows but also the pharmaceutical organizations structure. It makes environment resource flows transparent by looking at the physical quantities involved, their costs and their value. It provides the environment resources flows into three categories: resources consumption, resources processing system and delivery and disposal. The values and costs of each of these three flows are then calculated. The main aim of EMA is to reduce the quantity of resources which are used, as well as it constitutes a positive effect on the environment. Therefore, it leads a positive effect on a business and total costs of the company in the long run (See figure 1).

Figure 1: Flow of Environment Related Cost



Source: Research Work

Pharmaceutical Companies engage in research and innovation to develop new pharma products along with the existing line of products and manufacturing of pharma product processes that rely heavily on Environmental Capital. Organizations in this industry depends on the ability to maximum utilize purchased environmental resources such as energy, oil and gas, water and material consumption inputs. In addition, pharma companies generate negative externalities through air emission and water pollution. In this connection resources are limited, and legislation seeks to address these externalities, investors must understand how individual companies within this industry manage and protect the environment and adhere to societal expectations.

Profile of the Dr. Reddys Lab

Dr. Reddy's Laboratories Limited, incorporated on February 24, 1984, and the company situated at Hyderabad, Telangana State. The company was established by prominent person Mr.Anji Reddy, he was earlier acted as a mentor in the institute Indian Drugs and Pharmaceuticals Limited at Hyderabad. Dr. Reddy's Laboratories Ltd., is included in global pharmaceutical company, dedicated to providing affordable and innovative medicines for improved lives. The company constitutes three businesses segments as Pharmaceutical Services and Active Ingredients, Global Generics and Proprietary Products. Dr. Reddy's Lab offers various different portfolios of products and services including APIs, custom pharmaceutical services, generics, biosimilars, differentiated formulations and NCEs.

Dr. Reddy's Lab has one of the largest custom pharmaceutical services businesses in India. It is offer end to end product development and manufacturing services and solutions to innovator companies. On the other hand the company reported as the one of the world's largest manufacturers of Active Pharmaceuticals Ingredients (APIs) and partner with several leading innovator companies in bringing their molecules first to market. An affordable API is main and reasonably priced medicines. The company major market is not restricted to India merely; it has expanded its market overseas countries as USA, Russia, Germany, UK, Venezuela, South Africa, Romania, and New Zealand.

Dr. Reddy's Lab piloted a business continuity plan and reduced risk through increased environmental and regulatory compliance. The company also took vital steps to ensure the timely completion of all capacity expansion projects. Dr. Reddy's, Lab has taken tremendous responsibility to the planet and society very seriously. For instance, the company installed all plants are zero discharge ones, which means that all the liquid waste and effluent they generate is treated within their premises and reused. The company recycles 86% of organic waste by identifying and supplying it to other industries, it can use it as raw material by other substitute companies.

The company utilizing more than 10% of energy needs from renewable sources and this figure is rising. The company focuses on efforts to promote Environmental Sustainability; in this regard it is considering two aspects: The need to design products processes and plants so that they have a sensible track from the beginning day. The other aspect is the need to minimize and manage the existing adverse impact of practice through treatment, recycling and safe disposal.

Environment Related Cost Analysis of Dr. Reddys Lab

Table 3 represents for environmental related cost analysis of Dr.Reddy's Lab from the financial years 2008-09 to 2015-16, first and foremost environmental cost is material consumption cost reported in the financial year 2009-10 50.64 per cent increased over the financial year 2008-09. Thus, cost has declined in the financial years 2010-11 and 2011-12 over the year 2009-10 by respective per cents of 11.80 and 31.30 due to the company constantly seek new and more effective ways of minimizing the impact on the environment through the reducing material consumption. On the other hand the material consumption cost has escalated in the financial years 2012-13 and 2013-14 by 15.26 and 15.26 per cent respectively, the reason to say that the company act in accordance with some of the most stringent regulations and standards in the industry; and do so consistently and the company emphasize the production line is imbued with better quality, integrity of the combinations of material consumption at all times. However, the company finally, focuses on the material consumptions costs and decline in the financial years 2014-15 and 2015-16 by 3.21 and 5.18 per cent respectively because the earlier two years growth in the production of non-hazardous waste too was arrested these years as it marked a decline trend in the material consumption cost.

Packing material Consumption cost in the financial year 2009-10 ₹ 4206 millions over the financial year 2008-09 ₹ 2122 millions, it is being reported increased per cent by 98.20 due to the productions was increased and the Company's overall revenue grew by 9% in the respective year. Besides, this the cost has declined in the financial year 2010-11 and 2011-12 by 36.28 and 36.79 per cent respectively due to the team of employees also emphasizes on building a large sustainable prescription base to improve the distribution channels. On the other hand the cost has escalated in the financial year 2012-13 by 8.44 per cent due to the company exported the medicines US market as per the market demand. Whereas, that the company cost has declined in the financial years 2013-14 and 2014-15 by 44.74 and 6.79 per cent respectively reason to say that the only problem was in Russia and Ukraine, where sharp depreciation of the ruble and hryvnia, reduced export revenues in terms of rupee. However, the company packing material cost in the financial 2015-16 is increased by 6.02 per cent over the financial year 2014-15 due to the company registered 6 per cent revenue increased; the business also posted significant margin improvement due to a more profitable product mix.

A large amount part in environmental related cost is Energy consumption cost, it has reported in the financial year 2008-09 ₹ 976 millions, it has been increased the cost till the financial year 2013-14 ₹ 2826 millions, aftermath the cost has declined in the financial year 2014-15 by 9 per cent due to this financial year the company has faced difficult year for the pharmaceutical services and active ingredients business it led that decline the revenue and the company shifted to alternative power consumption source. On the other hand the cost has increase in the financial year 2015-16 by 8 per cent over the financial year 2014-15 cause by introducing modern technologies across the company operations they replaced muscle power with machines.

The company constitute an additional natural resource consumption activity is Oil and Gas it is used for the travelling and conveyance maintaining purpose, this cost reported in the financial year 2008-09 was ₹ 239 million and it is constantly increased till the financial year 2015-16 by ₹ 956 millions but except in the financial year 2013-14 declined by 23.86 per cent due to the institutionalized an organization-wide Environmental Commitment Statement charting determined targets and actionable steps for key environmental performance indicators like a 5% reduction in specific energy consumptions. Transportation Cost over all financial year was escalated and it is reported in the financial year 2008-09 ₹ 1309 million to escaleted ₹ 3120 millions in the financial year 2013-14 aftermath the cost has declined by 18.75 and 14.79 per cent over the financial year 2014-15 and 2015-16 respectively due to that procedures in place to procure goods and services from local, as well as small producers. At present, 60% of the company procurements are sourced from domestic producers and the rest from international producers it led to reduce the burden of transportation cost.

Waste costs of the company in the financial year 2008-09 was ₹ 678 million and the cost in the financial year 2015-16 increased by ₹ 1234 millions, whereas the cost was declined in the financial year 2012-13 and 2013-14 by 15.62 and 3.78 per cent respectively due to the company faced difficulties in manufacturing and during the reporting years, 29 significant environment management projects were initiated with an investment of ₹ 302 million it is the results of reduction of waste cost. Majority proportion of Pollution control cost reported declined the cost per cent because the company has taken initiative over the previously reported combination involved a resolution strategy, which by design, yielded a maximum of 50% conversion. This process left behind almost the same quantity of material as waste, along with a significant quantity of liquid and solid effluents. The company has adopted an asymmetric reduction method, allowing for 80% yield and also avoided a significant amount of waste. Water resource cost reported in the financial year 2008-09 ₹ 1339 millions and the cost has escalated to ₹ 1759 millions in the financial year 2015-16 reasons behind that the company across the operations and target considers the projected business growth over the years and takes about rise of water consumption use over the years.

By and large environmental related cost during the study period reported in the financial year 2008-09 ₹ 18,817 millions and it is escalated to ₹ 31,288 millions due to the expansion of the business, however the company has actively engaging environmental regulators in the states where the company operates to bring about policy changes to put greater focus on cleaner technologies, processes and in environmental leadership is institutionalized in the company business strategy in terms of the determined commitments that company following practice to controlling the environmental related cost (See table 3 and 4).

Table 3: Environment related cost analysis of Dr. Reddy's Lab from financial year 2008-09 to 2015-16

Environmental Related Activities	Financial Years (` in Millions)								Average Cost
	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	
Raw materials Consumptions	10,956	16,505 (50.64%)	14,557 (-11.80%)	10,000 (-31.30%)	11,526 (15.26%)	21,668 (87.99%)	20,972 (-3.21%)	19,885 (-5.18%)	15759
Packing material Consumption	2,122	4,206 (98.20%)	2,680 (-36.28%)	1,694 (-36.79%)	1,837 (8.44%)	1,015 (-44.74%)	946 (-6.79%)	1,003 (6.02%)	1937.87
Energy consumption (Power and Natural Resources)	976	1,227 (26%)	1,415 (15%)	1,833 (30%)	2,259 (23%)	2,826 (25%)	2,581 (-9%)	2,781 (8%)	1987.25
Oil and Gas (Travelling and conveyance)	239	296 (23.84%)	760 (156.76%)	963 (26.71%)	1,098 (14.02%)	836 (-23.86%)	838 (0.23%)	956 (0.23%)	748.25
Transportation Cost (Carriage outwards)	1,309	1,699 (29.79%)	1,703 (0.23%)	2,025 (18.90%)	3,036 (49.92%)	3,120 (2.76%)	2,535 (-18.75%)	2,160 (-14.79%)	2,198
Waste (Material waste)	678	756 (11.50%)	826 (9.25%)	877 (6.17%)	740 (-15.62%)	712 (-3.78%)	1,110 (55.89%)	1,234 (11.17%)	866.62
Pollution control equipment/mitigation measures	1,198	1,267 (5.75%)	958 (-24.38)	753 (-21.39%)	804 (6.77%)	1275 (58.58%)	1081 (-15.21%)	1,510 (39.68%)	1,106
Water resource use	1339	1445 (7.91%)	1468 (1.59%)	1526 (3.95%)	1583 (3.73%)	1638 (3.47%)	1685 (2.86%)	1759 (4.39%)	1555.37
Total Environmental Cost	18,817	27401 (45.61%)	24,367 (-11.07%)	19,671 (-19.27%)	22,883 (16.32%)	33,090 (44.60%)	31,748 (-4.05%)	31,288 (-1.44%)	10399.36
Total Cost	47665	72275 (51.63%)	68269 (-5.54%)	62064 (-9.08%)	78485 (26.45%)	99490 (26.76%)	156453 (57.25%)	138157 (-11.69%)	90357.25

Net Profit/Net Loss	2341	-2,834 (-221.05%)	2,008 (-170.85%)	12,629 (528.93%)	18,252 (44.52%)	16,776 (-8.08%)	23,364 (39.27%)	21,514 (-7.91%)	11756.25
Sales	50,006	69,441 (38.86%)	70,277 (1.20%)	74,693 (6.28%)	96,737 (29.51%)	116,266 (20.18%)	152,974 (31.57%)	159,671 (4.37%)	98,758
% Environmental related activities cost over Total Cost	**39.47%**	**37.91%**	**35.69%**	**31.69%**	**29.15%**	**33.25%**	**20.29%**	**22.64%**	**31.26%**
Environmental related activities Costs generating profit	**924.17**	**-1074.43**	**716.70**	**4002.72**	**5321.53**	**5579.63**	**4741.10**	**4872.21**	**3135.454**

Source: Compiled Data

Table 4: Dr.Reddys Lab Pharmaceutical Companies Natural Resources Consumption Quantity Analysis from financial year 2008-09 to 2015-16

Natural Resources Consumption	**Unit**	**2008-09**	**2009-10**	**2010-11**	**2011-12**	**2012-13**	**2013-14**	**2014-15**	**2015-16**
Materials									
API – Raw Materials (Top 10 used for formulations)	Kgs	186782	201256	2250568	297456	345627	361749	354786	476978
Excipients – Raw Materials (Top 10)	Kgs	152678	168726	245287	267324	320612	3465061	3982699	4240126
Energy use & efficiency									
Fuel consumption –Non -renewable sources	GJ	69258	76982	86948	78235	121958	1429259	1666006	1424248
Fuel consumption –Renewable sources	GJ	73000	69000	76000	61000	56000	264690	339716	250386
Direct energy consumption	GJ	85630	93654	121568	135650	158756	1693949	2005721	1752639
Indirect energy consumption	GJ	1759000	1847000	2385000	2489000	2915000	1008213	1107857	1122647
Green House Gases(GHG) emissions									
Direct GHG emissions (Scope 1)	tCO2-e	9500	9500	10600	8300	6700	160953	177841	135140
Indirect GHG emissions (Scope 2)	tCO2-e	125632	136289	152984	167485	178652	243206	254563	335254
Water									
Total water withdrawal	KL	1125987	1156732	1202358	1265487	1297453	1312800	1360106	1266609

Natural Resources Consumption	Unit	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
· Groundwater	Kl	158325	165826	178687	192545	258792	399279	479327	450322
· Municipality	Kl	1430000	1460000	1532000	1685000	196450	237226	281260	274240
Surface Water	Kl	558000	639000	655000	685600	717000	676295	599518	542047
Total water recycled	KL (%)	686254 (59.8)	712629 (60.2)	75248 (60.4)	764920 (60.6)	789275 (60.7)	798591 (60.8)	828200 (60.9)	848367 (66.9)
Waste									
Hazardous waste generated	MT		18578	13045	12339	14066	20133	22277	26247
Hazardous waste disposed (to landfill/TSDF/incineration)	MT		9800	7400	3200	3100	14405	15572	11639
Hazardous waste									
reused/recycled (to cement plants & others)	MT		4621	4324	4864	5246	5726	6705	6657
Non -Hazardous waste Generated (E.g.: Food waste, PPE waste etc.)	MT		18614	18127	18203	22135	19015	21861	22750
Air Quality									
Suspended Particulate Matter			39	32	38	40	42	61	81
NOx	Tons/ yr.		1741	1865	1930	2541	2611	2674	2646
SOx	Tons/ yr.		1053	1126	1132	1143	1193	1221	1191

Source: Financial Reports

*** Source of Emission Factor: Combined emission factors of CO_2, CH_4 and N_2O are considered for all the fuels (coal, diesel oil and furnace oil) used by the company as per average values mentioned in Intergovernmental Panel on Climate Change 2006.*

*** Source of emission factor: Combined emission factor of grid electricity (Central Electricity Authority Database Version 11, April 2016).13.*

Hypothesis Testing

Environmental related average cost of selected company is examined through M.G Kendall. It is a non-parametric test used to determine the trend in environmental related cost. In the first stage this test consider the time series given in the form as X1, X2, ... XN, where X1 is observed value in the first time unit, X2 is observed value in the second time unit,............ XN, the observed value in the last unit. Now in the second stage ranks are allocated to environmental related average cost. Ranks are consider order the series X1, X2, ... XN, according to size of the average cost. Therefore, the ranks are assigned as per ascending order of the average cost. To examine the trend in the environmental related average cost is computed and in general it is defined as:

$$T = 2S/(N(N-1)) \qquad (1)$$

Where, is called the total score. It is most conveniently computed from the number of positive scores P:

$$S=2P-(1/2)(N)(N-1) \qquad (2)$$

The positive scores P are computed in the following method: Consider first the rank of the first element, P1 , it refer n1 the number of ranks of the elements X2, X3 .... XN, which are larger than P1. Then take the rank of the second element, P2. Refer n2 the number of ranks of the items X2, X3 .... XN which are larger than p2 etc. In general for each item Xt with rank Pt it call nt the number of elements Xt+1, Xt+2.............XN which have higher rank than Pt. Therefore, P is simply computed as:

$$P = n1+n2+...............nN-1 \quad (3)$$

Therefore, the trend of Environmental related average cost of Dr.Reddy's Lab is ascertained through the following table (See table 5):

Table 5: Ascertainment of trend for Average of Environment related cost of Dr. Reddy's Lab through M.G Kendall trend analysis

Financial Years	Average of Environment related cost	Rank	Positive Score
2008-09	15759	8	0
2009-10	1937.87	5	2
2010-11	1987.25	6	1
2011-12	748.25	1	4
2012-13	2198	7	0
2013-14	866.62	2	2
2014-15	1106	3	1
2015-16	1555.37	4	

Source: Compiled Data

It is evident from the above table that the smallest value is ₹ 748.25 million; hence it is attain the 1st rank. Consecutively, the next highest value is ₹ 866.62 million, which receives the 2nd rank etc. Similarly, the largest average environmental related cost ₹ 15759 million, receives the last rank is 8 th.

The next proceed now to compute the total number of positive scores P. From the above observation first financial year 2008-09 environmental related cost is the rank 8; it is receives positive score n1=0, since there is no item with larger rank below it. The next financial year 2009-10 item has rank 5, it receives the score n2 =2. The third financial year 2010-11 cost has rank 6; it is receives positive score n3 =1, The fourth financial year 2011-12 cost has rank 1; since there are four observation with larger ranks below, namely, 7, 2, 3, 4. The next financial year 2012-13 cost has rank 7; it receive the score zero, since there is no cost with larger rank below. The sixth financial year 2013-14 with rank 2 receive the score n6 =2.Since there is only one financial year 2014-15 cost with larger rank below, namely 3; it is receives positive score 1.The last and final financial year 2015-16 environmental related cost has rank 4 and has the score is nill, since there is no cost with larger rank below. Hence, aggregative positive score as:

$$P=0+2+1+4+0+2+1=10 \quad (4)$$

From the formula (2) compute the total score:

$$S=2(10)-(1/2)(8)(8-1)=-8 \quad (6)$$

From the formula (1) can obtain the rank correlation coefficient which measures the extent of disarray:

$$T = (2(-8))/(8(8-1)) = -0.2857 \quad (7)$$

Trend value is indicated negative value; it is representing the possibility of an insignificant negative trend in the series of average environmental related costs.

In order to test the significance of S; it is observe the tables provided by M.G Kendall for N=8, S = –8.The probability of obtaining S= –8, or smaller, table value at 5% significance level is 0.199. The trend value is less than the table value, which cannot be considered significant. Hence, null hypothesis is rejected. Therefore, it is concluded that the series of environmental related cost during the study period results found there is consistent in environment related cost trend. Inferences drawn through this analysis Dr.Reddy's Lab properly utilizing environmental resources and maintaining appropriately environmental related effluents strictly to protect the environment.

Conclusion

In the earlier days, internal costs associated with environmental performance were relatively small proportionate. There were few environmental regulations or other pressures to force organizations to better manage and minimize their environmental impacts. This situation now has changed. Environment-related costs are increasing in all most all countries in response to growing pressures of various kinds. Pharmaceutical companies have taken initiative to control environmental pollution. However, also come to recognize the potential monetary rewards of improved environmental performance. They have revealed that enhancing efficiency in the make use of energy, water and other raw materials brings not only environmental improvements also reduced resource use and reduced waste and emissions, but also potentially significant monetary savings as the costs of materials purchase and waste treatment decrease accordingly.

It is found through the present research of Dr. Reddy's pharmaceutical company strategically maintaining environmental related cost very stringently and the company obtains economical and ethical advantages in terms of profitability position and enhances the value of the company. In addition, the company can ensure the trust of stakeholders, such as consumers, business partners, investors, employees, local residents, and administration; in the course of properly administrate environmental resources. In the progress of Environmental Management Accounting (EMA) would require additional disclosure to cover environmental contingencies; as a result creating better understanding of a firm's overall financial position, and better environmental management . MA

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ENVIRONMENTAL ACCOUNTING & REPORTING:

A Protective Shield designed by Accounting World to save & shape our Environment

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As we know that in this mortal world everything is changes but it is only the change which does not changes. There have been occurred uncountable physiological, atmospheric and environmental changes in the universe from its creation to present developed situation so that a peaceful, conducive and favourable environmental composition sustained which leads to growth of human and other creatures.Initially Human know the importance of nature and they worshiped and care it as their God. You can witness it from many holy Granthas such as Vedas and Purans in Hindu religion.But it is also rightly says LALACH BURI BALA, the people changed theirmind set and bring economic benefit as its primary motive rather caring ecological effect of their acts. The situation had become worsen, Due to advent of industrialisation in western countries which set economic growth as alone parameter for development of society. The path was later being followed by other countries. The scientist and ecological experts felt the seriousness of the situation and warned the people, society, nation and world through various studies reports to become responsible for conservation and protection of environment. Odum Howard T. (1924) in his book entitled Environmental Accounting Energy and Environmental Decision Making discussed the environmental management maximises economic vitality with less trial and error society that may improve efficiencies, innovate with fewer failures and adapts to change more rapidly. It also discussed the energy budget of the earth. It also discussed the nature of expenses on the energy and money etc. In 1981 Freer Speckle articulated Triple Bottom Line while he mentioned social enterprises should be included in their performance measurement. Later the complete concept of TBL was created by John Ellington (1998) in his book Cannibals with Forks, The Triple Bottom Line of 21st century business. TBL, is the concept of sustainable development of business which requires thinking in three dimensions, i.e., taking into account ecological and social performance in addition to the financial element for its financial prosperity. The concept recommends companies to address environmental issues to minimize potential harm that emerges from the business activities and to create economic, social and environmental values.

Concept of Environmental Accounting

Environmental Accounting: Environmental Accounting is the branch of accounting which related with the identification, collection, classification, analysis and interpretation of environmental information so that the negative effect of any human activity could be reduced or eliminated. **According to Environmental Agency of UK** "*Environmental Accounting is the collection, analysis and assessment of environmental and financial performance data obtained from Business Management Information System. (BMIS).*"

Historical Perspective of Environmental Accounting:

Environmental Accounting is not much old concepts. Its origin can be traced back to the 1970s when several European countries initiated work independently of Each other. To ensure sustainable development at global level, first global effort was taken by Club of Roman. It initiated a world - wide debate on the topic "Economic Growth at The Expense of Natural cost". The world conference held in Stockholm on Global Environment in 1972 which ultimately resulted in establishment of U.N.E.P. (United Nations Environment Programme). Twointernational conferences held to tackle the problems of global environment and suggest measures for its protection. In 1970s,Norway was the first country which made effort to initiate natural resource accounting system by the Ministry of Environments But it was able to develop framework in the year 1978, when its environment ministry commissioned Statistics to develop Natural resource accounts as a tool of better manage natural resources and the environment.

> *In the present era, the world has become more cautious about the environment and trying to adopt all those measures which are deemed to be useful for improving the environment condition.There are number of factors which are responsible for the degradation of the environment. Environment Accounting is a tool which helps us in getting the useful information and enable us to take required steps to improve and save our environment.Since we are aware with the importance of information system in decision making, which has also necessitated the accounting world to design and modify its reporting practices to meet its responsibility towards environment and society.*

Denmark was also an early adopter, it started the compilation of energy flow accounts around 1975, triggered by the 1973 oil crisis. Later the path was being followed by France, United States of America and some more countries in the row to joined the club and this got a momentum to become aware for protection of environment.

To ensure sustainable development at global level first step was taken by Club of Roman. It initiated a world - wide debate on the topic "Economic Growth at The Expense of Natural cost". The world conference held in Stockholm on Global Environment in 1972 which ultimately resulted in establishment of U.N.E.P. (United Nations Environment Programme).

Table 1.1 Timeline with milestones in Environmental Accounting

1970 -1979	1970-ies Norway and Denmark embark upon environmental accounting
1980 -1989	1980-ies Netherlands and France embark upon environmental accounting 1983-1988 World Bank and UNEP sponsored workshops 1989 World Resources Institute study on Indonesia (Repetto et al., 1989) 1989 Framework on integrated environmental accounting presented at 21st session of IARIW 1989-1992 World Bank/UNSTAT pilot projects in Mexico and Papua New Guinea
1990 -1999	1991 IARIW special conference on environmental accounting (Baden, Austria) 1992 'Earth Summit' in Rio; Agenda 21 Ch. 8 recognizes environmental accounting 1993 SEEA 1993 published (UN, 1993) 1994 London Group on Environmental Accounting established 1994 EU green accounting strategy adopted 1994 US environmental accounting activities stopped due to political opposition 1995 Eurostat and Statistics Netherlands jointly organize a workshop on the NAMEA concept 1997 Executive Order signed which institutionalizes the Philippine Economic Environmental and Natural Resources Accounting
2000 -2009	2000 SEEA Operational Manual published 2000 Mexican General Law of Ecological Equilibrium and Environmental Protection requests compilation of Ecological Net Domestic Product 2003 SEEA-2003 published as white paper 2003 EU Strategy for Environmental Accounting endorsed 2005 UNCEEA established by UN Statistical Commission to revise SEEA 2003 2006 China publishes 'green GDP' figures 2008 Revised EU environmental accounting strategy
FROM 2009 TO SO ON	2011 EU legal base for environmental accounting adopted 2011 Dutch report "Green growth in the Netherlands" commended by OECD SG 2011 Expert Group on greening India's National Accounts established 2012 SEEA Central Framework adopted by UN Statistical Commission as international statistical standard 2013 SEEA Experimental Ecosystem Accounting brought to UN Statistical Commission

Source:Edens Bram &HerlingenGeborenTe (2013)

Classification of Environmental Accounting:

On the basis of scope there are four forms of Environmental Accounting:

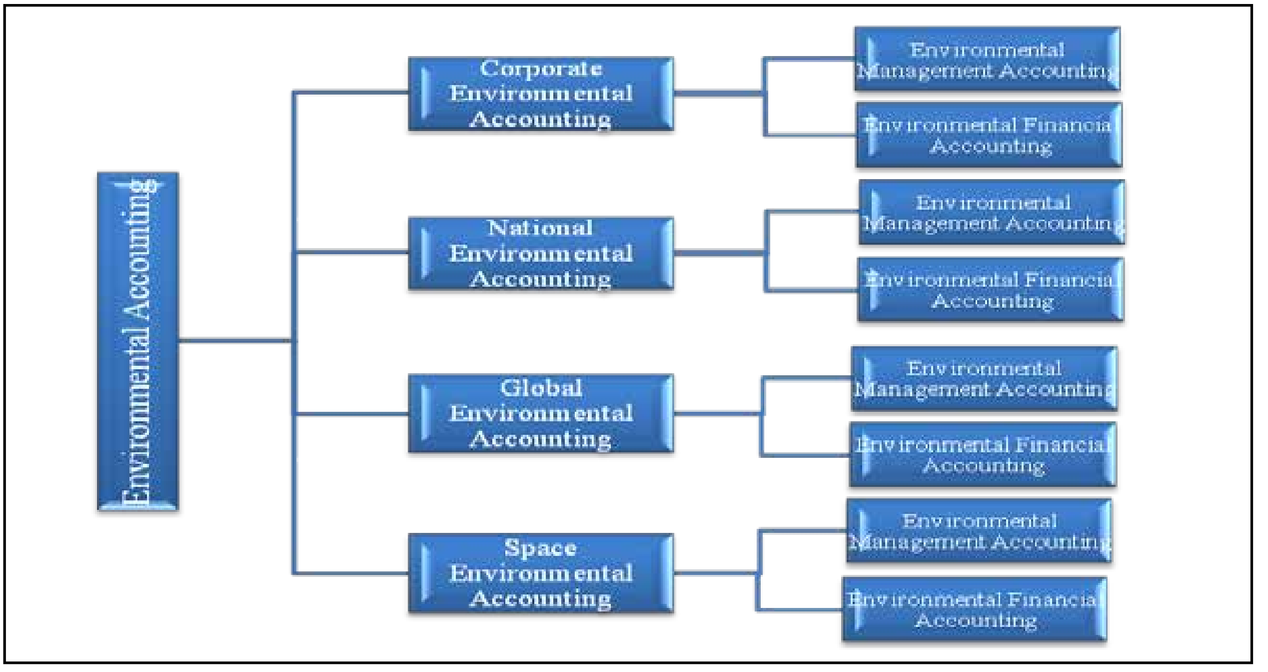
Corporate Environmental Accounting: Corporate Environmental Accounting is an Accounting approach to controlling and improving an organisation's cost structure and environmental performance.

Corporate Environmental Accounting is again divided in two forms. The First is, Environmental Financial Accounting (It is used to provide information needed by external stakeholder on a company's financial performance. This Type of accounting allows companies to prepare financial reports for investors, lenders and other interested parties. Various benefits have been derived from the different aspect of accounting.) the second is, Environmental Management Accounting (It Focuses on making internal business strategy decisions. The identification, collection, analysis, and use, of two types of information for internal decision making. The information requires is one. The physical information, on the use, flows and facts of energy, water and other materials including wastes. Secondly, the monetary information of environmental related costs, earning, and savings.

National Environmental Accounting: National Environmental Accounting is an Accounting approach that deals with the maintenance of environmental information by a state i.e. government with the objectives of knowing current natural resources and impact of environmental disasters on national wealth.

Global Environmental Accounting: Global Environmental Accounting focuses on the resource availability, consumption statistics, environmental information, protection environmental composition, preservation & conservation of rare species at global/world level. It has been also divided in two types as shown in figure -1

Fighure - 1 Classification of Environmental Accounting



Space Environmental Accounting: Recent study conducted by various scientific institution expressed that there is alarming quantity of space debris is disbursed in the space. If proper protection and care will not be taken for its decomposition the situation would become uncontrollable. The launching of space shuttle, satellites and missiles in solar/planets orbit is accumulating unnecessary garbage in solar system which are swaying in zero gravity situation without any control over its direction and it could be disastrous for people when it move towards earth with tremendous speed after completing its services. This serious problem necessitated the use of environmental accounting to record and monitor space related environmental information.

Methods/Approaches to Keeping Environmental Accounting:

Physical Approach: Physical Approach was suggested by the United Nations where a completeguides to be prepared indicating the available resources within a country classified according to its state and uses (for instance, agriculture, desert land etc. Depending on this approach the environmental operations are presented in a physical terms, the current balance of the resource and the additions and deductions from that resource. No monetary value is assigned according to this approach.

Monetary Approach: the monetary approach emerged due to the fact that the Physical Approach does not fulfill the requirements of the Environmental Accounting. The monetary approach gained a lot of interest as such data will enable to know the profit and loss associated with environmental operations and to get an environmentally adjusted economic indicator.

Need & Importance of Environmental Accounting:

Currently, The World is facing crucial problems like climate change, terrorism, and cyber security. The first is very much important to care because if this problem will not be handled properly, it will result in complete destruction of human civilization. The increasing pollutants in the environment are caused to ozone depletion, water pollution, Air Pollution, floods, Landslide, Drought, and cloud bursting. The United Nation Climate Change Conference COP 21 (Conference of Parties 21) was held in Paris, France from 30 November to 12 December, 2015 to discuss over a common agreement which will be binding to all countries and simultaneously ensure economic growth of the participating countries. The required number of countries has recently ratified the agreement and shows its willingness to reduce the Green House Gas (GHG) emission.

There is need for environmental accounting practices in developing countries like India. It is twin problem's solving about protecting environment and developing the economy. A study conducted by **World Bank,** estimated that about Rs.34000 crores were lost by India due to environmental damages. Hence the requirement of Environmental Accounting becomes very much vital to curb on such huge wastage. Since we have witnessed various tragedies in some past decades such as ***The Bhopal Gas Tragedy, Dec. 1984,*** the world leader identified its serious effect and come together to tackle this problem properly. The legal enforcement like Kyoto Protocol, ***Environmental Protection Act 1986 etc.*** are also forcing to adopt environmental reporting.

Looking serious effect of environmental pollution for every section of society it is being felt that preventive measures is more important than counter measures. It is rightly says that prevention is better than cure.

We can categorize the importance of environmental accounting separately.

For People:

Environmental Accounting can be considered as protective weapon for people because it help to ensure people right on free gift of nature: As we know that the environmental accounting presents the clear picture of activity done by corporate houses which severally damage theenvironment. But through environmental Accounting and reporting, responsibility can be fixed and proper compensation can be recover from concern institution or people. The companies will install new infrastructure and technologies which will ensure reduction of pollution in the environment. The reduced environment will benefit people through reduced health problem, peaceful environment and reduced unproductive expenses. It will also save people from negative impact of others work. People will be compensated if any work of corporate affect him negatively due to violation in stated law or caring people welfare. How we can forget the Bhopal Gas Tragedy which caused death of thousands of people due to emission of harmful gas. The people can appreciate the efforts of companies which comes with environment friendly product or caring and protecting environment through using safe energy sources and not waste resources unnecessarily for fulfilling more and more their economic benefit. So we can say it will help people rights on safe natural resources given by God or Nature.

For Corporate:

- **To keep systematic record of environmental information:** environmental accounting helps to keep a track record for providing information to desired party whenever it is needed. As we know that the meaning of accounting has changed in the present. Now it is treated as an information system. The role of information has become vital due to growth in the sphere of information technology along with complex organizational structure. An organization cannot bear the risk due to unavailability of information so it always keep it.

- **Helpful in measuring impact of project in the environment:** The corporate houses involve in project which cause damages to environment. Manufacturing sector emit more pollutants in the economy which give serious effect in the environment like Global Warming, Landslide etc. Top level Management analyses information regarding Project viability, its profitability, and itsexecutability. Since environment protection is a major responsibility for every firms it become important to do a pre- study regarding impact of project on environment. The Environmental Management Accounting helps in this it analyzes information related to starting of a project i.e. what is the impact of project on environment and if its impact is found then preventive measures can be implemented.

- **Helpful in getting environmental clearances:** As mentioned in previous point, if a firm have done a pre study for analyzing impact of project on environment it can get clearances from the institution which regulate it. Here I would like to mention a case Adani Coal ltd. got a project in Australia during visit of Prime minster of India Shri NarendraDamodar Das modi in the year 2015. But later the court of Australia canceled the project because the project damage a special species of snakes which is rare and in danger position in Australia. If Adani group make a pre environmental study then it is easy to satisfy the court otherwise it should not engage in that project.

- **Green Marketing/ Branding:** The psychology of customer is changing very rapidly. Now the consumer is more aware while buying the product. Consumer analyze the product weather it is satisfying Environmental Norms or not. Classmate Brand register mention the information on cover how it protect the environment in making its product and simultaneously encourage to use its product to save the trees. As Philip Kotler given a term mental accounting, i.e. Customer use information's and compared and analyses this information through various aspects while buying a product.

- **Increased Production through Better Workforce conditions:** An environment protect caring organization would install environmental friendly machines and make organization pollution free. It will improve the health and morale of employee which ultimately results in improved productivity.

- **New trading opportunities through carbon trading:**The concept of carbon credits came into existence as a result of increasing awareness of the need for controlling emissions.

Multi Commodity Exchange (MCX), India's largest commodity exchange, has launched futures trading in carbon credits. The initiative makes it Asia's first-ever commodity exchange and among the select few along with the Chicago Climate Exchange (CCE) and the European Climate Exchange to offer trades in carbon credits. India's contribution to carbon credits stands at $1 billion, out of a global trading of about $5 billion. India has generated about 30 million carbon credits and has a line-up of about 140 million to introduce into the global market. [1]

For Government/Nation:

- **Positive Contribution to G.D.P.:** Environmental degradation costs India about $80 billion, equivalent to 5.7 per cent of the country's gross domestic product (GDP), on an annual basis according to a World Bank report released in the year 2013. if adequate measures to be taken this major amount turned to positive contribution in the economy.[2]

- **Moblisation of welfare cost to productive project:** The cost of air pollution: strengthening the economic case for action, a joint study by World Bank and University of Washington, released on Thursday, might be useful in dispelling such a blinkered view on costs of controlling pollution.

  According to the report, total welfare losses between 1990 and 2013 because of premature deaths from air pollution increased by 94%. Of this, damages from ambient PM 2.5 air pollution rose by 63% during this period to $3.5 trillion, while damages from household air pollution from cooking with solid fuels jumped almost four-fold to $1.5 trillion, adjusted to the purchasing power parity (PPP) in 2011.In terms of welfare losses because of air pollution, India ranks second after China at $505.1 billion, or 7.69% of its gross domestic product (GDP), in 2013. Premature deaths due to air pollution in 2013 cost the global economy about $225 billion in lost labour income, or about $5.11 trillion in welfare losses, worldwide, according to the report.

  India reported the highest loss in labour output in 2013 owing to air pollution globally at $55.39 billion (2011 PPP-adjusted), or 0.84% of its GDP. China followed close behind with $44.56 billion, or 0.28% of its GDP, lost due to forgone labour output. Adding welfare costs and costs of lost labour due to air pollution puts India's GDP loss at more than 8.5% in 2013. India's GDP growth at constant prices was less than 7% in 2013-14. So air pollution alone might be offsetting the Indianeconomy's growth efforts. [3]

- **Foreign Currency earning through carbon trading:** Since India is a developing nation, it does not come under the ambit of the Kyoto Protocol. So, we can use our developing country status to let any Indian company, factory or farmer link up with the United Nations Framework Convention on Climate Change and determine the permissible 'standard' level of carbon emission for its specific field of activity. For the amount of low carbon emissions made by an Indian company, the developed nation earns carbon credits.

  Already, India's contribution to carbon credits stands at $1 billion, out of a global trading of about $5 billion. India has generated about 30 million carbon credits and has a line-up of about 140 million to introduce into the global market. These comprise chemical units, plantation companies, municipal corporations and waste disposal units that can easily sell their carbon credits for good amounts of money. This is possible because India has credits for emitting carbon below the permissible limits and so has enough credit to offer defaulting countries. With this facility, India can trade her carbon credits for large loans, better social visibility and ecological facilities and lucrative incentives by multinationals in their home countries. Some of the Indian countries that have already jumped on to this bandwagon include Tata Steel, Gujarat Fluoro Chemicals, NTPC, etc. Out of the 391 projects sanctioned by the UNFCCC, 114 were registered from India-the highest ever for any country.[4]

- **Better Goodwill in the world:** Environment friendly country enjoy better goodwill for their product between customers. It helps to improve the goodwill of any nation in the world which ultimately result in increased demand at global level and helps to increase export. In my view the future of green product is expanding tremendously. Here we can take example of patanjali ltd. Which business is expanded within very short span of time and place its CEO Balkrishna at 47th position in forbs list.

- **Others:** There are so many direct and indirect advantages to a nation by keeping environmental Accounting. As the nation have accurate and systematic assessment of environmental damages and pollution effect in the economy. It also helps to get easy financing from world institution like IMF and World Bank. Because this institution financing CDM (Clean Development Mechanism) project to lessen the impact of Global Warming.

For World:

The world has vital importance of environmental accounting because we know that environmental element has no boundary which limits its impact. If one country carelessly handle the environmental issues it will not only produce harmful result to that country but also other country will aggrieved with its impact. Recently we have seen that a report publish in newspaper mention that the straw fired by farmer of Haryana state severely affect the air quality of Delhi and some part of Karachi (in Pakistan). The international legal protocol such as KYOTO PROTOCOL which are enforcing to mandate such practices for betterment of environment. Since developed countries has extensively exhausted the resources and get its economy in very strong situation. Now the dilemma is with developing economy how to manage the economic growth while caring environmental protection. There is lack of fund for sustainable infrastructure with developing nations so a proper monitoring of environmental information will help them to get funds from World Bank and other International Financial Institution.

Conclusion:

The importance of environmental accounting proves that it is a contribution given by accounting world to protect our environment. We will have to keep sensitivity while using natural resources because it will not for protection any single person interest rather all human and living creatures. The human is caretaker of all species because if human will pollute the elements of environment the whole creatures will come in danger. Still there is need of awareness, initiation, and alertness to stop wastage of natural resources and help to protect environment. The companies only fulfilling legal compliance by publishing Sustainability Reports but my suggestion and expectation is that the efforts should be taken at ground level without any compulsion it should be from our inner of heart, mind and thinking. Let us make collective efforts to shape our next generation future by gifting him what we gifted by our ancestors so that they will live peacefully in safe environment. MA

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ENVIRONMENTAL MANAGEMENT ACCOUNTING AND ENVIRONMENTAL REPORTING IN A RESOURCE CONSTRAINED WORLD: CHALLENGES FOR CMAs

A company's environment related problems or negative environmental impacts of its production process have an influence on the environment and society at large. However it has been observed that in most of the cases the society has to bear such costs resulting from negative impacts. Thus it is very essential for companies to disclose environmental issues in detail in their annual reports. This is more of so because environmental issues have been observed to create immense impact on the financial position of many companies. Until the late 1980s there was no need for companies to make environmental disclosures. But investors started giving importance to environmental information from the 1990s [Schaltegger and Burritt, 2000]. During 1990s environmental management started getting importance in financial markets. Management, shareholders, government and NGOs all have started organizing and accumulating more information regarding environmental risks associated with business. The demand for these information lead to the emergence of importance of environmental management accounting (EMA) in businesses throughout the globe.

EMA represents a combined approach which provides for the transition of data from financial accounting and cost accounting (considered as a core part of management accounting) to increase material and energy efficiency, reduce environmental impacts and risks and reduce costs of environmental protection [Jasch, 2010]. According to the definition given by The International Federation of Accountants (IFAC, 1998) EMA is the management of environmental and economic performance through the development and implementation of appropriate environment

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- related accounting systems and practices. While this may include reporting and auditing in some companies, environmental management accounting typically involves life cycle costing, full – cost accounting, benefits assessment and strategic planning for environmental management. .

In particular, EMA includes both physical data and monetized environmental cost data having cost saving potential and revenue (direct and indirect) related activities with potential environmental impacts. Thus EMA includes both monetary environmental management accounting (MEMA) and physical environmental management accounting (PEMA) [Schaltegger et al.2003]. MEMA deals with environmental aspects of corporate activities expressed in monetary units that help in generating information for internal management (investment in cleaner production technologies etc.). Also it helps to track, trace and treat costs and revenues of the company that have an environmental impact.

PEMA on the other hand focuses on company's impact on the natural resources expressed in terms of physical units such as kilograms, cubic metres etc. [Schaltegger et al.2003]. PEMA is used to collect information on environmental impact (in physical terms/ units) by internal management for decision making purposes as well.

Financial and environmental performance indicators when linked together can serve as a tool for controlling environmental costs and its impacts. Environmental issues are to be incorporated in conventional management accounting so as to identify the financial impacts of economic activities. Introduction of a system that can manage a company's economic and environmental progress can help towards achievement of eco- efficiency. The major areas for the application for EMA are:

✤ product pricing

✤ budgeting

✤ investment appraisal

✤ calculating costs and

✤ savings of environmental projects, or setting quantified performance targets.

The strategic competitive advantage of the EMA approach has been identified by Parker (2000) and further approved in a number of existing literatures (Gibson & Martin, 2004; Jasch, 2003; Savage, 2003). A number of studies have call attention to the need of EMA in a firm or why firms should separately account for environment or adopt 'go green' mode (Parker, 2000; UNDSD, 2001; Burritt et al., 2002 Bennett et al. 2003; Jasch, 2003; IFAC, 2005; Jasch, 2010). EMA has been used to figure out environmental cost citing experiences; for countries (Csutora & Palma, 2008), chemical management services (Kurdve, 2008), in an Australian University (Chang & Deegan, 2008), in metal finishing industry (Koefoed, 2008), in a Norwegian Hydro Aluminum plant (Hermansen J.E, 2008), in Pharmaceutical industry etc. (Onishi, Y. et al, 2008). The costing ,decision making and risk assessment approach of EMA at business level (Herzig et.al, 2012); material and energy flow accounting at a firm level (Herzig et.al, 2012) have also been identified. These experiences opened up different dimensions for EMA.

Interaction with the companies in India reveal that there is a need for a tool to help business managers to trace and calculate the extent of environmental costs (both transparent and hidden) incurred by their production processes. This will help the managers to understand and identify these costs and ways of managing them. Further EMA as a tool would also help them to understand the importance of investing in environmental management activities and cleaner technologies.Though various environmental management initiatives are being undertaken by companies, gaps existing between commitment and its outcome are also very much evident. In the given background the objectives of this paper is to

➤ Understand the meaning and inter-relationship between the environmental benefits, costs and opportunity cost (the main concerns of management accounting)

➤ Influence of stakeholders on Management Accounting Practices and

➤ Environmental Reporting (disclosures) by companies across the globe

➤ Methods of environmental management accounting

➤ Role and challenges of CMAs in EMA and environmental reporting

Meaning and Inter - Relationship Between the Environmental Costs, Opportunity Cost and Environmental Benefits

Environmental costs are defined as the total costs caused through excess use of material flows that do not produce useful products [Schaltegger et al., 2003]. Environmental costs includes both internal and external costs and relate to all costs incurred in relation with environmental damage and protection [Jasch,2010].Internal environmental costs (or private environmental costs) of a company is defined as costs of corporate environmental protection (sewers, waste water treatment plant).Some examples of Internal Environmental cost are given below in Table 1 :

Table 1: Examples of Internal environmental costs

Direct or Indirect	Contingent or Intangible
Waste management	• Product Quality
Compensation costs	• Employee health and satisfaction
Compliance costs	• Environmental knowledge asset
Permit Fees	• Sustainability of raw materials inputs
Environmental training	• Customers perception
Environment related maintenance	• Risk of impaired assets
Legal costs and fines	• Uncertain Future compensation costs
Environmental labelling / certification	• Risks accompanying future regulatory changes
Natural resource input	
Reporting	

Source: Schaltegger and Burritt, 2000,pp:101

Internal costs are again sub – divided into ordinary and extra- ordinary, direct and indirect costs and into potential future costs, encapsulated in the following Table 2.

Table 2. Sub-divisions of Internal environmental costs of a company

Focus	Cost of Environmental Protection	Costs of material and energy use and related environmental impacts
	Examples	*Examples*
Ordinary cost	● Waste water treatment	● Fees , purchase of materials
Extra Ordinary Cost	● Clean up cost of explosion	● Fines, clean – up of explosion
Direct Cost	● Product – specific pollution prevention	● Purchase of materials
Indirect Cost	● Administration of environmental regulations	● Handling of materials
Potential future	● Potential remediation of landfill	● Contingent Liabilities

Source: Schaltegger and Burritt, 2000,pp:100

External environmental costs are defined as costs borne by people other than those who cause the cost and receive the benefits. Information about the external impact caused by pollution, dumping of wastes, and consumption of renewable and non – renewable natural resources are generally not reflected and reported in conventional and management accounting. Examples of such external environmental costs are given below

- ✤ Depletion of natural resources
- ✤ Long term waste disposal
- ✤ Impacts of Noise pollution
- ✤ Air and water emissions
- ✤ Change in local quality of life
- ✤ Uncompensated health effects

In conventional management accounting system environmental costs are recorded in the overhead accounts(instead of directly assigning them to products or processes that resulted in the creation of such environmental costs).As a result of which environmental managers become unaware of the environmental cost the opportunity to reducing such costs gets somewhere lost in the process. In cost accounting instead of charging such environmental costs to production cost centres they are aggregated to overhead accounts resulting in "hidden" costs for management. These further results in incorrect pricing of products reducing profitability of the business. For example the disposal cost of hazardous may be very high for a particular product that uses such materials but may be low for another product produced by the production department. In such a case if the waste disposal cost is allocated on the basis of total production quantity, then it would result in inaccurate pricing of the products and also effect the decision made on the basis of such incorrect information [Jasch, 2010].Thus EMA allows proper identification of and allocation of environmental costs and material flow cost resulting towards identification of opportunities for cost savings.

Stakeholders who are being made to bear the external environmental cost have gradually started creating pressure on the companies to internalise these costs through government interference (imposing restriction on the use of polluting inputs, outputs and generated wastes, use of energy efficient technologies etc.). Regulatory measures by the imposed government for internalising external costs are compelling companies to make investments in environmental protection.

However company's cost of investing in environmental protection is considered to be equal to the benefit that could have been derived by investing in alternative investment (for the same level of risk) that is forgone. This is the concept of opportunity cost that companies have to take into consideration as every decision has a cost even if it does not give rise to direct or indirect cost. Thus opportunity costs are the costs that arise from unrealised opportunity whenever an alternative is chosen from a set of available alternatives [Schaltegger and Burritt, 2000].For example, the cost of project relating to environmental protection to be undertaken by a company though measured and recorded as an internal cost in management accounting system, the opportunity cost of unrealised environmental protection is not taken into consideration in most of the businesses.

Like external environmental costs, opportunity costs are also not recorded in management accounts in most of the companies in an organised way.

It is not only environmental (both internal and external) and opportunity costs, management accounting

Management, shareholders, government and NGOs all have started seeking more information regarding environmental risks associated with business. The demand for these information lead to the emergence of the importance of Environmental Management Accounting (EMA) in businesses across the globe. EMA is the management of environmental and economic performance through the development and implementation of appropriate environment - related accounting systems and practices.

also includes recording and analysis of environmental benefits. Environmentally benefits include environmentally induced additional revenues. For example, revenue earned from the sale of scrap or waste (for reuse by another organization), subsidies for environment related research projects, sale of excess capacity of waste treatment facilities, revenues from insurance for environment - related claims, investment grants for environment related equipment, benefits from better green image, increased customer satisfaction, better technological know – how etc. Calculation and reporting of environmental benefits necessitates the use of advanced management accounting system. Proper disclosure of such environmental benefits results in two fold advantages – one, the targets can be set and results can be compared with targets and secondly, the result and performance can be communicated to the external and internal stakeholders [Schaltegger and Burritt, 2000].

Influence of stakeholders and International Accounting Standards on Management Accounting Practices and Environmental Reporting

Environmental Reporting refers to reporting of environmental issues in addition to the financial reporting. Environmental reporting has undergone extensive development over the last two decades and is influenced by many factors, stakeholders influence been one of them. In USA Environmental Protection Agency (EPA), an active stakeholder of USA, has issued guidelines for greening of management accounting and reporting practices. EPA issued guidelines on costing techniques and capital budgeting in 1995 to help company managers to become aware of environmental accounting techniques and in carrying out investment appraisals of pollution prevention plans. These guidelines motivated businesses to understand environmental costs and integrate them into the decision making process. In 1996 German Umweltbundesamt (UBA) emphasised the importance environmental cost accounting in companies [Schaltegger and Burritt, 2000]. As a result of increasing awareness among stakeholders and pressure build up by the NGOs across the world a major international accounting system – European Union (EU) came up with a recommendation (2001/453/EC) in 2001 emphasizing the need for disclosure on environmental issues in annual accounts and annual reports of companies [Jasch, 2010]. This recommendation of 2001though voluntary for European countries and companies was made mandatory in 2003 EU Directive. The Directive of 2003 made reporting of environmental issues and performance indicators in annual accounts and reports mandatory [Jasch, 2010].The Recommendations suggested to report expenditures relating to environmental protection. These expenditures mainly relate to IFAC'S cost categories – waste and emission treatment, prevention and other environmental management and research and development.

Another accounting system having major influence on international accounting was international accounting standards (IAS, IFRS). The IAS regulations created in 2002 made IAS and IFRS mandatory in the consolidated accounts of the public companies from 2005. Financial reporting standards have a strong influence on management accounting.

However the most commonly accepted best practice of environmental reporting are the Global Reporting Initiative (GRI) guidelines.GRI released its third version(G3) of Guidelines for Sustainability Performance Indicators and Reporting in 2006 and have released the latest updated fourth version (G4) in 2013.GRI indicator on environmental expenditure have direct reference to the EMA guidance document prepared by The International Federation of Accountants (IFAC).The third and fourth version of GRI guideline is based on IFAC, as a result of which environmental expenditure categories have been distinguished into two categories – pollution prevention and emission treatment. Companies reporting in accordance with the GRI Guidelines are considered to be well managed companies. This is important as environmental reporting builds confidence among shareholders and stakeholders, boosts corporate image, reduces risks, builds competitive advantage enhancing transparency and accountability[Godschalk,S.K.B.,2010].In this regard environmental management accounting (EMA) plays an important role.

Methods of environmental management accounting(EMA)

Environmental cost accounting is defined as a part of core EMA (IFAC,1998). Among the techniques used for EMA the following are considered as the most important ones keeping in view the major areas of application of EMA mentioned earlier in Section 1 [Schaltegger and Burritt, 2000]:

1) **Environmental Full Cost Accounting:** This a method of management cost accounting (also termed as full cost accounting according to IFAC) that allocates environmental costs (both direct and indirect) to a product, product line or process, service or activity that is on the basis of the activities that cause the costs- their cost drivers. The cost objects and cost centres responsible for creation of such costs are accounted thereby helping in identification of potential savings, market opportunities. All these leads towards detection of full costs of environmental protection (past and present costs) and consideration of costs of future environmental risks (future costs). In other words in

a nutshell this approach or method take into consideration

*i)**cost of environmental protection :*** relating to full cost of environmental protection (past and present costs) and consideration of costs of future or potential environmental risks.

2) Process Costing : This approach or method encompass

i) Cost of environmental protection: includes Environmental Activity Based Costing (past and present costs) and Activity - Based Budgeting (future or potential costs) relating to the cost of environmental protection. Activity - based costing focuses on costing activities and then allocating the cost of activities to products on the basis of individual product's demand for those activities.

ii) Cost of material and energy flow: includes activity based costing (past and present costs) and activity based budgeting (future or potential costs) oriented towards material and energy flow.

Activity based costing of material and energy flow focuses on environmental costs that include (past and present) costs of purchasing and handling materials that cause environmental impacts (purchased materials and energy that turned into wastes). Thus by reducing material flows a check can be exercised on environmental costs.

On the other hand, activity based budgeting approach is more focused on the estimation of future costs of material and energy flows. For example preparing budget for materials to be purchased for the next period, expected cost of recycling of products or activities, setting budgetary targets for pollution control systems, waste management. Assessment of potential or future costs related to environmental issues is very much required to assist planning for the future and it is considered to be one of the uses of management accounting information.

3) Life - cycle costing: In this method all costs are identified with a product, process or activity throughout its lifetime from raw material acquisition to its disposal, focusing on internal and external costs.

Role and challenges for CMAs

Collection and analysis of good data is crucial to environmental management and sustainability decisions. Environmentally oriented cost strategies help an organization to achieve efficient use of natural resources (by reducing material inputs and energy for a given level of output) in the production process and across the supply chain. Achieving these requires accountants to monitor and manage non-traditional data to guide strategic decisions. Management accountants play a very important role to fulfil this task. Cost and Management accountants nowadays face a number of challenges in this regard. They are

- Formulation of an efficient environmental cost strategy. This becomes important when prices of materials, energy, emission and quantity of waste disposed increases. This is because environmental cost accounting highlighted areas for cost reduction [Schaltegger et al., 2003]. Situation becomes all more difficult for accountants if the environmental cost cannot be measured. Some of the environmental costs cannot be measured as they may be the common costs of operating a business.

- Environmental costs, its related savings and earnings are often not properly measured and monitored affecting decisions on investment appraisal. Accounting for all potentially significant environmental costs influencing investment decisions also poses to be a challenge for accountants.

- Confusion among managers in deciding which environmental issues to recognize, how to measure them and what environmental information to disclose.

To overcome the referred and other allied challenges CMAs have to play a very important in the following matters:

➤ Developing communication with the engineers of the production departments who are trained in different technical language

➤ Bridge the missing links between production and financial information systems.

➤ Resolving the issue of separating environment related costs which are hidden in overhead accounts. Environmental costs bearing significant value should be assigned to production cost centres or production costs.

➤ CMAs need to steer their organizations to consider all possible environment related costs that have an influence on the return of investment material flow costs, site recovery costs or any other costs associated with future regulations.

There exists potential for management accountants to act as collaborators in the matter of managing environmental issues but unfortunately full potential has generally not been tapped in most of the companies. Accounting, production and environmental management need to work jointly as a team to access data relating to environmental and material flow cost accounting. There exists scope for improvement in standards, management and reporting practice for managing and reporting corporate environmental costs, savings and benefits. Despite of challenges, CMAs may pay a pivotal role in this regard. MA

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INTERNATIONAL CONFERENCE CUM RESEARCH METHODOLOGY WORKSHOP IN ASSOCIATION WITH VIDYASAGAR UNIVERSITY

'EMERGING ISSUES IN ACCOUNTING AND FINANCE'

February 10th and 11th, 2017

The Institute in collaboration with the department of Commerce with Farm Management of Vidyasagar University organized a UGC

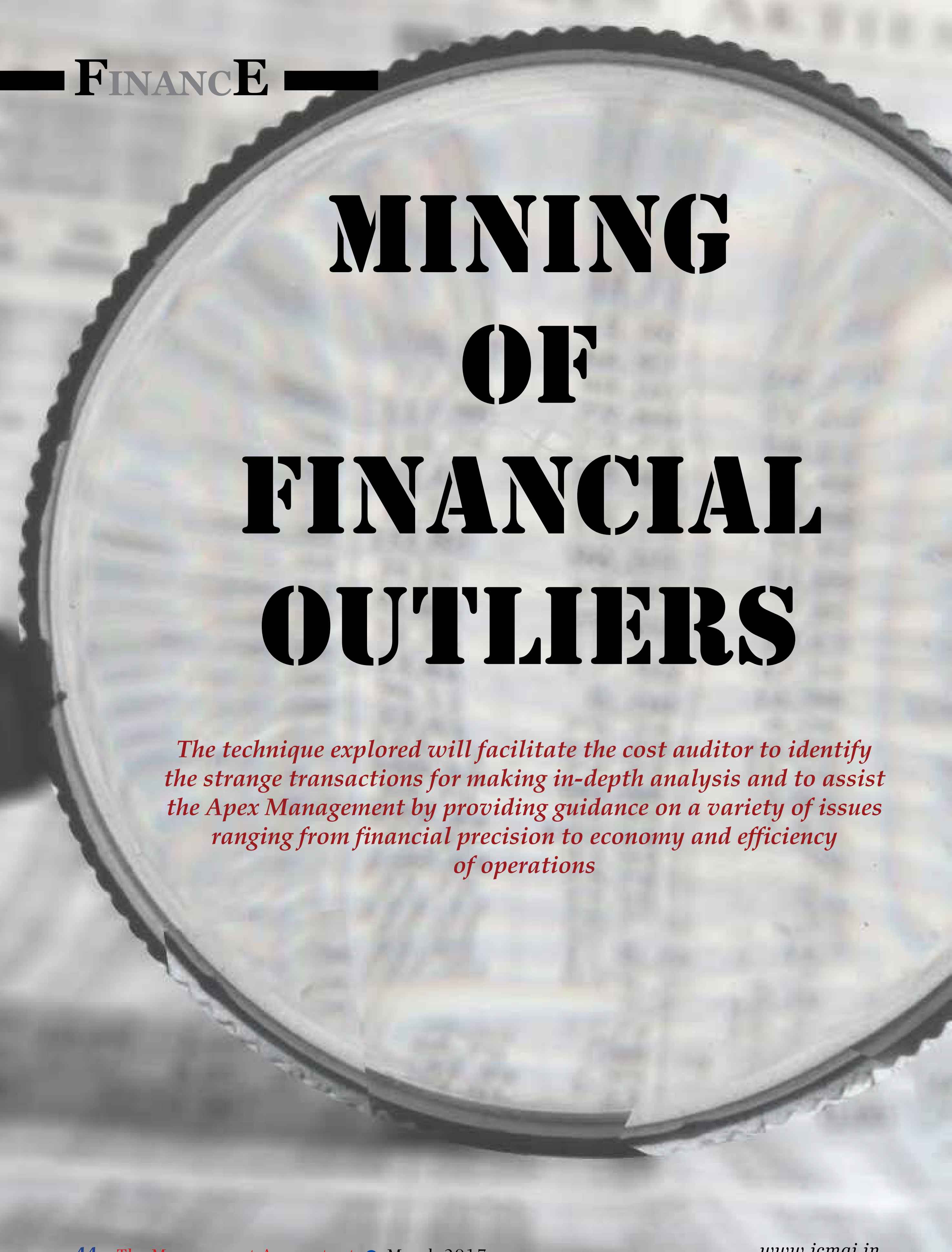
Sponsored International Conference cum Research Methodology Workshop on February 10 and 11, 2017 at the premises of the University in Midnapore. The theme of the conference was 'Emerging Issues in Accounting and Finance'. The inaugural session was made gracious with the presence of Professor Damodar Mishra, Dean, Faculty of Arts and Commerce, Vidyasagar University, CMA Manas Kumar Thakur, President, ICAI, Professor Malayendu Saha, Chairman of the West Bengal Joint Entrance Examination Board and Former Vice-Chancellor, University of Kalyani, Professor Ravindran Ramasamy from the Graduate School of Business, University Tun Abdul Razak, Malaysia and Dr. S.Anand, Director, Postgraduate Studies and Research Department, College of Banking and Financial Studies, Sultanate of Oman. Professor Kalpataru Bandopadhyay, Professor and Head, Department of Commerce and Jt. Org. Secretary, EIAF 2017 and Dr. Abhijit Sinha, Assistant Professor and Jt. Org. Secretary, EIAF 2017 shared the dais with the dignitaries.

The plenary session that followed was chaired by Professor Malayendu Saha and the key note addresses were delivered by the two academicians from abroad. Professor Ramasamy shared his views on the latest reforms in global financial markets and called for the need to innovate to keep in line with the recent changes. Dr. Anand deliberated on the issue of customer satisfaction regarding banking services in Oman.

During the two-day event, we enjoyed the presence of more than 150 delegates (including student delegates). More than sixty papers were submitted for consideration for the conference of which fifty papers were finally accepted for presentation for the one-day conference. These papers were distributed into three technical sessions under the sub-themes 'Macro-environment for Business World', 'Financial Institutions and Markets' and 'Issues in Accounting and Taxation'. The sessions were chaired by Dr. S. Anand, Professor Ravindran Ramasamy and Professor Kartick Chandra Paul (Formerly of the Departments of Commerce and Business Administration, Vidyasagar University) respectively. The 'CMA Best Paper' Award was given for each of the technical sessions during the valedictory session. This year the Best Paper Award for the three sessions was won by Dr. Sibaram Chatterjee and Mr. Sourav Hansda (jointly), Prof. Mauli Sanyal and Prof. Radhagovinda Basak respectively.

On the second day of the event, there were two sessions on Research Methodology focusing exclusively on 'Survey Research Methods'. The lectures were delivered by Professor Ravindran Ramasamy and Professor Sushil Kumar Haldar of the Department of Economics of Jadavpur

University. The joint contribution of the ICAI, delegates, Departmental teachers, University administration and other contributors like LIC has made EIAF 2017 a grand success.



MINING OF FINANCIAL OUTLIERS

The technique explored will facilitate the cost auditor to identify the strange transactions for making in-depth analysis and to assist the Apex Management by providing guidance on a variety of issues ranging from financial precision to economy and efficiency of operations

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In these modern days, the scope of the Cost Auditor becomes multifold and they are expected to assist the Apex Management by providing guidance on a variety of issues ranging from financial precision to economy and efficiency of operations. While discharging this responsibility, the Cost Auditor necessarily has to adopt variety of analytical tools in order to identify the strange transactions, which are likely to attract audit observations for deriving his conclusions and recommendations. The analytical techniques adopted by the auditor includes estimation techniques, trend analysis, ABC analysis, Benford analysis, bench marking, etc. and also statistical analysis such as regression, correlation, factor and cluster analysis.

The outliers in financial statements are eccentric transactions, which are inconsistent with other observations and having low probability in the financial data-set. The financial outliers deviate from routine transactions and having highest chance of having distrustful and abnormal audit objectionable transactions. The outlier analysis could be used to identify such transactions, which are peculiar in nature. After identification of the outlier financial transactions, the Cost Auditor has to confirm its consistency within financial statements as well as with various legislations controlling the audited entity, which will aid the Cost Auditor for deriving useful conclusions.

The present study is mainly expository analysis of detection of outlying financial observations in a finite financial data-set. The primary aim is to demonstrate the identification of the strangely behaved outlier financial transactions by adopting various suitable techniques and also to suggest remedial measures to rectify the transactions in order to suggest the ways for making the constructive advice to the Apex Management.

Identification of Outliers in Financial Statements

The financial data-set may include outliers, which are very large or small monetary values, when compared with the values of other financial transactions in the data-set and likely to have audit observations. The literature review leads to the conclusion that the outlier detection techniques is extremely challenging and difficult and are primarily classified into four categories statistical based, distance based, deviation based techniques and high-dimensional outlier detection techniques. The higher dimensional outlier detection models and Meta Algorithms could be effectively applied in detection of outliers. The applications of these novel outlier identification models are out of the scope of the present study.

The Turkey 1977 Test, Median rule, MADe method, SD Method, Dixon's Q test, Adjusted Box Plot are commonly used techniques in detecting the outliers. All these methods assist Cost Auditor to have a small size of vulnerable financial data for making in-depth cost analysis. The various steps involved, formulae adopted, and the constraints in respect of the methods mentioned above are briefly given below

Turkey 1977 test

The Turkey 1977 test is the basic test for identification of outliers. The prerequisite of the adoption of this test is the rearrangement of the financial data in the ascending order. This is the basic pre-requisite are to be adopted in the subsequent tests discussed. The Turkey 1977 test is based on the calculation of Inter Quartile Range and calculated by the following formula.

$$[Q1 - k * IQR,\ Q3 + k * IQR], \qquad \textbf{(2.1)}$$

Where k is non-negative constant, Q1 and Q3 are the lower and upper quartiles respectively and IQR is Inter Quartile Range = Q 3 - Q1

The inner fence and outer fence interval could be found by substituting the value of k by 1.5 or 3 as detailed below

$$[Q1-(1.5*IQR),\ Q3 + (1.5*IQR)]. \qquad \textbf{(2.2)}$$

$$[Q1-(3*IQR),\ Q3 + (3*IQR)]. \qquad \textbf{(2.3)}$$

The outlier will be any observations, which falls outside the above range.

Median rule

This test requires the calculation of the interval

[Q2- k*IQR, Q2+k*IQR] **(2.4)**

Where Q_2 is the sample median and k is non-negative constant.

Any data falling outside the above range will be outliers. If k =2.3 it is stated that this method leads good result for which no statistical justification available.

SD Method

If the distribution of the random variable is known, a more exact proportion of observations centering on the mean can be computed. By using this basic fundamental principle, the Inner and Outer fence interval could be calculated by using the following formula

Inner fence interval = [X - 2*SD, X - 2*SD] **(2.5)**
Outer fence interval = [X - 3*SD, X - 3*SD] **(2.6)**

The outlier will be any observations, which falls outside the above range.

Made Method

In short MAD is the median of their absolute values and it is a measure of statistical dispersion. It is more robust estimator of scale than the sample variance or standard deviation. This is extremely useful with distributions which do not have mean or variance.

The MADe methods are two types i.e. 2 MADe and 3 MADe methods.

In the case of "2 MADe Method", the Interval will be

[Median - 2 MADe, Median + 2 MADe] (2.7)

In the case of "3 MADe Method" the Interval will be

[Median - 3 MADe, Median + 3 MADe] (2.6)

Any financial data falling outside the interval are outliers for which detailed cost analysis are to be taken.

Adjusted Box Plot

Adjusted Box Plot was introduced by Vanderviere and Huber (2004) by considering the Med-couple (MC). The interval of the adjusted box plot is calculated as

[Q1-1.5*exp (-3.5MC) * IQR, Q3+1.5 * exp (4MC) * IQR], if MC ≥ 0 (2.7)

[Q1-1.5 * exp (-4MC) * IQR, Q3+1.5 * exp (3.5MC) * IQR], if MC ≤ 0, (2.8)

The observations which fall outside the interval are considered outliers. The value of the MC ranges between -1 and 1. If MC =0, the data is symmetric and the adjusted box plot become s Turkey's box plot. If MC >0, the data has a right skewed distribution, whereas if MC <0, the data has a left skewed distribution.

The outliers are the data which falls outside the interval mentioned above.

Dixon's Q test

The inventor Dixon specified that the test could be used sparingly and never more than once in a data set. It should be noted that a single transactions can be rejected from a data set using Dixon's Q test. It is possible to perform the test by leaving the outlier and with the remaining data. It could be continued till all outliers are located.

The following steps are involved in this test. The Gap and Range are to be calculated by using the following formula.

Gap = Dn – Dn-1. **(2.9)**

Range = Max Value of the transaction – Min Value of the transaction

The following ratios are to be calculated for each data

$$Q = \frac{\text{gap}}{\text{range}}$$ **(2.10)**

If the above calculated value of Q is more than tabulated Q value corresponding to the sample size and confidence level, the financial data has to be treated as outlier and further detailed investigation have to be made.

example

Let us assume that a sum of Rs 4, 41,520 was appeared in the Profit and Loss account of the financial statements of an entity audited as Sales realized. While analyzing the split-up of the above details, the sales were realized from various cities as given below.

Table No. 1 Sales realized

Sl. No	Name of the City	Sales Realized
1	Ahmedabad	21901
2	Bangalore	22022
3	Bhopal	21902
4	Chennai	22203
5	Delhi	21417
6	Hyderabad	22869
7	Indore	23058
8	Kanpur	22627
9	Jaipur	20196
10	Kolkata	22448
11	Lucknow	22082
12	Mumbai	22082
13	Nagpur	22692
14	Patna	22264
15	Pimpri	22143
16	Pune	20374
17	Surat	21594
18	Thane	22814
19	Vadoda	22506
20	Visakhapatnam	22326
21	Total	441520

Finding outliers by applying the test which requires finding interval

The following outlier tests requires for finding the interval

- TURKEY 1977 TEST
- MEDIAN RULE
- MADe METHOD
- SD METHOD
- ADJUSTED BOX PLOT

The following steps will help to analyze the data further.

Step 1 Arranging data

Expenditure incurred are rewritten in ascending order

Table No. 1 - Arranging Data

Amount Incurred (Rs)	20196	20374	21417	21594	21901	21902	22022	22082	22082	22143
	22203	22264	22326	22448	22506	22627	22692	22814	22869	23058

step 2 finding basic statistics

The values of the above basic statistical calculation are tabulated in the following table

TABLE NO. 2 - Finding Basic Statistics

Sl No	Statistic	Basic calculations	Calculated Value
1	Q_1 = First Quartile	(21901 + 21902)/2 = 21901.5	21901.5
2	Q_2 = Median	(22506 + 22627)/2 = 22566.5	22566.5
3	Q_3 =First Quartile	(22143+22204)/2= Median = 22173	22173
4	IQR=Inter Quartile Range	22566.5-21901.5= 665	665
5	X = Mean	22076	22076

Sl No	Statistic	Basic calculations	Calculated Value
6	MAD = Median Absolute Deviation		512.6
7	MADe = Scaled MAD value	1.483 * MAD = 1.483* 303.5 = 450.095	760.186
8	MC = Med couple		0.003
9	R = Range	23058 – 20196 = 2862	2862
10	SD = Standard Deviation		723.0045

step 3 finding the interval

In respect of the following outlier tests the interval by adopting the appropriate formulae are to be calculated.

TABLE NO. 3 - Finding the Interval

Sl No	Outlier Test	Formula adopted		Interval Evaluated	
		Inner Interval	Outer Interval	Inner Interval	Outer Interval
1	TURKEY 1977 TEST	[(Q_1–(1.5*IQR), Q_3 + (1.5*IQR)]	[Q_1–(3*IQR), Q_3+ (3*IQR)]	(Q_1–(1.5*IQR), Q_3 + (1.5*IQR)] =(21901.5- 1.5*665. 22566.5+1.5*665) = (20904, 23564)	[Q_1–(3*IQR), Q_3+ (3*IQR)] =(21901.5- 3*665. 22566.5+3*665) =(19906.5,24561.5)
2	MEDIAN RULE	(Q2+ 2.3*IQR, Q2- 2.3*IQR	Not available	(22173+ 2.3*665, 22173- 2.3*665) = (20643.5, 23702.5)	Not Available
3	MADe METHOD	(Median-2* MADe, Median+2*MADe)	(Median-3* MADe, Median+3*MADe)	(22173- 2*760.186), (22173+ 2*760.186) (20652.63, 23693.37)	(22173- 3*760.186, (22173- 3*760.186) =(20629.99,23522.01)
4	SD METHOD	- 2*SD, X +2* SD)	(X - 3*SD, X +3*SD)	(22076-2*723.0045, 22076 +2*723.0045) (20629.99,23522.009)	(22076-3*723.0045, 22076 +3*723.0045) (19906.98,24245.01)
5	ADJUSTED BOX PLOT	[Q1-1.5*exp(-3.5MC)* IQR, Q3+1.5*exp (4MC)*IQR]	Not available	(21901.5- 1.5 *(exp (-3.5*0.003)*665, 22566.5+1.5* (exp (-4*0.003)*665) = (20914.419, 23551.60)	Not Available

step 4 identification of outliers

The outliers identified are given below

Table no. 4 - Identification of Outliers

Sl No	Outlier Test	Outliers Interval		Outliers identified	
		Inner	Outer	Inner	Outer
1	TURKEY 1977 TEST	(20904, 23564)	(19906.5, 24561.5)	20,196 & 20374	NIL
2	MEDIAN RULE	(20643.5, 23702.5)	Not Available	20,196 & 20374	Not available
3	MADe METHOD	(20652.63, 23693.37)	(20629.99,23522.01)	20,196 & 20374	20,196 & 20374
4	SD METHOD	(20629.99,23522.009)	(19906.98,24245.01)	20,196 & 20374	NIL
5	ADJUSTED BOX PLOT	(20914.419, 23551.60)	Not Available	20,196 & 20374	Not available

Dixon's Q Test

As in the previous example the sales realized are to be rewritten in ascending order as given below.

step1 rearranging the data

Table no. 5 - Rearranging the Data

Amount Incurred (Rs)	20196	20374	21417	21594	21901	21902	22022	22082	22082	22143
	22203	22264	22326	22448	22506	22627	22692	22814	22869	23058

step 2 calculation of gap

TABLE NO. 6 - Calculation of Gap

Gap	178	1043	177	307	1	120	60	0	61	60
	61	62	122	58	121	65	122	55	189	

step 3 calculation of range

The difference between the maximum and minimum value of the transactions is 23058 – 20196 = 2862

step 4 calculation of ratio

The Q ratio is calculated for each financial transaction and given below

TABLE NO. 7 - Calculation of Ratio

Q Ratio	0.0622	0.3644	0.0618	0.1073	0.0003	0.0419	0.0210	0.0000	0.0213	0.0210
	0.0213	0.0217	0.0426	0.0203	0.0423	0.0227	0.0426	0.0192	0.0660	

step 5 identification of outlier

The calculated / tabulated value of Q for twenty transactions at 95 % confidence level is 0.3005. From the above, it is found that 20374 & 20196 are the outlier transactions sales realized at Jaipur and Pune respectively and requires further investigation.

3.3 analysis of outlier sales

The sales of the product mainly depend upon the population of the particular town or city. The sales realized at the outlier cities i.e. Jaipur and Pune are 9th and 10th populous cities is less compared to the lesser population such as Patna and Vadodara. It is responsibility of the auditor to make further detailed audit enquiry in this regard.

After making an in-depth analysis of the Sales in the example mentioned two situations may emerge.

One being the data identified may have audit observation and another situation it may not have. If we found that there is no audit objections observed, the outlier sales data have to be accommodated. However it shows tip of an iceberg and auditor has to make an in-depth blow to find out the truth. Instead of randomly selecting sales realized by the Districts in the example, the methods mentioned above will improve the auditor's efficiency and effectiveness in deriving the results.

On the other hand, if the sales data has audit observation, the data has to be re-verified and acceptable data has to be re-entered and the outlier identification and audit exercises to be continued till all sales data did not contain any outliers.

The objective of the sales audit is not only identifying the inconsistencies of the accounts but also suggest the ways for improving the sales. Therefore the audit queries are to be issued for collecting the information with the aim to advise the management to reorganize the sales design, sales strategies, sales department structure, capacity building of sales personnel etc.

conclusion

There are many methods for identifying the outliers and the readers are advised to adopt the appropriate method for identifying the outlier in consonance with their environment. Good inference could be derived from this analysis, if the data was selected rightly for the analysis.

In reality, all the transactions may not obey any specified statistic distribution and it is also applicable to sales realization example mentioned and may not yield any outliers. Instead of identifying the outlier, it is also possible to split data into clusters for making further examination to obtain good results. MA

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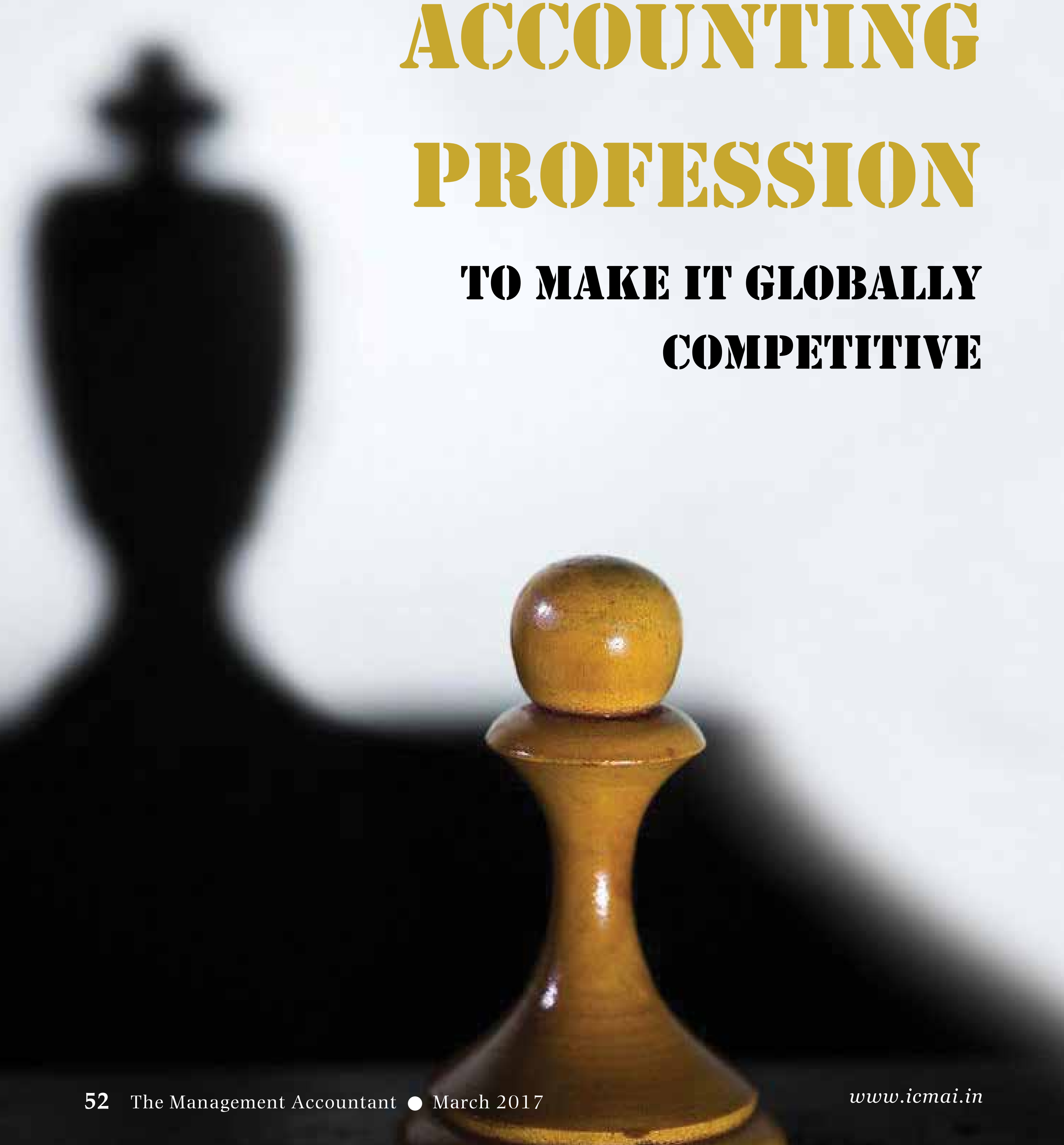
AT THE HELM

Our heartiest congratulations to CMA Girish K., member of the Institute, for his nomination as Member of GST Consultative Committee by the Government of Karnataka for smooth and effective implementation of GST in the State.

We wish CMA Girish K.the very best for all his future endeavours.

REFORMING ACCOUNTING PROFESSION TO MAKE IT GLOBALLY COMPETITIVE



CMA Chandra Wadhwa
Past President, Institute of Cost Accountants of India
Central Council Member, Institute of Chartered Accountants of India
New Delhi

India has 3 Professional Institutes constituted under the act of Parliament and have got the legal backing under their respective acts to attest and audit the financial accounting, cost accounting and secretarial records. The numbers of qualified members (Approx) of these Institutes are given below:

Institute of Chartered Accountants of India	255,000	69.9%
Institute of Cost Accountants of India	70,000	19.2%
Institute of Companies Secretaries of India	40,000	10.9%
	365,000	**100%**

In other countries such kind of model is not there and they have only one type of accounting Institute. Their members undertake all kind of attestation and auditing. However, for competition purpose, the various countries have allowed to have more than one Institute under the supervision of **Independent Regulator**. As a result, the competition among the Professional Bodies has increased immensely which has not only improved the quality of their respective Institute but also has brought the quality in their profession. India has followed the same type of model for the stock exchanges which are regulated by SEBI. As a result, the trading volume has increased manifold and now the investors have a lot of confidence in the stock market.

Keeping in mind the existing structure of the Professional Bodies and the number of members in the country, it is suggested that these Professional Bodies should be **regulated** immediately by the National Financial Reporting Authority which will not only improve the quality of members of the respective profession but also bring the confidence of investor community of the world. This will also speed up the process of Mutual Recognition Agreement (MRA) with other countries. In the present structure, the Disciplinary Committee / Board of the respective Institutes are deciding the cases against their members who are prima facie guilty of professional or other misconduct as mentioned in their respective Act. It is stated that this framework is failed to bring timely and unbiased decisions. Whereas this structure is not followed in the developed countries and the disciplinary mechanism is out of purview of their Institute and they are regulated by independent body.

For domestic reforms to enhance export earnings from trade in accounting services, it is suggested that the members of these Professional Bodies should form multi-disciplinary partnership (MDPs) and should come under one umbrella. For this purpose, the councils of all the three Professional Bodies should come together and resolve their issues at the earliest which are creating the problems for setting up MDPs. This is not only hurting the professional growth of members of these bodies but also creating obstacles in export earnings from trade in services. They should be allowed to form partnership under LLP structure and each partner should be allowed to practice for his respective field with LLP structure. In this process, LLP firms can provide and export all kind of accounting services including attestation to other countries like Big 4. This will increase the size of the firms and pool of resources of different skills which will strengthen their capabilities. This will not only increase their money power but will improve their Infrastructure facilities including latest technology. Once such kind of firm is available in India, the same can compete with the multinational accounting firms and also start its operations in other part of the world as well.

In case the reforms are delayed in accounting sector, then, our country will not be able to avail the opportunity of opening of accounting sector under WTO. In case we take the example of Institute of Cost Accountants of India, if it enters into MRA with CPA, Australia which recognises the qualification and allows the members of Cost Accounting Institute to practice in financial accounting profession in Australia, then, as a member of CPA Australia, a Cost Accountant can do the financial audit in India also by virtue of MRA with The Chartered Accounting Institute of India. Further, our own members of different Professional Bodies will be competing with each other and our human resources will not be able to strengthen their capabilities and enhance export earnings from trade in accounting services MA

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LIFE CYCLE COSTING, A POTENTIAL APPLICATION FOR MAKING OF SHIPS AND SUBMARINES:

A Cost Management tool for efficiency measurement

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In the field of modern production contexts, the complexity of processes combined with an increasingly dynamic competitive environment has created, in business management, the need to monitor and analyze, in terms of generation costs, not only the internal production phase but all stages both upstream and downstream in order to minimize the total cost of the product throughout the entire life cycle.

The approach of life-cycle cost analysis was used primarily as a tool to support investment decisions and complex projects in the field of defense, transportation, the construction sector and other applications where cost constitutes the strategic analysis of cost components of a project throughout its useful life. The analysis methodology of Life Cycle Costing (LCC) concerns the estimate of the cost in monetary terms, originated in all phases of the life of a work, i.e. construction, operation, maintenance and eventual disposal/recovery. The aim is to minimize the combined costs associated with each phase of the lifecycle, appropriately discounted, thus providing economic benefits to both the producer and the end user. Life Cycle Costing is an analytical tool and method which belongs to the set of lifecycle approach. Traditionally, LCC was used to support purchasing decisions of products or capital equipment involving a large outlay of financial resources (Huppes et al., 2005). In the definition provided by Rebitzer & Hunkeler (2005) LCC incorporates all costs, both internal and external, associated with the life cycle of a product, and are directly related to one or more actors in the supply chain.

In recent years, the spread of lifecycle thinking within business planning and management have led to an evolution of LCC methodology by extending the scope of integrated analysis of the three pillars comprising sustainable development - economic, environmental and social – in a financial representation.

Business life cycle costing

The issue of life cycle costing arrives in the context of at least two aspects: one related to the development of new products, the other in the evaluation of strategic investments (Ciroth,2003). The first refers to the application of Life Cycle Costing to identify measure and evaluate the costs associated with the entire lifecycle of a new product, especially in the case of complex and durable products. The second concerns the application of LCC as a tool for comparative analysis of long-term investment projects and in managing the cost of a new product. The application of LCC in the management of the product can be seen from two distinct perspectives.

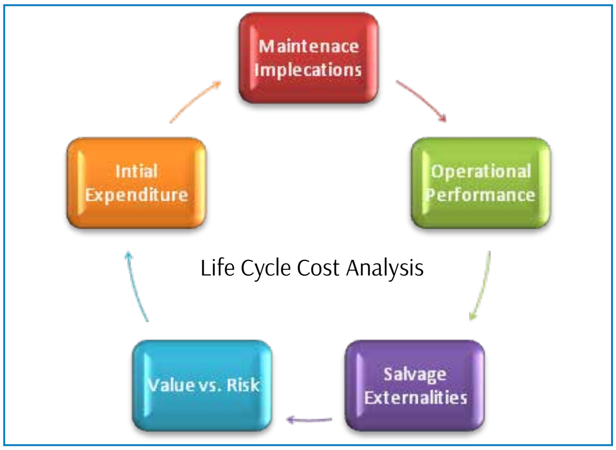
a) From the economic perspective of a producer, to support management in planning and managing the product throughout its life cycle;

b) From the economic perspective of a customer, or as an aid in the purchasing stage aimed at determining the total cost for the entire life cycle.

The traditional cost accounting systems tend to focus on the production phase, underestimating the importance of cost information relating to upstream and downstream stages. An integrated view of the different phases of the life-cycle, however, show that the maximization of value added does not depend strictly on cost minimization or revenue maximization at each stage. Following the product throughout its life cycle ensures a useful flow of information to all business functions regarding the elements that determine the success of a product, allowing them to react promptly and effectively to resolve any weaknesses. From this perspective, Life Cycle Costing moves from a mere trend costing instrument to assuming a key role in the support strategies and decisions of business management.

Application of Life Cycle Costing (LCC)- Reference to Ships and Submarines

It is quite critical to apply life-cycle Cost concept to Submarines and Ships. However, it is very much essential to Ship Building Industries as well as Ship repairs yards. In India Shipbuilding is dealt by Hindustan Ship Yard Limited (HSL) Bombay and Visakhapatnam, Garden Reach, Kolkatta, Kochin Shipyard Limited (KSL) and Ships repairs was carried by Naval Dock Yard, Visakhapatnam, Mumbai, Gulbarga. These organizations are working under Government of India Ministry of Defense. In future, it may extend these services and it may offer to other countries of the world by the Indian Government. Recently India sold a ship to Marishes. Thus, it is very much important to have the relationships to provide repairs/replacement for these Ships in future. As it is known fact that the life of ship/submarines/war tugs/torpedo recovery vessel ranges from 15 years to 25 years. When the life of the asset is long than the application of LCC is most important to know the cost incurred in theentire life of the Ship.



Source: http://www.analysistemplate.com/vehicle-life-cycle-cost-analysis-template/

Types of Refits/Repairs of Submarines and Ships: Basically three types of refits will be carried for Ships/Submarines: a) Short Refits (SR) b) Moderate Refits (MR), c) Normal Refits (NR) it is categorized based on the period of refit. Further, it is not guaranteed that all refits are carried by the same dockyard. So, it is very much essential to have the cost data centrally with the intervention of various yards those refits/repairs done in the entire life of the ships and submarines. The refit cost involves Direct Material/Indirect Material, Direct Labour/Indirect Labour, Overheads and other misc costs. The material issued for therefit of ships by the various agencies of the Central Government as well as through local purchase, and from yard stores.

Challenges in theapplication of LCC in theaccounting of Material/Spares used in Refits of Ships and Submarines

Most of the spares used for therefit of ships and submarines are imported from Russia and other countries of the world. Some spares are from indigenous stores. Accounting of spares for each refit is involved the certain procedure and these material/stores/spares must be utilized in a systematic manner as per the critical list raised before the refit commences. Further, it is pertinent to mention that the refits are carried by all the yards in India based on the operation of the ship. It is very important to have alife-cycle costing of refit and the cost data inrespect of material/stores used for the refits in entire life-cycle of the ship and submarine. The Strategic Life-cycle costing is very much needed to link the cost data, update and to maintain in entire life-cycle of the ship and submarines continuously till the ship or submarine are decommissioned. And this Cost strategyis useful for management in decision making in replacement of stores and spare which are already used in previous refits. However, the LCC method implementation is a very challenging task due to there is a lot of gap in the application of Strategic cost management principles. Further, there is a difference in between the yards costing system and methods laid down in their Cost Accounting Instructions manual there is no uniform costing system/ method is implemented in the yards.

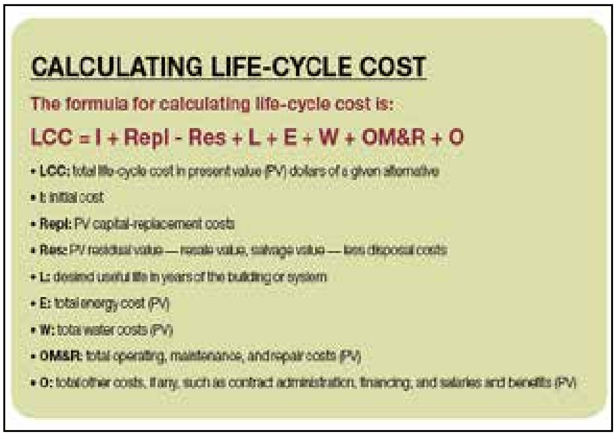
How to Face the Challenges of Life-cycle Costing (LCC)

As per the learning experience and the today's technology and software techniques/ERP solutions will provide the uniform platform for implementation of LCC successfully in every yard. So, that the Costing data of the ship and submarines can be maintained centrally and it can be shared whenever the yards undertaken refits. The following steps should provide the better solution for successful LCC implementation for the Refit of Ships and Submarines.

a) Replacement of Accrual System of Accounting in place of Cash based accounting system.
b) Establishment of Uniform Costing System in all Yards.
c) Utilization of ERP platform for LCC.
d) Cost Data sharing and Cost data linking for all refits of Ships and Submarines through uniform software.
e) Establishment of network sharing trough Local Area Network (LAN).

Efficiency Measurement through Applying of Life-Cycle Costing (LCC)

Every product has some life. As per the marketing strategy every product having various stages in theentire life of the product and it categorized intoi) Introduction ii) Growth iii) Maturity iv) Decline v) obsolescence. The management should analyzethe benefits received and cash-flow received in each stage of product life and it is matched with the expenditure incurred/ cash outflow during the life of the product. So, the cost-benefit, matching of revenue and expenditure is possible throughout the life of the product. Based on the product cash outflows and inflows of each stage in life-cycle of the product is analyzed and the future cash flows discounted as per time value of money concept. This process provides better information about product efficiency during the life-cycle. Thus management can measure the efficiency at each stage of product and they can take adecision in respect of replacement, addition, withdrawn of the product from the main business line of the firm.


CALCULATING LIFE-CYCLE COST

The formula for calculating life-cycle cost is:

LCC = I + Repl - Res + L + E + W + OM&R + O

- **LCC:** total life-cycle cost in present value (PV) dollars of a given alternative
- **I:** initial cost
- **Repl:** PV capital-replacement costs
- **Res:** PV residual value — resale value, salvage value — less disposal costs
- **L:** desired useful life in years of the building or system
- **E:** total energy cost (PV)
- **W:** total water costs (PV)
- **OM&R:** total operating, maintenance, and repair costs (PV)
- **O:** total other costs, if any, such as contract administration, financing, and salaries and benefits (PV)

Source:http://www.facilitiesnet.com/maintenanceoperations/article/Three-Ways-to-Evaluate-Life-Cycle-Costs-Facility-Management-Maintenance-Operations-Feature--12547

Conclusion

LCC is the new Strategic Management tool. It provides information for better management and planning of financial recourses to the firm. It is a tool for measuring theefficiency of product service of enterprise.

Applying of LCC for each product and service gives the fruitful results to the management when they developed the strong accounting system in the yards as well as uniform costing system existed. Further, this costing system should integrate with suitable ERP solution and develop the management information system accordingly.Cost saving through Life Cycle Costing (LCC) creates Oxygen for new projects and best planning for utilization of financial resources for growth and its sustainable development. MA

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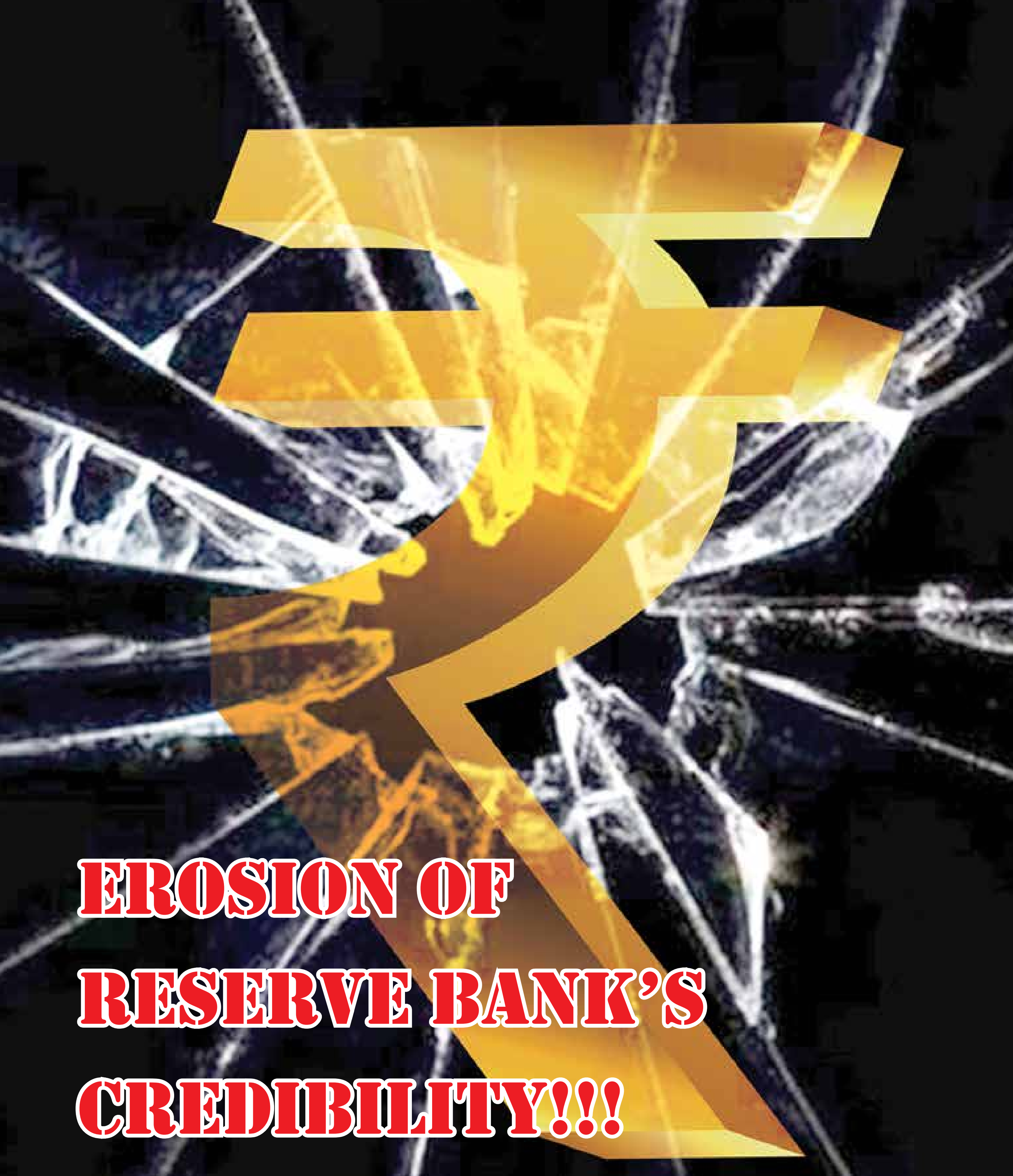

EROSION OF RESERVE BANK'S CREDIBILITY!!!

Dr. Jai Deo Sharma
Former Director – Indian Overseas Bank
Chennai

The Reserve Bank of India (RBI) was established by an Act of Parliament known as Reserve Bank of India Act, 1934. RBI is the regulator of banks in India while also acting as banker to the Government. One of the important functions of RBI is management of currency in the country, which would include issue of new notes and also withdrawal of the notes of any series from the circulation. Section 26 (1) of Reserve Bank of India Act, 1934 defines character of a bank note as a legal tender at any place in India in payment or on account for the amount expressed therein and shall be guaranteed by the Central Government subject to the provisions of Section 26 (2). Every bank note bears a promise by the Governor of Reserve Bank of India to pay the bearer a sum of money mentioned in the specified bank note. While establishing something as a legal tender of the country is known as **monetization**, divesting such legal tender (monetary standard) of its value by withdrawing the specified series of currency from circulation is called **demonetization**. It would effectively mean that a demonetized currency is rendered as no longer a legal tender of the country. Here a question arises as to who is empowered to demonetize the currency?

Section 26 (2) of Reserve Bank of India 1934 provides that on recommendation of the Central Board of Reserve Bank of India, the Central Government of India may by notification in the Gazette of India declare that with effect from such dates as may be notified in the notification, any series of bank notes of any denomination shall cease to be a legal tender save at such offices or agencies of the Bank and to such an extent as may be specified in the notification. The Payment and Settlement System Act 2007 bestows an unequivocal authority on Reserve Bank of India to decide and regulate the means and manner through which money can be withdrawn, exchanged and deposited. In this background, it is clear that Reserve Bank of India is a designated authority under this Act having powers to decide to demonetize any series of bank notes. Such an authority under this Act read with Section 26 (2) of Reserve Bank of India Act, 1934 empowers Reserve Bank of India not only to decide about demonetization but also decide about the modalities of its implementation.

Demonetisation-2016

The entire nation was taken by surprise at 8.00 PM on 8th November 2016 when the Prime Minister Mr. Narendra Modi announced the plan of action to demonetize the entire stock of bank notes of Rs.500 and Rs.1000 denomination. He talked at length and also spelt out the road map to complete the implementation of demonetization exercise within a period of 50 days ending on 30th December 2016. He also listed out the following objectives of demonetization:

1. To curb the black money
2. To check corruption
3. To expand the tax base
4. To eliminate fake currency
5. To curb the funding of terrorist activities

A Detailed account of the implementation of the scheme of demonetization by the Prime Minister raises the following three broad questions:

1. Did the Prime Minister step into the domain of Reserve Bank of India by spelling out the minute details of its implementation?
2. Did the Prime Minister commit any illegality by making an announcement on television instead of bringing a gazette notification in terms of Section 26 (2) of Reserve Bank of India Act, 1934?
3. Was the decision to demonetize taken by the Government or by Reserve Bank of India?

Answers to these questions will have a reflection on the credibility of Reserve Bank of India. This important aspect is discussed in the later parts of this Article.

Pre-announcement Perspective

The Reserve Bank of India considers the need of introducing higher denomination notes largely depending on the rate of inflation and erosion of purchasing power of the currency. It was in this background that Reserve Bank of India on 25.07.2016 recommended to Government to Government of India the desirability of introducing new series of bank notes with new design and such new notes included the bank notes of Rs.2000 denomination. The Government of India accorded its approval to the proposal of Reserve Bank of India on 7.6.2016. It was with this approval that the Reserve Bank of India started the process of production and printing of new notes of Rs.2000 denomination. The photos of new notes of Rs.2000 denomination were leaked out to social media much before the Prime Minister announced the scheme of demonetization on 8th November 2016. It is reported that Reserve Bank of India has a stock worth Rs.95000 crores in the denomination of Rs.2000 as on 8th November 2016. It is, therefore, clear that printing of Rs.2000 denomination notes was not intended to replace the demonetized notes of Rs.1000 denomination.

Can it be said that printing of new notes in the denomination of Rs.2000 for the purpose of introducing the same as a new currency was a co-incident which synchronised with the decision to demonetize the bank notes of Rs.500 and Rs.1000 denomination? Further, Section 26(2) of Reserve Bank of India Act 1934, empowers only for notifying 'any series of bank notes' and not the entire category of notes. It is therefore interpreted that the empowerment under Section 26(2) of Reserve Bank of India Act is limited one and the Government has taken a liberty to extend to meet its need and design. Can it therefore be viewed that the decision to demonetize the bank notes of Rs.500 and Rs.1000 denomination without mentioning their specific series sought to be demonetized was not within the ambit of Reserve Bank of India Act? The subsequent notification issued by Government of India used the term "existing" notes of Rs.500 and Rs.1000 denomination instead of "specifically" mentioning any particular series. In a simple language "any series" in the Act has a restrictive meaning and connotation and cannot be extended to mean "all the series" of the specified bank notes. A scrutiny of Section 26 A of Reserve Bank of India Act would reveal that notwithstanding anything contained in Section 26, certain bank notes of specified denomination would cease to be legal tender in payment or on account of the purpose of settlement after a specified date. It is therefore inferred that demonetization can only be by a statute of Parliament and there cannot be any alternative to implement the decision to demonetize any series of bank notes. Legally the law making function in India is essentially that of the Parliament and cannot be delegated to the Prime Minister. The provision in the statute to fix a cut-off date is for the purpose of giving reasonable notice to the people at large about the intended demonetization.

*Every bank note bears a promise by the Governor of **Reserve Bank of India** to pay the bearer a sum of money mentioned in the specified bank note*

The televised announcement by the Prime Minister on 8th November 2016 in a way put serious restrictions on the rights of the citizens granted under Article 19(1) (g) of the Constitution of India. Sub-Clause 2 of Article 19 of the Constitution of India provides that nothing in Clause 1 of Article 19 shall prevent the state from making any law in so far as such law enforces reasonable restrictions on the exercise of the right conferred by the said sub-clause in the interest of sovereignty and integrity of India, the security of the State, friendly relations with foreign states, public order etc., Article 19 (6) of the Constitution of India provides that nothing in sub-clause (g) of Clause (1) shall affect the operation of any existing law in so far as it imposes or prevent the State from making any law imposing in the interest of general public, reasonable restrictions on the exercise of their right conferred by sub-clause (1)(g).

The announcement of demonetization by the Prime Minister or the subsequent notification did not contain the phrase "public interest". It renders the announcement by the Prime Minister and also the notification faulty causing prejudice and inconvenience to public at large. Some experts have advanced an argument that Section 7 of Reserve Bank of India Act 1934 provides for the Government of India to issue directions to Reserve Bank on important issues in public interest and it includes the consultations between Government and Reserve Bank of India before taking a final decision, which makes the present demonetization decision within the framework of the law and there is nothing to undermine the credibility of Reserve Bank in the process.

Post-announcement Developments

The road-map announced by the Prime Minister for implementation of the scheme of demonetization included restrictions on the amount which could be exchanged against the demonetized specified bank notes, restrictions on the amount that could be withdrawn from the account of the person/

firms, restrictions on the amount that could be withdrawn from the ATMs, the time limit for surrender of outlawed specified bank notes at the counters of the designated banks and other agencies, using the demonetized currency for making payment at specified places for limited period of time etc. The restrictions so announced by the Prime Minister were followed by the notification from Reserve Bank of India. These restrictions resulted into the serpentine lines of people in front of the branches of designated banks for exchange/deposit of demonetized notes. The hardship caused by the restrictions was compounded by inadequate supply of cash for meeting the demands even within the framework of the restrictions imposed by the scheme. The events like marriage ceremony, hospitalisation etc. rendered the limit allowed for withdrawal of money from the bank not only grossly inadequate but also frustratingly meaningless. While these developments expose the fallacy of decision making without thoroughly visualizing the resultant problems, it also brought out the resilience with which the Government and Reserve Bank of India carried out course correction by issuing about 70 notifications in a span of 50 days in their attempt to mitigate the hardship of the people.

Political Dimensions

The announcement by the Prime Minister to demonetize the bank notes of Rs.500 and Rs.1000 denominations was projected by the Government as a strike against the corrupt, hoarders of black money, tax evaders and terrorist activities. The hardship and inconvenience faced by the common man gave rise to the Opposition Parties to question the sanctity of announcement of the scheme of demonetization in the manner it was done. But surprisingly, the marketing skills of the champions of demonetization had tremendous impact on the common man that was prepared to put up with the hardship and inconvenience in the larger interest of achieving the proclaimed objectives of the scheme. The demonetization was projected to be a long term measure for achieving its objectives and the people were requested to bear the hardship for 50 days. During the course of implementation of this scheme, the announcements relating to the scheme and the necessary course correction were undertaken by the Revenue Department of the Government of India while the RBI remained in oblivion except for issuing notifications to the banks as a follow up of the decisions of the Finance Ministry.

The political party in power sought to benefit out of the decision in the forthcoming assembly elections in five states as perceived by the Opposition Parties. It was therefore imperative for them to raise the pitch against the decision to demonetize the higher denomination notes. But some Opposition Parties were also appreciative of the decision of the Government and they made no secret about their support to the decision. There were initiatives taken by the main Opposition Party in the parliament to consolidate the other political parties to launch a joint attack on the Government. Such a move brought to fore the differences among the leaders of different political parties. Even within the ruling party there were some simmering dissenting voices. The protest by the Opposition entered the Parliament House leading to a debate on the topic in Rajya Sabha for about 1 ½ day. Thereafter the Parliamentary Proceedings both in Rajya Sabha and Lok Sabha were disrupted. The print and electronic media was engaged round the clock in providing coverage to the issues relating to demonetization and its implementation.

If the results of the recent local body elections in different States are any indication, the move to demonetize the bank notes of Rs 500 and Rs 1000 denomination seems to have gone well with the electorates as far as ruling dispensation at the centre is concerned.

Parliamentary Standing Committee on Finance

The Parliamentary Committee under the Chairmanship of Dr. M. Veerappa Moily issued a notice to the Governor of Reserve Bank of India advising submission of an affidavit with regard to the decision of demonetization. It is reported that Reserve Bank of India in its response has stated that Government wrote to them on 7th November 2016 that it was proposed to demonetize the higher denomination bank notes of Rs.500 and Rs.1000 so as to contain the menace of counterfeit notes, terrorist financing and curbing the black money. The Government sought urgent response from Reserve Bank of India. After receipt of Government communication dated 7th November 2016, Reserve Bank of India convened a meeting of its Central Board on 8th November 2016 at 5.30 PM to consider the proposal of

> *While establishing something as a legal tender of the country is known as* ***monetization****, divesting such legal tender (monetary standard) of its value by withdrawing the specified series of currency from circulation is called* ***demonetization****.*

Government of India to demonetize higher denomination notes. In as much as the Reserve Bank of India was already in the process of introducing new 'MG series' bank notes of Rs.2000 denomination and also Rs.500 denomination, the Board observed that such a proposal from the Government could not have come at a more opportune time and hence it afforded Reserve Bank of India a rare and profound opportunity to support the proposal received from the Government. A decision to this effect was conveyed by Reserve Bank to Government of India only a couple of hours before the announcement made by the Prime Minister on television in his address to the Nation. During the personal deposition, the Governor has stated to the Parliamentary Committee that the Government has been in discussion with Reserve Bank of India since June 2016 on the issue of demonetization. This is at variance with what was submitted in writing only a few days ago and also what an Honourable Minister spoke in Parliament that the Government was in discussion with Reserve Bank of India for last six months. These submissions of RBI made before the Parliamentary Standing Committee on Finance need to be examined in the light of the fact that the Central Government through its Senior Minister stated in Parliament that the recommendations to outlaw the bank notes of Rs.500 and Rs.1000 denominations had come from Reserve Bank of India. As provided in Section 26 (2) of RBI Act, the Central Government is required to notify the decision to demonetize on the recommendations of Reserve Bank of India and in this background, discussion or consultation with Reserve Bank of India by the Government remains at variance with the provisions of Section 26(2) of the Reserve Bank of India Act. The submission of Reserve Bank of India before the Parliamentary Standing Committee on Finance has exposed the holes in the decision making process leading to announcement of demonetization of Rs.500 and Rs.1000 denomination notes. It is important that the RBI Act provides for the recommendations of Reserve Bank to the Central Government and the process of decision making cannot be reversed where the recommendations emanate from the government itself to seek the consent of Reserve Bank of India. It is needless to mention that Reserve Bank of India is an independent and an autonomous institution which is insulated from executive and political influences in its decision making. In the guise of the doctrine of **"legitimate expectations"** in a modern democracy, the consultation with Stake-holders is not an adequate pre-requisite for RBI to back out on its promise given on the face of every bank note by the Governor.

In response to a question by the members of the Parliamentary Committee, the Governor of Reserve Bank of India was not able to tell the total amount of demonetized notes surrendered by the people of the country by 30.12.2016 even after three weeks of the closure of the scheme at the counters of the designated bank branches. His inability to answer the question assumes more significance as Reserve Bank of India was able to announce on 13.12.2016 the amount received by the banks as on 10.12.2016. If the figure could be arrived at in a matter of three days then, why is it not possible to compile the same as on 30.12.2016 even after a lapse of three weeks. Surprisingly the Governor of Reserve Bank got support from Shri Manmohan Singh, former Governor of Reserve Bank and also the former Prime Minister who advised him not to respond to any question if it is going to impact the reputation of Reserve Bank of India. His inability to furnish the figures asked for by the Parliamentary Committee itself is viewed with skeptism and did not help save the credibility or the reputation of either the Reserve Bank of India or that of the Governor himself. In contrast the Governor was able to furnish the figure of Rs.9.52 lac crore as the amount of new currency inducted into the banking system after 9.11.2016. It amounts to about 61.66% of the total stock of the outlawed currency.

The rough estimates circulating in the media and social media indicate that about 97% of the demonetized currency has been received back by the Reserve Bank of India. If the figure has some semblance of credibility, the expectation of the Government that Rs.4.0 lac crore to Rs.5.0 lac crore would not come back has proved to be gross underestimation of the money laundering capabilities of the people of the country.

Views of Central Bankers

As per Shri Y V Reddy, the former Governor of the Reserve Bank of India, the Central Bank of the country is an inherently strong organisation and has never been questioned before on its credibility. In his considered view, the Governor should have said 'no' to the suggestion of the Government to demonetize the notes of Rs.500. If under pressure, he should have spoken to the people of the country about his own assessment and the assessment of the Reserve Bank of India. The management of the currency is in the exclusive domain of the Reserve Bank. However having agreed for the demonetization, the trust of currency supply should not have been breached. In such situations the scheduling of the supply of the currency becomes important. Dr Bimal Jalan, another former Governor of Reserve Bank of India has also echoed the similar opinion.

Surrender of Demonetized Notes at RBI

Prime Minister in his address to the nation on 8th November 2016 while laying the road-map for the implementation of the scheme of demonetization has talked in unequivocal terms that if any person was not able to deposit the bank notes of the demonetized series at the designated banks by 30.12.2016, he will be able to do so upto 31.3.2017 at the counters of the Reserve Bank of India. But on 1.1.2017 when people queued up before different offices of Reserve Bank of India, they were told that the extended time was allowed only to those of Indian citizens who were out of the country during the period of demonetization and were unable to deposit the cash at designated bank branches. Such a **volte face** by Reserve Bank of India did not do any good to its credibility. When the issue was raised before the Finance Minister, he avoided the issue by telling that these were the issues in the domain of the Reserve Bank of India and he would not like to comment thereon. Such incidents have marred the reputation of Reserve Bank of India and even some people called it **Reverse Bank of India.**

Appointment of a Joint Secretary

As if these were not enough, the Government of India appointed an Official in the rank of Joint Secretary to Reserve Bank of India for the purpose of coordinating the management of currency chest operations. Whether the Reserve Bank of India accepts it or not, it is a direct interference in the affairs of the Reserve Bank by the Government of India. The contention of the Government was that it was jointly working with the Reserve Bank for the management of the demonetization and appointing a Joint Secretary to Reserve Bank was a part of such a broader plan.

Amidst the protests by the political parties, the Government thought of assuaging the feelings of the rural people and hence wanted the Reserve Bank of India to direct 40% of the new currency to the rural branches of the banks. Such encroachments by the Government in the functioning of the Central Bank were said to be aiming at maximizing the efforts to equitably distribute the currency to all groups and areas in an efficient manner. Another justification given by the Government for the appointment of the Joint Secretary was to oversee the logistics to hasten the pace of introducing new notes. The Government thus contended that the perception that such a move was an infringement on the autonomy of the Reserve Bank of India was entirely misplaced. But who buys such arguments?

The marketing skills of the champions of demonetization had tremendous impact on the common man that was prepared to put up with the hardship and inconvenience in the larger interest of achieving the proclaimed objectives of the scheme

Trade Unions Protest in Reserve Bank

In an interesting turn of events, the staff unions in Reserve Bank of India wrote a letter to the Governor inter-alia expressing their concern and anguish on undue interference by the Government in the internal operations of Reserve Bank of India. The unions called such moves of the Government as impinging on the autonomy of Reserve Bank of India. They wanted the Governor to take immediate action against the unwarranted interference by the Government. As regards the appointment of a Joint Secretary to Reserve Bank of India for the purpose of coordinating the management of Currency Chest operations, the unions termed this as the most unfortunate move on the part of the Government. They took strong exception to this measure of the Government, as it amounted to an intrusion not only on the autonomy of Reserve Bank of India but also on its statutory as well as its operational jurisdiction. They called for the Governor to take necessary steps to ensure that Government respected the autonomy and independence of the Reserve Bank of India. Unions were of the view that while consultation by the Government with Reserve Bank of India are not infringement of the autonomy of Reserve Bank, many of the actions of the Government during the process of implementing demonetization scheme were definitely painting Reserve Bank of India in poor light. It is a known fact that the Reserve Bank of India and its staff have demonstrated gigantic performance in handling the demonetization scheme. Despite a commendable performance, the Government has attempted to blatantly encroach upon the jurisdiction of Reserve Bank which was not acceptable to the Unions. The employees were fully capable to coordinate and manage the Currency Chest operations of Reserve Bank of India. The employees felt hurt by the unfair criticism by media which dented the autonomy and image of Reserve Bank beyond repair.

In view of the fact that two of the former Governors of Reserve Bank of India had openly criticized the erosion of credibility of Reserve Bank during the implementation of demonetisation, unions felt that the image of efficient and independent functioning was built over decades assiduously by the consistent efforts of the staff and that should not be allowed to wither away.

Conclusion

Reserve Bank of India has carved out a place in the comity of the Central Banks in the world by its judicious policy making and deft handling of its various functions even during the period of crises. It was the cautious approach of Reserve Bank of India which saved the day for India's financial sector in the wake of 2008 US financial crisis. The experts had then lauded the policies of Reserve Bank which insulated the banking sector against the ill-effects of US financial crisis.

Reserve Bank of India Act 1934 provides that the bank will be tasked with the responsibility of regulating the issue of currency notes and keeping the reserves with a view to secure monetary stability in the country and generally to operate the currency and credit system of the country. Accordingly RBI has created the necessary infrastructure for management of currency and currency chests to meet the requirements of the economy. There are more than 4000 Currency Chests in the country. The demonetization involved rendering about 86% of the currency in circulation as not a legal tender. The sheer volume of the outlawed currency made the entire exercise mammoth and insurmountable. The banking system in the country under the guidance of Reserve Bank of India has done a commendable job in handling the demonetization scheme in spite of poor advance planning on the part of the Government. During the 50 days period of implementation of demonetization scheme, the Government has been **shifting the goal-posts** which included a smart substitution of the core objectives of the scheme itself.

The scheme started with the objective of curbing corruption, black money, counterfeit, terrorist financing and tax evasion. However, it ultimately ended in promoting **less cash banking** by pre-dominant use of digital banking. If the objective was to promote digitization of payment system in the country, the inconvenience and hardship caused to people was not its worth.

The foregoing discussion on the subject of demonetization, its implementation and the role and autonomy of Reserve Bank of India, would reveal that it was more of a decision influenced by political considerations apart from focusing on transforming the payment settlement system in the country. In the entire exercise the government played a pre-dominant role and at times even breached into the jurisdiction of the Reserve Bank of India. There is every reason to believe that the image of one of the best managed Central banks in the world has taken a beating during the period of implementation of demonetization scheme. The Governor of Reserve Bank of India would need to burn midnight oil and stand up with courage and conviction to resurrect the lost image and erosion of its credibility. The support from Government in this regard will ensure early success of the endeavours of Reserve Bank of India. In an era of integration of economies of the world and existence of seamless markets, the country needs a strong central bank not only in terms of its policies and infrastructure, but also in terms of its image and credibility. There is therefore an urgent need to restore the lost credibility of Reserve Bank of India without losing any further time. MA

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Clarification on the notification issued dated 21st September 2016 for CEP Credit Hours requirements for the block of three (3) years starting effective April 1, 2015 to March 31, 2018, to be complied with by Members holding Certificate of Practice above the age of 65 years which states that -

"The member should undergo minimum mandatory training of 50% of the minimum CEP hours per year and block of 3 years as per the category of the members holding Certificate of Practice below the age of 65 years, i.e. 7 hours per year and 25 hours in a block of 3 years."

Clarification : The above requirements shall be effective for renewal of CoP from FY 2018-19 onwards and will not be applicable for renewal of CoP for FY 2017-18.

REVIVAL OF SICK / CLOSED INDUSTRY THROUGH CSR

Corporate Social Responsibility is not a new concept but was made mandatory wef 01.04.2014 for certain companies (including foreign companies having branch or project office in India) that fulfill the criteria of Net worth of Rs 500 crores or more or Turnover of Rs 1000 crores or more or Net profit of 5 crores or more during any financial year. All such companies shall spend, in every financial year, at least 2 percent of the average net profits (calculated as per the provision of section 198 of the Companies Act 2013) of the company made during the three immediately preceding financial years. This will develop a concept for crafting unique models to generate livelihoods with a significant multiplier impact on sustainable livelihood creation byaprofitmaking/financially resourceful company.

CMA Palash Goswami
Director Finance
Hindustan Paper Corporation Limited
Kolkata

Corporate Social Responsibility is not a new concept but was made mandatory wef 01.04.2014 for certain companies that fulfill the criteria as mentioned under sub section 1 of section 135 of the Companies Act 2013 along with companies (CSR) Rules 2014.The concept is for crafting unique models to generate livelihoods with a significant multiplier impact on sustainable livelihood creation by a profit making/financially resourceful company. These initiatives are independent of the normal conduct of business. The CSR is generally understood as a measuring rod for a company's contribution to building economic, social and environmental capital towards enhancing societal sustainability. In the strategic context of business, enterprises must possess, apart from financial resources, the transformational capacity to create development models through entrepreneurial vitality, innovation and creativity. Programmes, projects and activities carried out in this regard are the subject matter of this Policy. The CSR can be better understood by its guiding principle enunciated by the Chairman of CSR committee while proposing Corporate Social Responsibility Rules under section 135 of the Companies Act 2013 as follows, "CSR is the process by which an organization think about and evolves its relationship with stakeholders for common good, and demonstrate its commitment in this regard by adoption of appropriate business process and strategies. Thus CSR is not a mere charity or donation. CSR is way of conducting business; by which corporate entity visibly contribute to the social good. Socially responsible companies' do not limit themselves to using resources to engage in activities that increase only their profits. They use CSR to integrate economic, environmental and social objectives with company's operation and growth."

Objectives

1) To provide a guideline for compliance with the provisions of Regulations to earmark a percentage of company's profits for social projects.

2) Implementation of CSR initiative through appropriate procedures and reporting.

3) Creating opportunities for stake holders to participate in socially responsible initiatives.

Applicability & Highlights

i) The sub section 1 of the section 135 of Companies Act 2013, is applicable to the Companies (including foreign companies having branch or project office in India) having Net worth of Rs 500 crores or more or Turnover of Rs 1000 crores or more or Net profit of 5 crores or more during any financial year.

ii) The amount spent on CSR activities are not the business expenditure and hence no tax benefits can be claimed by the company incurring it however amount contributed to Prime Minister Relief Fund, scientific research, rural development projects, skill development projects, agriculture extension projects etc covered under schedule VII are already enjoying exemption under different section of income tax act 1961.

iii) The net profit of 5 crores or more means profit before tax.

iv) Any excess amount that is more than 2% as specified in section 135 can not be carried forward to the subsequent year and adjusted against that year's CSR expenditure.

v) The employees' expenses managing the CSR activities of a company are not CSR expenditure.

vi) The list activities contained in schedule VII are illustrative and not exhaustive. Any activity that are environmental friendly and socially acceptable to the local people and society can be CSR activity. Contribution towards the Chief Minister Relief fund is also a CSR activity

Compliance

Section 135 of Companies Act 2013 along with Companies (Corporate Social Responsibility Policy) Rules 2014 requires the compliance of the following

i) Constitution of a Corporate Social Responsibility committee of the Board with effect from 1st April 2014. The said committee shall be comprised of 3 or more directors out of which at least one director shall be an independent director.

ii) All such companies shall spend, in every financial year, at least 2 percent of the average net profits (calculated as per the provision of section 198 of the Companies Act 2013) of the company made during the three immediately preceding financial years.

iii) The CSR committee constituted as above in pursuance of section 135 of the Companies Act 2013 are required to formulate and recommend to Board a CSR policy for the activities to be undertaken by the company as specified in schedule VII to the Act.

iv) The applicable Companies are required to incorporate in its Board's Report an annual report on brief outline of the company's policy, composition of CSR committee, Average net profit of the company for last three financial years, Prescribed CSR expenditure, details of CSR expenditure spent during the current financial year under report, reasons in case of failure by the company to spend the prescribed CSR expenditure and responsibility statement that implementation and monitoring of CSR policy is in compliance with CSR objectives under the Companies Act 2013.

v) The Rule 3(2) of the Corporate Social Responsibility Rules 2014 provides for the cessation of a company to be covered under section 135 of the Companies Act 2013.

CSR Activities'

The activities covered are as follows

i) Eradicating extreme hunger and poverty and malnutrition, promoting preventive health care and sanitation including contribution to the swatch Bharat Kosh set up by the Central Government for promotion of sanitation and making available safe drinking water.

ii) Promotion of education including special education & employment enhancing vocational skills especially among children, women, elderly and the differently able & livelihood enhancing projects.

iii) Promoting gender equality and empowering women , setting up homes & hostel for women &orphan, setting up old age homes day care centre and such other facilities for senior citizens & measures for reducing inequalities faced by socially & economically backward groups.

iv) Reducing child mortality and improving maternal health by providing good hospital facilities and low cost medicines.

v) Providing with hospitals and dispensary facilities with more focus on clean and good sanitation so as to Combating human immunodeficiency virus, acquired immune deficiency syndrome, malaria and other diseases.

vi) Ensuring environmental sustainability, ecology balance, protection of flora and fauna, animal welfare, agro forestry, conservation of natural resources and maintaining quality of soil, air & water including contribution to the Clean Ganga Fund set up by the Central Government for rejuvenation of river Ganga.

vii) Employment enhancing vocational skills.

viii) Protection of national heritage ,art & culture including restoration of building & sites of historical importance,& works of Arts, setting up public libraries, promotion & development of traditional arts and handicrafts.

ix) Measures for the benefit of armed forces veterans, war widow & their dependents.

x) Training to promote rural sports, nationally recognized sports,& Olympic sports.

xi) contribution to the Prime Minister's National Relief Fund or any other fund set up by the Central Government or the State Governments for socio-economic development and relief and funds for the welfare of the Scheduled Castes, the Scheduled Tribes, other backward classes, minorities and women; and

xii) Such other matters as may be prescribed

Activities not to qualify as CSR

i) The CSR projects or programme or activities that benefit only the employees of the company and their families.

ii) One-off events such as marathons/awards/charitable contribution/advertisement/sponsorships of TV programmes.

iii) Expenses incurred by the companies for the fulfillment of any other Act/Statue of Regulations(such as labour laws, Land acquisition Act, Apprentice Act etc)

iv) Contribution of any amount directly or indirectly to any political party.

v) Activities undertaken by the company in pursuance of its normal course of business.

vI) The project or programmes or activities undertaken outside India.

Suggestion for inclusion of revival of sick/closed industry as CSR activity and expenditure thereon as CSR expenditures

The author intends to suggest the inclusion of revival of sick/ closed industry as one of the notified CSR activity under Schedule VII and specifically earmark certain specified percentage out of the total CSR fund which is, in every financial year, at least 2 percent of the average net profits (calculated as per the provision of section 198 of the Companies Act 2013) of the company made during the three immediately preceding financial years. The need/ logic for aforesaid inclusion may be justified on the following grounds

i) Revivals of closed/sick industrial unit are for social good and have socio-economic impact on that locality/state.

ii) Sick/closed industrial unit shall be able to utilize the resources with the help of socially responsible companies' to increase overall production, productivity and economic power of that locality.

iii) It will be a process of creating opportunities for stake holders to participate in socially responsible initiatives.

iv) By adopting an appropriate process and strategies a socially responsible organization shall be able to evolve its relationship with stakeholders for common good, and demonstrate its commitment in this regard.

v) This will develop a concept for crafting unique models to generate livelihoods with a significant multiplier impact on sustainable livelihood creation by a profit making/financially resourceful company.

vi) This will be a use CSR of a financially resourceful company to integrate economic, environmental and social objectives with sick/closed company's operation and growth.

vii) In the strategic context of business, enterprises shall be able to demonstrate, apart from financial resources, the transformational capacity to create development models through entrepreneurial vitality, innovation and creativity.

viii) It is not a disqualified CSR activity.

Implementation

i) The appropriate authority is required to promulgate the notification that the revival of sick/closed industry is a eligible CSR activity and specifically earmark certain specified percentage out of the total CSR fund which is, in every financial year, at least 2 percent of the average net profits (calculated as per the provision of section 198 of the Companies Act 2013) of the company made during the three immediately preceding financial years

ii) All applicable profit making PSUs and other business establishment in the state are to be listed that incurs specified expenditure on CSR as per the provision of section 135 of the Companies Act 2013.

iii) A section -8 Companies may be incorporated by state Government or Central Government or jointly by Central and State Government with a main object clause of undertaking CSR activities specially the revival of sick/closed industry.

iv) Alternatively a fund may be set up by State/Central Government for the aforesaid purpose.

v) All applicable profit making PSUs and other business establishment in the state may be directed to contribute the specified percentage out of the total CSR fund which is, in every financial year, at least 2 percent of the average net profits (calculated as per the provision of section 198 of the Companies Act 2013) of the company made during the three immediately preceding financial years to the aforesaid Section-8 company/ fund created by Central/State Government.

vi) The empowered governing authority of section-8 company/ fund set up by State/ Central Government shall release the fund to sick/closed industry after proper due diligence.

Conclusion

By including the revival of sick/closed industry as a CSR activity and notifying for compulsory contribution of specified percentage out of the total CSR fund which is, in every financial year, at least 2 percent of the average net profits (calculated as per the provision of section 198 of the Companies Act 2013) of the company made during the three immediately preceding financial years shall be a unique models to generate livelihoods and environmental capital with a significant multiplier impact on sustainable livelihood creation by a profit making/financially resourceful company. MA

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DEMONETISATION

– As an exercise in change management

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Demonetisation was announced by our Prime Minister Shri Narendra Modi on 8th November,2016,at 8p.m. in his address to the nation. Itis sure to be remembered as a major historic and economic Indian event of twenty first century. It was announced that bank notes of ₹500 and ₹1000 denominations (hereinafter referred to as *Specified Bank Notes or SBNs)*would lose their legal tender status with the expiry of that day. Elaborate operational guidelines were simultaneously issued for exchange of the existing notes of these denominations with the public, keeping in view the need to minimisethe inconvenience to them.The objective of the move was to eliminate the menace caused by Fake Indian Currency Notes (FICN) and Black Money and to curb corruption and terror financing.

Great expectations and repercussions were associated with the move. In the past about three months, the printed media had run so many editorials, news reports, interviews anddetailed articles and the visual media had presented so many special programs, discussions, interviews and reactions of people. There were bouquets and brickbats.

The exercise can be viewed both from economic and administrative angles. The economic aspect has so far been projected, in a nutshell, as 'short term pain and long term gain'.

But the triggering and cascading effects of future economic or political events in India or in the Globemay make it difficult to predict or measure the long term economic effects of this exercise in a standalone sense.Therefore a peripheral review of the exercise,involving the administrative aspects alone,has been attempted here.

The magnitude and intensity of the noises for about two months since November 8, 2016 were one of a kind of experience due to the mind boggling figures involved. The chaos and dislocation that prevailed and their continuous and highlighted coverage in print and visual media made us feel like:

- as if we were in Greece during the peak of its debt crisis in 2015 or
- as if we were in Britain soon after Brexit verdict in 2016 or
- as if we were on 1.1.2000, bogged down by some Y2K-noncompliant software and the worst of fears of noncompliance proved true or
- as if all the above were afflicting simultaneously.

On the lighter side, it was like watching the Bug your Mom day episode of Miss Spider's Sunny Patch Friends cartoon series where the intentions were to gift but the gifts were getting trashed and smashedduring the preparatory process!

Magnitude of the exercise

- The exercise involved taking about 86 per cent of currency notes out of circulation at one stroke. In figures, it amounted to ₹15.44 lakh crores.
- New series of bank notes of 2,000/- denomination was introduced for circulation on November 10,2016 and new 500 series in a few days thereafter.
- About 2 lakh cash dispensing ATMs had to be recalibrated so that they could read and dispense the new currency notes.
- Due to the required secrecy of operation, large scale printing of new notes and entire recalibration of ATMs could be done only after the announcement of demonetisation.
- Currency gradually put back in circulation amounted to about 9.2 lakh crores. (Source for currency figures : The Hindu dated January 19, 2017)
- It took at least fifty days for normalcy to restore.
- The exercise involved a population of about one hundred and twenty five crores.
- Last but not the least,digital payments were not a common feature yet and most of the transactions were being done in cash.

Moves launched by Governments for the benefit of nation will be fruitful and effective only when the citizens participate in them honestly and wholeheartedly. As a case study, I am presenting here briefly my experiences and thoughts as a participant and as on observer.

Participation

On the morning of 10thNovemeber, 2016, the first working day of banks after the announcement of the move, there were serpentine queues in front of bank branches. I stood in a queue for about two hours to exchange my SBNs. As I didn't have more than ₹4000 of SBNs, I didn't have to stand again for exchanging or for depositing in the account. Also as the first week of the month was over already, my cash requirements were small and manageable. The real cash crunch was felt in December when ATMs were still dry or with serpentine queues and bank branches hung 'no cash' boards within a few hours of opening the branch. In this period I had two unsuccessful ATM trials and one unsuccessful branch visit. A successful ATM operation gave me one ₹2000 note. So I embarked upon noncash exercise to the extent possible. Certain payments were already being done by me digitally. Additionally, I made Aavin milk card renewal payment and Indane gas cylinder refill payment online in December, 2016. Though they involved an additional charges of ₹20 and about ₹21 respectively (a rebate of ₹5 has been announced since for online booking of cylinder which will reduce the net additional charges to about ₹16), it gave me an immense relief from cash needs and a satisfaction that I participated in the 'less cash' exercise being advocated by the Government. For cable TV and newspaper services I paid through chequeswhich the service providersaccepted readily. Whenever I visited vegetable shops I enquired with them eagerly whether they had installed POS machines, though the stock reply always was that they were in the process. Altogethermy cashexpensesfor December,2016 was only about one fourth of my monthly routineexpenses.When I went to my bank branch on 31st December to withdraw money, it was near normalcy but for some daily limit, and the staff told that it was the case since the past two days. So the cash woes ended for me at the end of fifty day grace period mentioned by the Prime Minister.

Further, to make my digital payment capabilities complete, I installed mobile banking applications in my cellphone, which I had not been inclined to do so far! I tested various options in mobile banking paymentssuccessfully.

When UPI (united payments interface) based mobile payment app BHIM (Bharat Interface for Money), named after Dr.Babasaheb Bhimrao Ambedkar, was launched by Prime Minister on December30, 2016, I installed that too and made test transactions for various services provided therein. All of them went through successfully except payment through Aadhar number, which seemed to be not yet functional.Thus participation in the exercise was painless in my personal experience.

Observation

Asdigital payment infrastructurehad not yet sufficiently penetrated into rural areas and into retail trades and asmajority of the people had not adapted themselves to digital payments still, there was some generaldislocation since 9thNovember,2016, the start day of the exercise. People had to chase their money mostly, stand in queue for a long time to draw money and sometimes had to be disappointed when 'No cash' board was displayed before their turn.

Additionally, in specific cases, the dislocation was more pronounced, as follows:

- Workers, including migrant labourers, either lost their jobs or got wages in SBNs.
- Families with infants, kids or studying children felt the pinch of inadequate cash while facingsudden expenses.
- Families of patients had to suffer cash crunch while meeting conveyance, attendant or incidental expenses, though they could payhospital bills and medicines in demonetisedcurrencies, as per Government guidelines.
- Families who had to conduct marriages in the first week of demonetisationwere pushed to hair splitting reworks for meeting their pending payments and lost their bargaining power in certain expenses.Since 21stNovember, families were allowed to draw ₹2.5 lakh for marriage, subject to certain conditions.
- Tourists, especially foreign tourists,had to spend their times in queues, in the first few days.Foreign tourists could get pre-paid Instruments in exchange of foreign exchange tendered since 11th November as per RBI notification.
- Bank employees, irrespective of the cadre, had to work for unusually longer hours. After some bouquets in the first weekthey had to face the ire of the resenting public.
- Cash intensive microfinance activities suffered from cash shortage and the beneficiaries lost their earning power.
- Lending institutions suffered generally due to lower intake of loans and delayed payment of installments.
- Diplomatic missions in India of some foreign countries voiced the difficulties they werefacing due to restrictions imposed on the cash flow needed to perform their duties.Government subsequently made some special arrangements for them.
- Nepal's envoy pointed out that Nepal's difficulties with demonetisation in India was far more extensive than other countries. Nepaliswho had treated high-value Indian currencies as the standard currency for saving, had to face hardships.They were pleading for some Nepal-specific rules to help the people hit by the note ban, as late as January 2017.

Incidental institutional revenue loss

- Following demonetisation, the Government had withdrawn toll collection on the national highways from November 9 to December 2 midnight. Ratings agency ICRA estimated that the 115 toll projects of the National Highways Authority of India (NHAI) operated by private players lost an estimated ₹1,100 crore over a 24-day period,considering an average daily collection of around ₹40 lakh per toll project.(Source : The Hindu dated January 19, 2017)
- Government waived off parking fee at all airports for a fortnight as the airports had no electronic mode of payment and people had been finding it difficult to pay in cash. For

In 2014, our President, Shri Pranab Mukherjee, in his presidential address to the nation, on the eve of 67 th anniversary of our Independence, he mentioned that "I sometimes wonder: has our democracy become too noisy?..... Is it not the time to restore the grandeur and glory of our institutions that have sustained and nourished our beautiful democracy? Should not Parliament again become the great hall of sombre thought and well-debated legislation?"

an indication, this amount of loss at Chennai airport alone might have been ₹1 crore, considering a monthly revenue of ₹2 crore. (Source : The Times of India dated November 14, 2016)

- Repayments of installments of retail loans were allowed to be postponed by two months.

- There was some decline in freight bookings in trains.

Extreme misfortunes of certain families:

- At least a dozen people breathed their last while standing in queues before bank branches or ATMs. This is just a symbolic figure as per media reports as early as November 16,2016 and authenticated total figures are not available.

- At least a couple of demonetisation related suicides were reported.

On the positive side, there were some incidental institutional revenue gains:

- Passenger air ticket and train ticket bookings picked up.

- Property Tax collections increased as these were accepted in SBNs.An analysis of the Ministry of Urban Development revealed that 22 corporations across the country collected an amount of ₹855 crores till 19th November, 2016 as against ₹274 crores collected in the entire month of November 2015. (Source : Business Standard dated November 21, 2016)the airport has no electronic mode of paymentthe airport has no electronic mode of paymentthe airport has no electronic mode of paymentthe airport has no electronic mode of paymentthe airport has no electronic mode of payment

- Payments through cards and installation of POS machines picked up.

For individuals and families, there were some incidental nonmonetary gains toolike drops in liquor sales and crime rates!

Complications due to counteracting forces

These forces started operating swiftly, with all their ingenuity, the moment the move was announced.

- They thronged jewellery shops and purchased jewellery to their hearts' content with SBNs, in the four hours when these notes were still legal tender, that is, upto 12 midnight of 8th November, 2016. Against heavy demand, gold jewelleryweresold at a premium of as high as ₹34,000 per 10 grams, as against the then prevailing prices of around ₹30,900.

- Since SBNs were allowed for purchasing tickets from counters for air travel and train journey till certain dates,unscrupulous elements rushed to book these tickets in a desperate attempt to park the old notes for a refund by subsequent cancellation of the booking.As a remedial measure, DGCA instructed airlines to strictly make sure that customers booking through counters at airports using SBNs were not able to cancel or get any refund for such tickets. Railways stopped cash refunds for cancelled tickets worth ₹10,000 and aboveand announced that refunds will be only through cheque or ECS [electronic clearing service].

- Some contractors were making payments to labourersby and large in SBNs by way of advance wages.

- Unscrupulous elements stashed huge cash in the hands of common people directing themto exchange or todepositandwithdrawfor handing overback for a commission. The impoverished looks ofsome people standing in the queues in contrastwith bunches of SBNs in their hands presented a telltale picture.The record upsurge inaggregate balance in Jan Dhan accounts by ₹21000 crores in two weeks since November 9,2016 which put the weekly average increase at ₹10500 croreswas in stark contrast with the weekly average increase of ₹311 croresbetween March 31 and November 9,2016 (Source : Financial Express dated November,24,2016).It was unfortunate that those common people had neither been forewarned by authorities nor educated by media about the illegality of the operation. RBI notificationcautioning public regarding misuse of exchange facility was issued on Nov 22, 2016.

- Handful of bank officials acted in connivance with some miscreants and were suspended for having indulged in fraudulent practices in the process of exchange or deposit into account of SBNs.

- Cash withdrawal limit of ₹24000 per week from Savings Bank account was also protested as being inadequate.

- When people were struggling to get a single ₹2000 note, some influential people and middle men possessed so many bundles of them amounting to lakhs and crores which were exposed during IT raids.

- On the day of submission of this article, viz. February 1,2017, there was a news report that Government Agencies had intercepted four consignments of ₹2000 notes between December, 2016 and January, 2017 from areas near Malda district and that counterfeiters had expertly replicated half of the security features of the new ₹2000 notes.

These sadly remind us the proverbs of 'old wine in new bottle' and 'remedy being worse than the disease'.

Noisy democracy

Our present President Shri Pranab Mukherjee, in 2010, during his tenure as Finance Minister, observed thatperhaps Indian democracy had become a bit noisier.

In 2014, in his presidential address to the nation, on the eve of 67thanniversary of our Independence, heagain mentioned that "I sometimes wonder: has our democracy become too noisy?..... Is it not the time to restore the grandeur and glory of our institutions that have sustained and nourished our beautiful democracy? Should not Parliament again become the great hall of sombre thought and well-debated legislation?".

The noise referred to was disruption of parliamentary proceedings, in both the cases. It is to be noted here that, in between 2010 and 2014, the roles of ruling and opposition parties had changed, but the noise had not changed!

Again, on January25, 2017, in his address on the eve of the sixty-eighth Republic Day of our nation, President pointed out that "We have a noisy democracy. .... our legislatures lose sessions to disruptions when they should be debating and legislating on issues of importance." This time the reference was to the total disruption of parliamentary proceedings in the aftermath of demonetisation.

Political parties and media (including WhatsApp) were producing tremendous noise regarding demonetisation!Following voices could be heard through the noise:

- If elimination of corruption was Government's aim, measures should have been started at the levels of politicians and bureaucrats. The common people not connected with black money needn't have been put into inconvenience.

- The cash component of black money is only between six to ten percent and the bulk of the black money is held in gold, real estate or other form of assets.

- When all or most of the money is going to be back into the system as deposits the exercise can only help to whiten the black money.

- If source is claimed as household saving by women and children over the years and if people project sentimental and traditional reasons for having kept the huge cash in home, it is going to be difficult for the authorities to dispute or disprove the source.

- If high value notes were demonetised to reduce the ease of hoarding cash, new currency note of higher value, viz. ₹2000 is going to make the hoarding easier!

Government was enforcing the exercise in a convergent and focused way without any looking back. Over the counter exchange of SBNs ceased after midnight of November 24, 2016. Deposit of SBNs into accounts came to an end with December 30,2016.Exchange facilities for general public (with sufficient explanation for the delay) at the counters of the Reserve Bank of India until March 31, 2017 and for NRIs till June 30,2017are still current as of date.

There wasdivergence from the original stand only on two counts:

1. On whose initiative did the exercise start?

   It was presented midway through the exercise that demonetisation was after all RBI's initiative.

2. What aresupposed to be the main benefits of the exercise?

   Moving towards cashless economy (or a less cash economy) and digitalisation of payments were suddenly presented as the main benefits.

Since the exercise was nevertheless the combined decision of Government and RBI (in whichever order), the first shift in stand did not evoke much noise. But the second one invited roars and made people wonder whether the entire exercise was after all driven by the powerful software industry.

Monetary crimes vis-a-vis digitalisation

It is relevant to recollect here two well knownmajor heiststhat took place in 2016 and reported in the print media elaborately. One is a heist of physical cash in a movie like operation and another is one of the largest cyber heists in history.

The brief outlines of the two incidents are as follows:

Thieves broke open the roof of a parcel van attached to the Salem-Chennai Express and stole ₹5.78 crore cash, which was part of a consignment of soiled currency being transported by the Reserve Bank of India for destruction. The theft was detected several hours after the train arrived at its destination in Chennai Egmore.

Hackers successfully ordered the New York Fed to transfer $81 million from Bangladesh central bank funds to accounts in the Philippinesthrough international payment system SWIFT.New York Fed's systems were designed to flag transfers to people and jurisdictions subject to sanctions but not to block a transfer if it had passed the authentication process on the SWIFT messaging network.

While reduction in cash circulation will help to lessen crimes of the sorts of first example, the second one suggests that digitalisation of payments is not a panacea for eliminating money laundering.

Views of Experts

- Finance Minister Shri Arun Jaitley called the demonetisation decision as an obvious disruptive reform which would change India's retrograde status quo of cash transactions and tax evasion. He emphasisedthat reducing cash might not eliminate crime and terrorism but it couldinflict a serious blow to them.

- Former Finance Minister Shri P.Chidambaram's assessment was that demonetisation would not kill black money and corruption. In his view,evena natural calamity might not have caused so much trouble as the exercise. He also commented that comment that demonetisation has produced "only a mouse" in terms of black money after digging a mountain.comment that demonetisation has produced "only a mouse" in terms of black money after digging a mountain.the exercise had produced only a mouse in terms of black money after digging a mountain.

- Former Prime Minister and economist Dr. Manmohan Singh called the decision a monumentaldisaster.He furtherobserved that the sufferings of ordinary people for 50 days as a result of demonetisationcould have a disastrous effect on the poor and the deprived.

- Economist and Nobel Laureate Dr. Amartya Sen, in his interview to The Hindu,expressedconcern about serious job losses. He pointed out that the structural change to cashless society needed a more orderly transition than via demonetisation.

- French economist and Nobel LaureateMr.Jean Tirole stated that demonetisationcould not catch the corrupt money right away, though it would make future corruption more difficult. He also stated that cashless economy is a good thing, but poor people's heavy reliance on cash has to be addressed before that.

- Micro credit pioneer and Nobel Laureate for Peace, Mr. Muhammad Yunus,hailed demonetisation for bringing the rural and unorganised sector to banking fold and told that cashless economy is a boon.

- Former RBI Governor Dr. Subbarao viewed demonetisationas the most disruptive policy innovation undertaken in India since the 1991 reforms and told that the opportunity should be exploited for embracing technology.

Conclusion

Since effects of demonetisation are going to linger for quite some time, covering it comprehensively is well nigh impossible. I conclude the article with the following earnest observations:

- Documentation of the change management aspects of present demonetisation exercise by Government will be helpful for their future decisions.

- Our democratic institutions like political parties and media may be acquainted with Costingand Management principles like Management by Objectives and Management by Exceptions so that they channelise their valuable resources optimally towards achieving their stated and committed goals. This will reduce the noise in the democracy as wished by our President.

- When things are getting a bit unwieldy, we may have to go to the roots. Individual discipline may be the solution in such cases. We may hope that discipline radiates and integrates from individuals to family to society to nation.

- The present momentum gathered towards digital payments needs to be sustained and improved. MA

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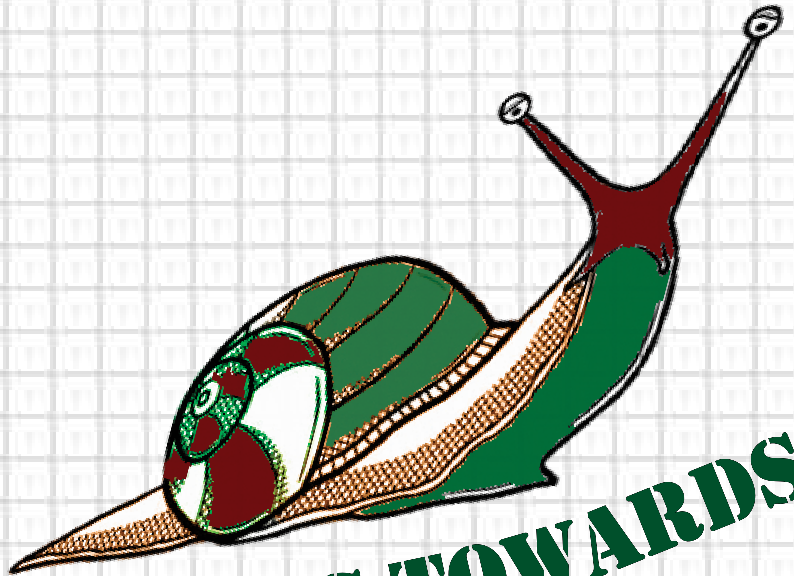

INDIA INCHING TOWARDS

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Macroeconomic Stability

The term 'Macroeconomic Stability' refers to the ability of a national economy to absorb and manage the economic vulnerabilities. Minimization of vulnerability to external and internal shocks is, certainly, a prerequisite for a balanced and sustainable growth. Macroeconomic stability acts as a buffer against currency and interest fluctuations in the global markets. As such, macroeconomic stability is one of the key determinants of economic growth in addition to other factors like a sound financial system, a healthy savings-investment rate, well developed infrastructure and human capital development.

Exposure to large debt burdens, currency fluctuations, and unmanaged inflation can cause economic crises and collapse in GDP. Therefore, Fiscal Deficit, Current Account Balances and Inflation are considered as key indicators of macroeconomic stability. In the background of the Union Budget for 2017-18, this

MACROECONOMIC STABILITY...

paper attempts to evaluate the Indian Macroeconomic Stability over the last two and odd decades covering the span from 1993-94 to 2017-18.

Fiscal Deficit

Fiscal Deficit reflects the excess of Government Expenditure over Government Revenues. This is the sum of revenue and capital expenditure less all revenue and capital receipts other than loans taken.

Fiscal Deficit =	Total Expenditure *(that is Revenue Expenditure + Capital Expenditure)* – Total Revenues (that is Revenue Receipts + Recoveries of Loans + Other Capital Receipts *(that is all Revenue and Capital Receipts other than borrowings)*)

The mainstream economists advocate that deficit financing is desirable and necessary as part of countercyclical fiscal policy, but that there should not be a structural deficit (i.e., permanent deficit). The government should run deficits during recessions to compensate for the shortfall in aggregate demand, but should run surpluses in boom times so that there is no net deficit over an economic cycle (i.e., only run cyclical deficits and not structural deficits). This is derived from Keynesian economics, and gained acceptance (especially in the Anglo-Saxon world) during the period between the Great Depression in the 1930s and post-WWII in the 1950s.

Some Post-Keynesian economists argue that deficit spending is necessary, either to create the money supply or to satisfy demand for savings in excess of what can be satisfied by private investment. As a norm for the European Union, the Maastricht criteria capped the deficit at 3% of GDP.

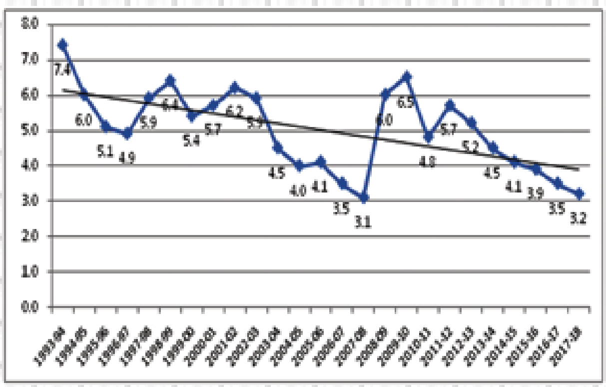
(The Maastricht Treaty was signed in February 1992 by the member states of the European Union outlining the convergence criteria to adopt the euro currency. The purpose of setting the criteria was to achieve price stability within the eurozone. These macroeconomic criteria have come to be known as the Maastricht Criteria, after the Dutch city that hosted the convention.)

On the average, through the economic cycle, most governments have tended to run budget deficits, as can be seen from the large debt balances accumulated by governments across the world. In several cases, the fiscal deficits which were initially started as economic stimulants, have, now, crossed the normative boundaries and are turning out to be a structural menace.

In order to keep the deficit on the lower side governments of various countries, at times, are also trying to reduce the fiscal deficit by cutting down the expenditure on social sector leading to the problem of quality of fiscal deficit. It needs to be kept in mind that social development is a necessary condition for economic growth and therefore social sector of the economy shall not be made to suffer in the process of bringing fiscal stability. India could be perceived as a typical example of the deficit paradigm.

Figure 1 portrays the trend of Indian Fiscal Deficit (IFD), expressed as percentage to Gross Domestic Product (GDP) for the period from 1993-94 to 2017-18.

Figure 1: Indian Fiscal Deficit (% to GDP)



The long run declining cyclical trend of the Indian Fiscal Deficit is reflective of the strenuous efforts put forth by the respective Finance Ministers to contain and tame the bullish trend. However, the fact remains that none of them have been able to bring it down to less than the 3% bench mark.

The best span of the cycles appears to be the period from 2003-04 to 2007-08 wherein the IFD was pulled down from 4.5% of GDP in 2003-04 to 3.1% of GDP in 2007-08. Again efforts are on, now, to catch the bull by horns and hold it to a rational limit. Union Budget for 2017-18 pegs down the IFD to 3.24% of GDP and aims to bring it down further in the ensuing years.

Indian Fiscal Deficit is driven by the uncontained revenue deficit, the prime reason being the escalations in the working expenses of the government. Two of the staring elements that may be stated in this connection are: (a) the mounting employee cost and (b) the ever increasing oil imports.

Employee cost is a committed fixed cost on the exchequer and keeps on increasing every year on account of annual increments and dearness & other allowances. It is further supplemented by an enormous pension liability. An effective means of tackling the employee cost could be targeting employee productivity that would enable optimum governance. At the same time, the annual increases can be correlated to the impact learning and experience vis-a-vis the productivity.

Oil imports need to be addressed with pragmatism. Energy conservation is one significant avenue that warrants better handling. Apart from indigenous production and import substitution, luxurious consumptions do need appropriate regulatory measures that can minimize the oil burden to some extent. It is essential that prudent and effective cost controls be put in place as a remedial mechanism.

Ever since 1996-97, the IFD is mitigated by means of borrowings which in turn cascades into revolving fixed interest burden. Prudence warrants restraining the annual borrowings to sustainable levels which should not be more than 3% of the GDP. The silver lining is that union budget 2017-18 talks of restraining the central government's borrowings to 40% of GDP and state governments' borrowings to 20% of GDP by 2023.

An evolving means of containing fiscal deficit could be Cost Benefit Evaluation of each and every activity that is proposed for funding through the deficit spending. Digitalized Cost Controls can be of immense use in this connection.

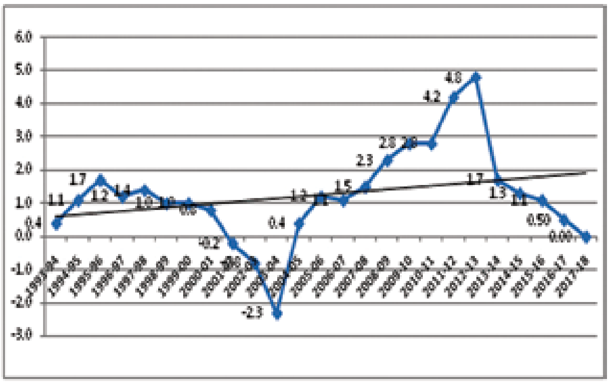
Current Account

A country's current account reflects the sum of the balance of foreign trade and net current transfers in foreign currency. A positive current account balance indicates that the nation is a net lender to the rest of the world, while a negative balance indicates that it is a net borrower from the rest of the world. A current account surplus increases a nation's net foreign assets by the amount of the surplus, and a current account deficit decreases it by that amount. The current account equals the changes in net foreign assets .Expressed as a formula: Current Account = Changes in Net Foreign Assets.

Any deficit in the current account implies that the country is absorbing (absorption = domestic consumption + investment + government spending) more than what it is producing. This can only happen if some other economies are lending their savings to it (in the form of debt to or direct / portfolio investment in the economy) or the economy is running down its foreign assets such as official foreign currency reserve.

Current Account stability brings in currency stability. Currency stability allows importers and exporters to develop long-term growth strategies. It also reduces investors' needs to manage exchange-rate risk. In a nut shell, a stable currency needs a zero current account deficit.

Figure 2 chats out the Current Account Deficit (CAD) of India for the period from 1993-94 to 2017-18.



The trend of Indian CAD is of dips and ups of long intervals with a marginal upward inclination. It is cyclical with exhibitive uncertainty. India is put to suffer incessant deficits in its current account, primarily, because of its imports relating to petroleum, oil and lubricants. For instance, the imports on this count for 2015-16 compute to US$ 1,18,717 million as against a current account deficit of US$ 22,151 million.

The glaring fact is that Indian Current Account would turn positive if petroleum imports are taken off. Electronic imports are another important area which requires immediate attention, as substantial increase in import bill is due to import of micro chips.

Economic Survey of India 2016-17 (Para 1.34) observes that the Indian external position appears robust having successfully weathered the sizeable redemption of Foreign Currency Non-Resident (FCNR) deposits in late 2016, and the volatility associated with the US election and demonetisation. The current account deficit has declined to reach about 0.3 percent of GDP in the first half of FY 2017. The efforts progressing in the positive direction, it can be assumed that current account deficit will be neutralised by the end of the 2017-18.

Wholesale Price Index

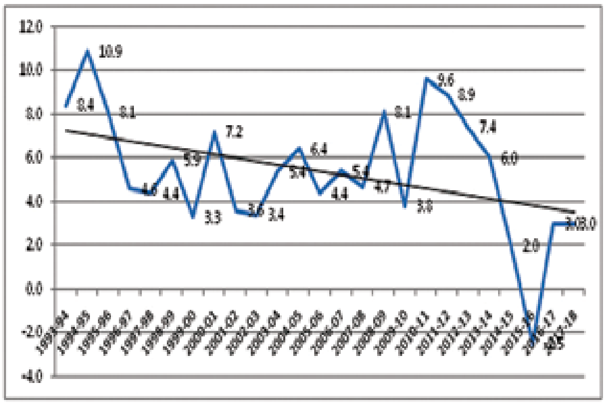
The Wholesale Price Index (WPI) is 'the price of a representative basket of wholesale goods'. Wholesale Price Index (WPI) represents the price of goods at a wholesale stage i.e. goods that are sold in bulk and traded between producers and distributers instead of consumers.

The Indian WPI is calculated by providing a weight of 20.1% for primary articles, 14.91 for fuel and power and 65% for manufactured products. Food articles, which are included in the primary articles, account for 14.3% of the total weight. Important components of the manufactured products include chemicals and chemical products (12% of the total weight); basic metals, alloys and metal products (10.8%); machinery and machine tools (8.9%); textiles (7.3%) and transport, equipment and parts (5.2%).

The purpose of the WPI is to monitor the price movements that reflect supply and demand in industry, manufacturing and construction. This helps in analyzing both macroeconomic and microeconomic conditions as fiscal and monetary policy changes are greatly influenced by changes in WPI.

WPI is used as an important measure of inflation in India. Inflation rate is the difference between WPI calculated at the beginning and the end of a year. The percentage increase in WPI over a year gives the rate of inflation for that year.

Low and stable inflation indicates healthy demand in the marketplace; however, high or unstable inflation threatens growth. Volatile inflation creates uncertainty in the markets, increasing risk premiums. Since many tax rates are adjusted by average inflation, volatile inflation can severely alter government revenues and individual liabilities. The Maastricht criteria capped inflation at 3%.



Containing inflation, and thereby the price levels, has been a challenging task for every government. The trend of Indian WPI for the period from 1993-94 to 2017-18 is shown as figure 3.

Figure 3: Whole Sale Price Index (% Change)

The long run trend of Indian WPI reveals of short-cycle fluctuating movements with a marginal decline over the years. The decline is steeper for the time span from 2011-12 to 2015-16.

It is interesting to observe that the Annual Report for 2015-16 of Reserve Bank of India highlights the fact that India has experienced disinflation during 2015-16. The report points out that the current phase of disinflation in India is driven by a combination of positive developments on the supply side such as fall in global commodity prices and the proactive role played by the government in managing food prices as also the anti-inflationary monetary policy stance of the Reserve Bank.

Reserve Bank of India in its sixth bi-monthly policy review on 7th Feb 2017 perceives global uncertainty, rising commodity prices and a strong resurgence of demand in FY18 as the key factors that may influence the Indian Inflation in the near future. It projects CPI inflation at 5% for 2017-18. However, in relation to WPI inflation, it may be assumed to remain at the bench mark level of 3% for 2017-18.

In a scenario where world economy is facing considerable uncertainty, World Bank projects India's GDP to grow by 7% in 2016-17, 7.6% in 2017-18 and 7.8% in 2018-19.

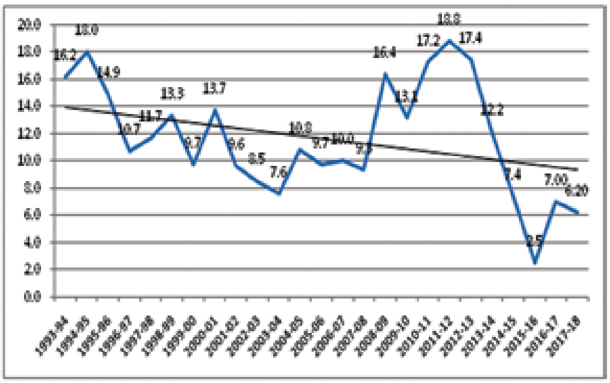
Macro-Vulnerability Index (MVI)

Macro-Vulnerability Index (MVI) is a tool evolved to measure the degree of vulnerability of Macroeconomic Stability. In the Indian context, Macro-Vulnerability Index (MVI) has been computed by combining country's fiscal deficit, current account deficit, and inflation, vide Para 1.2, Economic Survey of India, 2014-15.

The constituents of MVI have apparent linkages with each other. Fiscal deficit spurns spending which in turn leads to inflation and CAD; CAD pushes for foreign lendings with the consequences of fiscal deficit and inflation; and Inflation creates demand followed by fiscal deficit and CAD.

Figure 4 shows the MVI of India, computed as an aggregate of IFD, ICAD and WPI for the period from 1993-94 to 2017-18.

Figure 4: Macro Vulnerability Index of India



The graph reveals a long run cyclical declining trend of the MVI. Given the Indian context, the ideal MVI may be estimated as six comprising fiscal deficit at 3%, CAD at zero level and inflation at 3%. Providing for 30% variability the maximum level of index could be fixed as eight and the minimum level being four.

The index had been above the maximum level of eight till 2013-14 where after it has been inching towards the bench mark digit of six. Obliviously, Indian MVI is impacted by the downward movements of IFD and WPI, and the marginally upward trend of the CAD over these years.

Macroeconomic Stability can be achieved either by reducing macroeconomic shocks or by controlling the components of MVI. Containing MVI implies containing the IFD by means of outcome based expenditure controls; Balancing the CAD through a strong domestic currency; and Restraining the inflation to bench mark levels by working on the supply chain management.

Outlook

During the course of his budget speech on 1st February 2017, the Finance Minister observes that India's macro-economic stability continues to be the foundation of economic success. Union Budget 2017-18 lays special emphasis on prudent fiscal management that would ensure optimum deployment of resources. India's Current Account Deficit declined from 1.1% of GDP in 2015-16 to 0.3% of GDP in the first half of 2016-17. CPI inflation declined from 6% in July 2016 to 3.4% in December, 2016 and is expected to remain within RBI's mandated range of 2% to 6%.

The much talked about demonetization of 8th November 2016 is assumed to have had a positive impact on macroeconomic stability: (a) by enabling higher tax inflows into the state's kitty thereby reducing the fiscal deficit; (b) by containing the hawala transactions leading to maintaining current account balances; and (c) by bringing more money into circulation facilitating price controls.

According to IMF forecast, India is expected to be one of the fastest growing major economies in 2017. A number of global reports and assessments, over the last two years, have shown that India has considerably improved its policies, practices and economic profile.

Industry analysts perceive that union budget 2017-18 has addressed all the sectors of economy in a positive manner. GST legislation is being welcomed as pragmatic tax reform. In a scenario where world economy is facing considerable uncertainty, World Bank projects India's GDP to grow by 7% in 2016-17, 7.6% in 2017-18 and 7.8% in 2018-19.

Downward trend of the Macro Vulnerability Index is creating hopes that India is serious regarding stable policies. As the things would have it India is expected to touch an MVI of 6.2, closer to the benchmark level, for 2017-18 and maintain the tempo for 2018-19. Hopefully, it could be that, India is inching towards the long awaited Macroeconomic Stability! MA

Resources

1. *Annual Reports of Reserve Bank of India for 1993-94 to 2015-16*
2. *Economic Survey of India and computations or 2016-17 & 2017-18*
3. *Budget documents of Government of India*

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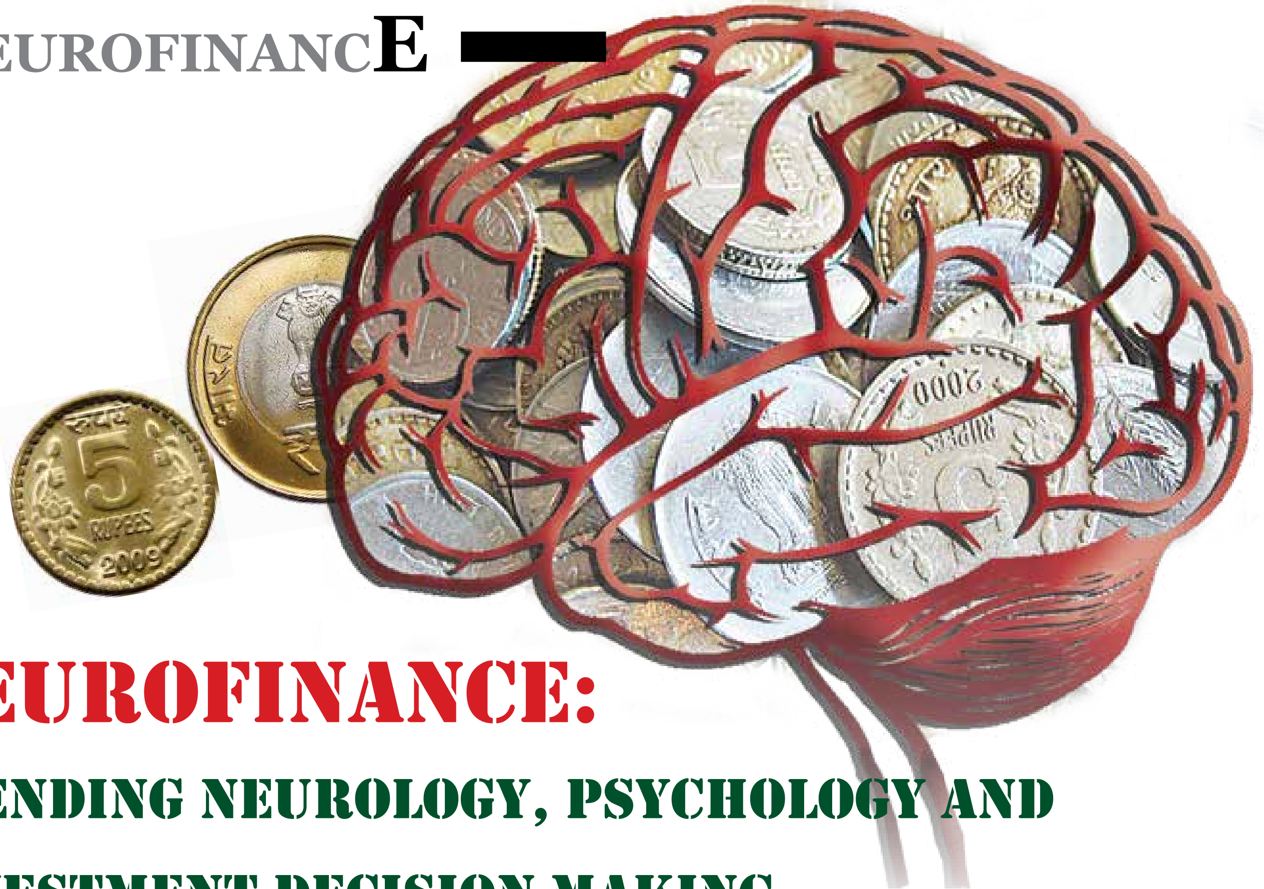

NEUROFINANCE:

BLENDING NEUROLOGY, PSYCHOLOGY AND INVESTMENT DECISION MAKING

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Behavioural Finance is a new paragon which offsets the standard theories of finance by providing a prelude to behavioural aspects of the decision making process. Behavioural finance argues that when people pull out from rational behaviour, it may occur at random, but it also happens in a methodicalmode. Psychologists have believed for a long time that human beings often react in what appears to be an irrational tract, but commit predictable errors when forecasting. Behavioural finance builds noticeable, systematic and very human departures from rationality into models of financial markets. This approach helps protagonists to better explain and predict certain characteristics of securities markets and investor behaviour that on the surface seem irrational.

The explanation that human beings are irrational with reference to issues associated with money lies in the human brain and its multi-billion neuronal assemblage. Off late, behavioural economists have leveraged the findings and results from psychology and neurology in developing new fields like neuroeconomics or neurofinance, in order to understand how individuals make economic decisions. According to Dr. Henschel (writing in the September 2006 edition of Professional Investor), like behavioural psychology, behavioural finance tends to limit itself to a descriptive approach, i.e. a stimulus is followed by a (frequently irrational) response. Behavioural research cannot know - and does not wish to know what happens amidst all this, within the black box which is our brain. This is where the new area of neurofinance initiates. It is argued that whilst behavioural finance describes the behaviour of investors making investment decisions, neuroscience explores the rule of procedure on how they arrived at those decisions.

Neurofinance delves deeper into the mechanism of financial decision making and thus it has enhancedthe predictive power over and above behavioural finance. Through the study of neurofinance, it is possible to recognize what moves the brain and how it does so, leading to preferable predictions of behaviour and investor attitude. Further, it can also be argued that behavioural finance is a useful tool for delineating patterns of behaviour, but it does not permit us to understand the key drivers of behaviour. Neurofinance looks into the mechanisms of financial decision making and thus it has considerably improved predictive power over behavioural finance. Through the study of neurofinance, it is very much possible to understand what moves the brain and how it does so, leading to better predictions of behaviour and further attitudinal analysis.

Review of Literature

✓ **Steven G. Sapra & Paul J. Zak (2008)** are of the view thathumans differ starkly with respect to concepts such as risk aversion, time-preference, and tastes. We are now beginning to learn where these distinctions reside neurologically, as recent technological advances in the field of neuroscience have helped us in identifying the neural mechanisms responsible for human decision making. Recently behavioural economists have leveraged the findings from psychology and neurology, developing the burgeoning field of neuroeconomics. Currently, the field of neurofinance is exploiting many of these same ideas to better understand the implications for financial markets. Many of the known behavioural concepts from psychology, such as overconfidence and herd mentality, have a neural basis. Markets do indeed reflect the human psyche, but the human psyche is imperfect.

✓ **Anjali Narsimulu (2011)** takes a step back and explores to what extent the human brain is well adapted to assess risk and reward in financial markets. The overall findings lead to the proposition that the border between rational and irrational financial decisions is much more razor-thin than opined by behaviourists. The research paints a complex picture about how emotions affect decisions. High emotional quotient and long investment time horizon respectively distinguishes professional traders and long-term investors from novice traders and investors chasing short-term gains; the latter two groups are more likely to react emotionally.

✓ **K.C. Tseng (2006)** pointed out that the actual financial markets tend to deviate from the three basic assumptions underlying the traditional efficient market hypothesis. The behavioural finance has contributed to our better understanding of actual investors' behaviour and real market practices over the past 25 years and is expected to make significant further progress. All these theories have contributed to help investors make better investment decisions in the very complex and complicated financial market places. The newly introduced adaptive market hypothesis appears to be promising in integrating the traditional EMH, bounded rationality, evolutional socio-biology, neuroscience, physiology, psychology, and behavioural finance. At this stage it is too early to predict the future potential and the limits of neural/medical finance.

✓ **M.Z. Shariff, J. Al-Khasawneh & M. Al-Mutawa (2012)** explore that a new paradigm of neurofinance is breaking new ground in achieving the ultimate goal of understanding what forces govern the markets. It also shows us how weak we are as individuals and groups, and that preferences, thoughts, and biases of the human brain are not as simple as some researchers have made them seem. At the same time, financial personnel and investors can infer ways of mitigating the negative effects that were uncovered through the discipline of neurofinance, and can teach themselves how to not only reverse these negative aspects, but also develop better financial analysis skills. Achieving this would help investors minimize loss, and would provide more stability to the markets. Finally, as neuroscience techniques become less expensive and more practical, the intersection of finance and neuroscience promises to bring even bigger developments to the field.

✓ **Dedu Vasile & T.C. Sebastian (2010)**opined that Neuroscience and neurofinance help us understand whether there is a mismatch between brain and financial markets, when trading. Although, in the decision theory and equilibrium theory, all risks are the same, the brain distinguishes at least two kinds of risk: risk generated by an unintentional source (a random generator, "nature", a financial market without insiders) and the risk generated by an intentional source (a strategic opponent, a financial market with insiders). The difference between them manifests in the engagement of different functional regions of the brain and attitudes toward the source. Tools available to neurofinance, allow for understanding how people make financial and economic decisions, by analyzing how the brain works when these choices are made. By looking inside the brain, we may create a more realistic model of decision making and able to explain a much wide range of individual economic behaviours compared to the standard finance models.

✓ **Lester Wills (2007**) argued thatneuroscience research examines how the brain perceives, processes, evaluates, understands and decides, based on input from the outside world. Neuroscience is the study of the operations of the brain (previously understood as a *black box*). Input into the *box* comes from the environment via the five basic senses (taste, touch, smell, hearing and vision – there are actually many more), and output comes via the organism's behaviour. In the financial markets, input generally consists of information that is heard (e.g. from the TV, radio, or person-to-person), or seen (images on the TV or non-verbal cues). How the brain first understands and then acts on that information is at the core of neuroscience.

Objectives of the study

- To expound the notion of neurofinance.
- To comprehend the neural process during investment decision making.
- To understand various tools used in neurofinance that lead to financial decisions.
- To throw light on the future prospects of neurofinance.

Research Methodology

Methodology is of paramount significance in any research related activity and research design presents the blueprint of the work being conducted. In this context the present research paper follows an exploratory research design. The authors have made an extensive literature survey and have adequately gone through different kinds of literature like financial journals, investment related blogs and websites available on varied platforms. Investment Advisors and Financial Experts of a definite calibre have also been consulted as the concerned subject is still in its nascent stage from the perspective of business research. The views and insights of almost all the experts have been inducted in the paper at different junctures.

Practical Implications

The study clearly presents a deep insight on the concept of neurofinance which is still a very new idea for researchers and investors equally. This paper will be useful to all investors particularly the retail investors in better tracking the cognitive aspects of their investment decisions along with the shortcomings and eventualities of them.

Originality/Value

All efforts have been made by the authors to ensure that facts and ideas put forth in the research paper are original and have been included only after extensive content analysis. The study also gives a perspective on how investors perceive investment related risks and therefore will prove to be a value addition by expanding the knowledge base of such investors and becoming more decisive with their decision making.

Neural Process in Investment Decision Making

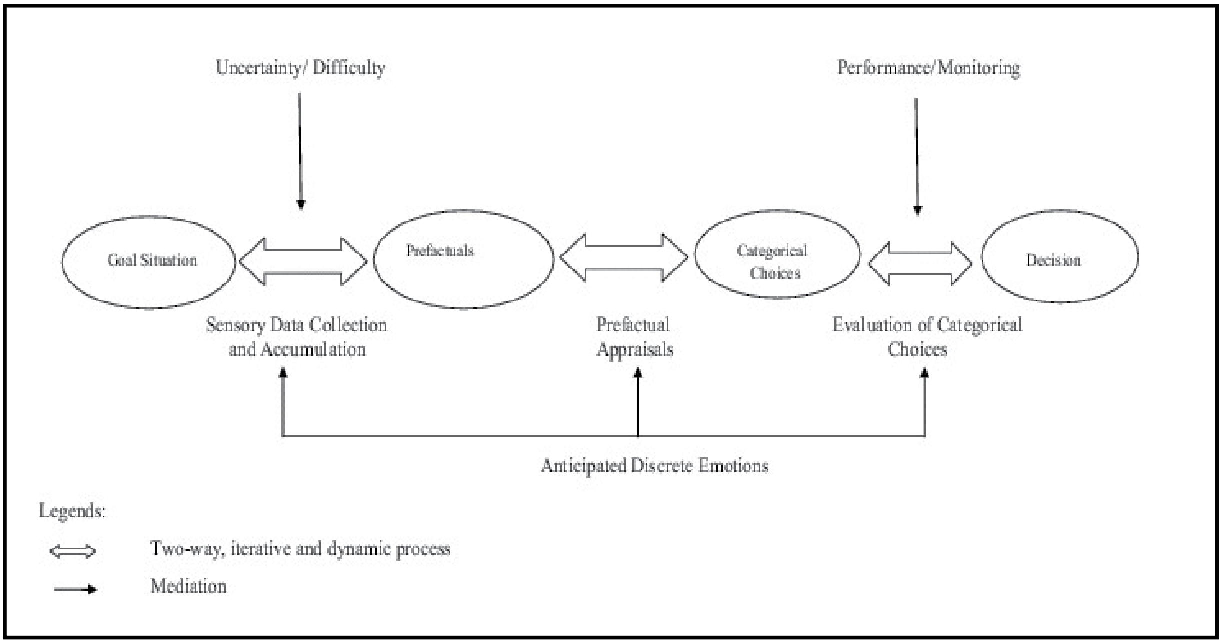
Neuroscientists have investigated a variety of questions related to financial decision making. Several studies have lent insight into the forces of emotion on trading by studying the physiological characteristics of professional securities traders while they were actively engaged in live trading.Concepts in finance particularly the cognitive biases like overconfidence and herd mentality, are believed to have a neural basis.

Other aspects which carry a relationship with neurological sciences are stock market bubbles and predictability of asset prices (Sapra and Zak, 2008). The decisions of humans always reveal the natural characteristic of being imperfect, biased, and are replete with a host of other internal conflicts. Evidences from Neuroscience show that the roots of financial decision making are in emotional and motivational processes (Sjobreg and Engelberg, 2006). Emphasising on this, Ferguson (2008) states that "The real point, however, is that stock markets are mirrors of the human psyche. Like Homo sapiens, they can become depressed. They can even suffer complete breakdowns."

Research indicates that when facing uncertainty the most active regions were the orbitofrontol cortex (a region integrating emotion and cognition) and the amygdale (a region central to emotional reaction). In contrast, when facing risk, the brain areas that responded during their task were typically in the parietal lobes so that the researchers concluded that choices in this setting were driven by cognitive factors. In sum, uncertainty appears to be more strongly associated with an emotional response, while risk leads to a cognitive reaction.

The Investment Decision Model

A decision process starts with a goal situation and ends with a decision. In this pathway in our model, there are three operativeprocedures that procreate two intermediary inputs, and three conjecturing systems that mediate the three functional processes. A structural framework of these functional processes, intermediate inputs and mediating systems, and their interrelations, is depicted in the adjoining figure. These organs of the investment decision model are outlined as under.



Source: Philip Y.K. Cheng (Journal of Behavioral Finance)

The goal situation implies to the state of affairs which induce an investor to make an investment decision. The goal of an investment decision could be general (e.g., elevated income at the time of retirement) or distinct (e.g., change the present fund manager for higher returns). Generally, anticipated discrete emotions influence (i) the preference for a particular means to achieve the goal and (ii) the efforts put into the preferential means to attain the goal.

The two intermediate inputs are prefactuals and categorical choices. The concept of prefactuals warrants elucidation as it is not a generic concept and can be misinterpretedquite easily and readily.

Three Functional Processes

1. Sensory data collection and accumulation:Under this process data is collected and information is accumulated for making investment decision. An investor would, for example, scrutinize the past performances and credentials of diverse funds (visual information); or deliberate with consultants,advisors, current and prospective investors of the available alternatives (audio information). As the data are of an audio and visual nature, data collection for an investment decision is a sensory perception activity. In connection to the collection of these conventional data, this process amasses other peripheral sensory cues. These peripheral sensory cues can be physical (e.g., assuring handshake from the fund manager) or psychological (e.g., out of the ordinary life style of fund managers), as discussed earlier. The output of this process is the prefactuals, each of which could accomplish the expected result.

2. Prefactual appraisals: This process is the cognitive appraisal of the prefactuals generated by the prior process, and as explained in the earlier section of Cognitive Evaluation Process it is represented as: *preliminary prefactual appraisal → anticipated discrete emotions ↔ secondary prefactual appraisals*. Significantly influenced by peripheral cues, beliefs are constructed in the preliminary prefactual appraisal. Peripheral cues are also primarily

*The discipline of Finance went through a phase of sharp evolution in the twentieth century. **The Portfolio Theory, Capital Asset Pricing Theory (CAPT), Efficient Market Hypothesis (EMH)** and other identical financial theories played a significant role in this development. As per these theories and models, it is supposed that an individual investor makes rational preferences while taking investment decisions. The doctrine of rationality formed the cornerstone of traditional or standard finance. These assumptions of traditional finance have been condemned from their very inception.*

amenable for producing the initial anticipated intermittent emotions. The secondary prefactual appraisals include justification or rationalization of the beliefs fabricated in the preliminary prefactual appraisal.

3. Evaluation of categorical choices: In this process, an investor selects the categorical choice (viz. an investment vehicle within the choice set) with the highest *Total Decision Utility*.

Tools of Neurofinance to understand the neural process

1. **Event Related Potential (ERP)** - Event-related potentials (ERPs) are very miniature voltages which originate in the brain structures in response to specific events or stimuli (Blackwood and Muir, 1990). It gauges the brain responses that are out rightly the outcome of a thought or perception which is measured using **Electroencephalography (EEG)**. Event-related potentials can be discerned by a wide genre of sensory, cognitive or motor events. ERPs in humans can be classified into two categories. The early waves, or components peaking roughly within the first 100 milliseconds after stimulus, are termed 'sensory' or 'exogenous' as they depend largely on the physical parameters of the stimulus.

2. **Magnetic Resonance Imaging (MRI)** –Magnetic Resonance Imaging (MRI), formerly known as nuclear magnetic resonance, is an age old technique that uses the magnetic competence of hydrogen and its interplay with a large external magnetic field and radio-waves to produce comprehensive images of the human body.In the brain, MRI can segregate between white matter and grey matter and can also be utilised to diagnose aneurysms and tumors.One kind of specialized MRI is **functional Magnetic Resonance Imaging (fMRI.)** This is used to observe brain structures and determine which areas of our brain "activate" (consume more oxygen) during multiple cognitive actions. It is used to advance the understanding of the organization of human brain and proposes a potentially new and relatively higher standard for assessing and appraising neurological status and neurosurgical risk.

3. **Positron Emission Tomography (PET)** -Positron Emission Tomography (PET) scanning is a technique that produces a three-dimensional (3D) image of the functional processes in the brain. It is a nuclear medicine imaging technique that involves a miniature injection of radio-active material into the bloodstream of the person undergoing the procedure. The radio-active material causes the production of gamma rays which are transported around the body and into the brain, by the blood. A PET scan demonstrates the area of the brain that

*A huge number of studies indicated that the rudimentary facts about the aggregate stock market and the investor trading behaviour are neither pondered nor comprehended in this framework. **The new economic conditions post 1991** also switched the focal point of academic discourse away from econometric analysis towards the lately developing models of human psychology as related to financial markets. It is in the light of these developments that a new branch called **Behavioural Finance** emerged.Neurofinance has been defined as the study and application of neuroscience to investment activity.Scientists map and chart the mind to learn how fear and greed act as drivers in the financial markets investment decisions.*

command relatively higher volumes of blood at a certain point of time. A PET scan is effectual in discerning the activated area of the brain, as well as measuring the degree of activity.

Future Prospects of Neurofinance

The pertinent question in front of us is with regard to what is the future of Neurofinance? Is Neurofinance capable enough to provide solutions to the behavioural aspects of Economics and Finance? This time will only answer. Presently, Neurofinance is providing a host of inputs, ideas and thoughts to better understand the implications of investor decisions for financial markets. Some worth noticing features under the head are mentioned hereunder:

(a) Neurofinance is providing a helping hand inthe developmentof a better understanding regarding the relationship that neural connections have between behaviour and outcomes.

(b) The policy makers and people involved with the functioning of administrative machinery could use the findings of Neurofinance to take appropriate decisions that facilitate speedy and incremental social welfare (Kunhen, 2007).

(c) Neurofinance also has the potential for figuring out the limitations faced by human beings and taking remedial steps which willassist them in replicating success.

(d) The areas in which this new science could help include dissuading investors and armouring them with a protective cover from market bubbles, herds, and other undesirable activities, drafting suitable investment and retirement policies, etc.

(e) So far, the findings and conclusions with reference to Neurofinance are based on laboratory experiments to a great extent. Many market experts and seasoned investors express reservations about the practical applicability of laboratory experimentation. There are many who treat it with scepticism.

(f) Though Neurofinance has made rapid strides for over a decade, following the discovery of the role of dopamine neurons in prediction under uncertainty, much need to be done to make this still budding field a knowledge behemoth. MA

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THE ROLE OF THE INSTITUTE OF COST ACCOUNTANTS OF INDIA IN PROMOTING RESEARCH AND PUBLICATIONS[1]

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The Institute of Cost Accountants of India stands for the development of cost and management accounting profession in India. Research and publications[1] are very important functions that contribute to such a cause. Thus, a study of the role of ICAI in developing cost and management accounting profession in India would be incomplete without an examination of the state of research in its own Research Directorate. What are the issues we have to look into? Some of them are:

- What are the mission, vision and objectives of the Directorate of Research?
- Why is research is required and how to determine its quality?
- What were the research publications of the Institute? Did they come up to meet the needs of the profession and the economy?
- Keeping in view the changing needs of the profession and those of the economy, what should be the research agenda ahead?

- How will the ICAI enrich its research activities to fulfil this goal?

Keeping in view the above, the paper is organized as follows: (1) Mission, Vision and Objectives of research in the Research Directorate may first be touched upon; (2) Then we deal with the crucial question of Importance of Research and its Quality; (3) This is followed by a section on Research Publications of the Institute over the past decades; (4) Next we deal with direction of future research keeping in view the changing needs of the profession and those of the economy; (5) Publication of *The Management Accountant Journal* and *Research Bulletin* of the Institute, their background and justification, and, lastly, (6) some concluding observations.

Mission, Vision and Objectives[2]

The Mission, Vision and Objectives of the Research Directorate are given below.

Mission

The Directorate of Research and Journal would continually strive for resolving specific problems of the stakeholders by providing knowhow and formulating appropriate strategy in the best interest of the stakeholders.

Vision

To be the most sought after source by the Government and Corporate Sector for conduct of research in the field of Cost and Management Accounting and allied areas. Afterwards, the findings will be carefully recorded and percolated to other persons interested in the problem. Focus of the Directorate of Research is on delivering research work on contemporary and enduring areas in the field of cost and management accounting and financial management, for the benefit of Corporate, Government and the Society in decision making, planning, and control and to support and promote research to enhance productivity, efficiency and innovation in the concerned fields.

Objectives

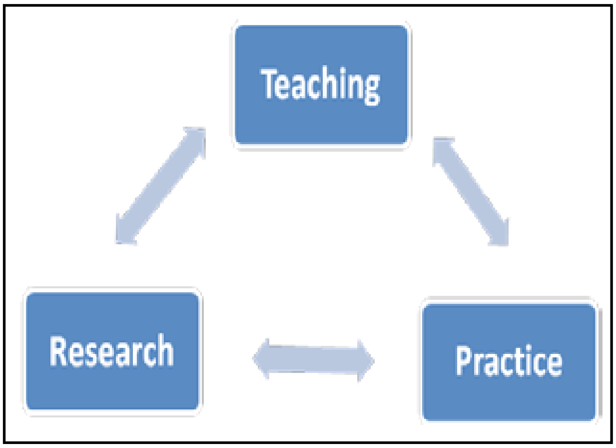
To conduct research in a systematic way, gathering new data from primary or first-hand sources or using existing data for a new purpose which requires true observation and description by using carefully designed procedures and rigorous analysis. Research Study will emphasize on the development of generalizations, principles or theories that will help in understanding, prediction and/or control of the stakeholders and the users as a whole.

Innovation attempts to find out an objective, unbiased solution to the problem and takes initiatives to validate the procedures employed. The process should be a deliberate and painstaking activity which is directional but often refines the problem or questions as the research progresses.

Need for Research and Its Quality

Research in any discipline, whether fundamental or applied, serves as the *open sesame* to the advancement of horizons of knowledge (Banerjee, 1994) which is imperative for the profession. Research in cost and management accounting and other allied areas cannot be an exception to this. The nexus between research and practice, practice and research, and practice and education and research can best be described in the following diagram.

Nexus between Teaching, Research and Practice



What is the justification of integrating teaching and research, research and practice, practice and teaching and vice versa? Research is viewed as the primary means by which academics and professionals in a discipline can enhance and update their knowledge. It promotes learning continuously (Banerjee, 2004). This helps both in teaching and designing contents of new professional courses and also for determining training approaches. Some researches may be undertaken to solve industry problems or for framing theories based on existing practices (examples: development of depreciation accounting, corporate reporting framework, valuation of firms, balanced score cards, etc.).

The dimensions of cost and management accounting and finance have been changing continuously in response to the changing socio-economic needs. As a result, the boundaries of education have increased to a great extent to face more peculiar and ever-growing challenge to promote better quality products for the profession. The history of accounting and finance development is closely connected with the history of development of trade and commerce. Major changes in accounting procedures and financial management have taken place as a direct consequence of changes in the nature and forms of business enterprises (Basu, 1981). The impact of globalisation on education, research and profession is even far-reaching. Consequently, there is no point in denying the nexus between education, research and practice.

Why is research being done at all? Or, why should research be conducted? What is the sequence of steps that is ideal, both from the point of view of thoroughness and of having a logical structure for the project report? Abdel-khalik and Ajinka (1979) dealt with these questions elaborately. According to them:

> *....research has its own intrinsic rewards, but it is not an end in itself. Society may reward researchers in the short-run because they possess a scarce resource: namely, the ability to initiate and complete a research effort. In the long run, however, society expects more tangible results, and the value of research projects can and should, ultimately be measured in terms of their contributions to understanding, problem-solving, reduction of uncertainty, and prediction of phenomena."*

The outcome of any particular research effort may be described as the product of the interaction of various elements of research viz., an idea, a researcher, a method and an environment. The quality of research idea depends on the quality of the researcher and the quality of the researcher depends on his or her training and academic environment. Beyond generating the idea, research requires a set of additional steps. Operationally, these are: defining the research problem, creating the conceptual and causal structure, developing the hypotheses, choosing the research design, implementing the design and collecting the data, analysis and testing, evaluating the results by applying the qualitative criteria, and citing limitations and extensions (Abdel-khalik et al., p.102).

The selection of *subject matter* (elegance vs. relevance) of research is very important. Sometimes, ideas may be lofty (or elegant), but they may not be that useful to the society at large. While the need for both of them cannot be undermined, one should give preference to societal requirements while selecting the topic for research. In a developing country like India, the research outputs should be useful not only to education system and the profession, but also to the economy and society at large (Banerjee, 2004). Accordingly, the Directorate of Research of the Institute must be committed to contribute to the cause of the profession in particular and the economy and the society in general. Keeping in view these responsibilities of the Institute, we have suggested a few topics, as examples, to show the direction of research to make the outputs useful to the profession and the economy.

What about *quality* of research? Can there be a benchmark in measuring quality of research output? It cannot be denied that the quality is a state of mind and, therefore, it must be very dear to the heart of the researcher. Otherwise, any effort or system may be beaten hands down. The first test of conforming to the quality is required to be conducted by the researcher himself/herself. He/she should be satisfied from the core of heart that the work conforms to the acceptable quality. Secondly, the work should withstand the scrutiny of the peers. A colleague's research work should be objectively reviewed by others working within the same environment. If the environment is not conducive to such objective peer review, then either there must be something wrong with the researcher or he/she is in a wrong place (Sunder, 1989). The third and the fourth tests relate respectively to publication and post publication review. Post publication review in and outside the national boundary is another important test. Reviews in good national and international journals create good image for the Institution. Another approach to post-publication quality ascertainment may be the number of citations/references made in refereed journals – generally the higher the number the better the academic acceptability as an indication of quality, other things being constant. The citation approach is followed, along with other criteria, in many science subjects in ranking the quality of research works. While the number of papers published by an individual measures his or her scholarly *output*, the number of citations received by an individual is more likely to reflect his or her scholarly *impact* (Chung et al., 2001). The same may be true for the Research Directorate for post-publication assessment of quality of its research projects.

Research Publications of the ICAI

It may be mentioned first that the Directorate of Research was established in September, 1969 and Prof. P. Chattapadhyay was the first Director of Research under whose supervision many useful research publications took place. We have collected the information on research publications of the Institute from 1970 to 2016. Many of these publications have gone out of stock except a very few which were printed for the second time. Copies of these publications are available in the Institute's Library.

However, from table 1, which gives a complete list of research publications of the Institute from 1970 to 2016, it appears most of them were in the emerging areas and these publications were made for the benefit of the profession.

Table 1: Research Publications of the ICAI during 1970 – 2016

Sl No.	Title	Author	Year
1	Decisional Phenomena and the Management Accountant	P. Chattopadhyay	1970
2	The Break-Even Concept and Its Practical Dimensions	P. Chattopadhyay	1972
3	Financing Asset Replacement	M. S. Srinivasan	1973
4	Inflation Accounting as a Tool to Fight Inflation	Bahadur Murao	1975
5	Inflation Accounting: Tools and Techniques	P. Chattopadhyay	1975
6	Management Accounting Problems in Scale Industries	Dipak Sen	1975
7	Corporate Capital Structure and Cost of Capital	S.K. Chakraborty	1977
8	Cost and Quality Control	A. Sett	1977
9	Monthly Financial Reports for Operating Managers	G.R. Kulkarni	1978
10	Cost Accounting in Commercial Banking Industry	A. K. Ghosh	1979
11	Farm Management Accounting and Control	P. Chattopadhyay	1980
12	Management Accountant and the Computer	S. Vadyanathan	1982
13	Management Accounting for Research and Development: The Indian Praxis	S. K. Chakraborty	1984
14	A Study of Profit Planning	S. R. Guha	1995
15	Management Information Reports for Operating Managers	G.R. Kulkarni	1995
16	Mutual Funds in India	S. Krishnamurthi	1996
17	Human Resource Accounting	M. K.Kolay	1996
18	An Analysis of the Cost Behaviour with respect to Indian Industry	Research Directorate, ICAI	1998
19	Corporate Governance and Management Audit	T.P. Ghosh	1998
20	Glossary of Management Accounting Terms	Research Directorate, ICAI	1998
21	Modvat Audit: A Practice Mannual	Research Directorate, ICAI	1998
22	Economic Value Added – A Tool for Business Planning	T.P. Ghosh	1999
23	Formulation of Farm Accounting	Research Directorate, ICAI	1999
24	Target Costing – Practical Approaches and Case Studies	Research Directorate, ICAI	2000
25	Capital Markets in India	A.K. Dey & P.K. Roy	2013
26	Contemporary Issues in Companies Act - 2013	Research Directorate, ICAI	2016
27	An Insight into Corporate Social Responsibility	Research Directorate, ICAI	2016

Sources: ICAI Annual Report, 2015-16.

In a recent article published in the *Management Accountant* (August, 2015), Dr. P. Chattopadhyay gave good background and summary of research publications in respect of the items under serial numbers 1,2, 5, 6, 8, 10 and 11. He also talked about effectiveness of these publications for the profession, economy and the society. Even though summary of each of the above publications may be useful to the readers, it is avoided here for the sake of volume. However, we cannot check the temptation of quoting from the scholarly write up of Prof. P. Chattopadhyay, the former Director of Research, in respect of first two research publications which earned the

Institute tremendous reputation from far and wide.

(a) Decisional Phenomena and the Management Accountant: This study sought to highlight the decision-making processes in the broad micro-economic scenario in the country and the ways in which the Management Accountants could be of effective assistance to the decision makers both at the national and enterprise levels. The study sought to unfold the typicality of the choice processes having an impact on the whole series of actions based on the choices exercised. ....

Both decision theory and the application of decision making techniques in the context of their practical manifestation were underlined in the research publication (ibid., p.29 & p.30).

(b) The Break-Even Concept and its Practical Dimensions: The study included detailed comments on the then prevailing empirical phenomena depicted in seventy six charts, churning the varieties of industries and organizations as also information available in different official reports underlining the various uses of the concept. The charts prepared on the basis both first and second hand information suggested that if properly interpreted and used, they possessed high potential to guide and regulate managerial actions on a lot more knowledgeable lines (p.31).

From 2012 the Institute opened up new field of research publications in the form of "Knowledge Study & Report" which is based on identification of areas for seminar leading to publication in consultation with industry associations like PHD Chamber of Commerce and Industry, Indian Chamber of Commerce, Confederation of Indian Industry, Assocham, etc. The publication is the result of joint efforts of the industry associations and the Institute as the knowledge-partner and released during each seminar. These knowledge reports are submitted to the Government, concerned authorities, Industry associations and other stakeholders for their valued feedback. These efforts resulted in several publications between 2012 and 2016 as indicated in table 2.

Table 2: Knowledge Study & Report during 2012 – 2016

1.	Inter State Trade: Transforming India into Single Market
2.	Jammu & Kashmir: Empowering SMEs for Sustainable Growth
3.	Haryana: "Building SMEs for Sustainable Growth"
4.	Mumbai: Driving SMEs to Growth
5.	The MSME Achievers Summit - 2013
6.	Uttarakhand - Promoting SMEs for Sustainable Growth
7.	Odisha: Promoting SMEs for Sustainable Growth
8.	Madhya Pradesh- Defining New Era for SMEs
9.	Delhi- Kal Aaj Aur Kaal
10.	Positioning Bengal - II
11.	Doors to Shores - The Logistic Issues
12.	Odisha - The Tourism Destination
13.	SMEs - The Growth Drivers
14 .	Exchanges for SMEs: Emerging Needs vs Future Challenges
15.	Madhya Pradesh - A Mice Tourism Destination
16.	International Meet on Buddhist Tourism
17.	Leveraging Jan Dhan Yojana
18.	Odisha: The land of opportunities
19.	Ease of Doing Business: Unfinished Agenda: Emerging Business Opportunities in Delhi
20.	Profit Re-engineering
21.	Ease of Doing Business in Gurgaon
22 .	Heritage Tourism-A strategic perspective
23.	Indian Railways-On the Fast Track
24.	Destination India-"Evolving Medical & Wellness Tourism Hub"
25.	Heritage India: Unveiling the New Phase of Indian tourism
26.	Destination India-"Evolving Medical & Wellness Tourism Hub"
27.	Heritage India: Unveiling the New Phase of Indian tourism
28.	Indian Railways: Transforming into an Engine of Growth
29.	Make in India: and the role of CMAs
30.	Swachh Bharat Abhiyan for sustainable growth
31.	Asian Summit on Health Care Cost Management
32.	Food crisis in India and Sustainable Agriculture
33.	An overview of Chemical and fertilizer industry in India
34.	Corporate Laws Week: Contemporary issues in Companies Act – 2013
35.	Contemporary Issues in Environmental Accounting & Auditing
36.	Contemporary Issues in Sustainability Accounting & Reporting
37.	Environmental and Sustainability Accounting

Sources: Annual Report of ICAI, 2015-16.

Future Direction of Research and the Agenda Ahead

There is no denying the fact that some good research works have been done in accounting, cost and management accounting and finance in and outside the Institute during the last few decades. Still we have to examine the issue threadbare and give a list of emerging areas for research in the future. For the time being, let us refer to the vision, mission and objectives statements adopted by the Institute for its Research Directorate.

The mission, vision and objectives statements give sufficient and clear indication as to what the Directorate must continually strive for, the field of research which should be given priority, what should be the focus of the Directorate, how such researches should benefit the different sectors of the economy and, lastly, the emphasis that is required to be given "on the development of generalizations, principles or theories that will help in understanding, prediction and/or control of the stakeholders and the users as a whole". The available literature on the subject corroborates the Institute's stand.

One of the recent researches from ACCA (The Association of Chartered Certified Accountants) points to:

"........a growing global expectation that management accountants will fill relatively complex roles......reflecting the challenges facing today's organizations – particularly the need for risk management and for forward looking analysis and acknowledging the increasing importance of the accountants as strategic advisors to business, a role that is becoming even more critical during the current tough economic times." [3]

The Directorate of Research and Publications invited and published articles on a theme viz. *Management Accounting Research during the next 50 years.* Three articles on the above were published by distinguished authors e.g. Bhattacharyya, Ashish (January, 2015), Ghosh, T.P. (February, 2015) and Chattopadhyay, P. (August, 2015).

In his scholarly article entitled "Management Accounting Research Agenda for the Next Decade", Dr. Bhattacharyya very nicely dealt with the nature of contemporary management accounting, what management accounting research should aim at, a snapshot on past fifty years of research in India and finally research agenda and the role of the ICAI for the same. . As regards the nature of contemporary management accounting[4], Bhattacharyya rightly relied upon Kaplan's (1984) definition, namely, -

Management accounting must serve the strategic objectives of the firm. It cannot exist as a separate discipline, developing its own set of procedures and measurement systems and applying these universally to all firms without regard to the underlying values, goals and strategies of particular firms.

Kaplan's views on management accounting are widely accepted. It is primarily concerned with planning and control and performance management. It must also adapt itself to changes in the business model, organisation structure and its culture, decision-making process and, last but not the least, external environment. Accordingly, Bhattacharyya argued that management accounting research should aim at providing solutions to the requirements of the management in the discharge of the above functions. With increase in competition, firms face challenges in designing the organisation structure, planning and control and performance management systems. Research outcomes should therefore help firms to meet all these challenges. Research in management accounting should help the profession and the society alike. We have made similar contention earlier with respect to the objective of research to be undertaken. They appear to be in conformity with mission, vision and objective statements. While giving his agenda of research for the next decade, Bhattacharyya identified the following seven areas as examples:

- Performance management and evaluation
- Transfer pricing
- Sustainability reporting
- Revisiting the current theory of cost behaviour
- Strategic cost management
- Planning, control and performance management systems in service industry, and
- Management accounting practices in voluntary organisations.

Similarly, Dr. Ghosh in his article "Setting Management Accounting Research Priorities in Indian Context" skilfully explained the evolution of management accounting research till recent times, underlined some contemporary researches in management accounting to appreciate the depth of application of management accounting in managerial decision making and governance. According to him, there exists a research gap in the following areas (an illustrative list):

- Corporate governance and management accounting
- Strategic cost management in the context of make in India programme
- Quality management and role of management accountant
- Impact assessment of Corporate Social Responsibility (CSR) projects.

There cannot be any disagreement on the need for undertaking research in each of the above areas. On the last question as to the desired role of the Directorate of Research of the Institute in carrying forward the objectives of more and more research in cost and management accounting, Bhattacharyya made specific and clear-cut suggestions in the following words:

It should persuade industry to support management accounting research, because research is only possible with active support from industry. Management accounting research is a collaborative effort – collaboration between the industry and the profession. The Institute should strengthen its own research wing to produce more quality research work for the benefit of the industry in particular and society and economy in general.

Keeping in view the above, we now propose to give a list of emerging areas for research at least during the next decade (see table 3).

Table 3: Emerging Areas for Research

1.	Enterprise Risk Management (ERM)
2.	Big Data Analytics and Textual Analysis for Predictive Models: Role of Search Engine within XBRL Environment and Beyond
3.	Management of Non-Performing Assets in the Public Sector Banks
4.	Corporate Environmental Management
5.	Corporate Governance in India: Recent Developments
6.	Strategic Cost Management
7.	Internal Financial Controls: Impact on Corporate Governance
8.	Managing Intangible Assets: Challenges
9.	International Accounting Convergence
10.	Effectiveness of Cost Audit in India
11.	Measuring Performance of Public Enterprises in India: In Search of a Composite Index
12.	Goods and Services Tax in India
13.	Demonetization in India: the Prospect and the Problems
14 .	Accounting for Biological Assets
15.	Value Creation, Distribution, and Integrated Financial Reporting
16.	Financial Inclusion and Empowering Women in India
17.	Forensic Accounting & Audit
18.	Environmental Audit & Environment Management Accounting
19.	Accounting Information and Security Price Determination
20 .	Cost Competitiveness in the Education Sector
21.	Cost Behaviour Analysis for Decision Making
22.	Business Valuations
23.	Analysis of Cost Efficiency and Benchmarking
24.	Adopting Appropriate Strategies for Cost Management
25.	Increasing Firm Performance using SCM Tools
26.	Cost Accounting Models for Pricing
27.	Project Evaluation through CBA
28	Impact of CSR Cost on Firm Performance
29	Assessment of Marketing Strategies adopted by the companies

A brief write up in respect of each of the above areas is desirable to identify the problem and research issues involved. But it could not be done here for the sake of volume.

The Management Accountant and the Research Bulletin

(a) The Management Accountant : the voice of CMAs

The Management Accountant (ISSN 0972-3528) is the official journal of the Institute. It is published monthly. At present, it has a circulation of about 40,000. It is published by the Directorate of Research and Journals. The journal is indexed and listed at Index Copernicus, J-gate and Global Impect Factor. Annual subscription rate is Rs. 1,000, and Rs.100 for a single copy. The overseas annual subscription rate is US $150 (by airmail). The journal is distributed to the members free of cost. Over a period of several decades, *The Management Accountant* has come to the present prestigious stage because it is considered as one of the best professional journal of the world. Its *key features* are:

- Helps the readers, researchers and students in their reference work
- Has researched inputs on practical issues for academicians and professionals
- Has inputs from industry people for the view from the ground
- Has a global outlook with special emphasis on India
- Is attractively designed, easy to subscribe and reasonably priced.

It now publishes *theme-based* articles. Some of the important themes covered are:

- Enterprise Risk Management
- Health Sector-Imperatives for CMAs
- Financial Stability of Panchayati Raj Institutions
- New Pricing models
- Cost Competitiveness-Role of CMAs
- Empowering SMEs for sustainable growth

- Corporate Social Responsibility, etc.
- Human Resource Accounting
- Corporate Laws
- Innovations in Finance
- Cost Competitiveness through Leadership
- Agricultural Cost & Productivity
- Return on talent
- Cost Audit & Globalisation
- SMEs: Engine of Indian Growth
- CMAs in IFRS Sector
- Goods and Services Tax in India
- Hedge Fund & Equity Based Investment
- FDI in Multi-Brand Retail
- Green Audit
- Performance Management
- Derivatives Simplified
- Securities Markets in India & Economic Growth
- Inventory Management
- Behavioural Finance
- Business Strategy
- 25 years of Economic Reforms in India

The rich contents in Journal keep informed the readers with sound professional ethics and keep abreast of new developments. Its intention is to create value to stakeholders in the socio-economic context through competencies drawn from the integration of strategy, management and accounting. The journal contains thought-provoking articles from leading professionals in the corporate world and academicians, gist of latest news of the Institute, economy updates and theme-based topics on current issues.

The journal travelled a long way to acquire the present status. A *brief history* is given below.

In 1955[5], the then Institute of Cost and Works Accountants of India (ICWAI) started publishing its first journal entitled The Cost & Works Accountant. From 1966, *The Cost & Works Accountant* changed its name into *The Management Accountant* to keep pace with changing needs of the profession. The wide circulation and inputs from academicians, researchers and industry stalwarts are the keys to the success of this journal. It may not be out of place to give below a short description of the **changing dimensions of the journal over decades**[6] .

- During 70's the Journal reflected the growing kinship between the profession and the information revolution prevalent at that time and it carried interesting articles on new vistas in information collection, storage and retrieval for effective management decisions.
- During 80's, the Journal had been able to address itself to a wider section of the readership comprising students and members of the concerned profession. During this period, the Journal diversified its area of operation by introducing various other sections to make it useful to assorted readers in academic and industrial fields.
- Journal being the official organ of the profession it highlighted on the core areas viz. Cost and Management Accounting, Management Audit, Corporate Financing, Inflation Accounting, Social Audit, Balance Sheet Analysis to enable a strong interface with the industry and other sectors of the economy during that period.
- The Journal Committee published Special Feature Articles about Industries, its potentials for future growth, problems faced, areas needing special attention.
- In early 1990's emphasis had been laid on various central themes, viz. Strategic Cost Management, Merchant Banking, Liberalisation and Privatisation, Human Resource Development, Accounting, etc.
- Since January 1991, the student's section appeared as a distinct part within the integrated frame of *The Management Accountant* ensuring timely publication and also to make students aware regarding the Institute, the various important Gazette notification of the Government of India and many other developments concerning the course and the profession within the ambit of the students' category.
- New Columns on business stocks or stock exchanges apart from conventional economic spectroscopy and updates on management accounting norms and conventions in Financial Management started in 1991, gradually diversifying the interaction with the business through the pages of the Journal.
- The eight page "Green Pages" incorporating the Information Digest, rounding up interesting national and international news, policy update, developments in the money market etc. had matured with time evoking considerable interest among the readers. This "Green Pages" appeared on white pages with attractive lay-out and presentation and the nomenclature "Green Pages" changed to "Executive Digest Information".
- In 1996, the Journal radically improved its content and presentation gradually covering more pages under two colour printing.
- During 2000-09, the Journal achieved a unique position in the professional world not only for Cost and Management Accountants but also for other professionals all over the country and abroad.
- Various cover features on topics like Valuation Management, Performance Management, International Finance, Strategic Tax Management, Energy & Environment Audit, Corporate

Governance, GATS and the profession, Revenue Audit & Cost and Management Accountants, BPO, Risk Management, Merger & Acquisition, Cost Management in IT enabled services, Future of Management Accounting Profession etc. had been incorporated to keep in tune with the current social perspectives and for the elevation as well as for further excellence to the Journal.

- The Journal had been made available on the website providing quick access to the members. It became more user friendly and a potential tool for practical operation of professionals in practice and service.
- A new phase of the Student Edition of the Journal commenced its publication from May 2002 onwards that gained tremendous popularity among the students and turned out to be a student friendly guidebook of immense value.
- In the year 2008 the e-Edition of The Management Accountant was made available on the website and that had been made possible with the initiatives of the then Chairman and the team of officers in the Research & Journal Department. With these new measures and contributions by the eminent authors and members the Journal became the mouthpiece and the most commanding communication media enriching the profession to a significant level.
- From 2010 onwards, the basic focus was to make "The Management Accountant" a global brand on its own. The quality of articles also improved immensely and there were progress towards design improvement, and the present professional design received accolades from all quarters and members of the Institute.
- Certain guidelines are maintained for selecting articles for the Journal The Management Accountant. Preference are given to articles having relevance and having direct or indirect bearing on Cost and Management Accountancy profession, articles are of contemporary interest in the areas of Finance / Cost & Management Accounting and allied areas of interest to various segments of the corporate sector and from renowned academicians, Directors of Universities / reputed Management Institutes. Articles are also being invited from industry experts, corporate managers, practicing members to infuse practicality on the subject. Members' Journal mailing address is being taken care by membership department.
- Interviews of eminent personalities are also being incorporated in the cover story to make the process more participative and enabling to make the Journal better.
- The Department are concentrating on the theme articles viz. these articles are mostly of contemporary issues relevant to the current global aspects and playing a vital role to keep well aware of the members about the profession.
- Directorate of Research and Journal of the Institute celebrated the Golden Jubilee Year of our Journal *The Management Accountant'* on January 28, 2015 at EIRC Auditorium with a seminar on the topic 'Be and Make'. Swami Purnatmanandaji Maharaj, Secretary, Swami Vivekananda's Ancestral House & Cultural Centre, Ramakrishna Mission and former, Editor of famous " Udbodhan" magazine (which was founded by Swami Vivekananda himself in the year 1899), Shri Sanjib Chattopadhyay, Renowned Author, were among the dignitaries vividly discussed on the famous quote of Swami Vivekananda 'Be and Make'- the theme of the seminar and enlightened everyone present over there. Swamiji and other dignitaries released a Golden Jubilee Brochure of the Journal during the seminar
- The Management Accountant Journal is now available in eight e-commerce portal which can be accessed from anywhere in the Globe.
- A separate Research & Journal portal (www.icmai-rnj.in) has been launched in the year 2016 for better visibility and branding of Research & Publication activities.

(b) Research Bulletin

The Institute started publication of the *Research Bulletin* since 1982. It has now been included in the International Serial Directories [ISSN 2230 9241]. It includes both theme based and non theme based articles on the blazing issues. Inputs are mainly received both from academicians and the corporate stalwarts. The aim is to highlight the dynamism in environmental, social, economical and market-related issues so that the researcher can analyze the surroundings, adapt to the changes in a better manner and can take decisions strategically. The objective of this bulletin is to share innovative achievements and practical experiences from diverse domains of management, from researchers, practitioners, academicians and professionals. The bulletin is dedicated to publish high quality research papers providing meaningful insights into the management content both in Indian as well as global context.

From April, 2015 onwards Research Bulletin has become a quarterly publication in order to match with the international standard. In this journal, research-based articles on contemporary topics are generally published. Articles received from members and others go through stringent review process before being considered for publication.

We mentioned earlier that one of the distinguishing features of the Research Bulletin is to publish, quite often, theme-based articles. See, for example, the following **upcoming issues based on specific themes:**

- Research Bulletin, Vol. 41, No.I (ISSN 2230 9241), "Capital

Market" - this issue will be published in association with National Institute of Securities Markets (NISM), an educational initiative of SEBI.

- Research Bulletin, Vol. 41, No. IV(ISSN 2230 9241), "MSMEs: Engine of Economic Growth" -this issue will be published in association with Entrepreneurship Development Institute of India(EDI)
- Research Bulletin, Vol. 42, No. I (ISSN 2230 9241), "Contemporary Issues in Securities Markets" - this issue will be published in association with National Institute of Securities Markets (NISM), an educational initiative of SEBI.
- Research Bulletin, Vol. 42, No. III (ISSN 2230 9241), "Companies Act 2013"

Epilogue

We have given the research and other publications of the Institute and explained the role of the Management Accountant over decades along with an illustrative list of emerging areas of research. It does not require any mention that research is a continuous process and, as indicated in the mission statement, the Research Directorate will have to strive for it to meet the changing needs of the profession, the economy and the society. This is one of the important functions of the Institute which will promote 'competitive advantage' of the Institute. It is also noteworthy that knowledge becomes obsolete faster than technology.

May we take an analogy in this respect? Generally, good companies in the IT and Pharma sectors invest more resources on research and development for innovation for their survival and growth than those in other manufacturing sectors. In the competitive global environment, it is therefore time for the ICAI to step up its research activities further through Research Directorate. MA

The Directorate has to set Goals based on its cherished dreams. What kind of dreams do we refer to?

Dreams are not what you see in sleep
Dreams are the things which do not let you sleep.
Dr. A.P.J. Abdul Kalam
Former President of India

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Foot notes:

[1] This is part of a project undertaken for documenting the Institute's role in developing the cost and management accounting profession in India. Comments from the members and others are solicited (email: bhabatosh.commerce@gmail.com or rnj.director@icmai.in).

[2] http://icmai-rnj.in/index.php/ticai/pages/view/au

[3] Accountancy: the Future Outlook, ACCA, 2009.

[4] In his article, Prof. P. Chattopadhyay also explained the role of the Management Accountant. Secondly, many of the research publications done during his time speak about the varied functions of the Management Accountant.

[5] http://icmai-rnj.in/index.php/ticai/pages/view/au

[6] Various issues of The Management Accountant.

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COMPARATIVE ANALYSIS:

"GST VS EXISTING INDIRECT TAXATION SYSTEM"

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STATE VALUE ADDED TAX was introduced with a clean, aggressive and agreed objectives like, Uniform rates of VAT for all states to make the tax system simple and uniform and prevent unhealthy tax competition among states, the provisions of input tax credit to help in prevent cascading effect of tax.

However after five years of their introduction, states have differed in many ways, like they have changed agreed rates of tax, prescribed the list of inputs on which no ITC is available etc. and it has resulted in separating the national market in to 29 state economies.

Therefore the need has arisen to come out with the single indirect taxation system i.e. GST. However due to our federal structure, we could not succeed to come out with the single taxation system and we have to welcome the dual indirect taxation system. This will certainly help in reducing the cascading effect of tax, in making the entire nation to be a single market, in maintaining all the tax records through online network for good governance and transparency.

The paper is focused on the points of differences between GST regime and Existing Indirect Taxation System.

Basic understanding about the GST

GST is a value-added tax levied at all points of the supply chain with credit allowed for any tax paid on input, input services used or intended to be used in the course or furtherance of business. It would apply to both goods and services in a comprehensive manner. In fact, it is not a single taxation system but it has emerged in India as a dual taxation system, viz. CGST for Central Govt. and SGSTs for State Govts.

COMPARATIVE STUDY:

EXISTING INDIRECT TAX REGIME V/S GST REGIME

Points of Differences	Existing Indirect Tax System	GST Regime
1.Multiple taxes	**CENTRAL TAXES:** Excise Duty, Service Tax, Customs Duty, CVD, SAD, CST, CESS etc. **STATE TAXES:** Value-added tax,Octroi and Entry tax, Purchase tax,Luxury tax, Taxes on lottery, betting and gambling, State cesses and surcharges, Entertainment tax (other than the tax levied by the local bodies), Central Sales tax (levied by the Centre and collected by states)	CGST IGST Customs Duty SGST (state –wise)
2.Constitutional Power	Article 246 (List-I, II & III)	Article 246A
3.Legal Frame work	Central Excise Act, 1944 Finance Act, 1994 Various VAT Laws-State wise CST ACT, 1956 Customs Act, 1962 And many more	CGST Act, 2016 SGST Act, 2016-State wise IGST Act, 2016 Customs Act, 1962
4.Levy/Taxable event	Excise duty levied on manufacture of goods, Service tax on provision of services, VAT on sale of goods within the state, CST on sale of goods inter-state, Customs Duty on import/export of goods, And many more	CGST on supply of goods or services within the state, SGST on supply of goods or services within the state, IGST on supply of goods or services inter-state including importation of services, Customs Duty on import/ export of goods On petroleum products, existing shall continue until GST Council notifies it
5.Threshold for non-taxability	Excise Duty: Rs. 1.5 crore, Service Tax: Rs. 10 Lakhs, VAT: Normally Rs. 5 Lakhs, Customs Duty: NIL CST: NIL	CGST/SGST: Rs. 20 Lakhs/Rs. 10 Lakhs,

6.Originate v/s. Destination Principle	In case of Central taxes (Excise Duty & Service Tax), there is no question of originating state or consumption state. It always forms part of Central Government's Revenue. However in case of VAT &CST, it generates the revenue for **the originating state.**	In case of intra-state supply of goods and services, both CGST & SGST will be levied on the same amount of the supply. IGST will be levied on inter-state supply and Central Government will collect IGST and in turn, it will transfer to the consuming state, those portion of IGST, which consuming state gives credit to the registered person against subsequent sale within the consuming state. Therefore to the extent of above transfer, Central Government will play a role of custodian of the consuming state. In simple words, in case of inter-state supply, consuming state will get tax revenue and originating state will lose its revenue. In short, consumption base states' revenue would be affected positively and source base states' revenue would be affected negatively. Therefore the need arises to come out with the compensation bill.

7. How GST will work? (Case studies for simplle understading)

Case 1: *Sale in the final consuming state*

Goods are moving from Vadodara to Ahmedabad. Since it is a sale within a state, CGST and SGST will be levied. The collection goes to the Central Government and the State Government as pointed out in the diagram. Then the goods are resold from Ahmedabad to Rajkot. This is again a sale within a state, so CGST and SGST will be levied. Sale price is increased so tax liability will also increase. In the case of resale, the credit of input CGST and input SGST will be available and the remaining taxes go to the respective governments.

Case 2: *Sale in one state, resale in another state*

Goods are moving from Vadodara to Ahmedabad. Since it is a sale within a state, CGST and SGST will be levied. The collection goes to the Central Government and the State Government. Later the goods are resold from Ahmedabad to Mumbai (outside the state). Therefore, IGST will be levied. Whole IGST goes to the central government.

Against IGST, both the input taxes are taken as credit. But SGST never went to the central government, still the credit is claimed. Since this amounts to a loss to the Central Government, the state government compensates the central government by transferring the credit to the central government.

Case 3: *Sale outside the state, resale in that state*

Goods are moving from Ahmedabad to Mumbai. Since it is an interstate sale, IGST will be levied. The collection goes to the Central Government. Later the goods are resold from Mumbai to Pune (within the state). Therefore, CGST and SGST will be levied.

Against CGST and SGST, credit of IGST will be available. But IGST never went to the state government, still the credit is claimed against SGST. Since this amounts to a loss to the State Government, the Central government compensates the State government by transferring the credit to the State government.

After referring case-2 and case-3, one may conclude that GST is a destination base/consumption base taxation system

8.Availability of credit of taxes paid input, capital goods & input services	Excise Duty: more or less restricted to input, capital goods or input services used for manufacture of final product or for providing output services. Service Tax: more or less restricted to input, capital goods or input services used for providing output services or for manufacture. CST: No credit is available VAT: more or less restricted to input, capital goods or used for manufacture or resale.	Under GST, A registered person is entitled to take credit of input tax charged on any supply of goods or services to him which are used or intended to be used **in the course or furtherance of his business.** While section 37 of the Income Tax Act has used the word 'for the purpose of business'. We may note that the word, 'in the course or furtherance of business' has a wider meaning even than that of 'for the purpose of business'. Meaning that an expense incurred not 'for the purpose of business' could be eligible to fall within the ambit of 'in the course or furtherance of business'.
9.Cascading Effect	The credit of Input VAT is available against Output VAT. The credit of input excise/service tax is available against output excise/service tax. However, the credit of VAT is not available against excise and service tax and vice versa. VAT is computed on a value which includes excise duty. This shows that there is still a tax on tax. At present, credit of CST is not available and it results in to cascading effect of tax in case of inter-state purchase of goods. In case of composition scheme for works contract/restaurant etc. under state-VAT laws, VAT liability arises on the total amount charged including service tax. Therefore it shows the cascading effect of tax. (VAT on service tax). Further under Excise Duty Law, Service Tax Law and State VAT laws, long list of non-eligible input, input services and capital goods are specified. Hence no tax credit is available in this regard and results in cascading effect of tax. Other taxes like octroi, luxury tax and many more taxes, which would be subsumed under GST, arenot eligible for tax credit and it results in cascading effect of tax. At present, CVD u/s. 3 (1) of the Customs Act is required to be calculated on the assessable value plus basic customs duty and SAD u/s. 3 (5) of the Customs Act is calculated on the assessable value plus CVD u/s. 3 (1) plus Education Cess and She Cess. Therefore it shows the cascading effect of tax.	Most of the cascading effects would be eliminated by the GST. However, in some case, cascading effect would continue, Like CVD u/s. 3 (1) of the Customs Act is required to be calculated on the assessable value plus basic customs duty and SAD u/s. 3 (5) of the Customs Act is calculated on the assessable value plus CVD u/s. 3 (1) plus Education Cess and She Cess. Therefore it shows the cascading effect of tax. Small list of non-eligible input, input services and capital goods are specified. Hence no tax credit is available in this regard and results in cascading effect of tax.

10.Filing of returns	For Manufacturer: For Excise Duty, Monthly return is required to be filed and Under State VAT Laws, normally monthly return is required to be filed & one annual return is required to be filed. (total number of returns required to be filed annually are 25) For Service Provider: Under Service Tax Law, Half yearly return is required to be filed (Annually 2). For Traders: Under State VAT Laws, normally monthly return is required to be filed (Annually 12 plus 1 Annual return)State-wise.	**For all registered person irrespective of manufacturer, service provider or trader:** Under GST, Monthly three returns are required to be filed and one annual return is required to be filed (Annually 37 returns) State wise.
11.Branch Transfer	Presently branch transfer outside the state against form-F is not chargeable to CST.	Under GST regime, branch transfer outside the state would be chargeable to IGST as branch located outside the state would require to get new registration and accordingly it would be treated as a separate registered person.
12.Requirement of Accounting ledgers	Under Existing regime, the following ledgers need to be maintained for financial reporting purpose: 1. CENVAT Credit receivable a/c 2. Excise Duty Payable a/c 3. Excise duty expense ledger 4. Service Tax Payable a/c 5. Service Tax Payable (RCM) a/c 6. Service Tax receivable (RCM) a/c 7. Service Tax expense (RCM) a/c 8. Service Tax expense a/c 9. Swachh Bharat Cess Payable a/c 10. Swachh Bharat Cess expense a/c 11. Krishi Kalyan Cess Payable a/c 12. Krishi Kalyan Cess receivable a/c 13. Krishi Kalyan Cess expense a/c 14. State wise VAT receivable a/c 15. State wise VAT payable a/c 16. State wise VAT expense a/c 17. State wise CST payable a/c 18. State wise CST expense a/c 19. Education CESS and SHE Cess receivable (Balance amount) 20. Other tax expense a/c (entry tax and many more)	Under GST regime, the following ledgers need to be maintained for financial reporting purpose: 1. State wise CGST receivable a/c 2. State wise SGST receivable a/c 3. State wise IGST receivable a/c 4. State wise CGST payable a/c (with applicable rate) 5. State wise SGST payable a/c (with applicable rate) 6. State wise IGST payable a/c (with applicable rate) 7. State wise CGST expense a/c 8. State wise SGST expense a/c 9. State wise IGST expense a/c

13.Impact on Valuation of Inventory	This would be the key area of analysis for the dealer who are in the trading business. Meaning that under the present indirect tax system, traders are not allowed for tax credit of excise duty, CST, CVD u/s. 3(1) and SAD u/s. 3(5) paid on purchase of goods. Therefore these taxes always become an expense for the traders and according these are included in the valuation of inventories for financial reporting purpose.	However under GST regime, traders would be allowed for tax credit of excise duty, CVD u/s. 3(1) and SAD u/s. 3(5) paid on purchase of goods, which are lying in the stock on the appointed date. Therefore these taxes would be an asset (tax credit receivable) for the traders and according these would not be required to be included in the valuation of inventories for financial reporting purpose.
14.Definition of Turnover for financial reporting purpose	Presently, Excise Duty, Service Tax, VAT, CST etc. have different accounting treatment based on their nature and levy. Excise duty is included in revenue, since it is a levy on production while VAT, CST are not included in revenue, since it is a levy on sales.	GST is a destination-based tax, which is levied at the point of supply. Hence, it is likely that revenue will not be presented including GST. This is likely to bring significant volatility for financial reporting of various companies even though from an economic perspective, no significant change has happened.
15.Impact on Income Tax Liability due to effective change in rate of indirect taxes	E.g. u/s. 44AD, 44ADA of the Income Tax Act, 1961(i.e. presumptive taxation of 8%/6% of gross turnover including GST). If higher would be the rate of GST in comparison to existing tax rates, higher would be the gross turnover and thereby higher would be the income tax liability & vice a versa.	E.g. u/s. 44AD, 44ADA of the Income Tax Act, 1961(i.e. presumptive taxation of 8%/6% of gross turnover including GST). If higher would be the rate of GST in comparison to existing tax rates, higher would be the gross turnover and thereby higher would be the income tax liability & vice a versa.
16.Impact of ITC on Manufacturer	Currently, business organizations do not get tax credit for indirect taxes such as luxury tax, Octroi, CST etc. therefore it is expensed as a cost to the organisation.	On transition to GST, majority of these levies are likely to subsume in GST and will be eligible for tax credit. Hence the said taxes need to be shifted from expense ledger to asset ledger (Tax credit receivable).
17.Impact of ITC on Service provider	Presently, organizations do not get tax credit for indirect taxes such as VAT, CST, luxury tax, Octroi, Entry tax etc. therefore it is expensed as a cost to the organisation.	On transition to GST, majority of these levies are likely to subsume in GST and will be eligible for tax credit. Hence the said taxes need to be shifted from expense ledger to asset ledger (Tax credit receivable).
18.Impact of ITC on traders	Presently, organizations do not get tax credit for indirect taxes such as Excise, CST, luxury tax, Octroi, Entry tax.	On transition to GST, majority of these levies are likely to subsume in GST and will be eligible for tax credit. Hence the said taxes need to be shifted from expense ledger to asset ledger (Tax credit receivable).
19. Tax Credit records	Under existing system, records/registers are required to be maintain offline. No concept of matching the tax credit is in place under excise duty & service tax.	Under GST regime, there would be the maintenance of online cash ledger and credit ledger. Meaning that now RG register would be required to be maintained online. Eligible input tax credit would be credited to the Credit Ledger maintained online. While tax paid by cheque/e-payment would be credited to the Cash Ledger maintained online. Therefore the concept of preparation of the back dated RG register as and when required,is going to be eliminated under the GST regime.

20.Tax rate	Excise Duty: 12.5% Service Tax: 15% VAT: 5% & 15% normally state to state differs CST: 2% against From-C	*Rate of GST:* 0%-More than 50% of goods falling under consumer price index 5%-for essential food items and goods commonly used 12%- Standard rate 18%-for services and rest of the goods not covered elsewhere 28% for luxurious goods Cess: on luxurious goods
21.Tax burden	Heavy tax burden on consumer due to cascading effect of tax	Under GST tax burden would be reduced due to elimination of most of the cascading effect.
22.Power of Government	Schedule –VII of Article 246 of the Indian Constitution provides for power of Union Govt. and State Govt. separately by way of List-I-Union List, List-II-State List & List-III-Concurrent List.	Article 246A of the Indian Constitution provides for *concurrent power* of the Central Govt. and State Govt. on the *same supply of goods and services.*
23. Tax Compliance	Lots of compliances regarding filing of returns, payment of taxes, obtaining the tax audit report and filing of tax audit report, assessment, issuing different forms, getting number of registrations under different laws (known as Central Excise, VAT, Service Tax, CST etc.) have become the second business of the business organisation.	Only single point compliance would suffice the purpose and business organisation would have to deal with the single tax administration.
24. Reverse Charge Mechanism (RCM)	Under service tax, few services are covered under reverse charge mechanism. Further under state VAT, purchase tax is levied if purchases of goods are made from unregistered dealer. This is also RCM.	Under GST, RCM is provided for both goods and services to ensure smooth collection of tax.
25.Classification	Under excise duty, classification based on HSN Under State VAT, classification is not based on HSN, Under service tax, no classification available.	Classification would be based on HSN.

Epilogue

Inevitable move of the Government towards GST is welcome for eliminating the cascading effect of tax, elimination of multiple taxes (approximate 17 taxes), maintaining the entire indirect tax records through online electronic system for transparency and good governance with reduction in the administrative and compliance procedures. Due to our federal structure, we have to satisfy our self with dual taxation system instead of a single tax for the entire economy of the nation. MA

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MSME FINANCE: Comparative Assessment of Institutional Finance to MSME in West Bengal

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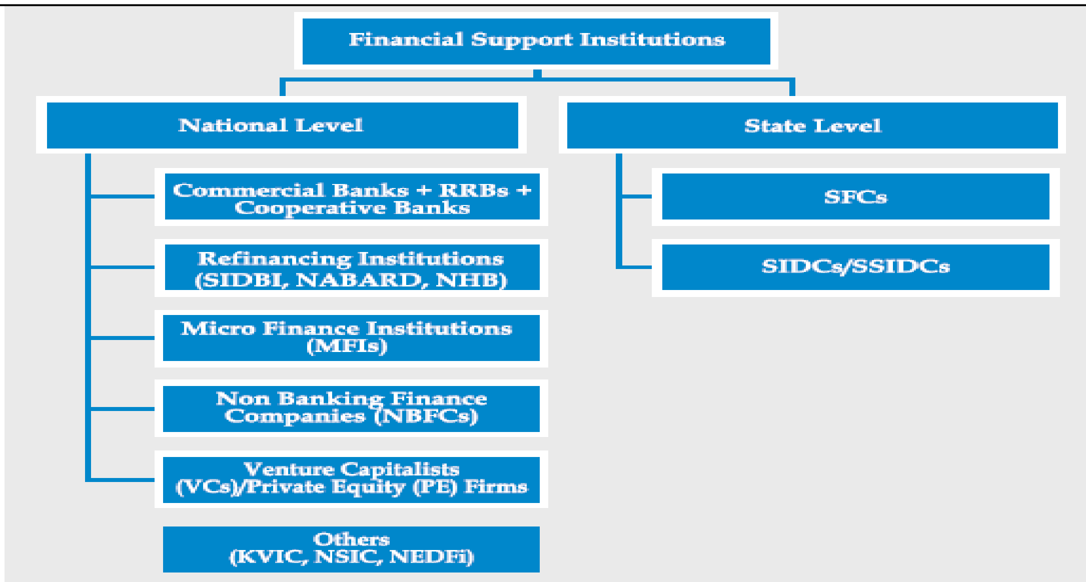
In a developing country like India unemployment and under-employment are proliferating economic diseases. Here most of entrepreneurs are capable of making small investments. Coupled with this there is a dearth of sophisticated machinery and modern technology. In a scenario like this, the Micro, Small and Medium Enterprises (MSME), which are labour intensive and capital saving, play a vital role in the overall economic development of the country. Going by the experiences of developed countries like USA, Japan, Korea etc, the MSME would continue to remain as powerful instrument of economic growth and development even in the era of unprecedented technological revolution and globalization. But this sector is played with financial obstacles. This paper has been designed to make a comparative assessment of institutional finance in the development of MSME in West Bengal and to assess the various issues relating to the finance to this sector. Financial assistance of Commercial Banks, Regional Rural Banks (RRBs), Small Industries Development Bank of India (SIDBI), West Bengal State Co-Operative Bank (WBSCB) and West Bengal Financial Corporation (WBFC) has been taken for comparative analysis and primary data have been collected to measure the various finance related issues.

Figure-01
Various Financial Institutions to Support the MSME



Source: SIDBI Report on MSME-2010

Definition of MSME

Micro, Small and Medium Enterprises Development (MSMED) Act 2006 defined the micro, small and medium enterprises based on their investment in plant and machinery for manufacturing enterprises and on equipments for enterprises rendering services. This Act provides first time the legal framework recognizing the concept of enterprise, comprising both manufacturing and service entities/ sectors. The definitions of MSME as per this act are given below.

Table No- 01
Definition of Manufacturing and Service Enterprises as Per MSMED Act 2006

Enterprises	Manufacturing	Service
	Investment in Plant & Machinery	Investment in Equipments
Micro Enterprises	Does not exceed twenty-five lakh rupees or two and half million rupees.	Does not exceed ten lakh rupees or one million rupees.
Small Enterprises	More than twenty five lakh rupees but does not exceed five crore rupees or 50 million rupees.	More than ten lakh rupees but does not exceed two crore rupees or twenty million rupees.
Medium Enterprises	More than five crore rupees but does not exceed ten crore rupees or hundred million rupees.	More than two crore rupees but does not exceed five core rupees or fifty million rupees.

Objectives of Study

The objectives of study are:

- To undertake a comparative assessment of Institutional Finance in the development of Micro, Small and Medium Enterprises (MSME) in West Bengal and

- To discuss and analysis the various finance related issues.

Literature Review

Micro, small and medium scale enterprises (MSME) play an important role in economic development. Many developed economy achieved their development through the proper development of this sector. This sector registered a rapid growth in India. Based on high importance of the sector, a large number of literatures are available. A brief review of such literatures is made here.

Acharyulu & Rajashekhar (2010) state that across the globe, Small and Medium Enterprises (SME) are a critical force – fuelling respective economics and employment, and re-shaping both government policies and corporate strategies. Globally SME comprises approximately 99% of all firms and employ between them about 65 million people.

Birajdar (2011) reported that small enterprise has emerged as a dynamic and vibrant sector of the economy, over the year's small enterprise have emerged as the leaders in the industrial sector in India and one of the most prominent features of the small-scale industries is assuring large scale employment opportunities for skilled, semi- skilled and unskilled labour force in the region.

Behera (2006) in his study on Institutional Financing for Small Scale Industrial Development find that the number of sick units are increasing due to lack of finance, the dearth of needed capital is the main reason for the resulting incipient sickness.

Desai (2000) in his study explains financial inadequacy is one of most important causes leading to sickness of small – scale units. He also mentioned that bank should provide expertise in guiding small entrepreneurs in their financial management problems and offer preventive assistance to them in case where sickness is anticipated.

IFC (2012) in one of project on Micro, Small and Medium Enterprise Finance in India find that supply of formal finance to the MSME sector is constrained by multiple challenges on both the supply and demand sides. The demand-side is constrained by factors such as limited access to collateral that directly impact access to finance. The supply-side is constrained by internal institutional challenges such as limited branch outreach and external operating environment challenges such as changes in macroeconomic scenario etc.

Nayak, Sahu & Panigrahy (2010) in their study find insufficient finance at affordable terms, infrastructural bottlenecks, problems in assessing adequate and reliable power at affordable price are the key constraints of SME in India.

Srinivas (2005) in his study explains without adequate bank finance, SME cannot acquire or absorb new technologies or can they expand to compete in global markets or even strike business linkages with larger firms. At the same time banks cannot consider the financing of SME as a viable option unless their priorities are addressed by SME.

Database and Research Methodology

Database

The study is exploratory as well as emperical in nature. Both primary and secondary data were used for the study. Primary data from MSME units were collected by using a pretested and precoded schedule questionaries by personal interview with the MSME entrepreneurs by the researchers. At the time of selection of units, we have tried to select approximate 70 percent units from micro enterprises, 20 percent from small enterprises and 10 percent from medium enterprises; which had availed financial assistance from Commercial Banks, WBFC and other financial institution in West Bengal. For the selection of districts and collection of data from the various enterprises, we have divided the total nineteen districts of the state in to four part as done by the West Bengal Financial Corporation for easily management and reaching to all enterprises taking loan or wiling to take loan from them. One district have been selected from each part. Districts selection are shown in Table -01.

Table - 01
List of Districts Selected for Intensive Study

Categories of Districts	Districts in Each Category	Districts Selected at Random for Intensive Study
A	Kolkata Municipal Corporation (KMDA area)	Kolkata

Categories of Districts	Districts in Each Category	Districts Selected at Random for Intensive Study
B	North and South 24 PGS,Howrah, Hooghly, Bardhaman, Nadia & Purba Medinipur	Howrah
C	Murshidabad, Birbhum,Malda, Jalpaiguri and Darjeeling	Birbhum
D	Purulia, Bankura, PashchimMedinipur, Uttar and Dakshin Dinajpur, Coochbehar andSunderban Areas	Pashchim Medinipur
Total	**19**	**4 (21 Percent of total)**

At present (up to 31.03.12), after the enactment of Micro , Small and Medium Enterprises Development Act 2006 (MSMED ACT 2006) and with the beginning of the new online registration procedure, the total number of cumulative registered MSME in West Bengal is 66310. But we have been able to collect the contact details and other details of only 874 Registered MSME units. This 874 Registered MSME units forms our total population. These units cover the various districts of the state. Out of these 874 units, 110 units (around 12.5 %) are randomly selected to collect the primary data. At the time of selection of enterprises by applying random number if any organistion is out of these four districts then next random nubmer is generated to get the enterprises within these four districts. But out of this 110 units ultimately 87 units (i,e 79.09 %) have responded to our queries. Thus we have arrived at the primary database for our study. The draft interview schedule designed for the purpose was first tested by conducting a pilot survey among a sample of 12 (6:4:2) units, which had availed financial assistance from Commercial Banks , West Bengal Financial Corporation (WBFC) and other financial institution in West Bengal. The questionnaire was restructured and finalised after making necessary alterations on the basis of the experiences and feedback obtained from the pilot survey. The Likert thrird scale have been used to collect the primary data from the MSME sector.

The secondary data were collected from books; journals; reports and published documents of districts industries centre; Various reputed website like SIDBI, IDBI, RBI, Ministry of MSME have also been used to collect the latest information. The entire collected data have been analyzed with the help of appropriate techniques.

Survey Period

The survery was conducted between January, 2014 to Febury, 2015.

Tools of Analysis

Mainly the Chi-Square test has been used to analyse the data. More over cross-tabulation, pie chart , bar chart, line chart, simple average method have been used to present and analyse the data with the help of SPSS statistical package.

Hypotheses of Study

Two hypothesis related to issues of finance are:

Hypothesis – I

H_0: There is no significant effect of collateral security on the rejection of loan application of MSME sector.

H_1: There is a significant effect of collateral security on the rejection of loan application of MSME sector.

Hypothesis – II

H_0: There is no significant impact of the loan limit by the financial institutions on the production and other activities of the MSME sector.

H_1 : There is a significant impact of the loan limit by the financial institutions on the production and other activities of the MSME sector.

Comparative Assessment of MSME Finance

The main sources of Institutional Finance to state MSME are:

01. Commercial Banks;

02. Regional Rural Banks;

03. Small Industries Development Bank of India ;

04. State Co-Operative Bank; and

05. West Bengal Financial Corporation.

Though Development of Micro, Small and Medium Enterprises is not solely dependent upon any particular inputs rather it is the aggregate result of combined inputs like availability of Raw Materials, Labour, Technology, Finance, Managerial efficiency and other factors. But out of these inputs, Finance plays the most vital role. Process of providing financial input is a combined effort in the sense that normally units who require long term capital approach to WBFC and for meeting short term or working capital need approach to commercial banks. Micro and Small Industries run by Co-operative societies naturally look to the co-operative credit organization like state co-operative bank for financial assistance. Micro and Small Industries located in the village areas normally look for Regional Rural Banks. In the above SIDBI play as apex institution and mainly act as a refinancer to other financial institutions but they also provide direct assistance to MSME sector.

In the Table-02 flow of institutional finance to Micro, Small and Medium Enterprises in West - Bengal are shown.

Table-02

Institutional Finance to MSME in West Bengal, As on 31.12.13

(Amount in Lakhs)

Sl.No	Financial Institution	Assistance to MSME	% to total
01.	Commercial Banks	46,23,232.04	92.70
02.	Regional Rural Banks	1,55,878.29	03.13
03.	Small Industries Development Bank of India	1,44,097.66	02.89
04.	State Co-Operative Bank and	38,167.00	0.76
05.	West Bengal Financial Corporation.	25,970.02	0.52
Total		49,87,345.01	100.00

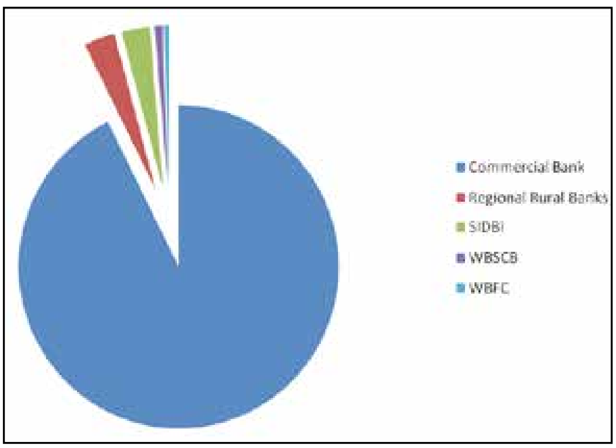
(Source: Compiled by Researcher)

It can be seen from the above table that almost 92 percent of the present institutional flow of credit to MSME is from commercial banks. Regional Rural Banks also playing an active role in providing financial assistances in rural areas, their share being 3.13 percent. Small Industries Development Bank's share is 2.89 percent in developing this sector. State cooperative bank's share is 0.76 percent. The contribution of WBFC is 0.52 percent in this area; although they also provide other various types of non financial assistance to state MSME.

Chart -01

Flow of Institutional Finance to MSME in West Bengal

As on 31.12.13 Amount in Rs.Lak



(Source: Compiled by Researcher)

It is clear from the above analysis that in the state level Commercial Banks are playing more important role than all other financial institution in providing financial assistances to Micro, Small and Medium Enterprises and obviously they are playing active role in the development of this sector. The Regional Rural Banks are in second position to provide financial assistance to this sector and they mainly provide assistance to the entrepreneur in rural areas. Small Industries Development Bank in third position and they also provide a considerable financial assistance to this sector.

Various Issues Relating to MSME Finance

The major issues relating to financial problems are:

- Collateral requirement;
- Availability of adequate and timely credit;
- High cost of credit;
- Access to equity capital;
- Rehabilitation of sick units.

Hypothesis Testing:

For testing of hypothesis relating to the major issues we also collected the primary data based on field survey and result of such are showing below.

Hypothesis – I

Questionnaires relating to hypothesis –I :

● **Problem relating to arrangement of collateral security:**

Table-03

Arrangement of collateral security is a problem	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	58	66.7	66.7	66.7
Neutral	14	16.1	16.1	82.8
Disagree	15	17.2	17.2	100.0
Total	87	100.0	100.0	

(Source : Field survey by Researcher)

Observation: From the study it is found that 66.7 % surveyed units agreed that arrangement of collateral security is a problem for themselves.

● **Rejection of Loan Application due to lack of Collateral Security:**

Table-04

Loan Application is rejected due to lack of Collateral Security	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	57	65.5	65.5	65.5
Neutral	16	18.4	18.4	83.9
Disagree	14	16.1	16.1	100.0
Total	87	100.0	100.0	

(Source : Field survey by Researcher)

Observation: From the above table it is found that 65.5 % of respondent units agreed that their loan application is rejected due to lack of collateral securities.

● **Chi- Square Test:**

A Chi-Square test has been done to find out whether arrangement of collateral security have any impact on rejection of loan application or not to MSME sector.

Table-05

Cross Tabulation showing the relationship between Arrangements of collateral security is a problem and Loan Application is rejected due to lack of Collateral Security

Arrangement of collateral security is a problem		Loan Application is rejected due to lack of Collateral Security			Total
		Agree	Neutral	Disagree	
Agree	Count	52	2	4	58
	% of Total	59.8%	2.3%	4.6%	66.7%
Neutral	Count	4	10	0	14
	% of Total	4.6%	11.5%	.0%	16.1%
Disagree	Count	1	4	10	15
	% of Total	1.1%	4.6%	11.5%	17.2%
Total Count		57	16	14	87
% of Total		65.5%	18.4%	16.1%	100.0%

(Source: Compiled by Researcher)

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	74.161	4	.000
Likelihood Ratio	66.474	4	.000
Linear-by-Linear Association	42.690	1	.000
N of Valid Cases	87		

(Source: Compiled by Researcher)

Interpretation: The Pearson Chi-Square or P value of test at 5% level of significance is 0.000 which is less than 0.05. So the null hypothesis is rejected and the alternative hypothesis is accepted. ***Therefore, it can be concluded that the arrangement of collateral securities is a problem for MSME and there is a significant effect of collateral security on the rejection of loan application of MSME sector***. From the above cross tabulationa table , it is also found that 66.7 % of the total surveyed units agreed that arrangement of collateral securities is a problem and 65.5 % of the surveyed units opinioned that their loan application is rejected due to lack of collateral securities.

Hypothesis – II

Questionnaires relating to hypothesis –II:

Need of increasing the present loan limit by the financial institution:

Table-06

Present loan limits by the Financial Institution should increase	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	59	67.8	67.8	67.8
Disagree	12	13.8	13.8	100.0
Total	87	100.0	100.0	

(Source : Field survey by Researcher)

Observation: The study found that 67.8 % of the surveyed units agreed that present loan limit should increase by the financial institutions.

Production and other activities are hampered due to shortage of fund	Frequency	Percent	Valid Percent	Cumulative Percent
Agree	61	70.1	70.1	70.1
Neutral	15	17.2	17.2	87.4
Disagree	11	12.6	12.6	100.0
Total	87	100.0	100.0	

(Source : Field survey by Researcher)

Observation: 70.1 % of the respondents units opined that their production and other activities are hampered due to shortage of funds.

● **Chi- Square Test:**

A Chi-Square test has been done to verify whether there is any significant impact of loan limit by the financial institutions on the production of the MSME sector or not.

Table-08

Cross Tabulation of Present loan limits by the Financial Institution should increase and Production and other activities are hampered due to shortage of fund

Present loan limits by the Financial Institution should increase		Production and other activities are hampered due to shortage of fund.			Total
		Agree	Neutral	Disagree	
Agree	Count	52	7	0	59
	% of Total	59.8%	8.0%	.0%	67.8%
Neutral	Count	5	8	3	16
	% of Total	5.7%	9.2%	3.4%	18.4%
Disagree	Count	4	0	8	12
	% of Total	4.6%	.0%	9.2%	13.8%
Total	Count	61	15	11	87
	% of Total	70.1%	17.2%	12.6%	100.0%

(Source: Compiled by Researcher)

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	57.143	4	.000
Likelihood Ratio	50.527	4	.000
Linear-by-Linear Association	36.624	1	.000
N of Valid Cases	87		

(Source: Compiled by Researcher)

Interpretation

The Pearson Chi-Square or P value of test at 5% level of significance is .000 which is less than 0.05. So, the null hypothesis is rejected and the alternative hypothesis is accepted. ***Therefore, it can be concluded that Present loan limit by the financial institutions are not adequate and there is a significant impact of loan limit by the financial institutions on the production and other activities of the MSME sector.*** So it should be increased. From the above cross tabulationa table , it is also found that 67.8 % of the total surveyed units agreed that Present loan limits by the Financial Institutions should increase and 70.1 % of units agreed that Production and other activities are hampered due to shortage of fund.

Conclusion

MSME are considered as the growth engine of every developing economy including India. But they have faces number of problems and out of them financial problem is most significant. Relating to the financial assistance in the state, the commercial banks are playing an most active role followed by other financial institutions. But the issues relating to the finance are mentionable. Among them arrangement of collateral securities is vital one and from the survey it is noticed that most of the units are facing problems in arrangement of collateral securities (66.7%). Poor loan limit is another problem as mentioned by 67.8% surveyed units. Due to shortage of funds, production is heavily hampered as indicated by 70.1% units. Considering the high importance of the sector to the economy these problems should remove and financial institutions and government jointly should given more attention on this sector. MA

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INSTITUTE NEWS

Eastern India Regional Council

The Institute of Cost Accountants of India-Rajpur Chapter

The Chapter organized a seminar on 'Budget 2017- Reforms Ahead' on February 4, 2017 and in the inaugural session, Shri Kalyan Nath, IRS, Special Commissioner, International Taxation, Income Tax Department, the chief guest mentioned about the proposals of Finance Minister which would help to establish a cashless and corruption free economy and Shri Udit Sen, CEO of Solace Finance and Insurance Global US in India, the special guest mentioned about the pros and cons of the steps declared by Finance Minister for poor and lower income people and specially for the agriculture sector. CMA Bibekananda. Mukhopadhyay, Chairman EIRC mentioned on the scope of practice of an 'Accountant' finely touched by Finance Minister in his budget speech and said the Institute has to explore in this area. In the technical session, CA Vivek Mehta, Manager, Deloitte Haskins & Sells LPP dealt in details of the GST proposals that are going to be implemented in next July 2017. CA Ajay Agarwal, Dy. Manager, Deloitte Haskins & Sells LPP, discussed the budget as a whole with the thrust on indirect tax matters. The last speaker in the technical session, CMA Mrityunjay Acharjee, Sr. VP (Txn & Fin), Balmer Lawrie Ltd. mainly touched on the direct tax aspects of the budget explaining all new ideas brought in by Finance Minister in his speech.

The Institute of Cost Accountants of India-Rourkela Chapter

The Chapter had organized a 'Panel Discussion on Union Budget 2017-18' on February 12, 2017 at Rourkela Club. Shri Ashwini Kumar, CEO, Rourkela Steel Plant, the chief guest emphasised that the budget is overall positive and chairman, SAIL welcomed the budget. CMA Bashir A. Masoudi, GM(F&A), RSP, the Guest of Honour discussed the significance of Preponement of Budget Presentation to 1st February and Inclusion of Railway Budget with Financial Budget. During the second session, CMA Mrityunjay Acharjee, Associate Vice President, Balmer Lawrie, the chief speaker detailed on the Budget Provision and its impact in different sector. CMA Shiba Prasad Padhi, Regional Council Member, Past Chairman, EIRC moderated the panel discussion. The panel vividly discussed the budget impact on steel industry, cashless transactions, income tax, forthcoming GST etc.

The Institute of Cost Accountants of India-Bhubaneswar Chapter

The Chapter observed the 67th Republic Day on January 26, 2017 and CMA Bibhu Prasad Mahapatra, Director (Finance), OPTCL & GRIDCO Ltd unfurled the National Flag as Chief Guest and advised the students about their roles and responsibilities to build a vibrant India. Observance of silence on January 30, 2017 had been conducted by the chapter in memory of those who gave their lives in the struggle for India's freedom. The chapter organised a seminar on 'Fixation of Products and Services prices at affordable rate with optimum quality' on February 5, 2017 at its premises for observance of 'Cost Synergy Week' , 1st to 7th February, 2017. CMA S.P Kar, chairman of the Chapter & CMA Bikram Keshari Das,

Dy. General Manager (Finance), OHPC Ltd. deliberated on the said topic to the participants. The Chapter organized one career awareness Programme at Salipur Autonomous College, Salipur on February 11, 2017. On February 20, 2017, the chapter organized a panel discussion on 'Union Budget-2017' at its Conference hall. CA A.K Sabat, a leading Tax Consultant and Budget Analyst in Odisha were the guest speaker and made a critical analysis on 'Direct Taxation and Union Budget-2017 & its impact on individual and industry'. Shri Dillip Satapathy, Resident Editor, Business Standard, Bhubaneswar was the resource person and delivered on 'Economic Proposals & Union Budget-2017' and CMA Niranjan Swain, Sr. G.M (Finance), OPGC Ltd, Bhubaneswar was other resource person on the occasion and deliberated on 'Indirect Taxation & Union Budget -2017 & its impact on Indian Economy'.

The Institute of Cost Accountants of India-Durgapur Chapter

68th Republic Day was celebrated at the Chapter and CMA P.K Nayak, Vice Chairman of the chapter unfurled the National Flag. The programme was attended by the members and staffs of the chapter.

Northern India Regional Council

The Region conducted a workshop on GST on December 24, 2016 on 'Crux of GST' and CMA Sanjay Gupta, vice president of the Institute was the guest of honour for the programme. CMA Sanjay Gupta, Vice President of the Institute requested the members to gear up with right kind of knowledge bank to take up the challenges in implementation of GST towards smooth transformation of business process in Indian industries. CMA S K Bhatt, Immediate Past Chairman, NIRC gave an overview of GST and CMA Deepika B Prasad opined that there would be an overall impact on whole value-chain process of business and she indicated that the industry should deploy professional expertise to transform their process of sourcing to distribution to optimize the benefit in the new scenario. CMA Sandeep Goyal while giving guidelines for basic approach for a comprehensive support to the manufacturing industries and service sector expressed his confidence that CMA professionals having long years of experience in handling matters of indirect taxation are in a position to provide all necessary support to the move of Government in smooth implementation of GST in India. On December 25, 2016, another workshop had been held by the chapter on 'Draft GST Model Act 2016' and the key speaker was CMA Anil Sharma, Secretary, NIRC. He presented a comprehensive overview on GST Model Act. On December 26, 2016 a workshop was held on 'Role of CMAs as Insolvency Professionals' where CMA Navneet Jain, RCM was present. The key speaker was CMA J K Budhiraja, CEO, Insolvency Professional Agency of the Institute. He explained legal provisions of Insolvency and Bankruptcy Code 2016 (IBC 2016) in terms of Bankrupt entity, Adjudicating Authorities, Appellate Authorities and the functions and duties of insolvency professionals.

The Institute of Cost Accountants of India-Jaipur Chapter

The Chapter celebrated the 68th Republic Day Function on January 26, 2017 at its premises. CMA P.R Jat, Chairman of the chapter hoisted the National Flag along with senior members. On February 3, 2017 the Chapter organized a seminar on Union Budget 2017 and in the first technical session, key speaker was CA Anoop Bhatia who explained in details various amendments in the Budget related to Direct Tax proposals. In the Second Technical Session, Key Speaker was CA Virendra Parwal, a leading practitioner and he explained about the various amendments in Budget related to Indirect Tax proposals.

Southern India Regional Council

The Institute of Cost Accountants of India-Mettur Salem Chapter

The Chapter and Salem Steel Plant organized a seminar on January 25, 2017 and inaugurated by Shri PK Misra, Executive Director, Salem Steel Plant. Shri S Kannan, Commissioner of Central Excise, Salem told that his department is well equipped on GST to face any doubts/clarifications from the stakeholders in future. Shri TS Rajagopalan, Partner, Neethi Associates, Chennai, a leading Consultant on GST explained the basic concept of GST, important legal provisions, procedural aspects, registration, pitfall provisions in GST, etc.

The Institute of Cost Accountants of India-Tiruchirapalli Chapter

The Chapter organized a two hrs PD Program on the theme 'A Road Map to GST Implementation' on January 21, 2017 at BHEL premises in Trichy for CMA Members. CMA Suraj Prakash, General Manager / Corporate Finance, BHEL, New Delhi, the resource person handled the session for the benefit of members and staffs of BHEL on the current emerging topic on GST. Shri M. Thiruneelakantan, General Manager/Finance, BHEL, Tiruchirapalli presided over the function and addressed the participants. On January 26, 2017 the Chapter organized a PD Program on the theme 'As Cost Accountants what can we do' at its conference hall. CMA V. Sathyanarayanan, Executive, Leadership Positions/Finance, IT, SAP, the resource person of the programme elaborately dealt with various aspects of Cost Accounting profession.

The Institute of Cost Accountants of India-Coimbatore Chapter

The Chapter arranged a Press Meet & Launch of CMA Lab by CMA Manas Kumar Thakur, President of the Institute on January 3, 2017. He was accompanied by CMA H. Padmanabhan, council member of the Institute and chairperson of the chapter, CMA Meena Ramji. On January 25, 2017 the chapter conducted a PDP meeting on the theme 'Demonetisation Impact' and CMA Sathish R, Practising Chartered Accountant, Coimbatore

explained the impact on the micro and macro level.

Observance of silence in the memory of those who gave their lives in the struggle for India's freedom had been conducted by the chapter as per HQ Circular on January 30, 2017.

The Institute of Cost Accountants of India- Trivandrum Chapter

The Chapter celebrated the 68th Republic Day and CMA G.S Manoharan Nair, Chairman of the chapter hoisted the National Flag followed by the National Anthem. The 80th Batch of Intermediate course was inaugurated by chairman of the chapter, CMA G. S Manoharan Nair and he spoke on the course details.

The Institute of Cost Accountants of India- Cochin Chapter

Observance of silence on January 30, 2017 had been conducted by the chapter in memory of those who gave their lives in the struggle for India's freedom. .

The Institute of Cost Accountants of India - Hyderabad Chapter

On January 7, 2017 the Chapter celebrated its 52nd Formation Day at Bhaskara Auditorium, Birla Planetarium. Sri U. Rama Mohan, Superintendent of Police, Cyber Crimes in CID, AP, Hyderabad was the guest of honour of the programme. He had suggested that passwords must be changed regularly and should not have close resemblance with family names etc.

On January 16, 2017 the Chapter held a discussion on 'Correspondence with Ministry of Corporate Affairs, Cost Audit Branch', CMA Bhavan, attended by all practicing members, including senior practitioners like CMA Vidya Sagar, CMA Dantu Mitra, CMA Zitendra Rao, CMA N.S.V Krishna Rao, CMA Sandeep Zanwar , CMA TCA Srinivas Prasad etc. CMA Zitendra Rao led the discussion with an elaborate list covering the points of concern and those that needed the focus of practitioners definitely. On January 20 and 21, 2017, a two day seminar had been organized by the chapter on 'GST-The New Paradigm in Indirect Tax Regime-An Opportunity for the Professional Accountants to add Value' and CA Shankar Bala, Freelance Consultant, started the program explaining how companies perceive the tax paid as a 'cost' and also how they attempt to optimize it. Dr V. Bhaskar, IAS (Retd) spoke about the policy and governance issues in GST. Shri S. Suresh Kumar, Superintendent, Central Excise, Customs & Service Tax, CA Bhupendra Agarwal, Tax Head of Karvy Group, CA Radhika Verma, Partner Indirect Taxes, Laxminiwas & Co were among other eminent dignitaries present in the seminar. Various career awareness programmes were conducted on different dates of January 2017. On January 23, 2017 the chapter conducted an evening programme on 'Conversation with Practitioner's on Cost Audit' at CMA Bhavan and CMA Dr. A.S. Durga Prasad, Past President of the Institute was the speaker of the programme. He

had rightly pointed out the need for practitioners to be updated with the subject technically, applying the auditing standards with more emphasis on documentation and to create value addition to clients. On January 26, 2017 the Chapter celebrated 68th Republic Day at CMA Bhawan and chairman of the Chapter, CMA D Surya Prakasam hoisted the flag. On January 30, 2017 the Chapter conducted an evening programme on 'Practical Aspects of GST Implementation' held at CMA Bhavan and Shri Govind Dixit, Indian Revenue Service, Customs and Central Excise was the speaker of the programme. Shri Govind Dixit said that CMAs play a crucial role in educating the industry on the new Act.

Western India Regional Council

The Institute of Cost Accountants of India- Pimpri–Chinchwad–Akurdi Chapter

A career counselling programme had been conducted by the Chapter on January 9, 2017. On January 14, 2017 the Chapter conducted a CEP seminar on 'Bankruptcy and Insolvency Code,

2016' at CMA Bhawan and CMA Ashish Deshmukh, chairman of the chapter said that Insolvency is essentially the state of being that prompts one to file for bankruptcy and bankruptcy is a legal declaration of one's inability to pay off debts. CMA L D Pawar in his speech briefly focused on major legal and commercial implications of the code and benefit envisaged. On January 16, 2017, the Chapter conducted oral coaching inauguration and CMA Amrendra Sinha, Head, Internal Audit, PVBU Plants, Tata Motors, Pune, the chief guest, explained that there are huge opportunities in corporate world and all students have to do study hard and get ready for the opportunities in the corporate world. Shri Shirish Kulkarni, Head, Internal Audit, CVBU, Tata Motors, Pune, the guest of honor, CMA L D Pawar, RCM & Secretary, WIRC and faculties of the chapter

were among other eminent dignitaries present in the programme. On January 26, 2017 the Chapter celebrated Republic Day at CMA Bhawan. On January 28, 2017 the Chapter conducted a CEP seminar on 'Workshop on Audit of Co-operative Sugar Factories' and CMA L D Pawar, RCM & Secretary, WIRC, was the chief guest of the seminar. Guest faculty CMA

Sudhakar V Vhatte, SAP Certified CO Consultant focused on audit of sugar factories. On January 30, 2017 the Chapter observed two minutes' silence in the memory of those who gave their lives in the struggle for India's freedom.

The Institute of Cost Accountants of India-Navi Mumbai Chapter

On January 15, 2017 the Chapter organized a CEP programme on the topic 'Insolvency and Bankruptcy Code' at K.B. Patil College, Vashi. The speaker for this event was CMA Kamal Jani, Former Executive Director, IDBI Bank. The speaker emphasised on the advent

of finance in India since the 1950's and the various financial controls prevalent in the Indian industry for promoting business and growth. He also provided a deep insight on the crucial roles played by banks and financial institutions in nurturing the Indian industry and projecting India on the growth trajectory

at a global scale. On January 29, 2017 the Chapter conducted oral coaching inauguration function at K.B. Patil College, Vashi. The chief guest for this event was Shri C. Dhanasekaran, IRS, Commissioner of Service Tax Mumbai VII and he explained the role of GST in industry and the importance for the students and members to study this Act in depth and garner expert knowledge on the subject for its successful implementation from

1st July 2017. CMA KVVS Murthy briefed the students and praised them for taking right decision in their life by pursuing CMA course. CMA Vivek Bhalerao, Chairman, PD Committee of the chapter emphasised on the mantra of 'RYP – Realise Your Potential' by citing practical examples on how to achieve success in the industry as CMAs in future. Chairman of the chapter, CMA L. Prakash briefed the students and other members on the oral coaching course curriculum and practical computer training and communications and soft skills workshop which will be organized for the benefit of the students.

The Institute of Cost Accountants of India- Surat South Gujarat Chapter

On January 22, 2017 the Chapter organized a CEP on 'Applicability & Effects of Anti Dumping Duty' at its office. CMA Biswadev Chanda, Managing Committee Member& Past Chairman

of the chapter, the faculty for the CEP elaborated on the topic and explained in details the definition, applicability & effects of Anti-Dumping Duty. On January 23, 2017 the Chapter organized the inauguration function of oral learning classes at its auditorium by Shri Yogeshkumar Bhatt, Principal of

Shri V B Shah, Institute of Management, R V Patel College of Commerce & V L Shah College of Commerce, Amroli, Surat. A career counselling programme was held by the chapter on January 28, 2017 at Shri V B Shah College of Management, Shri R V Patel College of

Commerce, Amroli. The Chapter celebrated the 68th Republic Day at the campus of CMA Bhawan. There was also a students' Programme on 'Interview Winning Skills'. Ms Mansi Thakkar from National Group was the faculty. She demonstrated with detail examples how to prepare before, during and after the interview. To prepare the road map of the silver jubilee of the Chapter, it organized

students' get together programme at its auditorium. CMA Manubhai K Desai, chairman of the chapter along with CMA Kishor Vaghela, practicing cost accountant & member of the chapter co-ordinated the programme. On January 30, 2017 the Chapter observed two minutes silence at the Chapter Hall as a mark of respect to those who laid down their lives in the struggle for India's Freedom.

The Institute of Cost Accountants of India-Nasik Ojhar Chapter

The Chapter organised a seminar on 'Union Budget' on February 6, 2017 comprised of four sessions. Chairman of the chapter, CMA Pradnya Yogesh Chandorkar conducted first session on 'Union Budget 2017 An Overview'. All major provisions of Direct & Indirect Taxes were elaborated. Second session was convened by CMA Dr. Shailendra Saxena, Bharuch, on changes in direct taxes. He explained about personal income taxes as well as corporate taxes. Third session was conducted by CMA R. K. Deodhar, vice chairman of the chapter. He explained about the changes in central excise & service tax. Fourth session was conducted by CMA Ashok Nawal. He discussed about updates in GST.

The Institute of Cost Accountants of India-Ahmedabad Chapter

A CEP on 'Dare Davil Negotiators – How to take care of Blind Spots' had been organized by the chapter on January 5, 2017 at its office. CMA Dr. Kandrap Mehta, Ph.D from IESE Business schools, Barecelona was invited as a faculty for the CEP and he elaborated on the topic vividly, followed by interactions with the participants.

The Institute of Cost Accountants of India-Aurangabad Chapter

On January 27, 2017 a CEP on Insolvency and Bankruptcy Profession, a new avenue of professional development programme was organized by the Chapter and Adv Shrinivas Kulkarni was the speaker of the programme and another CEP on 'Analytical Insights into Insolvency and Bankruptcy code 2016' was held on January 28, 2017 and CMA Pravin Mohani was the speaker of the programme.

The Institute of Cost Accountants of India-Bhopal Chapter

The Chapter held a seminar on January 15, 2017 on 'Effects of Social Media & Stress Management' and Ms. Aruna Srivastava, the leading management speaker of Bhopal who was in news recently for conquering Mount Everest, spoke on the

effects of social media and presented a critical analysis of the advantages and disadvantages of the same. In the second session, the industrialist and motivator, Shri Rajeev Agrawal was the key speaker who spoke about the growing stress in life with case studies.

Seminar at Bahrain Overseas Centre of Institute of Cost Accountants of India

The Bahrain Overseas Centre of the Institute organized a seminar on January 9, 2017 at Ahlia University GOSI Complex Manama Bahrain on the theme 'Product / Process Costing in ERP and SAP Environment' and 'Demonetization – The ground reality and future impact'. Speakers on these topics were young and budding professionals from India, CMA Neeraj Joshi and CMA Dr. Ashish P Thatte respectively.

Members of the Institute, members of the Institute of Chartered Accountants of India, businessmen, and academicians across the Kingdom of Bahrain attended the program. Members included CFOs, CEOs of top companies, banks and real estate companies from Bahrain attended the event. CMA Dattatray Ghadge, Chairman of Bahrain Overseas Centre recalled his memories working with one of the speaker, Dr. Ashish Thatte about a decade back and obtaining guidance from Dr. Dhananjay Joshi in his college days. He also enumerated initiatives taken by Bahrain Overseas Centre of Institute in last 4 years.

CMA Shankar welcomed all the members and wished for many such programs in future.

CMA Neeraj Joshi gave lucid and illustrative presentation on working in SAP environment. He explained various techniques on getting product costing accurately in SAP. Every function in CO Module of SAP had been discussed by him in details. CMA Dr. Ashish Thatte spoke about Demonetization of Indian Rupee in recent times. He provided list of events and his observations of the whole scenario since last 2 months. He also raised some future scenarios arising out of Demonetization.

Role of CMAs in Environmental Management Accounting

✤ *Ecological Accounting:*

Ecological accounting is concerned with providing information to assist managers with performance appraisal, control, decision-making and reporting for an organization or region. The implementation of sustainable development requires a cultural change and ecological accounting would represent a part of this change within both organizations and wider society. The Cost & Management Accountants (CMAs) can apply certain tools and techniques like Life-Cycle Assessment, Hierarchical Cost Analysis, Activity-Based Costing, Balanced Score Card, etc. for quantification and monetization of externalities and full environmental cost accounting for effective accounting and fair reporting.

✤ *Investment Decision-making:*

Investment project decision-making requires the calculation of different profitability indicators like net present value (NPV), Payback Periods (PBP) and Internal Rates of Return (IRR) or cost-benefit ratios. Recognizing and measuring environmental costs and benefits is both invaluable and necessary for calculating the profitability of environment-related projects. Without these calculations, management may arrive at a false and costly conclusion. The CMAs in this context have an important role to play in ensuring that all relevant environmental costs are considered in project proposals for apposite decision making.

✤ *Environmental Risk Management:*

Environmental risks are everywhere in the supply chain – from discovery of improper hazardous waste management to factory electrical fires which can impact a company's reputation, disrupt production and affect overall performance of the business. The CMAs are apt professionals to successfully manage environmental risks by coordinating supply chain strategies with business strategies. They can identify and assess the most significant environmental challenges through a supply chain risk assessment to prioritize engagement of suppliers. Identify potential negative impacts across all departments and develop improved business processes for cross-functional coordination to respond to supply chain disruptions.

✤ *Environmental Benchmarking:*

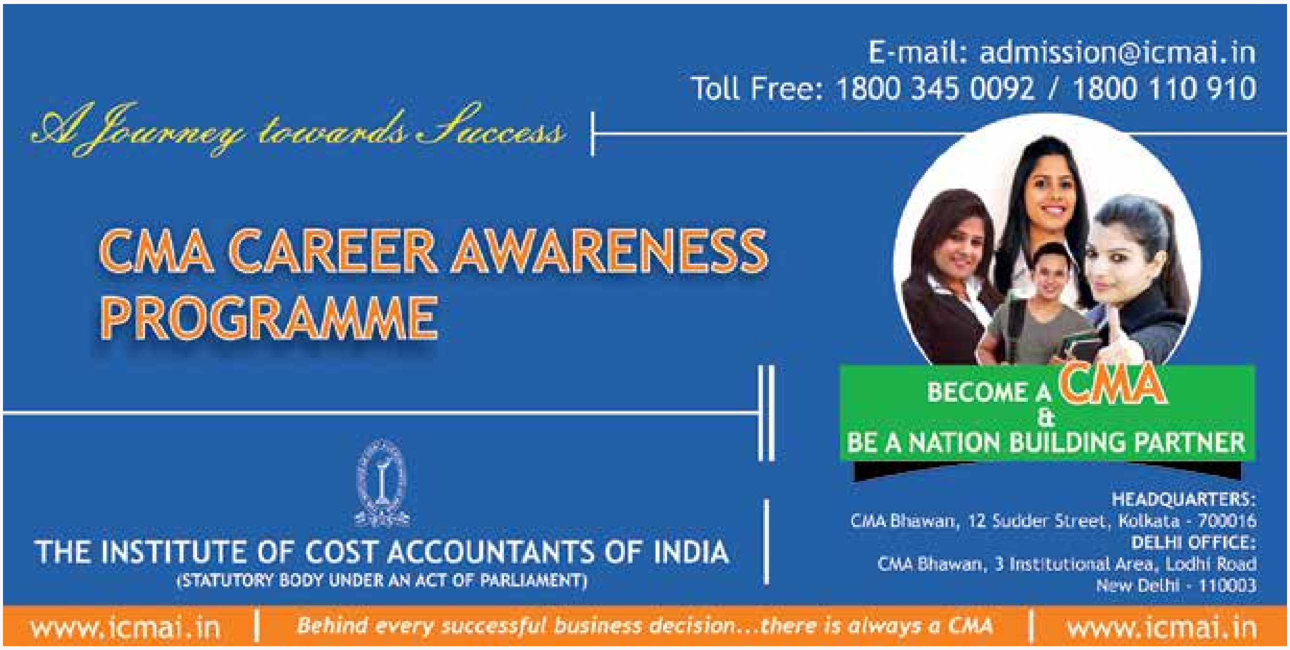
Environmental and sustainability benchmarking is a tool for comparing the environmental and sustainability performance of different organizations. Facing the challenges of globalization and ecology, the standards for economic, social and environmental performance of companies are becoming more exigent. The effect of environmental issues on production costs is often unpredicted. Thus CMAs are competent enough to apply Environmental Management Accounting (EMA) method to reduce business expenses by identifying and analyzing hidden costs. EMA improves economic performance and the business environment and provides a win–win solution. It also facilitates in computation of uncounted relevant environmental costs in accounting records. The information can be used to measure performance results and improvements related to the established environmental goals or objectives.

✤ *Green Audit:*

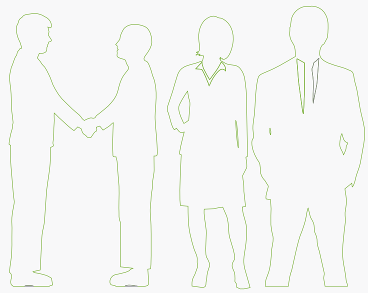
Environmental accounting contributes to enhance environmental performance of organizations, while simultaneously improves operational and financial efficiency, thereby promoting sustainable development. Environmental issues – along with the related costs, revenues and benefits – are of increasing concern. In this context, the CMAs with their multi-disciplinary and techno-commercial skills; are the apt professionals to conduct Green Audit to ensure Compliance of Environmental Laws, effective assessment of Environment Cost, Environment Impact Assessment and Carbon Credit.

✤ *Carbon Management:*

Carbon management allows companies to recognize areas for reduction in emissions and potential energy efficiency projects. The greatest opportunities for carbon management improvements come from money-saving energy efficiency measures, making the investment in carbon management a valuable business practice. With the dawn of the ratification of Kyoto Protocol by most of the nations, business entities started to consider issues such as trading in carbon allowances (or permits), investment in low- Carbon Dioxide emission technologies, counting the costs of carbon regularity compliance and passing on the increased cost of carbon regulation to consumers through higher prices. The CMAs can apply cost management techniques and appropriate measures for informed decision making. They can apply strategic cost accounting systems to evaluate the 'whole-of-life' costs in terms of carbon emissions relating to products and services..



CMA 2016-17 CAREER AWARENESS PROGRAMME



CAREER AWARENESS PROGRAMMES HELD DURING FEBRUARY 2017*

Date	HQ/Region/Chapter/CMASC	Venue
1/2/2017	Kota	Vidhi Silor Village, Bundi
2/2/2017	Nellore	Govt. Junior College, Podalakur
2/2/2017	Nellore	Vignan Degree College
2/2/2017	Nellore	Zilla Parishad Boys High School, Podalakur
2/2/2017	Kolhapur Sangli	Dr. Ghali College
3/2/2017	EIRC	Tamralipta Mahavidyalaya
3/2/2017	Nellore	SBPVD Junior & Degree College
3/2/2017	Nellore	Zilla Parishad Girls High School
3/2/2017	Kota	Govt. Sr. Sec. School
3/2/2017	Kota	Govt. Girls Sr. Sec. School
3/2/2017	Tiruchirapalli	St. Joseph College (B.Com & BBA-III year Evening college)
3/2/2017	Jodhpur	Govt. School (Bhatiyanadi)
4/2/2017	Tiruchirapalli	Srimad Andacan Arts & Science college (III year B.Com & BBA)
6/2/2017	Kota	Loaerance & Meyo Public School
7/2/2017	Nellore	Govt Junior College
7/2/2017	Nellore	Zilla Parishat High School, Kulluru
7/2/2017	Nellore	Zilla Parishat High School, Somasila
7/2/2017	Nellore	APTWR School
7/2/2017	Nellore	Sri Siva Sai Degree College

Date	HQ/Region/Chapter/CMASC	Venue
7/2/2017	Nellore	Zilla Parishat High School, Kaluvai
8/2/2017	Nellore	Zilla Parishat High School, Komarika
8/2/2017	Nellore	Zilla Parishat High School, Ganga Patnam
8/2/2017	Nellore	Zilla Parishat High School, Narsa Puram
8/2/2017	Nellore	Zilla Parishat High School, Mudhivarthi Palem
8/2/2017	Nellore	Zilla Parishat High School, Pallipadu
8/2/2017	Kota	L.B.S Group of Educational Institute, Kota
8/2/2017	Kota	Maa Bharti Sr. Sec. School, Kota
8/2/2017	Nellore	Zilla Parishat High School, Kudurupadu
9/2/2017	WIRC	Hinduja College
9/2/2017	Kota	Aklank Girls P.G. College, Kota
11/2/2017	Kota	S.R. Public Sr. Sec. School, Kota
11/2/2017	Bhubaneswar	Sailpur Autonomous College, Cuttack
11/2/2017	Pune	MIT Arts, Commerce and Science College
14/2/2017	Kolhapur Sangli	Shivaraj College
15/2/2017	Pune	VIT College of Engineering
17/2/2017	Pune	S M Joshi College, Hadpsar
17/2/2017	Tiruchirapalli	Government Arts & Science college, Thuvakudi, Trichy
18/2/2017	Thrissur	Govt. HSS, Koppam
18/2/2017	Navi Mumbai	Karmaveer Bhaurao Patil College, Vashi, Navi Mumbai
19/2/2017	Jodhpur	Chopasani School, Jodhpur
22/2/2017	Nellore	S Chavan Institute Of Computer Applications
22/2/2017	Nellore	Zilla Parishad High School, Krishinagar
28/2/2017	Nellore	Master Vision, Ongole, Prakasam (Dt)
28/2/2017	Nellore	Sri Nagarjuna Degree College, Ongole, Prakasam (Dt)
28/2/2017	Nellore	Zilla Parished Girls High School, Kandukur, Prakasam (Dt).

PROGRAMMES HELD IN JANUARY 2017 BUT REPORTED IN FEBRUARY 2017 *

Date	HQ/Region/Chapter/CMASC	Venue
13/1/2017	Kota	Vidya Mandir Sr Sec. School
18/1/2017	Kolhapur Sangli	D. R. K. Commerce College, Kolhapur
18/1/2017	Kota	Sarda Govt. Sr. Sec School
18/1/2017	Kota	Sarda Kendriya Vidyaliya
19/1/2017	Kolhapur Sangli	Rajaram College College, Kolhapur
28/1/2017	Kolhapur Sangli	Shri Shahaji Chhatrapati Mahavidyalaya College, Kolhapur
29/1/2017	Kota	JethaliaSainath Edutech (P) Ltd.
30/1/2017	Kota	Garg Disha Delphi Public School
31/1/2017	SIRC	Chevalier T Thomas Elizabeth College for Women, Perambur, Chennai

** As reported till 03-03-2017*
 # The list may not be exhaustive

The Institute of Cost Accountants of India

(Statutory Body under an Act of Parliament)

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NATIONAL INSTITUTE OF SECURITIES MARKETS

An Educational Initiative of SEBI

Research Bulletin, Vol. 43, No. I (ISSN 2230 9241)

Call for Research Papers/Articles

We invite you to contribute research paper/ article for "Research Bulletin", a peer-reviewed Quarterly Journal of The Institute of Cost Accountants of India. The aim of this bulletin is to share innovative achievements and practical experiences from diverse domains of management, from researchers, practitioners, academicians and professionals. This bulletin is dedicated to publish high quality research papers providing meaningful insights into the management content both in Indian as well as global context.

Research Bulletin is now a Quarterly Publication of the Institute. The next issue will be published in April, 2017.

Guidelines to submit full Paper

- Soft Copy of the full paper should be submitted in double space, 12 font size, Times New Roman, keeping a margin of 1 inch in four sides, MS Word (.doc) format.
- Each paper should be preferably within 5000 words including all.
- An abstract of not more than 150 words should be attached.
- The cover page should contain the title of the paper, author's name, designation, official address, contact phone numbers, e-mail address.

Theme Topic:

Contemporary Issues in Securities Markets

Papers are invited on the following topics, but not limited to:

- PSU Disinvestment
- Real Estate Investment Trusts
- Exchange Traded Funds
- Arbitrage Pricing
- Stock Market Volatility
- Credit Markets and Leverage Buy Outs
- Arbitrage Trade Analysis of Stock Trading
- Brand Equity and Media Efficiency
- Risk-Return Tradeoff
- Mutual Fund Investment
- Crowd Funding
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- Systematic Investment Plan as a Stability Builder for Retail Investor
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