THE JOURNAL FOR CMAs

THE MANAGEMENT ACCOUNTANT

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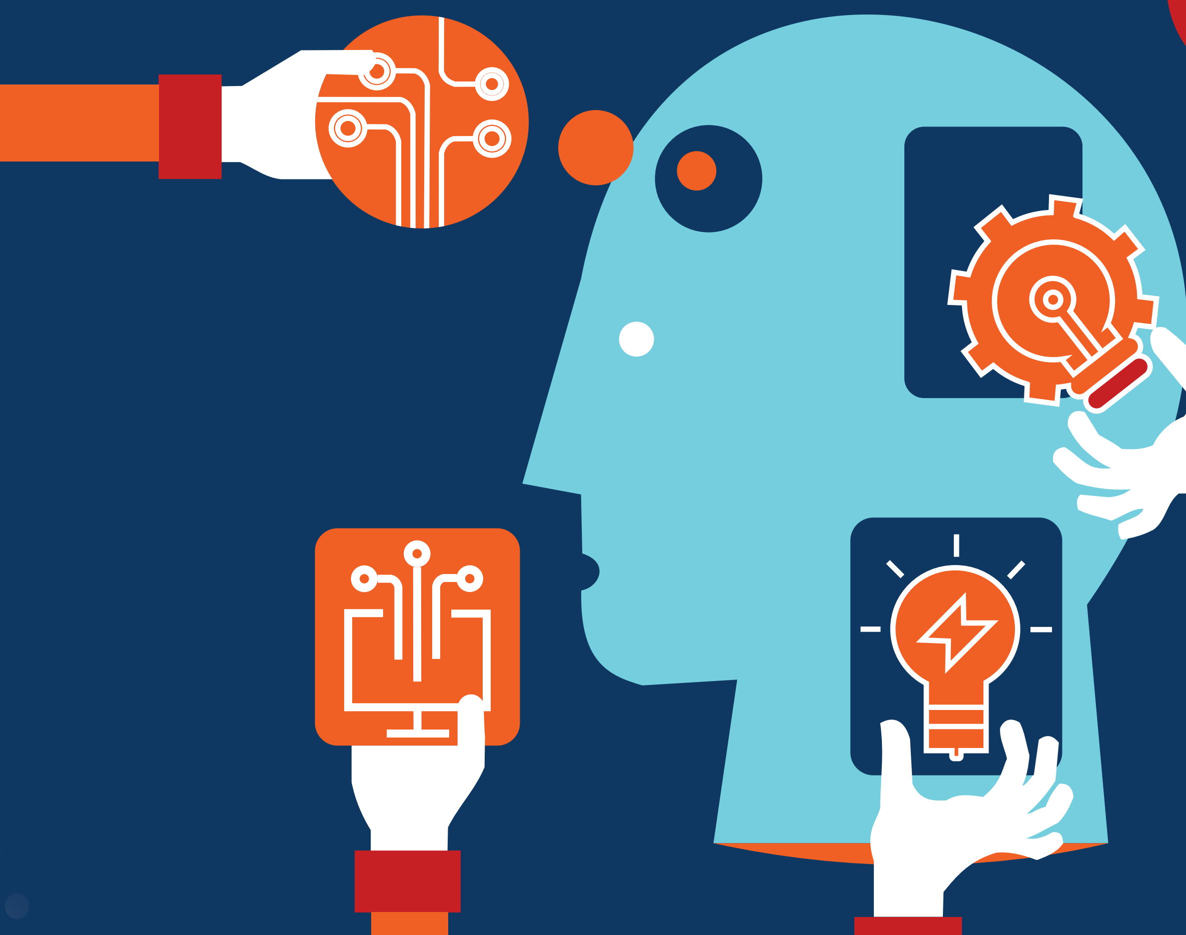

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- **THE INSTITUTE OF COST ACCOUNTANTS OF INDIA** (erstwhile The Institute of Cost and Works Accountants of India) was established in 1944 as a registered company under the Companies Act with the objects of promoting, regulating and developing the profession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

Editorial Office
CMA Bhawan, 4th Floor, 84, Harish Mukherjee Road, Kolkata - 700 025
Tel: +91 33 2454-0086/0087/0184

Headquarters
CMA Bhawan, 12, Sudder Street, Kolkata - 700016
Tel: +91 33 2252-1031/34/35

Delhi Office
CMA Bhawan, 3 Institutional Area Lodhi Road, New Delhi - 110003
Tel: +91 11 24666124

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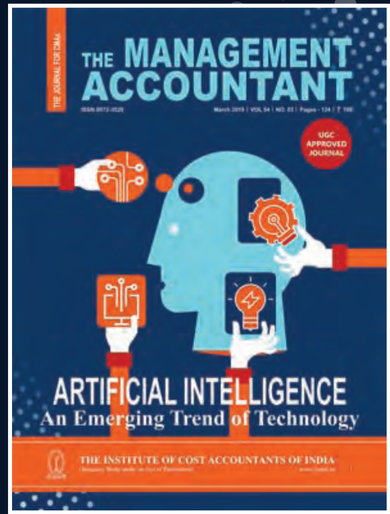

March VOL 54 NO.3 ₹100

WOMEN EMPOWERMENT

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EDITOR - CMA Dr. Debaprosanna Nandy
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e-mail: editor@icmai.in

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EDITORIAL OFFICE - CMA Bhawan, 4th Floor, 84, Harish Mukherjee Road Kolkata - 700 025 ; Tel: +91 33 2454-0086/0087/0184/0063

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EDITORIAL

Editorial

Greetings!!!

Artificial Intelligence (AI) is the ability of a machine or a computer program to think and learn. The concept of AI is based on the idea of building machines capable of thinking, acting and learning like humans. Artificial intelligence systems were created in an attempt to make decision-support systems more human and intelligent. AI makes it possible for machines to learn from experience, adjust to new inputs and perform human-like tasks.

According to the father of Artificial Intelligence, John McCarthy, Artificial Intelligence is *"The science and engineering of making intelligent machines, especially intelligent computer programs"*. AI is accomplished by studying how human brain thinks, how humans learn, decide and work while trying to solve a problem and then using the outcomes of this study as a basis of developing intelligent software and systems.

Artificial Intelligence aims to replicate human intelligence in machines. It is the use of computers for reasoning, recognizing patterns, learning or understanding certain behaviors from experience, acquiring and retaining knowledge and developing various forms of inference to solve problems in decision-making situations where optimal or exact solutions are either too expensive or difficult to produce.

Artificial Intelligence technology is fast evolving as the go-to technology for companies across the world to personalise experience for individuals. The technology itself is getting better and smarter day by day, allowing more and newer industries to adopt the AI for various applications. Banking sector is becoming one of the first adopters of AI and just like other segments; banks are exploring and implementing the technology in various ways.

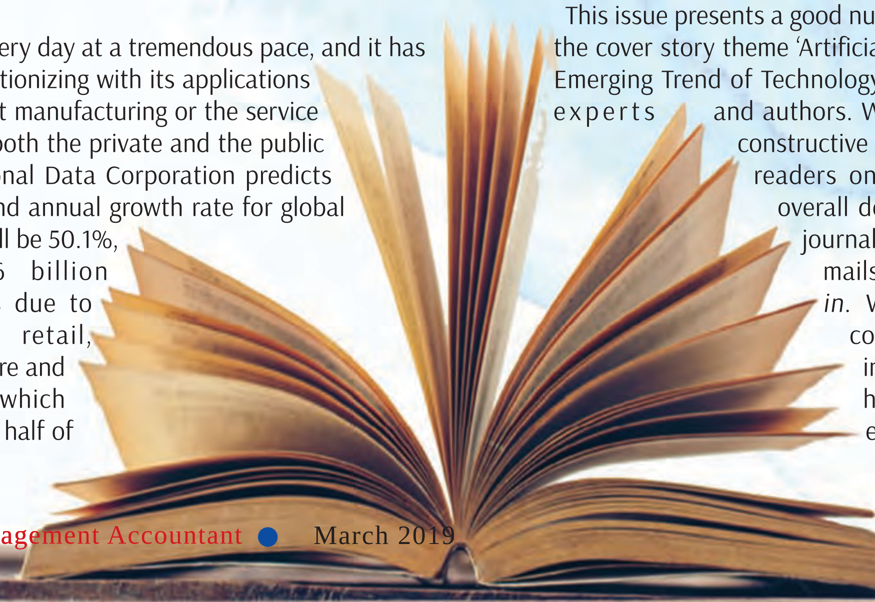
AI is growing every day at a tremendous pace, and it has been really revolutionizing with its applications in all sectors, be it manufacturing or the service organizations in both the private and the public sector. International Data Corporation predicts that the compound annual growth rate for global spending on AI will be 50.1%, reaching $57.6 billion by 2021. This is due to investments in retail, banking, healthcare and manufacturing, which will make up over half of the worldwide spending on AI. Big data and an exponential growth in computing power have opened the doors for artificial intelligence to take off. With advancements being made in machine learning, neural networks and deep learning technology, more companies are looking in to artificial intelligence to make their operations smarter and more efficient. Increasingly, the world of marketing is embracing these resources to make sense of data, learn more about customers and streamline operations.

Project management AI is a system that can perform the day-to-day management and administration of projects without requiring human input. It will not only automate simple tasks but will also develop in understanding of key project performance. Project management AI can apply this understanding to uncover insights, perform more complex tasks, make recommendations, and make decisions.

AI is the study and design of intelligent agents where an intelligent agent is a system that perceives its environment and takes actions which maximizes its chances of success. With AI, the business can undergo an extended voyage of re imagining banking, spanning many years, several milestones and a minimum of many challenges.

Emergence of Information Technologies like IoT, Big Data, Cloud Computing with artificial intelligence will make possible to implement smart factories of industry 4.0 with the challenge of restructuring the entire process. Manufacturing industry is expected to be one of the biggest beneficiaries of AI. AI is considered to be a business tool that can enhance business performances exponentially, especially in areas that require a great deal of precision, accuracy, and analytical decision-making. CMAs could play a significant role by focussing solely on advisory services and other high-value tasks thereby increasing their worth in an organization.

This issue presents a good number of articles on the cover story theme 'Artificial Intelligence – An Emerging Trend of Technology' 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: April 2019 — Public Sector Accounting

Subtopics

- Public Sector Accounting and Financial Reporting: Today and Tomorrow
- Public Sector Accounting System and Public Governance
- Developments and Challenges in Public Sector Accounting
- Ethics and Integrity in Public Sector Accounting
- Pros and Cons regarding International Public Sector Accounting Standards (IPSAS) implementation in the Public Sector
- The Impact of International Financial Reporting Standards (IFRS) adoption on Public Sector Financial Statements
- Reforms in Public Sector Accounting
- Strengths and Weaknesses of existing system of Public Sector Accounting in India
- Role of CMAs

Theme: May 2019 — Big Data Analytics in Accounting and Auditing

Subtopics

- Big Data Analytics in Financial Reporting and Accounting
- Big Data in Business Analytics: Implications for the Audit Profession
- Big Data Analytics: Opportunity or Threat for the Accounting Profession
- Leveraging Big Data Analytics for Auditing: Towards a Taxonomy
- Big Data Analytics as KPIs (Key Performance Indicators) in Managerial Accounting
- Using Bots to Reduce Errors and Complete Time-consuming Accounting Tasks
- Current Practices of Data Analytics in Internal Audit and its Impact
- Data Analytic Competencies in the Accounting Curriculum from the Perspective of Academicians/Practitioners
- Role of CMAs in Data Analytics

Theme: June 2019 — Industry 4.0: Leveraging for Efficiency, Adaptability, Productivity

Subtopics

- Industry 4.0: Opportunities & Constraints
- Implementation of Industry 4.0 and its impact in the supply chain
- Smart & Digital Future for the Indian Manufacturing Industry
- Upskilling for Industry 4.0
- Understanding the new energy landscape and what it means for industrial users
- Industry 4.0 for SMEs: Start Small, Scale up
- The Fourth Industrial Revolution and its impact on India's job creation
- Role of CMAs

Theme: July 2019 — Integrated Transport Ecosystem: the Way Ahead

Subtopics

- Regulatory frameworks for integrated shared mobility Governance in India
- Ensuring Transport Safety and Security
- Transportation Infrastructure Supporting the Environment
- Public-Private Participation (PPP) in Infrastructure
- Intervention of Artificial Intelligence in Mobility industry
- Clean & Green Mobility in India
- Regulatory hurdles and urban transport
- Role of Transport in promotion of Tourism industry
- 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.

Directorate of Journal & Publications

CMA Bhawan, 4th Floor, 84 Harish Mukherjee Road, Kolkata - 700 025, India
Board: +91-33- 2454 0086 / 87 / 0184, Tel-Fax: +91-33- 2454 0063
www.icmai.in

PRESIDENT'S COMMUNIQUÉ

"If you educate a man, you educate an individual, but if you educate a woman, you educate a whole family. Women empowered means mother India empowered"
-- Jawaharlal Nehru

CMA AMIT ANAND APTE
President
The Institute of Cost Accountants of India

My Dear Professional Colleagues,

Namaskaar!!!

CMA Course Fee Concession Scheme for Defence Personnel and their son/daughter

To commemorate 75 years of journey of the Institute, I am happy to inform that the Council of the Institute, as a tribute to the Defence Forces who are sacrificing their lives for defending our great country, has announced 50% Concession in CMA Course fee for the Persons serving in the Army/Navy/Air Forces and their Children. This fee concession applies to Foundation/CAT/Intermediate and Final Course of the Institute. The Institute salutes the brave soldiers.

Observance of Year 2019-20 as "Students Year"

I am delighted to inform that the Institute is observing the year 2019-20 as "Students Year". Various student's activities, events, and competitions for the CMA Students will be organized across the country. Competitions like debates, essay writing, group discussions, etc. will be organized by the Headquarters, RCs and Chapters of the Institute. I urge the students and members to give constructive suggestions to make this initiative a grand success.

Winter Campus Placement - 2018-19

I am happy to share that the Institute organised its first CMA Winter Campus Placement programme at Delhi, Kolkata, Mumbai, Chennai and Bengaluru during the month of January to March 2019 under "Winter Campus Placement" drive of the Institute. Companies participated in this initiative are VIP Bags, Schneider Electric, Haldiram's Bhujiawala Limited (Prabhuji), Cargill Business Services, Tech Mahindra, Capgemini, Bandhan Bank, ITC Infotech, RSM Delivery Center (India) Private Limited, Ashwath Quippo Infra Projects Pvt. Ltd., Avenue Supermarts Ltd. (D-Mart India), RITES, Care Ratings Ltd., Water Pack, Wipro. I would like to thank the industry partners for collaborating with the Institute over the years.

MoU with CMA Sri Lanka

I am pleased to inform that the Institute of Certified Management Accountants of Sri Lanka (CMA Sri Lanka) has signed a MOU with the Institute of Cost Accountants of India for the adoption of Cost Accounting Standards and Records used by applicable to Industry, Services, Government and Commerce This will assist CMA Sri Lanka in the formulation of Cost Accounting Standards in Sri Lanka. I signed the MoU in presence of President SAFA and Chairman, Cost Accounting Standard Board (CASB) during the launch of Cost and Management Accounting Standard Board as per the objectives of CMA Sri Lanka incorporated by an Act of parliament No 23 of 2009, on 1st March 2019 at Hotel Taj, Colombo, Sri Lanka.

International Women's Day – IWD 2019

International Women's Day (March 8) is a global day celebrating the social, economic, cultural and political achievements of women. The day also marks a call to action for accelerating gender parity. In India, Women education plays a key role in the social and economic development of the country. Educating a woman uplifts her life as well as the quality of her life and her entire family. Educating a woman can be likened to educating the whole family because of the role they play in families. Education for women plays an important role in women empowerment. We can hope for better days while all women of our country will be enlightened and educated.

Essay Competition-IWD 2019

The Institute announced an Essay Competition-IWD 2019 on the occasion of the forthcoming International Women's Day celebrations on March 8th, 2K19 and has planned for certain activities through the extended arms of the Institute that is the Regions, Chapters and other connected bodies in a grand manner as a mark of respect to our women fraternity. Essay on any one of the following topics to be submitted latest by 8th March 2019 evening 8pm.

1. "All Women are working women – only a few are salaried"
2. "Women Working Wings (WWW) for Nation's Growth"
3. "Women – Real Contributor to the Family, Society and Nation"

For details refer this link: https://icmai.in/upload/Institute/Updates/IWD-08032019.pdf

Global Student's Summit 2K19

I am happy to share that the Institute organised its first Global Student's Summit 2K19 on the theme "CMAs - Today's Student, Tomorrow's Executive" on 6th & 7th February 2K19 at Thrissur, Kerala. I am very thankful to all dignitaries, guests and speakers, my council colleagues, members of regional councils and chapters, members, and especially the student Fraternity for actively participating in the Summit to make it a grand success.

Bihar Cost Summit - 2019

I am pleased to share that the Directorate of Studies, Advanced Studies and CAT of the Institute organized a 2-Day Seminar Bihar Cost Summit – 2019 on the theme "CMAs Behind every Strategic Business Decision" on 16th & 17th February 2019 at Muzaffarpur, Bihar.

This Summit highlighted and addressed various important socio-economic parameters in the context of the State of Bihar like – GST, Urban & Rural Economy, Cooperatives, Agriculture, Skill & Entrepreneurship Development, Education Sector etc. The summit was inaugurated by Smt. Mridula Sinha, Hon'ble Governor of Goa as the Chief Guest. Sri Anil Kumar Rai, Vice-Chancellor of Mahatma Gandhi Central University, Sri Ujjawal Banerjee, Chief Executive Officer - KBNL, Subsidiary of NTPC and other eminent dignitaries were present as the resource persons. Around 350 delegates including students, members, corporate representatives etc. were present at the summit. The event was highly acclaimed and widely covered in the local media.

Meeting with Chairman, IRDAI

I am happy to share that I along with President SAFA and Chairman, Banking and Insurance Committee of the Institute had a meeting with Dr. Subhash C. Khuntia, Chairman, Insurance Regulatory and Development Authority of India (IRDAI) on 14th February 2019 at Hyderabad to discuss the role of CMAs in Insurance Sector.

Meeting with President, CIMA

I wish to inform that I along with Chairman International Affairs & Sustainability Committee of the Institute had a meeting with Mr. Steven Swientozielskyj, President, The Chartered Institute of Management Accountants (CIMA) on 26th February 2019 at CMA Bhawan, New Delhi and discussed about the important matters related to professional qualifications and professional development programmes offered by both the Institutes.

Committee on Public Finance & Government Accounting

The Committee organized a programme on 'Costing in Government Sector & Forensic Audit' on 10th February 2019 at Faridabad. The deliberations were well appreciated.

Directorate of CAT

I am glad to share with you that the result of the CAT Course examinations-January 2019 term held in the end of January, 2019 was declared within a day's time after the examinations were concluded at various locations of the country.

The Directorate of CAT continued its endeavors to propagate CAT course through the electronic medium and released the CAT e Bulletin – Vol.1 No. 2. The E-bulletin contains articles penned by the eminent Members of the Institute related to the CAT course. It also covers the glimpses of the Interactive Sessions held in four regions of the Institute with the respective ROCCs. The e-bulletin is available for reading at CAT Course section of the Institute's website.

Chairman-CAT Committee addressed the students of Cooch Behar College, Cooch Behar, West Bengal on 26th February 2019, in a Career Awareness Programme. In a similar programme, he addressed the students of Dinhata College, Cooch Behar District, West Bengal on 25th February 2019. In both the programmes, he apprised students about the CAT Course.

Chairman-CAT Committee had meetings with the Ministers of Government of Bihar viz., Shri Suresh Kumar Sharma, Hon'ble Minister of Urban Development and Housing Department, Shri Vijay Kumar Sinha, Hon'ble Minister of Labour Resources & Skill Development, Shri Sharwan Kumar, Hon'ble Minister of Rural Development, Shri Pramod Kumar, Hon'ble Tourism Minister for promoting the CAT Course. All the ministers gave a positive response for promotion of CAT course in the state of Bihar.

Directorate of Studies - Admission of Students for June 2019 term

I am pleased to share that the Institute is witnessing tremendous growth in students strength (more than 40%) since last two terms at every level - Foundation, Intermediate and Final. I sincerely acknowledge the efforts and contributions of the Directorate, Regions, Chapters and Support Centres to make it happen. I urge Regions, Chapters and others to conduct more career counselling events to sustain the growth rate in the future. I wish all the students for their bright professional career ahead.

Insolvency Professional Agency (IPA) of Institute of Cost Accountants of India

The Insolvency Professional Agency of the Institute took various professional development initiatives including Round table Interactions, workshops and webinars during the month:

- Workshop and Guide on US Bankruptcy Law on 8th February 2019 by Prof. Charles Scott , Professor of Insolvency and Bankruptcy Laws, University of Campbell, School of Law, USA.
- Face To Face Interaction with Prof. Edward I. Altman on "Global Credit Cycle where are we and what have we learned after 50 years" on 8th February, 2019, at Mumbai.
- Roundtable on Awareness on IBC and Role of Information Utility in IBC on 12 February, 2019 at Bangalore,
- Knowledge Forum on IBC jointly with NeSL at Kolkata on 19 February, 2019
- IPA was also an associate partner in a Conference on Insolvency and Bankruptcy Code "Road Map for Effective Resolutions" organized by CII on 26 February, 2019 at Delhi.

Professional Development and CPD Committee

PD & CPD Committee and Branding Cell organized seminar on "Strategic Cost Management & Practical Issues on GST" jointly with Andhra Chamber of Commerce Association on 07th February 2019 at Chennai.

I sincerely appreciate our Regional Councils and Chapters for organizing 67 programs, seminars and discussions on the topics of professional relevance and importance for the members such as, Recent Amendment in GST Law and Companies Act, Union Budget – 2019, Role of CMA's in Valuation and Other Professional opportunities, Cost Management in Textile Industry-Spinning/Weaving, New Emerging Areas for CMAs &

Recent Amendments By Companies (Cost Records & Audit) Amendment Rule 2018, BASEL III Capital Adequacy Ratio Norms and Present Banking Scenario, Banking & Insurance Sectors - Opportunities to CMAs and GST Implications on Insurance Sector, Scope of CMAs in Forensic Audit, Cloud Computing for CMAs and so on.

The Institute was associated with PHD Chamber of Commerce and Industry for "Conclave on Interim Budget 2019 and Important changes in GST Law effective from 1st February 2019" and "Conclave on Important changes in GST Law effective from 1st February, 2019 and Practical aspects of GST Annual Return (GSTR-9)/GST Audit (GSTR-9C)" on 5th February 2019 and 21st February 2019 respectively at New Delhi. I hope our members were immensely benefited with these programmes.

4th Roadshow on Competition Law, Hyderabad

Competition Law Roadshows are being conducted by Competition Commission of India (CCI) and Indian Institute of Corporate Affairs (IICA) at different locations with a view to step up competition advocacy and reach out to greater number of stakeholders in newer and better ways. The Institute was the partner with IICA & CCI for the 4th Roadshow on Competition Law held at Hyderabad on 25th February 2019.

Representation with Government, PSUs, Banks and Other Organizations

I am pleased to inform you that on the Institute's representation, Bureau of Indian Standards included Cost Accountants for the purpose of authentication of production statement in the Guidelines for Renewal of License (RoL) as per the conformity assessment Scheme – I of Schedule – II of BIS (Conformity Assessment) Regulations, 2018. Further, Madhya Pradesh Warehousing and Logistics Corporation (MPWLC) included Cost Accountants for Internal Audit & Physical Verification.

PD Directorate is sending representation letters to various organizations for inclusion of cost accountants for providing professional services. Software Technology Parks of India (STPI), Chhattisgarh State Beverages Corporation Limited, Indian Rare Earths Ltd., Uttarakhand Power Corporation Limited, Security Printing & Minting Corporation of India Limited, Bihar Education Project Council (BEPC), National Textile Corporation Limited, Gujarat Power Corporation Limited (GPCL), Airport Authority of India New Delhi, District Health & Family welfare Society (DH&FWS), Jammu and Kashmir Handicrafts Corporation Limited, DNP Limited, The Fertilizers and Chemicals Travancore Limited (FACT), Kolkata Port Trust, Pawan Hans Helicopters Limited , Jammu & Kashmir Bank Limited, Atal Nagar Vikas Pradhikaran (ANVP) , Madhya Pradesh Pachim Kshetra Vidyut Vitaran Company Limited- Indore, Uranium Corporation of India Ltd. , Madhya Pradesh Pachim Kshetra Vidyut Vitaran Company Limited- Ujjain, etc., have included Cost Accountants in their Tenders/EOIs during the month of February 2019.

Regional Council & Chapter Coordination Committee

The Regional Council & Chapter Coordination Committee had organised the National Regional Council & Chapter's Meet at Mysore on 16th & 17th February 2019. The motto behind conducting the Meet is to interact with the Regional Council & Chapter's representatives, resolve the issues being faced by them & to implement the implementable ideas shared by them. Around 100 dignitaries from Council of the Institute, Regional Council, Chapters & the Institute Officials attended the Meet.

Before inauguration of the Meet, everyone present, observed 2 minutes silence as part of remembrance of our brave soldiers who lost their lives at Kashmir's Pulwama district on 14th February 2019.

The program started with releasing of the book on 'Taxation Publications' and 'Revised Chapters Advisory 2019'. After which, dignitaries of the Regional Council & Chapters shared their issues and suggestions. The Committee had also organised an hour session of Yoga in the morning. The Awards in different categories were also presented to the Chapters for their exemplary performance.

At the end of the program Chairman Regional Council & Chapter Coordination Committee delivered the valedictory address.

Golden Jubilee Celebration of Baroda Chapter of the Institute

I am pleased to inform that the Baroda Chapter of the Institute is celebrating the completion of its 50 years of establishment and on this occasion the Chapter organized "The Golden Jubilee Celebration Seminar" on the theme of "Changing Dynamics of Costing Profession" on 3rd

February 2019, at Vadodara. I was happy to participate in the Seminar.

State Level Convention for Students at Hyderabad

On 15th February 2019, a State Level Convention for Students "CMA Prabhanjanotsav" was organized at The Institution of Engineers, Hyderabad. I along with President SAFA was invited to the Convention and Council members of the Institute also graced the occasion with their presence. Around 1200 students participated in preliminary rounds and Convention and meritorious students were presented awards.

State Level CMA Students & Members Meet at Vijayawada

I am happy to share that I along with Vice President, President SAFA and other council member attended the State Level CMA Students & Members Meet organized by Vijayawada Chapter of the Institute on 2nd February 2019 at Vijayawada.

Cost Accounting Standards Board (CASB)

I am pleased to inform that the Council of the Institute has approved the release of following documents as recommended by the CASB and the same is available for download on the CASB portal of the Institute's website:

- Cost Accounting Standard on Cost of Production / Acquisition / Supply of Goods / Provision of Services [**CAS-4 (Revised 2018)**]
- Guidance Note on **Compilation Engagements by a Cost Accountant.**

The CASB, in continuation with organising the seminars on Cost Governance, organised its grand finale in form of a Mega Cost Governance Conclave on 9th February 2019 in SCOPE Auditorium at New Delhi, which was well attended by the delegates. The Mega Conclave was inaugurated by CMA Dinesh Kumar Sarraf, Chairperson, Petroleum and Natural Gas Regulatory Board (PNGRB) and addressed by eminent experts on the subject. In order to create awareness of cost consciousness this initiative of the CASB is praise worthy.

Cost Auditing and Assurance Standards Board (CAASB)

I am pleased to note that a webinar on "Requirements of Planning and Documentation as per Cost Auditing Standards- SCA 101-102" by CMA J K Budhiraja on 27th February 2019 was conducted to kick-start a series of webinars on Standards on Cost Auditing by the CAASB. I hope that the members are immensely benefited by this initiative of the Board.

Taxation Committee

February has been an eventful month for Team – Tax Research. The Advanced Certificate Course on GST has commenced, the 3rd batch of Certificate Course on GST is on the verge of completion and the Certificate Course on Return Filing & Filling and Certificate Course on TDS will commence very soon under their flagship and administration. Two webinars has also been conducted on the topics Advance Rulings under GST: Procedure & Important case Laws (Emerging opportunities for CMAs & benefits for Industry) and Budget 2019 highlights under Income Tax Act 1961. The valuable publications on Compilation of Notification & Circulars-1st July 2017 to 31st January 2019(Third Edition) and Impact of GST on MSME (2nd Edition) have been released. A Seminar has also been conducted in association with Serampore Chapter on the theme 'GST Audit and Compliance: 360 degree views' and one with Dhanbad Chapter on the theme 'GST – Audit & Compliances'.

I wish prosperity and happiness to members, students and their family on the occasion of Swami Dayananda Saraswati Jayanti, Maha Shivratri and Holi and pray for the success in all of their endeavors.

Thanking you!!!

Warm Regards,

CMA Amit A. Apte
1st March, 2019

VICE-PRESIDENT'S COMMUNIQUE

CMA BALWINDER SINGH
Vice President
The Institute of Cost Accountants of India

Dear Professional Colleagues,

Greetings;

I am taking pride in addressing you as the Vice-President of the Institute for the first time through this communique. The address was planned during the finalisation of my communique as the Chairman of the Cost Accounting Standards Board that I must convey my gratitude, to the members of the profession who have been supporting me throughout and also to the stakeholders who have been a pillar of strength to the Institute in guiding on professional issues, in the capacity of Vice-President. Friends, I am sincerely thankful to each one of you for supporting me and the Council of the Institute in taking forward the agenda for the growth of profession and overall development of the Institute.

I believe that the members are the torch bearers of the profession and serve as brand ambassador of the Institute to the society. It is a matter of pride that CMAs have been contributing immensely to the economic growth of the country by rendering professional services, disseminating knowledge and policy making. I assure you that the Institute and its Council is committed to the capacity building of the members in order to enable them grabbing all the opportunities coming their way and contributing to the cause of the society and the nation at large. To keep yourself ahead in the competition, you need to be fully equipped with all the latest developments related to the profession. The Institute has been organising various seminars, programs, conferences and webinars etc. through its regional offices and chapters to keep the members abreast of all the latest developments. I am thankful to the support and guidance of ***CMA Amit A Apte, President, ICAI*** who is a true visionary, supportive, positive and forward looking professional.

Dissemination of Professional Knowledge and relevant information at the right time is the key to the development of any profession. I am happy to note that the Technical Committees and Board have taken up this task very efficiently with the support of the leadership of the Institute. Cost Accounting Standards Board (CASB) and Cost Auditing and Assurance Standards Board (CAASB), the standards setting bodies of the Institute and Technical Cell (TC) of the Institute, have very prominently taken up the agenda of Capacity Building of members and stakeholders in their relevant technical areas.

✷ I am very happy to inform you that I have attended the ceremony of ***signing of MOU with CMA Sri Lanka*** today i.e. March 1, 2019 in Sri Lanka with regard to adapting the Cost Accounting Standards issued by our Institute. The MoU, signed by the Presidents of both of the Institutes, will help our Sri Lanka counterpart in development of CASs as per their requirements. This activity is expected to bring our Institute closer to the International community especially in the SAARC region.

- **Development of CAS-4 (Revised 2018):** The Board took up the task of finalising the Cost Accounting Standard CAS-4 (Revised 2018) in view of implementation of GST in the Country, incorporating the cost of supply as required under GST. I am happy to inform that the revised CAS-4 was finalised by the Board and approved by the Council of the Institute. The Council has also approved the applicability of the CAS-4 (Revised 2018) with effect from March 1, 2019. It will lead to standardised determination of cost and serve as guidance to the Cost Accountants in discharge of their duties of preparing and certifying Cost Statements for determining the Cost of Production / Acquisition / Supply of Goods / Provision of Services as required under the provisions of GST Act/Rules.

- **Guidance Note on Compilation Engagements by the Cost Accountants:** The Council has also approved the release of Guidance Note on Compilation Engagements by the Cost Accountants, as finalised by the CASB. The idea of developing this guidance note is to guide a member in taking up any assignment other than mandatory Cost Audit. The assignments can be related to preparation of any type of cost statement / report based on the information provided by an entity and cost accountant may issue unaudited cost statements and other reports. These engagements are voluntary in nature.

- **Important initiatives:** The Board has also undertaken the **revision of Cost Accounting Standards** already issued by the Institute, in the light of implementation of GST and IndAS. The Board has also formed a sub-group to explore the possibility of developing a **Cost accounting standard and/or Guidance Note for SMEs & Start-ups**. Further a sub group has also been formed to suggest revision required in **CAS-2 (Capacity Determination)**.

- **Seminars on Cost Governance:** Apart from coming out with developing guidance notes and standards, the Board organised a series of seminars on Cost Governance covering discussions on Cost Accounting Standards, Cost Auditing Standards, Cost Rules and Cost Governance in association with other Boards/ Committees and Chapters of the Institute. The first seminar of the series was organised on 7th October 2018 in **Chandigarh** which was attended by more than 125 delegates. The second one was organised in **Bengaluru** on 23rd October 2018 which was also well attended by the members. The next seminar was organised in **Ludhiana** on 16th November 2018 which also included one session on GST. Fourth seminar was organised in **Patiala** wherein a session on experience sharing by eminent experts was also organised. **Dehradun** hosted the fifth seminar on 7th December 2018 which was well attended by the members. Sixth seminar was organised in **Jaipur** on 5th January 2019 wherein more than 100 participants got benefitted by the deliberations. Apart from the discussions on the Cost Accounting Standards and Standards on Cost Auditing issued by the Institute, there were sessions on experience sharing on Cost Governance by the resource persons of repute. The series of seminars was culminated in a grand manner by the conduct of Mega Cost Governance Conclave on 9th February 2019 in **New Delhi** which was inaugurated by CMA Dinesh Kumar Sarraf, Chairperson of Petroleum and Natural Gas Regulatory Board and addressed by a host of eminent experts and former Presidents of the Institute. The series was very successful in meeting the set objectives and the Board got a very encouraging response from the participants and the experts.

Development of FAQs on Cost Auditing Standards: Since the Government has approved the Standards on Cost Auditing (SCAs 101 – 104) for mandatory compliance by the cost auditor in the audit of the cost records, the CAASB has developed the Frequently Asked Questions (FAQs) on these four Standards. The FAQs are expected to be released shortly for the members.

- **Development of Standard on Quality Control:** The CAASB is also in process of development of the Standard on Quality Control.

- **Query resolving mechanism:** It is a matter of pleasure that the Technical Cell has put in place a mechanism to respond to the queries of members in a time bound manner. In a short span of time the mechanism has become very popular and a number of queries has been resolved by the TC. It has also come out with a compilation of responses to these queries.

- **Advisory Services:** With a view of catering to the specific requirements of Industry, members and other stakeholders the Technical Cell has developed a mechanism for providing Advisory Services.

- **Guidance Note on Responsibility of the Board:** In a significant development the Technical Cell, in view of the amendment in the rule 8 of the Companies (Accounts) Rules, 2014 to include a disclosure of compliance of maintenance of cost records, has developed a **Guidance Note on Responsibility of Board with regards Maintenance of Cost Records** for the guidance of members. The Guidance Note has become very popular in a very short span of time.

- **Development of XBRL Taxonomy:** I am pleased to note that the Technical Cell has come forward to form a group of experts in order to develop the XBRL taxonomy for the updated Companies (Cost Records and Audit) Rules 2014. The work on war footing is being going on and it is expected to be finalised in the month of March 2019.

- **59th NCC 2019:** I am thankful from the core of my heart to the members, resource persons, volunteers, officials, regional & chapter offices and my council colleagues for grand conduct of the **59th National Cost Convention of the Institute in Pune on 20th and 21st January 2019**. The event was immensely successful and well attended by the delegates. The high quality deliberations during the event were highly praised by one and all. The support and guidance I received as the Chairman, 59th NCC 2019 from one and all is exemplary. I hope that the same support will be continued in the time to come when many more such events are planned.

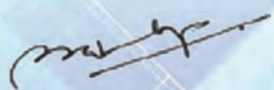
- **Felicitation of the Faculty Members:** In a landmark event, 291 Commerce Faculties including the Principals, Head of Commerce Departments and Commerce Teachers from more than 100 colleges, were felicitated for their contribution in the field of commerce, during the **Mega Career Counselling** event organised by the **Kota Chapter of the Institute on 18th November 2018** in Kota under the banner of TEF Committee of the Institute. I was invited to inaugurate the event and present the awards.

Friends I have listed out only the prominent initiatives that have taken place during the year however there are many more initiatives, taken by the Institute under the active leadership of CMA Amit A Apte, President which is highly commendable. The increasing registration of students, their passing percentage and improving campus placement is very heartening to know. I urge the passing students to take the membership of the Institute in order to increase the member base to show the world, true strength of Cost Accountants. I also request the members of the Institute to encourage the Cost Accountants who have not yet taken the membership of the Institute.

I am looking forward to your constructive suggestion for the development of the profession and the Institute. I am sure that your ideas, energy and efforts will be able to make a difference. You can reach me anytime for any help, support, suggestion or advice through email or phone.

Wishing you all round success in all of your endeavours.

Yours sincerely,



CMA Balwinder Singh

Vice President
1st March, 2019

"Optimism is the faith that leads to achievement. Nothing can be done without hope and confidence"

-Helen Keller

CMA (Dr.) I. Ashok
Chairman
Journal and Publications Committee
The Institute of Cost Accountants of india

Greetings!!!
I am sure this will find you and your loved ones in good Health and Spirit.

First of all, I express my heartfelt thanks to the President, Vice President and the Council for giving me this great opportunity to serve the Institute as Chairman of the Journal & Publications Committee (2018-2019). The Journal and Publications department is committed to work relentlessly to meet the expectations of the members, students and other stakeholders. Our mission is to publish international standard professional journal and quality publications to raise public awareness about policy issues in business, trade, society and economy and to facilitate solutions that will contribute to national development with special emphasis on cost and management accounting.

The following publications are being published regularly by the Directorate of Journal and Publications:

- The monthly journal 'The Management Accountant'
- Quarterly 'Research Bulletin'

The monthly journal *The Management Accountant* with its modern layout as well as rich and informative contents is highly commendable and the quality of articles has also improved immensely over the past few months. The basic focus is to make *The Management Accountant* a global brand on its own. It is needless to mention that the concerned department had progressed towards design improvement, and the present professional design has received accolades from all quarters and members of the Institute.

In our continuous endeavour to improve the quality of the journal and publications, structured and modern layout with innovative features and relevant cover stories of national and global importance are incorporated at regular intervals. Distinguished experts and authors contribute relevant and path-breaking articles and case studies for the journal that not only enhance the quality of the publications, but also give new dimensions and directions towards socio-economic research and policy making. Interviews of eminent industry stalwarts in respective fields reaches the unreachable through persistent value.

The basic focus of the Journal and Publications Department is to elevate the Journal to a global standard and create a brand on its own. We are proud to announce that now the Journal is enlisted under UGC – approved list of journals and indexed under important international journal databases and has gained its recognition worldwide and the readership has already reached 94 countries across globe. Hope the Management Accountant Journal not only serves the professionals to rejuvenate their career prospects but also enlighten them with updated and latest information as per their requirements.

The current theme (March 2019) of the Journal is on *"Artificial Intelligence-An Emerging Trend of Technology"* which is very much relevant in today's current global scenario. AI is the simulation of human intelligence processes by machines, especially computer systems. These processes include learning, reasoning and self-correction. In the future, predictive analytics and artificial intelligence could play an even more fundamental role in content creation and also in the software fields. Open source information and artificial intelligence collection will provide opportunities for global technological parity and the technology of artificial can become the future in all the domains of health, environment, public safety and security.

I also acknowledge the support and untiring effort of the office bearers of the Journal and Publications department to provide their assistance and best efforts and commit for its betterment.

We solicit your feedback, suggestions, and concerns for the overall development of the Journal and Publications Department. Please send us mails at **editor@icmai.in /journal@icmai.in** for various issues relating to Journal and Publications.

With Warm Regards

CMA (Dr.) I. Ashok
1st March 2019

CMA H Padmanabhan
Chairman
ICAI Global Student's Summit, 2K19
The Institute of Cost Accountants of India

The Institute of Cost Accountants of India for the first time organised Global Student's Summit 2K19 at Thrissur, Kerala India on 6th and 7th February 2K19.

The two days event witnessed participation of more than 1300 students across the globe. The Global Student's Summit exhibited the talents of the student fraternity in the form of participation in Business Quiz (63 Teams), Paper Presentation and Elocution Competition by large number of students. The Summit witnessed more than 100 items of cultural talents in addition to Motivational Address by renowned International Speaker and Youth Development Program (Future CMAs Session).

The Chairman, Global Student's Summit 2K19 wish to thank the Honourable President ICAI CMA Amit A Apte, Honourable President SAFA CMA Dr P V S Jaganmohan Rao for blessing the student fraternity by their presence, inaugurating and being with student fraternity throughout the event/s. The Global Summit had the privilege of listening to the address by renowned resource persons Sri. P Vasudevan, International Motivational Speaker, on 6th and by CMA M Sathyakumar, Director, Vivekananda Institute of Leadership & Governance on 7th February 2K19. The Institute sincerely thank the judges of various competitions and events, viz., Dr. Rajagopala Nair, Former Director of Albertian Institute of Management, Kochi as Quiz Master, for Elocution Competition Sri. Philip Sabu, Rtd. Director, Kerala Agricultural University and Sri. T.S.Nagarajan, Rtd. Senior Manager, Union Bank of India and for Paper Presentation Sri. P K Vijayakumar, Rtd. IRS and Dr. V M Xaviour, Additional Co-ordinator, Dr. John Mathai Center, Calicut University and CMA A P Madhu, Chairman Technical Team for exemplary way of conducting the events in a professional manner. CMA Manas Kumar Thakur, Former President ICAI and Convenor of the Summit along with Co-Chairmen CMA Suresh R Gunjalli and CMA A Siddharth, Co-Convenors CMA Sankar P Panicker and CMA Jojo John Chungath, TEAM SIRC and Thrissur Chapter in unison ensured excellent conduct of the 1st Global Student's Summit 2K19 of the Institute.

We and the Institute wish to congratulate the student fraternity for their active participation, the organizing team lead by CMA T G Sugunan along with CMA Praveen Kumar, CMA N G Anoop, Seniors and students of Thrissur for all hard work with excellent planning and execution. The PAN India Regions, Chapters, Extension Centres, ROCC and CMA Support Centres participation with large number of students showed the importance given to the student fraternity of the Institute. We thank CMA Madhavan Kutty Menon, Chairman Souvenir TEAM who ensured release of a memorable souvenir on the occasion with contributions from student fraternity to the maximum who exhibited their talents in writing articles along with a few CMAs too.

We wish to thank the Council Members, Regional Council Members and Chapter Management Committee Members, Members of the Profession, Well Wishers and Officials of the Institute, Region and Chapters, most importantly the student volunteers who actively involved in the event for success of the Global Student's Summit 2K19.

Regards and thanks,

CMA H Padmanabhan
Chairman, ICAI Global Student's Summit 2K19

ICAI GLOBAL STUDENT'S SUMMIT 2K19
6th & 7th February 2K19 at Thrissur Kerala


















National Regional Council & Chapter's Meet, 2019

The Regional Council & Chapter Coordination Committee had organised the National Regional Council & Chapter's Meet at Hotel Regenta Central Herald, Mysore on 16th & 17th February 2019. The motto behind conducting the Meet is to interact with the Regional Council & Chapter's representatives, resolve the issues being faced by them & to implement the implementable ideas shared by them. CMA Amit Anand Apte, President, ICAI along with dignitaries from Council of the Institute, Regional Council, Chapters & the Institute Officials attended the Meet.

CMA Amit Anand Apte, President, ICAI inaugurating the National Regional Council & Chapters Meet, 2019 at Mysore on 16th February 2019

CMA Amit Anand Apte, President, ICAI, being felicitated by ICAI, Mysore Chapter

Releasing of book on 'Taxation Publications' and 'Revised Chapters Advisory 2019'

CMA Niranjan Mishra (Chairman, Regional Council & Chapters Co ordination Committee and Council Member) addressing the delegates

CMA Amit Anand Apte, President, ICAI addressing the delegates

Before inauguration of the National Regional Council & Chapters Meet, 2019 at Mysore on 16th February 2019, dignitaries observed 2 minutes silence as part of remembrance of our brave soldiers who lost their lives after a bomb exploded at Kashmir's Pulwama district on 14th February 2019

Award distribution

Category A, Pune, WIRC

Category B, Surat-South Gujrat, WIRC

Category C, Aurangabad, WIRC

Category A, Hyderabad, SIRC

Category C, Thrissur, SIRC

Category D, Nellore, SIRC

Category A, Bhubaneswar, EIRC

Category B, Durgapur, EIRC

Category C, Rourkela, EIRC

Category D, Howrah, EIRC

Category A, Jaipur, NIRC

Category B, Faridabad, NIRC

Category C, Ludhiana, NIRC

BIHAR COST SUMMIT 2019, MUZAFFARPUR (BIHAR)-FEBRUARY 16 AND 17, 2019

Smt. Mridula Sinha, Hon'ble Governor of Goa, CMA Manas Kumar Thakur, Past President and Chairman, T& EF and Placement & CAT Committee of the Institute, Professor (Dr.) Anil Kumar Rai, Vice-Chancellor of Mahatma Gandhi Central University, Sri Jyotindra Kumar, Additional Commissioner of State Tax-GST, Tirhut Division, CMA Bibekananda Mukhopadhya, Past chairman EIRC were among Eminent Dignitaries who were present during the Summit






Release of Knowledge Books and Bihar Cost Summit Souvenir by Smt. Mridula Sinha, Hon'ble Governor of Goa



The Institute organised a "Shradhanjali" Programme-Candle Lighting and a Two minute silence to pay tribute for the soldiers who were killed in terror attack in Pulwama, Kashmir


Delegates

Participants

ICAI-CMA SNAPSHOTS

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1. CMA Amit A. Apte, President, along with CMA Dr. P.V.S. Jagan Mohan Rao, President SAFA & CCM of the Institute had a meeting with Dr. Subhash C. Khuntia, Chairman, Insurance Regulatory and Development Authority of India to discuss the role of CMAs in Insurance Sector.

2. 28th Meeting of Quality Review Board in progress in Chennai on February 15, 2019.
Seen L-R: CMA Sivaraman Gopalakrishnan, Member QRB; CMA Kunal Banerjee, Member QRB; Shri Shakti Sinha, Chairman QRB; Shri Alok Samantarai, Member QRB and CMA Arup S Bagchi, Secretary QRB

3. Inaugural session of Mega Cost Governance Conclave, 2019 held on 9th February 2019 in SCOPE Auditorium, Delhi.

4. Technical session 1 of Mega Cost Governance Conclave, 2019 held on 9th February 2019 in SCOPE Auditorium, Delhi.

5. Technical session 2 of Mega Cost Governance Conclave, 2019 held on 9th February 2019 in SCOPE Auditorium, Delhi.

6. Technical session 2 of Mega Cost Governance Conclave, 2019 held on 9th February 2019 in SCOPE Auditorium, Delhi.

7. Seminar on 'GST AUDIT AND COMPLIANCES' organized by TRD & Dhanbad Chapter of the Institute on 3rd February, 2019
Seen from left -
CMA Rajesh Sinha - VC Dhanbad Chapter
CMA Sanjiban Ghosh - Secy Dhanbad Chapter
CMA MD. Tashfeen - Chairman Dhanbad Chapter
CMA Manas Kr. Thakur - PP - ICAI
CMA K. S. Rajashekar - Dir. Fin. BCCL (Chief Guest)
Sri R. S. Mahapatra - Dir. Pers. BCCL
CMA Amal Kr. Das - PP- ICAI
CMA Shyamal Kr. Bhattacharya - Chairman - EIRC - ICAI

ICAI-CMA SNAPSHOTS

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8. CMA H. Padmanabhan, Council Member of the Institute addressing at the Panel Discussion on 'Banking Sector – Role of CMAs'. Also seen: CMA Jyothi Satish, Vice Chairperson, SIRC and senior members of the profession.

9. CMA Suresh R Gunjalli, Chairman – SIRC issuing Course Completion Certificate to the student of 'Certificate Course on GST (2nd Batch) . Also seen from (L – R): CMA S. Subhashini, Practicing Cost Accountant, Chennai – Faculty, Shri K. Srinivasan, IRS, Asst. Commissioner, GST – Chief Guest and Shri R. Srivatsan, Senior Faculty, NACIN – Chennai , Guest of Honour.

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10. Dr. T.V. Subramanian, Management Consultant Professor Emeritus, IFMR University addressing at the 13th GS Memorial Lecture on the Topic: 'Excellence in Services Supply Chain'. Also seen from (L – R): CMA K. Suryanarayanan, Treasurer – SIRC and CMA Suresh R Gunjalli, Chairman – SIRC.

11. CMA P. Raju Iyer, Council Member of the Institute addressing at the Discussion Meeting on 'Exposure Draft of FAQs on Standards on Cost Auditing'. Also seen from (L – R): CMAs M. Gopalakrishnan, Practicing Cost Accountant and Former President of the Institute and CMA S.A. Murali Prasad, Practicing Cost Accountant - Speaker.

12. CMA Jyothi Satish, Vice Chairperson – SIRC addressing at the Corporate Laws Day Event of PD Meeting on 'Independent Directors And Women Directors'

13. CMA Amit A. Apte, President along with CMA Sanjay Gupta, Immediate Past President of the Institute welcomes Mr. Steven Swientozielskyj, President, CIMA on 26th February 2019 at CMA Bhawan, New Delhi.

14. CMA Amit A. Apte, President, Prof. Laxman Watawala, President, Institute of Certified Management Accountants of Sri Lanka (CMA Sri Lanka), CMA Dr. PVS Jagan Mohan Rao, President, SAFA and CMA Balwinder Singh, Vice President & Chairman CASB during MOU signing ceremony at Colombo.

Programs organized by the Members in Industry Committee

Members in Industry Committee organised two seminars in the month of February, 2019. On 9th of February a program on ‘Overview of IBC-2016 & Valuation’ was held and on 15th of February, 2019 a program on ‘GST Audit & its Nitty-gritty and Recent Judgments on Advance ruling in GST’ were organized at JN Bose Auditorium of the Institute.

Program on ‘Overview of IBC-2016 & Valuation’

The inaugural session was graced by former Presidents of the Institute CMA Harijiban Banerjee, CMA Amal Kumar Das and the keynote speech was delivered by the Chief Guest CMA Amitava Mukherjee, Director (Finance) of NMDC. The inaugural session was followed by two technical sessions. The first technical session was on ‘Examinations on IBC and Valuation’ which was deliberated upon by CMA Dr. Rajkumar S. Adukia, an Insolvency Professional and motivational speaker. The second technical session was on ‘Critical issues & Latest Judgments of NCLT, NCLAT & Supreme Court’ which was deliberated upon by CA Subodh Kumar Agrawal, former president of the Institute of Chartered Accountants of India and an Insolvency Professional. All the member delegates present in the audience showed their utmost eagerness to listen to the expert speakers on the valuable topics of industries.

Program on “GST Audit & its Nitty-gritty and Recent Judgments on Advance ruling in GST’

The inaugural session was graced by former Presidents of the Institute CMA Harijiban Banerjee, CMA Amal Kumar Das and the keynote speech was delivered by the Chief Guest CMA Debasis Ghosh, Vice President – Indirect Tax of Peerless Group. The inaugural session was followed by two technical sessions. The first technical session was on ‘Recent Judgments on Advance ruling in GST’ which was deliberated upon by CMA Timir Baran Chatterjee, Sr. Partner at Tax Connect Advisory Services LLP. The second technical session was on ‘GST Audit & its Nitty-gritty’ which was deliberated upon by CA Subham Khaitan, Partner: S Khaitan & Associates. The members in the audience listened attentively to these eloquent speakers as they vividly deliberated on the latest and prominent issues of the topic.

Both the programs were followed by Question and Answer session, wherein many of the listeners discussed their queries with the expert speakers. A large congregation of members, both from industries as well as CMA practitioners attended these valuable programs.

AI AND ITS EVER EXPANDING HORIZON

CMA Dr. Mohit Kumar Kolay
Visiting Professor
University of the South Pacific
Suva, Fiji Islands

Abstract

In the present paper, the distinctive nature of artificial intelligence (AI) and its revolutionizing impact have been presented. The replication of the phenomenon of human intelligence by AI in functional areas have been observed. Its importance as a central policy issue in different countries, and its growth in spending have been documented. Applications of AI in various business areas have been brought forward to appreciate its all pervasive impact on human and the society.

Artificial Intelligence (AI) aims to replicate human intelligence in machines. It is the use of computers for reasoning, recognizing patterns, learning or understanding certain behaviors from experience, acquiring and retaining knowledge, and developing various forms of inference to solve problems in decision-making situations where optimal or exact solutions are either too expensive or difficult to produce (Nilsson,1980; Russell and Norvig,1995;Luger, 2002). Its main objective is to understand the phenomenon of human intelligence. According to Russell and Norvig (1995), AIis characterized by its ability to think like humans, act like humans, think rationally, and act rationally. With respect to these four distinctive features, it can be classified into a number of sub-fields:

1. Thinking humanly: Artificial neural networks and rough set theory;
2. Acting humanly: Machine learning, expert systems, and genetic algorithms;
3. Thinking rationally: Fuzzy logic; and
4. Acting rationally: Agent-based systems

To get a clear understanding of different facets of AI as stated above, the underlying principle, methodology, and application of each is reflected in the Table-1.

Table-1: Description of subfields of AI

Area	Principle	Methodology	Applications
Artificial neural network	Interconnected group of nodes like neurons in a brain	Computational model based on structure and functions	Interconnected supply chain process
Rough set theory	Lower and upper approximation of original set	Developing decision rules based on classified criteria	Supplier selection based on multiple but conflicting criteria (Li et al.,2007)
Machine learning	Access data and use those to learn and progressively improve using experience	Computer programs using algorithms and statistical models for predictions	Forecasting distorted demand at the end of a supply chain compared to upstream (Carbonneau et al., 2008)
Expert system	Computer programs having capacity to emulate human cognitive skills	Using repository of rules, system built up to infer, coordinate, and interact with user to answer queries	Solved multiple echelon inventory control problems in the US Air Force Logistics Center (Allen, 1986)
Genetic algorithm	Based on principle of genetics and natural selection (algorithm being a series of mathematical steps for problem solving)	Search-based optimization technique to solve difficult problems	Allocation of customers to multiple warehouses reducing stock outs and late deliveries (Zhouetal., 2002)
Fuzzy logic	Based on degrees of truth rather than usual true or false	Developing set of rules for decision environment using subjective performance criteria	Supplier performance evaluation (Lau et al., 2002); inventory cost control (Wang and Shu, 2005), supplier selection (Carrera and Mayorga, 2008), and order fulfillment (Amer et al., 2008)
Agent based system	Autonomous entities which observe and act upon environment and direct its activity towards set goals	Dialog as well as an expert system as online assistant to perform individualized customer service	Automated process of searching,evaluating,screening qualified suppliers, and issuing purchase order (Nissen and Sengupta, 2006)

AI has no superpower yet, but it is undoubtedly becoming smarter with every passing day.It has been successfully applied in areas such as game playing, semantic modeling, human performance modeling, robotics, machine learning, data mining, neural networks, genetic algorithms, and expert systems (Russell and Norvig,1995; Luger, 2002). The rapid development of computing support enables companies to incorporate AI into their operations as companies required significant breakthroughs in processing power with enhanced efficiency. One of these breakthroughs was the development of GPUs (Graphical Processing Units), which expanded the typical functions of CPUs. The development of cloud-based computing services is a boon to run sophisticated machine learning algorithms. There has been very rapid algorithmic advancements in machine learning and deep-learning, allowing the detection of patterns and discovery of correlations that were difficult or impossible to find by humans or conventional technology alone. Smart algorithms can offer valuable information such as the number of trucks available for delivery ahead of time so customers can know the price and approximate time frames for future deliveries. On the manpower front, data and programming skills that are complementary to AI have been enhanced tremendously. Highly skilled manpower is available now-a-days who can easily identify products and services that are powered by data with the help of search engine optimization. Interpersonal communication has really reached a new height. Use of chatbotshave been extremely useful to respond to customers' main questions, problems, and worries very quickly and efficiently. It has reduced dramatically time to collect data for all business users.The most advanced chatbots are already able to answer open questions by using the natural language process and automatic learning to respond in a human-like way. Apple's Siri uses natural language processing to interpret voice commands and respond accordingly. Google's Deep Mind uses now deep learning, capable of making connections and reaching meanings without relying on predefined behavioral algorithms, instead learning from experience and using raw data as inputs. Facebook has recently started using machine learning to teach its chatbots to converse and negotiate amongst themselves (chatbot to chatbot) as a non-human language. A cobot or co-robot is a robot intended to physically interact with humans in a shared workspace. Finally, what is available is the humongous amounts of Big Data generated from e-commerce, businesses, governments, science, wearables, and social media on which these algorithms can be trained. The main branches of AI like machine learning, deep learning, robotics, computer vision, cognitive computing, artificial general intelligence, natural and language processing can be applied in five functional domains like reasoning, knowledge, planning, communication, and perception (Hackerearth, 2018) as presented in the Table-2.

Table-2: Capability and application areas in five functional domains

Functional domain	Capability	Application areas
Reasoning	To solve problems through logical deduction	Financial asset management, legal assessment, financial application processing, autonomous weapons systems, games
Knowledge	To present knowledge about the world	Financial market trading, purchase prediction, fraud prevention, drug creation, medical diagnosis, media recommendation
Planning	Ability to set and achieve goals	Inventory management, demand forecasting, predictive maintenance, physical and digital network optimization, navigation, scheduling, logistics
Communication	Ability to understand spoken and written language	Real-time translation of spoken and written languages, real-time transcription, intelligent assistants, voice control
Perception	Ability to infer things about the world via sounds, images, and other sensory inputs	Medical diagnosis, autonomous vehicles, surveillance

Growth of AI:

AI is growing every day at a tremendous rate, and it has been really revolutionizing with its applications in all sectors, be it manufacturing or the service organizations in both the private and the public sector. International Data Corporation predicts that the compound annual growth rate for global spending on AI will be 50.1%, reaching $57.6 billion by 2021. This is due to investments in retail, banking, healthcare and manufacturing, which will make up over half of the worldwide spending on AI. Juniper Research discovered in a study that, in retail, global spending on AI will grow to $7.3 billion a year by 2022, up from $2 billion in 2018. This is because companies will invest heavily in AI tools that will help them differentiate and improve services they offer to their customers. According to Narrative Science, about 61% of companies with an innovation strategy are using AI to identify opportunities in data that they would have otherwise missed. The number of active startups has increased by 1400% since 2000 as per Stanford University. As per Adobe, investment into AI startups by venture capitalists has gone up six folds since 2000, and the share of jobs requiring AI has increased by 450% since 2013. A study by Ernst and Young and Nasscom predict that by 2022, around 46% of the workforce will be engaged in entirely new jobs that do not exist today, or will be deployed in jobs that have radically-changed skill sets. This is also borne out by the new LinkedIn study. AI skills, for instance, are among the fastest-growing skills on LinkedIn, 190% increase from 2015 to 2017. Boston Consulting Group (April, 2018) reported that many companies plan to implement AI soon, but those in China, India, and Singapore, on an average, have the greatest ambitions for near-term implementation of AI in production. Among the discrete industries surveyed, healthcare and energy are the most ambitious in the near term. For the 12 countries included in the BCG study, percentages of early-adopting companies are highest in the US (25%), China (23%), and India (19%), and lowest in Japan (11%), Singapore (10%), and France (10%). Price Waterhouse Coopers estimates that worldwide, AI will increase global GDP by $15.7 trillion, a full 14%, by 2030 of which $7 trillion is likely to accrue to China because of a massive AI investment plan, and almost half $3.7 trillion to North

America.Accenture data indicated that the AI healthcare market itself is expected to hit $6.6 billion by 2021. The study added that clinical health AI applications can create $150 billion in annual savings for the U.S. healthcare economy by 2026. The software industry does continue to stand out as the top field for professionals with AI skills. The AI technology has already yielded great success in streamlining work processes in various sectors starting from the health care, manufacturing including the supply chain and logistics, finance, internet security, hardware and networking, education, and academia. It seems as if a new AI startup pops up every day with the purpose of changing the way we think, interact and work on a day to day basis. During the last two years, AI is emerging as a central policy issue in several countries as reflected in their national level strategic plan (Table-3).

Table-3: National Level Strategic Plan for Developing AI and its Applications

Country-wise	Strategic Plan in Artificial Intelligence (AI)
Australia (May, 2018)	Announced four-year, AU$29.9 million investment in its 2018-19 budget to support its AI development plan
Canada (March, 2017)	The first country to release a national AI strategy in its 2017 federal budget: Pan-Canadian AI Strategy
China (July, 2017)	Committed $150 billion Next Generation AI Development Plan to lead the world in AI theories, technologies, and applications
Denmark (January, 2018)	Released the Strategy for Denmark's Digital Growth
EU Commission (April, 2018)	Adopted the Communication on AI
France (March, 2018)	Unveiled France's Euro 1.5 billion plan to transform them into a global leader in AI at the end of AI for Humanity Summit in Paris
Germany (December, 2018)	Released AI Strategy at the Digital Summit 2018 in Nuremberg
India (June, 2018)	AI for ALL, the national AI strateg adopted not only for economic growth, but also for social inclusion, drafted by NITI Aayog
Italy (March, 2018)	Released a white paper, AI: At the Service of Citizens, focused on adoption of AI technologies in the public administration
Japan (March, 2017)	The second country to develop a national AI strategy, AI Technology Strategy
Mexico (June, 2018)	Released a white paper, Towards an AI Strategy in Mexico: Harnessing the AI Revolution, laying out the foundations for a national AI strategy
Singapore (May, 2017)	Launched AI Singapore, a five-year S$150 million national program to enhance its capabilities in AI
South Korea (October, 2017)	Announced W1trillion investment in AI research over next five years
Sweden (May, 2018)	Released its strategy, National Approach for AI
Taiwan (January, 2018)	Announced its four-year Taiwan AI Action Plan
UAE (October, 2017)	The first country in the Middle East to launch an AI strategy, and the first in the world to create a Ministry of AI
UK (April, 2018)	Released the AI Sector Deal, as part of the government's larger industrial strategy, and aims to position itself as a global leader in AI
USA (October, 2016)	Three Reports placed: Preparing for the Future of AI, National AI R&D Strategic Plan, and AI, Automation, and the Economy

Applications of AI in Business:

Accounting:

AI is becoming handy to accountants for automatic data entry and customer service using chat-bots, thereby saving time, increasing accuracy, and reducing payroll costs. Different companies in different countries applied AI in various facets of accounting. To mention a few

Agilize Europe of Milan offers comprehensive accounting services through online software;

AppnZen of Santa Clara detects fraud while providing real-time information on compliance;

Bkper of Belo Horizonte allows to create custom formulas, record transactions, create dashboards;

Crunch Accounting of Brighton provides financial management services using cloud platform;

Moneytree of Tokyo provides data API (Application Programming Interface) services and personal finance apps to consumers;

SMACC of Berlin automates all accounting tasks on one platform using deep learning technology;

TALK Accounting of Tucson uses voice-to-data to automate bookkeeping, verify transactions;

Thought Ventures of Seattle provides custom built technology and software from scratch;

Xeroof Wellington provides a suite of online software for bookkeeping and small businesses; and

YayPay of San Francisco predicts cash flow with total cash visibility and AR activity tracking;

Finance:

Financial services companies use AI-based natural language processing tools to analyze brand sentiments from social media platforms for advising. Investment companies like Aidya and Nomura Securities use AI algorithms for trading. Fintech firms like Kensho and Forward Lane use AI powered robo-advisors to augment rebalancing decisions and portfolio management. Wealthfront uses AI algorithms to track account activity and help financial advising. Chatbots, powered by natural language processing serve banking customers with quick information feedback.

Data security:

Cyberattacks are becoming a growing reality with the move to a digital world. Top firms across the world are investing heavily in cybersecurity infrastructure, providing a multi-layered security strategy that is robust and sophisticated. *Intelligent Cybersecurity* allows companies to detect vulnerabilities or anomalous user behavior in business applications like ERP or financial systems; airport security examines identity through cameras, and in case of any signs of danger, passengers are intercepted. The *PatternEx* solution enables customers to predict and prevent cyberattacks in real time, anywhere across the enterprise.Similarly**,** *MIT's AI platform*and*Deep Instinct* are revolutionizing cybersecurity – harnessing the power of deep learning, with unprecedented prediction models, designed to face the threats of cybersecurity.

Fraud Detection:

The AI software is given a very large sample of data that includes fraudulent and non-fraudulent purchases, for example, and is trained to determine whether a transaction is valid based on data. Over time, the software becomes incredibly adept at spotting fraudulent transactions based on what it has learned previously. Fraud detection is an important application of AI in financial services. Mastercard uses Decision Intelligence technology to analyze various data points to detect fraudulent transactions, improve real-time approval accuracy, and reduce false declines. Many companies like Infosys, Wipro, Cognizant, TCS, etc. are engaged in this area of development. Cognizant, for example, developed an AI-driven machine learning solution to flag potential fraud by analyzing scanned images of handwritten checks, helping a global bank to reduce the risk of fraudulent activities and lower costs.

Healthcare:

AI generates massive amount of data in the healthcare industry to train and enable algorithms to spot patterns improving reliability, predictability, and consistency with quality and patient safety. Certain application areas are: *BiliScreenapp* for detection of bilirubin level for cancer; China's *Infervision* to diagnose cancer from deep learning and image processing; *GNS Healthcare* to match patients with most effective treatment; *Medecision*'s diabetes severity detection; *NuMedii*'s linking drugs with diseases; *Redivus* Health's clinical decision support system for critical medical events.

Manufacturing and Supply Chain Management:

The company like *Landing.ai* created machine-vision to find microscopic defects in objects. AI tools predict now-a-days malfunctions and breakdown of equipment for preemptive actions. In the automobile sector, *Tesla* was pioneer to launch a self-driving vehicle; *Audi, Cadillac, and Volvo* are already developing their own models. *TeslaBot* enables its users to interact with their car from phone or desktop; *Nvidia* has partnered with *Volkswagen* to develop "intelligent co-pilot systems" in cars to enable safety warning; *Ericsson* predicts that 5G technology will improve vehicle-to-vehicle communication wherein sensors will be implanted in airport runways, railways, and roads. AI is everywhere, but perhaps its greatest impact could be felt across the supply chain. In fact, McKinsey estimates that firms could gain $1.3 trillion to $2 trillion a year from using AI in supply chain and manufacturing. From anticipating orders to managing deliveries, AI has the power to drastically increase efficiency in all areas of the supply chain. Since such ability can be enhanced by increased visibility across the end-to-end SC processes, many leading-edge organizations have attempted to enrich their information sources and share real-time information with SC partners. Rolls Royce uses AI to safely transport its cargo; UPS uses ORION, AI-powered GPS tool to create the most efficient routes for its fleet;Marble, which calls itself the "last-minute logistics company," delivers all sorts of items quickly and more efficiently using LIDAR-technology driven robot; Lineage Logistics uses AI algorithm to forecast when orders will arrive and leave a warehouse;Infinera predicts future delivery times with customer feedback, weather reports and logistics. AI can revolutionize SCM and logistics due to i) availability of greater contextual intelligence, ii) intelligent robotic sorting, iii) AI-powered visual inspection, iv) sophisticated technology driven greater insights of SCM productivity management using IBM's Watson, One Network's Neo, v) capacity of analyzing enormous volumes of data,thus enhancing demand forecasting accuracy, vi) better supplier selection consequent with enhanced supplier relationship management, vii) AI-enhanced customer experience using Amazon's Alexa-powered Echo for query and feedback. In fact, SCM becomes more information intensive and its focus has been directed toward the substitution of assets (e.g., inventory, transportation equipment, warehouses) with information.

Marketing:

AI has really become the right hand of marketers and retailers around the world. It helps to identify the most profitable audiences for any ad, intelligent algorithms are able to learn, detect, and predict which types of users are more likely to become clients at a lower cost per acquisition. Some examples are: *Adext*, *Hemingway App*, *Articoolo*, *Wordsmith*, *Quill*, *Wibbitz*. Shopping online creates rich data footprints regarding individual preferences, spending habits and preferred channels of individual consumers. Feeding these digital breadcrumbs into an AI-engine helps bring curated shopping journeys to mass audiences. Automated bots can create lifelike, seamless customer service experiences that help on the marketing side (relevant advertising), consumer side (individualized display ads), accounting side (handling invoicing and payment), giving marketers more time to focus on the big picture. Many websites now offer some form of 'chat' functionality where you can talk to a customer support representative or sales representative. In most instances, it is some form of automated AI that begins these conversations. As these AI chat bots are capable of understanding natural language, i.e. human conversation, they can readily assist customers in finding out what they need to know, extracting information from the website, and directing them to the appropriate web page or person for further support.Even brands like *Sephora* and *H&M* use chatbots that serve as sales consultants and, believe it or not, they're extremely useful to the users. *Sephora*, for example, lets its users "try out" their cosmetic products (such as lipstick, eyeshadows, highlighters, etc.) on a photo of themselves that they share with the bot. The bot's AI technology can identify the user's facial features and then use augmented reality to apply these makeup tests. On the other hand, *H&M* helps users who visit its e-commerce platform find exactly what they are looking for by making suggestions on what they might like or look good on them according to their preferences. *Amazon*'s giant e-commerce platform uses visual search option on its mobile application- just take a photo of the item desired, and it will show something very similar or identical for purchase. Organizations like BBC, CBS, the New York Times, Forbes, Associated Press and Reuters are using AI on a daily basis to develop and present their news publications to the public. Many AI-powered marketing companies have emerged in the scene now, *Albert* is the world's first and only AI marketing platform that executes seamlessly across all channels, including email, mobile, social, search and display. *Value Genie* helps businesses move from a product or service focus to a customer value focus. *Marketo* empowers the marketer by building campaigns that correspond to individual signals and preferences.

In addition to AI applications in the aforesaid functional areas of business, we see its applications in many other areas too. In the area of entertainment, *Spotify* of Stockholm is a music streaming platform wherein AI searched through millions of conversations, newspaper titles, and lectures based on the main theme of the song: heartbreak; after theme defined, ML algorithms programmed to create music found different musical elements, which gave them ideas on how this piece should sound. *Siri of Apple* uses voice queries and a natural-language user interface to answer questions, make recommendations, and perform actions by delegating requests to a set of internet services. *Netflix* and *Amazon* track the habits of subscriber base and analyze using machine learning algorithms to develop various clusters of taste communities and recommends shows or products. In the area of HRM, IBM uses *Watson AI* to assess how its 380 000 employees are likely to perform. In the restaurant business, *Creator* in San Francisco serves burger in its restaurant programmed by AI to suit individual's choice. In the field of agriculture in India, Microsoft's *AI Sowing App Cortana* (in collaboration with ICRISAT) suggests farmers the right time for sowing seeds. In the travel and tourism sector, *Hopper* of Montrealpredict price patterns and alert travelers of the cheapest times to buy flights to their destinations. As a tremendous help to the society, *Fast Company* analyzes Facebook's posts for proactive detection of suicidal tendencies and save people's lives. *Reben'sPubNub*, and *Varlabot* use AI to tell even our fortunes.

Conclusions:

Jack Ma, the founder of Alibaba, warned the audience at the World Economic Forum, 2018 at Davos that AI and the big data were a threat to humans and would disable people instead of empowering them. However, given the sweeping real-world applications of AI and ML and the constant advancements in the field, it is more likely that the technology will transform the way people work, enabling faster, more informed decisions, increasing operational efficiency, and innovating new products and services. MA

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kolaymohit@gmail.com

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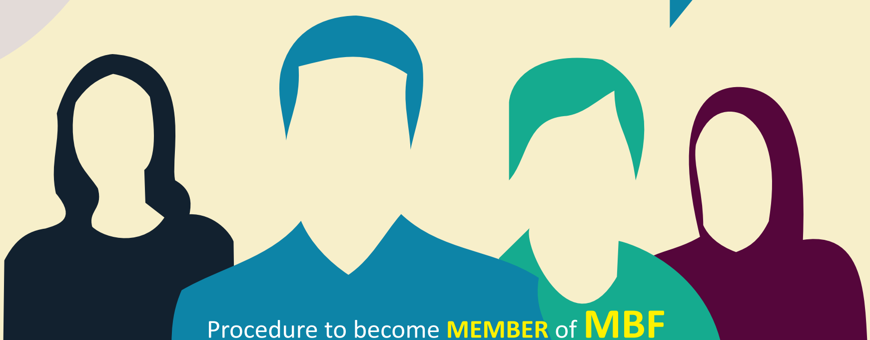

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ARTIFICIAL INTELLIGENCE IN PROJECT MANAGEMENT

Abstract

World is passing through a very dynamic era where, everyday technology is improving to improve life of human being. What looked impossible 10 years back has become life of common people today. Highly complex issues are getting simplified, however more and more complexity is created in different areas. None of the profession can escape from it.

Everyone is striving for Excellence and aiming for Safe, Reliable and Compliant management. When Technical systems and Human Capabilities are pulled together, high performance and motivated culture evolves which engages all minds on board for continuous improvement. This is applicable to Project Management too.

There are three pillars of Project Management.

1. Building a strong and effective Project Manager
2. Creating Environment that enable Project Manager to be successful
3. Instilling accountability across the Organisation

Artificial Intelligence offer augmentation to human capabilities. The article presents expected role of Artificial Intelligence for excellence in Project Management.

Strong Project Management Culture is very critical to the success of any organisation as the only way organisation grows is by projects. It is run by Project manager (PM), who is responsible for many key roles such as planning, organizing, directing and controlling, coordinating. These roles require a significant investment of time. Therefore Organisation's future completely depends on PM's ability to perform, who are much closer to the top management.It is expected that Artificial Intelligence will be practiced by PMs quickly as compared to other trades.

Before going deeper, it's important to know what AI really is and how to take advantage of it?The most common definitions are taken from Reference 2.

Artificial Intelligence (AI): It is a field of computer science for solving problems which otherwise require human intelligence—for example, pattern recognition, learning, and generalization.

CMA Joy M Shah
Practicing Cost Accountant
Surat, Gujarat

Machine Learning (ML): Machine learning **is a subset of** AI that uses statistical techniques to give computers the ability to "learn" from data without being explicitly programmed.

AI and ML have been used interchangeably by many companies. To make it clear, machine learning denotes a program's ability to *learn*, while artificial intelligence includes learning along with other functions.

A key takeaway of AI is that its algorithms use a large amount of data to adjust their internal structure such that, when new data is presented; it gets categorized in accordance with the previous data given. We call this "learning" from the data rather than operating according to the categorization instructions written strictly in the code.

Project Management being structured approach, AI is going to disrupt the capability of Project Managers. AI for project management is on the rise, and the way things are going, it's going to help teams make smarter decisions and move faster. It can even be one of your best team members of project team.

What is Artificial Intelligence (AI) in Project Management?

It is defined in reference 1. AI in Project management is a system that can perform the day-to-day management and administration of projects without requiring human

input. It will not only automate simple tasks but will also develop an understanding of key project performance. AI can then use this understanding to uncover insights, perform more complex tasks, make recommendations, and make decisions; sometimes in ways human just can't do today due to large volume of data.

Ultimately, an AI system will save time of project manager while improving outcomes for his projects and his team for completion of project without time and cost overrun.

There are four stages of Artificial Intelligence in Project Management.

Stage 1: Project Assistance. This is early stage of AI. Project management relies on people to input data correctly, update tools in a timely manner, and make corrections....**as of now**. In order to provide even more value in project management, AI needs to evolve.

Stage 2: Expanding project understanding. The next step for these assistants is to start expanding their understanding of projects and related teams with respect to dealing with estimates, actuals, time and budgets that can be learned from task descriptions.As the assistants expand their understanding, new metrics will be revealed that weren't previously possible, such as quality, performance, learning, change, and effort.This will allow for real, actionable indicators of team and project performance.

With more data points about projects, predictions will become more reliable, more appropriate, and easier for people to understand.....**as an immediate future**. This enhanced understanding will still require one thing: usable data. This is again the gap**.**

Stage 3: Filling in the data gaps. The quality and suitability of data is always a doubt I using the tools. Some teams enter minimal to no data into their project management tools. And even the most disciplined teams have issues with their data being interpreted by machines – maybe they inconsistently name their tasks, or enter minimal information. Whatever the reasons or the maturity of the team, it's almost a given on that any project management system, there is missing data or messy, unstructured data.

AI in project management can deal with the data challenge by:

- **Filling in the blanks** by making good enough assumptions.
- **Encouraging better practice** –AI can gently encourage teams to improve the quality of the data and give early warning.
- **Creating new layers of metadata** – To understand the state of projects and the performance of teams, AI will need to create metadata to represent additional concepts that aren't currently represented. This meta-data can then feed into machine learning algorithms as features that will enhance the ability of AI to provide meaningful advice....**as a medium term future**

Stage 4: Delivering advice, not just data; With new metadata, improved data suitability, and quality, bridging data gaps as well as a broad understanding of the various problems on projects, AI will be able to deliver meaningful advice by Automatically reassigning the tasks in the next few sprints so team will get there faster based on its knowledge of how good people are with different technology and different areas of the system. That is meaningful, powerful and useful....**a long term future.**

How can AI be applied to Project Management?

Project manager takes several decisions in a day based on data; however his vision is limited by his exposure. AI can bring all data and all form of data at rescue of analysis and decision making to support project manager.

As Oil changed the world in 20th Century, Data and its processing capability is going to disrupt world in

21st Century.

As given in reference 3 and 4, there are several areas of project management that AI can support and streamline.

1. Repetitive tasks

- Administrative task, like data entry and management, preparing project schedules, resource allocation etc. can be completed automated. It will help PMs to focus on more challenging tasks.

2. Complex analysis

- AI can draw on substantially more data than a human manager could reasonably do alone. For example, using AI can help to make performing value and risk analysis a less laborious and time-consuming task for human employees.

3. Difficult decisions

- With in-depth data analysis, AI can help project managers make difficult decisions. For example, using its knowledge and data about KPIs, AI can develop an understanding of project performance. Then it can use this insight to make recommendations and help project managers decide who to make the leader of a task.

Can AI revolutionalise Project Management?

From software development to construction to logistics and finance, every company has projects that need planning, managing, monitoring and controlling.

Project Managers always thinks about following three areas. AI can support Project Managers to understand, act and excel in all these areas using data and tools.

1. Thinking about Risk and action plan to manage risk below tolerable level.

- Interdependencies within project and external changes make outcomes unpredictable. AI can predict the outcomes of projects using data already have, such as the planned start and end date of various phases of the project, estimates about any backlog, learn the completion rate of the team and predict the likelihood of delivering on time and cost.
- Estimates are always uncertain, so AI can put in upper and lower bounds for how long tasks will take. AI will be most helpful by identifying, assessing and reducing risk in projects, whether that's prediction for the project up front or reduce the risk in the execution.

2. Resource Management

- AI can already help track progress and performance. AI could identify slowly ramping trends in that stream of data that are significant but hard to see or easy for humans to ignore even if they see them.
- It can also help with automation in identifying scarce resources and allotment of resources based on requirement, leaving project managers more time to actually manage.

3. Predicting and Experimenting for completion without time and cost overrun.

- AI is collecting all data, past as well as present and creating model based on actual data to predict completion time and cost of the project as well as provide suggestions to overcome various hurdles as well as lagers in project, it is the best assistance for project manager to complete project without cost and time overrun.

Therefore, I do not see any reason why AI cannot revolutionise Project Management.

What is Concern for Smooth Sailing?

So, AI can assist in Project Manager to excel by more insight and helping team member, but does that mean,it is all? There are some cons to a hasty implementation of AI in project management.

1. When data is incorrectly entered or recorded, AI tools aren't yet able to notice which will make wrong prediction.
2. AI is prone to be misused.It can be tempting to automate everything that can be automated. The human touch is needed for many things. It's important to find the right balance between human and AI.

Future of AI in Project Management

Concerns around AI are avoidable, and there are benefits to be reaped by the careful use of AI to support project managers.

Looking to the future, AI stands to evolve both technically and socially – meaning that it will be able to fit into supporting project managers even more.

Technical evolution will see AI tools move from their niche focuses on a project to cover much wider functionality. It will grow more capable of providing real, actionable indicators of a team and project performance. And it doesn't stop there, the subsequent generation to that will bring about the use of metadata, a complex analysis of data to deliver meaningful advice to improve project performance.

Social evolution involves the way that the perception of AI will evolve. Currently, some people consider AI in project management to be the promise of the future, while others are skeptical of its impacts on the workplace. Ultimately, as we see more and more businesses take the plunge into AI and reap the benefits of artificial intelligence, AI is set to become commonplace in the coming years.

Conclusion

The face of project management is expected changing due to AI. The capabilities of AI have great potential to step up gear of project management.

AI assistants can assist project managers in a variety of tasks, from developing a list of project concerns to determining team training needs. It can leave human project managers free to be more agile, responsive and analytical. AI can aid for faster, smarter business decisions and take away day-to-day administration

If the right tool is chosen and implemented correctly, capitalizing on AI or even business automation is inevitable, as time and resources can be reclaimed for other uses. Projects that take advantage of AI will see a team move at light speed compared with teams who haven't adapted.

As mentioned in preamble, all three pillars of project management, AI can Build a strong and effective Project Manager, create environment to enable Project Manager and instil accountability across organisation.

Therefore be excited about AI in project management, be open to it, and do not fear it. MA

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shahjoym@hotmail.com

REDRAWING THE HEALTHCARE LANDSCAPE

THE FACETS OF AI AND ROBOTICS

CMA Krish Narayanan
G.M (F) and CS
Ace Urban Developers Pvt. Ltd
Chennai

Abstract

Health care AI and Robotics are widely popular and is being encouraged for different types of medical application which is an exploration of a new technique from the traditional method.

Healthcare RI and Robotics are the functions of minimal invasive operations, and supports other operations medicalcare applications.

Healthcare AI and Robotics are well established and protected by the local laws and Governments which paves the way for medical tourism earning considerable Forex for those countries which include India.

The application of healthcare AI and Robotics are comparatively cost effective, reduces the time and suffering and effective application results in profitability and ROI.

Healthcare AI and Robotics have certain issues and drawbacks which can be eliminated through laws and legislations to give way for its growth and development.

Evolution of Healthcare AI

The Constitution of India makes healthcare in India the responsibility of the state governments, rather than the central federal government. It makes every state responsible for "raising the level of nutrition and the standard of living of its people and the improvement of public health as among its primary duties".The focus on the growing burden of the non-communicable diseases, on the emergence of the robust healthcare industry,on growing incidences of catastrophic expenditure due to health care costs and on rising economic growth enabling enhanced fiscal capacity. In practice, however, private healthcare sector is responsible for the majority of healthcare in India, and most healthcare expenses are paid out of pocket by patients and their families, rather than through insurance. Government healthcare policy has thus far largely encouraged private sector expansion in conjunction with well-designed but limited public health care. The encouragement of private healthcare service providers in addition to Public-Private Partnerships (PPP) is taking out with the aim of getting Minimum Development Goals, fulfillment of National Health Mission by providing Quality of Health Care in our country.

Kaplan and Haenlein define AI as "a system's ability to correctly interpret external data, to learn from such data, and to use those learnings to achieve specific goals and tasks through flexible adaptation".The term "artificial intelligence" is applied when a machine mimics "cognitive" functions that humans associate with otherhuman minds such as "learning" and "problem solving". In the modern world, Artificial Intelligence (AI) is an area of computer science that emphasizes intelligent machines are created to work and react like humans. The task or the activities assigned to computers with artificial intelligence are designed for to do the functions of speech recognition, learning,planning and problem solving

Artificial Intelligence and robotics is most sought for and is widely discussed in the navigation and entire spectrum of business needs. The healthcare is dominated by Artificial Intelligence and robotics at present and extends to future applications. The advancement in technology with the application of Artificial Intelligence, we are connected in one form or other creating it as a master-servant relationship to do any work or assignment.Over the years the investments are made in the initial stages on robotics and related applications and development taken place in the subsequent stages. The accuracy,time saving and simplification of proceedures areindicative robust growth in AI products and development of healthcare appsbenefiting the present and future.

The general perception is that artificial intelligence is not limited to just information technology or automation in industry; but to perform the task assigned, The Artificial Intelligence is extensively used in all related areas of healthcare, such as Telemedicine, medical diagnosis,nursing and patient care, pharmacy, medical education and management. The AI and Robotics is a well programmed integrated systems and sub-systems to do any assignment and task as per the algorithms or commands inscribed for that.

Application of Health Care by AI

AI algorithms are capable of learning from data; which can enhance themselves by learning new heuristics (strategies, or "rules of thumb", that have worked well in the past), or can themselves write other algorithms networks, decision trees. In practice, it is difficult to consider every possibility, because of the phenomenon of "combinatorial explosion", where the amount of time needed to solve a healthcare problem grows exponentially. The factors like the history of the patient, disease, medication and methodology of treatment to patient with that of the derived solution (decision) are well defined, programmed to provide the desired result.

The earliest approach to AI was symbolism was a formal logic.It is extremely popular in routine business AI applications, are analogizersor through robotics. After examining the records of known past patients whose temperature, symptoms, age, and other factors mostly match the current patient, percentage of those patients turned out to have particular health hazard for which solutions are drawn. It is harder to intuitively understand, but is inspired by how the brain's machinery works: the artificial neural networks approach uses artificial "neurons" that can learn by comparing itself to the desired output and altering the strengths of the connections between its internal neurons to "reinforce" connections that seemed to be useful. The systems produce neural nets can learn to make inferences, to generalize, and to make analogies. Some systems implicitly or explicitly use multiple of these approaches, alongside many other AI and non-AI algorithms, the best approach is often different depending on the problem.

Types and functions of healthcare AI

The Artificial Intelligence is generally classified into three different typesnamely analytical, human-inspired, and humanized artificial intelligence.Analytical AI has only characteristics consistent with cognitive intelligence generating cognitive representation of the facts and using learning based on past experience to inform future decisions. Human-inspired AI has elements from cognitive as well as emotional intelligence understanding, in addition to cognitive elements, human emotions and considering them in their decision making. Humanized AI shows characteristics of all types of competencies (i.e., cognitive, emotional, and social intelligence), able to be self-conscious and self-aware in interactions with others.

Further, AI has further been divided into subfields that are integrated to communicate with each other in resolving the problem.These sub-fields are based on technical considerations, such as particular goals (e.g. "robotics" or "machine learning"), the use of particular tools ("logic" or artificial neural networks), or deep philosophical differences. Subfields have also been based on social factors.

The traditional problems (or goals) of AI include reasoning, knowledge representation, planning, learning, natural language processing, perception and the ability to move and manipulate objects. General Intelligence is among the field's long-term goals. The integrated ApproachincludeStatistical methods,computational intelligence and traditional symbolic AI. Many tools are used in AI, including versions of search and mathematical optimization, artificial neural networks, and methods based on statistics, probability and economics.

Robotics in Healthcare

Artificial intelligence (AI) and robotics in healthcare is the use of algorithms and software to approximate human cognition in the analysis of complex medical analysis and treatment. The main aim of AI and robotics applications is to analyze and establishhealth-related relationships between prevention or treatment techniques and responsiveness of patients.Robotic surgery is a type of minimally invasive surgery. "Minimally invasive" means that instead of operating on patients through large incisions, we use miniaturized surgical instruments that fit through a series of quarter-inch incisions. Some of the robotic operations used in healthcare sector areTelemedicine , Rehabilitation, Surgical, Sanitation and disinfection, Medical Transportation, Nursing, Prescription Dispensing Systems.

Medical professionals use robots extensively for different kinds of surgery and rehabilitation but the potential offered by robots extends beyond these limitations..Robot assisted surgery has successfully been utilised in orthopaedic, laparoscopic and neurosurgery procedures amongst thers. This may gives rise to rapidincrease in the use of robots in all spheres of medical terminology. Keyhole surgery using robots minimises invasive surgery and recovery time for the patient since it can work through very small incisions. Robots are used to enhance surgical precision across a range of procedures and are now a familiar sight in big hospitals.

As per the recent report, the global medical robotics market was valued at \$7.24 billion in 2015 and is expected to grow to \$20 billion by 2023. A key driver for this growth is demand for using robots in minimally invasive surgeries, especially for neurologic, orthopedic, and laparoscopic procedures.

A wide range of robots is being developed in recent times to serve in a variety of roles within the medical environment. Health care is being serviced by robots specializing in human treatment as surgical robots and rehabilitation robots. The rapid development is taking place in the field of assistive and therapeutic robotic devices simultaneously. There are robots developed to help patients rehabilitate from serious conditions like strokes and empathic robots to assist in the care of older or physically/ mentally challenged individuals. On the other hand the industrial robots developed take on a variety of routine tasks, such as sterilizing rooms and delivering medical supplies and equipment, including medications.

There are three key drivers behind the expanded potential of robots in healthcare. Viz.,

(a) Cost of the robots are comparatively cheaper than the manual applications. Because of the continual miniaturisation of electronics which means that smarter, smaller circuit boards can be used in a range of robots, which can minimize the human application and space constraints.

(b) Advancement of technology is carried out with the object of time constraints in cure or relief to patients to the extent possible. And systematic cure or responsive treatments is possible through the emergence of generic robotic technologies into the health care. Many of the patents on the earlier robots are about to expire which is opening the market to start ups and health care entrepreneurs who have new prototypes.

(c) Application of capital and ROI is another factor for usage of robots in health care. With the growing increase in hospital or medical cost, new conventional robots are to be introduced in the healthcare to increase the efficiency of working and improve the profitability on healthcare. This will attribute to innovative and cheaper iterations of robotic technology will fuel all other medical applications

Medical Tourism and Robotics

Medical tourism is a growing sector in India. This is due to large size corporate hospitals provide advanced healthcare using robots at cheaper cost. In October 2015, India's medical tourism sector was estimated to be worth US\$3 billion. It is projected to grow to \$9 billion by 2020. According to the CII, the primary reason that attracts medical value travel to India is cost-effectiveness, and treatment from accredited facilities at par with developed countries at much lower cost. The Medical Tourism Market Report: 2015, found that India was "one of the lowest cost and highest quality of all medical tourism destinations, it offers wide variety of procedures at about one-tenth the cost of similar procedures in the United States.

Foreign patients travelling to India to seek medical treatment in 2012, 2013 and 2014 numbered 171,021, 236,898, and 184,298 respectively. In October 2015, Bangladeshis and Afghans accounted for 34% of foreign patients, the largest share, primarily due to their close proximity with India and poor healthcare infrastructure. Russia and the Commonwealth of Independent States (CIS) accounted for 30% share of foreign medical tourist arrivals. Other major sources of patients include Africa and the Middle East, particularly the Persian Gulf countries. In 2015, India became the top destination for Russians seeking medical treatment. The four Metropolitan cities received the highest number of foreign patients primarily from South Eastern countries. In 2017 there were 495,056, nearly half from Bangladesh.

Benefits of Healthcare AI and Robotics

Changing scenario in Healthcare sector through application of Robotics. Hospital management and multi-tasking facilities contained in Robots without human efforts were costly in the past and the present see how robotics would perform the way healthcare organisations are managed. The use of robotics in hospitals and health systems is an emerging trend with significant expense that could becomeaffordable and met by all. The pace of robotics has been evolved, due to the advancement in technology to consider robotic technology for cost savings, reduced operating time, waste reduction and relief to patient care. The observations, analysis and conclusions are based on electronic health record which is most efficient than the traditional way of doing.

Healthcare AI is used in the automated online systems,robotic nursing systems, telemedicines, integrated or combined pharmacy systems which are considered to be an intellectual task. Modern artificial intelligence and robotics in healthcare are pervasive and primitive in nature. When this technique reaches mainstream of importance, this phenomenon is described as AI effect.

The integrated health care well supported by automation and digitization which is aimed to improve operational efficiencies by taking over administrative or repetitive clinical tasks, such as monitoring patient vital statistics and logging patient data into reporting and decision making activities on health care. The importance of robotics and artificial intelligence, which contribute to the long-term sustainability and profitability of health care systems. Automation driven by digital health care technologies, such as Robots can help. The robotic healthcare treatment provide precision in completing these tasks apart from reducing clinicians' workload enable them to spend more time with their patients.

Conclusion - latest trends in Healthcare AI and Robotics

The Robotics are costly affair and can be used by the affordable and rich which should be brought down by the Governments in providing low cost treatment and medication even to the common people by their populist schemes. The private sector corporate hospitals capable of bringing and install such robots should be able to provide them effectively by their good quality and trained employees. The other factors which discourage the usage of Robotics are lack of trust in the technology and number of operations entrusted with such robotics, non-availability of experienced professionals etc.This can be minimisedby suitable programmed clinical applications and positive neutral applications of robotics in those areas of health care management

The countries which are experiencing both the issue of an aging population and a chronic shortage of nurses that has been exacerbated by experts, the activities are being replaced by the features of Robotics and AI in nursing. The Robots are programmed in such a manner to administer any medical treatment to a patient (particularly bed-ridden or infected or clinical disorders) and are capable of doing very odd and repetitive tasks. It is expected that robots can lead to a 65% reduction in the cost of human labour per year.

And the application of Robotics and AI in healthcare has many issues to overcome through proper application and protection by local and other laws in force. The prominent issues that may give rise to disputes are (i) Privacy Issues, (ii) Dignity Issues (iii) Attribution and Liability Issues (iv) Employment Issues (v) Safety and Security Issues. These can be well managed and protected by suitable combination of legal and other agreements.

"Whatever be the advancements in Robotics and AI, robots are still not a replacement for human interaction which has precious value on human beings." MA

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ceokrish@gmail.com

ARTIFICIAL INTELLIGENCE: A DRIVING FORCE FOR INDUSTRY 4.0

"The first rule of any technology used in a business is that automation applied to an efficient operation will magnify the efficiency. The second is that automation applied to an inefficient operation will magnify the inefficiency".

-Bill Gates

CMA Dr. Rekha Melwani
Assistant Professor
Shri Vaishnav Institute of Management
Indore

Abstract

4th Industrial revolution **"Industry 4.0"** is considered as the new industrial age where the integration of manufacturing operations systems and Information and Communication Technology (ICT), through Internet of Things (IoT) which forms Cyber – Physical System (CPS), for achieving the higher industrial performance. The economic growth of every country remains effected by its industrial sector and specially the manufacturing sector. The present article focused on the advancement in technologies and its effect on manufacturing sector. It can be said that the advances in technologies brought the industrial revolutions and the emergence of artificial changed the industrial landscape. Artificial intelligence facilitates the development of intelligent manufacturing. The interaction among machines, interaction of human with machines, data quality, data security and cyber security are key challenges to the industry.

Introduction

The emergence of new technologies, advancement in manufacturing process and innovations has resulted into many global concepts and "Industry 4.0" is one among them. 4th Industrial revolution **"Industry 4.0"** is considered as the new industrial age where the integration of manufacturing operations systems and Information and Communication Technology (ICT), through Internet of Things (IoT) which forms Cyber – Physical System (CPS), for achieving the higher industrial performance. This new industrial age is affecting the industry structure, competition rules and customers' demands *(Gilchrist, 2016; Bartodziej, 2017)*. Adoption of new technologies and digitization of factories forced to reframe the business model which resulted into changing the competition rules. The history has witnessed that due to the industrial innovations and technology advances there was a need to change the industrial landscape. These changes have seen from the first industrial revolution in late 18th Century through the use of steam power and mechanization of production which increased almost eight times of the production. Through the discovery of electricity and assembly line production the second industrial revolution began in 19th century. During the 20th century the third industrial revolution began and computers captured almost everything without the assistance of human being. The sequenced programs were performed by the robots and automate the entire process of manufacturing. The fourth industrial revolution is also known as **"Industry 4.0"** characterized by the information and communication technologies in industry. The manufacturing sector is ushering in advanced and new technologies. This transformation leads to the manufacturer to maintain their competitive edge in a rapidly changing environment.

The concept of **"Industry 4.0"** was first publically introduced in year 2011 in Germany to enhance the competition in the manufacturing industry. The emerging technologies Internet of Things (IoT) *(F. Tao et. al. 2014),* Wireless Sensor Network *(M Qiu et. al. 2007),* Big Data *(M. Chem et. al. 2014),* Cloud Computing *(Q Lie et. al. 2014),* Embedded System, *(J. Wan et. al. 2010),* Mobile Internet *(F Soliman et. al. 2003)* are being introduced in manufacturing environment which usher in fourth industrial revolution *(Shiyong Wang et. al., 2016).*

2.0 Artificial Intelligence: A Driver for Industry 4.0

"Artificial Intelligence is the science and engineering of making intelligent machines, especially intelligent computer programs".

- John McCarthy, Father of AI

The concept of Artificial Intelligence was first proposed by John McCarthy and other computer experts in 1956, at the University of Dartmouth seminar in the United States and that causes the birth of Artificial Intelligence (AI) (Jiaxin Luo et. al., 2018). AI refers to as the ability of a computer or a computer-enabled robotic system to process information and produce outcomes in a manner to the thought process of humans in learning, solving problems and decision making. In addition to that; the goal of AI systems is to develop systems which are capable of tacking complex problems in the ways similar to human logic and reasoning. AI is a cognitive science with rich research activities in the areas of image processing, natural language processing, robotics, machine learning etc.

The applications of AI are vast; the researchers assimilate the ideas into computer science generally for applications in expert systems, human-machine interactions, natural language processing, information retrieval, graphics and image processing, robotics, data mining and many more. The application of AI in industry; as stated by Jay Lee et. al. 2016, "the Industrial Artificial Intelligence is a systematic discipline, which focuses on developing, validating and deploying various machine learning algorithms for industrial applications with sustainable performance". It acts as a systematic methodology and discipline to offer solutions for industrial applications and function as a bridge connecting academic research outcomes in AI to industry practitioners. Study by Bo-hu et. al., 2017, proposed the new model, new means and new forms of intelligent manufacturing through artificial intelligence. Artificial intelligence facilitates the development of intelligent manufacturing. It cannot be denied that there are various challenges to the industry which were well stated by the previous research articles. As per (J Lee et. al. 2018) these challenges are; the interaction among machines, interaction of human with machines, data quality, data security and cyber security.

2.1 Indian Perspective

In this era of globalization, there is no country left isolate itself from the impact of advanced technologies. Being the fastest growing economy, India has also the significant stake in AI revolution. Being recognized the potential of AI, the Ministry of Industry and Commerce has constituted a Task force on AI named ***"Task force on AI for India's Economic Transformation",*** comprised of experts, , researchers, academics and industry leaders, along with the active participation of governmental bodies / ministries such as NITI Aayog, Ministry of Electronics and Information Technology, Department of Science & Technology, UIDAI and DRDO in August 2017, chaired by V. Kamakoti, a professor at IIT Madras to explore possibilities to leverage the advanced technologies. The report by *Kamakoti et al., (2018)* stated the relevance of AI and its impact on various industries in India. These industries included agriculture, manufacturing, financial services, education and defence and so on. In addition to that it has also been provided some of the recommendations to the government for utilizing the AI led economic development. Further, 2018 financial statement also pointed out that the government's intention towards investing more in the research activities related to AI, robotics and automation as part of industry 4.0. Moreover, the Government of India was tasked with set up of a national programme to conduct research and development in the above and other new age technologies *(Mendonca, 2018).*

3.0 Components for Industry 4.0

The review of previous studies has shown that there are some basic components which are required for industry 4.0. Study by Kagermann et al. (2013) and Hermann et. al. (2016) identified three important components for industry 4.0 and these are as follows:

3.1 Cyber-Physical System (CPM)

Cyber Physical Systems (CPM) are integrations of computation and physical processes where embedded computers and networks monitor and control the physical processes, usually with feedback loops where physical processes affect computations and vice versa *(J Lee; 2008).* CPS in context with manufacturing; comprised of smart machines and production facilities that are competent of exchanging information autonomously, triggering actions and independently controlling each other.

3.2 Internet of Things (IoT)

As per the study by Kagermann et. al. (2013) the integration of the Internet of Things (IoT) and Internet of service (IoS) in the manufacturing process initiated by the 4th industrial revolution. The conversion of factories into smart factories can be possible through IoT and IoS where it creates networks which incorporating the entire manufacturing process. *Hermann et al. (2016)* defined the IoT as "a network in which CPS cooperate with each other through unique addressing schemas".

3.3 Smart Factory

The third component of Industry 4.0 is "Smart factory". The study by *Hermann et al.*, defined it as a factory where CPS communicate over the IoT, assisting humans and machines in task execution. It enables the collection, distribution and access of manufacturing relevant information in real-time. The comprehensive definition by *Radziwon et al. (2014)* defined as "A Smart Factory is a manufacturing solution that provides such flexible and adaptive production processes that will solve problems arising on a production facility with dynamic and rapidly changing boundary conditions in a world of increasing complexity". It clarifies that on the one hand it is related with automation, combinations of software, hardware and/or machines which would lead to optimization of manufacturing results, on the other hand this optimization leads to reduction of unnecessary labor and wastes of resources.

The emergence of information technologies like IoT, big data, cloud computing with artificial intelligence will make possible to implement smart factories of industry 4.0 with the challenge of restructuring the entire process. Manufacturing industry is expected to be one of the biggest beneficiaries of AI. The 4th industrial revolution will dramatically change the entire production chain and it can be said that the manufacturing sector is on the cusp of the fourth industrial revolution, usher in new technologies and techniques that will change the processes, products, and supply chains involved in every aspect of industry. This technology will enable manufacturers to maintain their competitive edge in a rapidly changing world, and respond flexibly and quickly to customers' requirements. MA

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melwanirekha@gmail.com

At the Helm

Our heartiest congratulations to CMA Amitava Mukherjee, a member of the Institute, who assumed responsibility as Director (Finance) in NMDC Limited, a Schedule "A" Government of India Enterprise, with Navratna Status, under the Ministry of Steel. He belongs to the 1995 batch of Indian Railway Accounts Services (IRAS). Prior to joining NMDC, he was holding the post of General Manager (Finance) in Rail Vikas Nigam Limited (RVNL) and he has held various key positions during his service in the Eastern Railways like head of Standing Core Committee on Service Tax, Traffic Accounts Office and the IT Department. He has received National Award for outstanding services during the year 2006. He was also nominated by Railway Board to various Task Groups for Centralised Applications of Finance & Accounts department of Indian Railways for monitoring progress and to suggest improvements and enhancements to such applications and for Development of Traffic Accounts Management System.

We wish CMA Amitava Mukherjee the very best for all his future endeavours.

DECODING AI:

FROM ARTIFICIAL INTELLIGENCE TO SUPERINTELLIGENCE

Abstract

The zenith of human civilisation is built on the pillars of its technological prowess. This achievement is attributed purely to the intelligence of the Human Brain, as the physical abilities of humans are somewhat inferior to many of other inhabiting species of the planet Earth. Intelligence has not only helpedHuman's to be in the top of food chain but also made it the destiny maker of all the other species. Now one of human's own creation – the Artificial Intelligence (AI) is emerging to rival the capabilities of human brain. Unlike human evolution, which is guided by Nature's natural selection, the evolution of AI is guided by Human Scientist. Even at the present level which is below the Human Level Intelligence, AI has the potential to replace most of human labour and cause large scale catastrophic mass unemployment. On application of Moore's Law and Law of Accelerated Return into the evolution journey of AI, arrival of Human Level Intelligence in machines is inevitable and almost immediately, AI will reach the level of Artificial Super Intelligence (ASI), an entity which is thousand times more intelligent than the present known Human Intelligence. Although experts are divided on the question that whether ASI will be beneficial or detrimental or totally indifferent to the mankind, many of them believe that emergence of ASI will lead to a event called 'Technological Singularity' resulting the end for mankind.

Artificial Intelligence (AI) is among the popular subject, which is widely debated in the technological communities. If you think AI as Robots and sceptic about being taken over by Armies of Intelligent Robots due to the portrayal of AI in Hollywood Blockbuster Sci-fi movies like Terminator, The Matrix etc, and further, if you think AI is stuff of future, then you are not alone. Truth however is stranger than fiction. AI is not all fiction, it has already arrived. It ranges from calculator chips to mobile phones to virtual assistants like Siri, Watson or Alexa to the futuristic technology of self-driving cars.

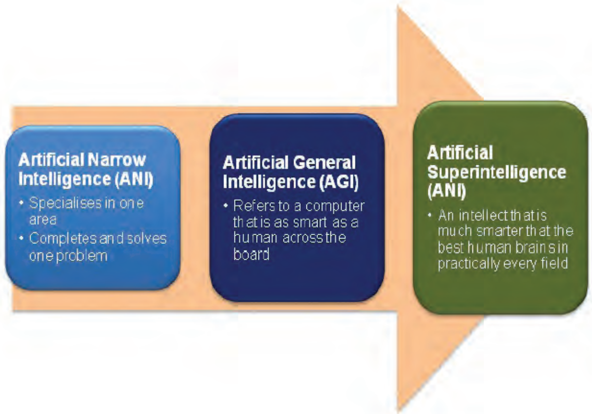
CMA Suraj Kumar Pradhan
ICoAS
Joint Director (PF-States)
Min. of Finance
Dept. of Expenditure, New Delhi

Robots are not synonym of AI. Although robots do provide shell or casing for AI but that's all, AI is much bigger than Robotics. In spite of all the progress in the AI, it is yet to reach the Human level Intelligence, which is technically called Artificial General Intelligence (AGI).

What is Artificial Intelligence?

The term Artificial Intelligence was coined by scientist John McCarthy in 1955 as a part of the research proposal along with other scientists, where the basic assumption of the scientists was "Every aspect of learning and other characteristics of intelligence can in principle be described so precisely that a machine can simulate them."

AI is a very broad term and nearly omnipresent in one way or another in the technologies existing today. From the silicon chips in Calculators to Virtual Assistants like SIRI and Alexa to Driverless Cars, all are part of the broader terminology called Artificial Intelligence and based on the Calibre, Artificial Intelligence can broadly be classified into three major categories:



a) Artificial Narrow Intelligence (ANI): It is also called "Weak" AI. ANI is specialised in one area and programmed to operate under limited parameters. From smaller system like Anti-Lock Braking System (ABS) in Cars to full-fledged self-driving Cars can be example of ANI. AI gamers like AlphaGo, Deep Blue are also ANI Systems. Mobile phones, search engines, spam filters, google translate, etc are other examples. ANI is best in its own sphere, like AlphaGo can defeat best of the human player in the game of Go. But, give him any other task, it will go blank.

b) Artificial General Intelligence (AGI): It is the representation of generalized human cognitive abilities in software so that, faced with an unfamiliar task, the AI system could find a solution. An AGI system could perform any task that a human is capable of. AGI, sometimes referred to as strong AI, involves a system with comprehensive knowledge and cognitive computing capabilities such that its performance is indistinguishable from that of a human, at least in those terms.

c) Artificial Superintelligence (ASI): Strong AI has not yet been demonstrated, and many experts are sceptical that it can ever exist. ASI would far surpass strong AI. According to Nick Bostrom, a Swedish philosopher and author of Superintelligence: Paths, Dangers, Strategies, a superintelligent artificial system would possess "an intellect that is much smarter than the best human brains in practically every field, including scientific creativity, general wisdom and social skills".

A technology can be best understood when we see it working and to fully appreciate the architecture of Artificial Intelligence, we have to understand its usefulness in diverse areas. AI is being capable of incorporated into multiple types of technology. Some examples are: -

a) Automation: One of the widespread uses of AI is automation. Use of Robotics in production and automated factories are the norm rather than exception.

b) Machine learning: Machine learning algorithm has the ability of updating itself without external intervention thereby address the inherent limitations of traditional software towards responsiveness to changing environment. There are three types of machine learning algorithms: Supervised,Unsupervised and Reinforcement learning.

c) Machine vision: Machine vision is the ability of a computer to see.Based on the sensitivity and the resolution machines can be programmed to see much beyond the limitation of normal human eye. Electronic component analysis, Materials inspection, currency inspection, Optical Character Recognition, etc are examples of Machine Vision.

d) Natural language processing (NLP): Natural language processing (NLP) is the ability of a computer program to understand human language as it is spoken.Speech Recognition, Sentiment Analysis, Language Translation, Semantic Search.

e) Robotics: Robots can perform tedious jobs consistently and tirelessly. Fromworking in production assembly lines ofCar manufacturing, to work in hostile terrainswhich are extremely difficult or hazardous for humans, nothing is out of reach of robots.

Artificial intelligence has made inroads into a number of areas. The reach of AI is increasing with every passing day and due to its potential of shaping every facet of Human lives. AI is soothing the human comfort level by improving the existing system. Some of these are:

a) AI in healthcare: AI along with machine learning provides better and faster diagnosis than humans resulting in improved patient outcomes and reduction in cost of servicing. IBM Watson is one of such healthcare AI systems. It interacts in the natural language and aids the physician by hypothesis formulation and responding to his queries by mining patient's data about medical and hereditary history and based on the input, it tests the hypothesis and recommends the personalised healthcare remedy. Watson uses much wider data source including treatment guidelines, electronic medical record data, and notes from healthcare providers, research materials, clinical studies, journal articles and patient information history.

b) AI in Manufacturing & Business: AI has already made its headway in replacing humans in highly repetitive tasks. Machine learning algorithms are being integrated into analytics and CRM platforms to uncover information on how to better serve customers. Further, AI armed with Machine Vision is far more effecting than humans in detecting errors in tedious assembling line.

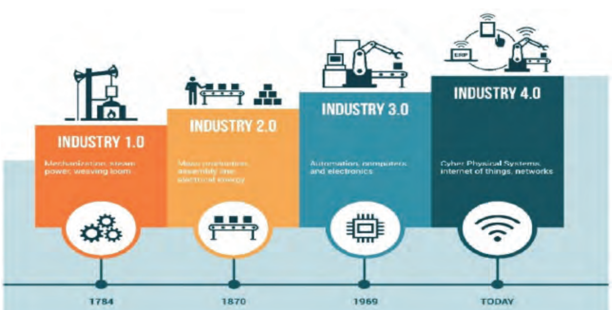
c) AI in education: Student teacher ratio is one of the important aspects of imparting quality learning. But even student-teacher is kept at optimum, it is not possible to provide personalised attention to each Students. AI in form of apps like BYJU, TOPPR etc came to rescue which adjusts its speed based on individual student capabilities and understanding.

d) AI Chatbots: These are very helpful in customer care activities, as Chatbot is much more efficient system that the traditional IVRS for all practical purposes.Chatbots also use sophisticated natural language processing systems forsomeone's scan for keywords within the input, then pull a reply with the most matching keywords, or the most similar wording pattern, from a database.

Driving factor behind AI:

Although there are plenty of factors which fuels the interest in AI, the following three factors stands out, these factors are complementary to AI and developing hand in hand with the growth in AI.

a) Industry 4.0: The term Industry 4.0 means in essence the technical integration of cyber physicalsystems (CPS) into production and logistics and the use of the 'internet of things'and services in (industrial) processes for a new creation of value, business models aswell as downstream services and work organisation. CPS refers to the networkconnections between humans, machines, products, objects and ICT (informationand communication technology) systems.

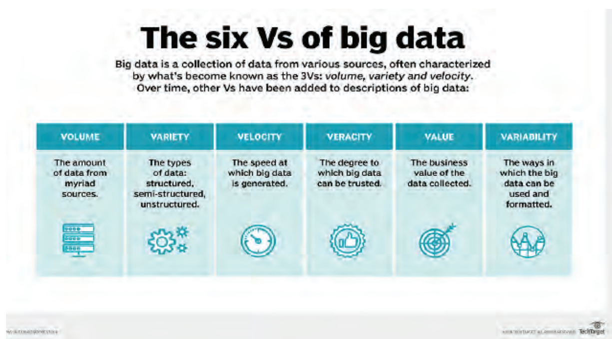


(Industry 4.0 Image credit: www.aberdeen.com)

b) Internet of Things: IoT describes a world where just about anything can be connected and communicate in an intelligent fashion. In other words, with the internet of things, the physical world is becoming one big information system. IoT was made possible with the advent of IPv6 which can support 2128 Internet addresses. Now just every device can be connected to the internet.

(Internet of Things - Image credit: https://www.expressvpn.com)

c) Big Data: One of the resultants of IoT revolution is advent of Big Data. Big Data is such voluminous data can come from myriad different sources, such as business transaction systems, customer databases, medical records, internet click stream logs, mobile applications, social networks, the collected results of scientific experiments, machine-generated data and real-time data sensors used in internet of things (IoT) environments. This data can be interpreted into meaningful patterns using proper analytical tools, which in turn fuel the growth of AI applications like Machine Learning and Deep Learning.



(The Six Vs of Big Data – Image credit: searchdatamanagement.techtarget.com)

The Impact of Artificial Intelligence on the Labour Market:

Apart from all positive impact of AI on human lives, it will hit hard to job market as it is the humans to whom it is going to replace. Penetration of AI will impact both blue-collar and white-collar jobs. Routine and jobs involving physical labour will be the first causality. Countries like China, India and Bangladesh which are benefitingfrom their surplus of low-skilled workers will be the worst sufferer as outsourcing Western economies will gradually shift towards AI based production robots. This change will gather pace when replacing human become more and more economical then even other countries will follow the western countries. Even the services sectors will not be left untouched. Human drivers will be replaced by self-driving cards. Call centres employees will be replaced by Chat bots. AI system based on Natural language processing and Machine Learning has the potential of replacing most of the Human labour in the services sector doing the repetitive jobs.

Lack of social security systems in developing countries such as India, Thailand or could lead tohuman catastrophes and a wave of migration.As a result of more and more adoption of AI, individual jobs will disappearcompletely, and new types of jobs will come into existence. The new system will lead towards creation of Gig Economy and creation of new types of jobs like Data Scientist, Crowdworkers, etc.

What's next?

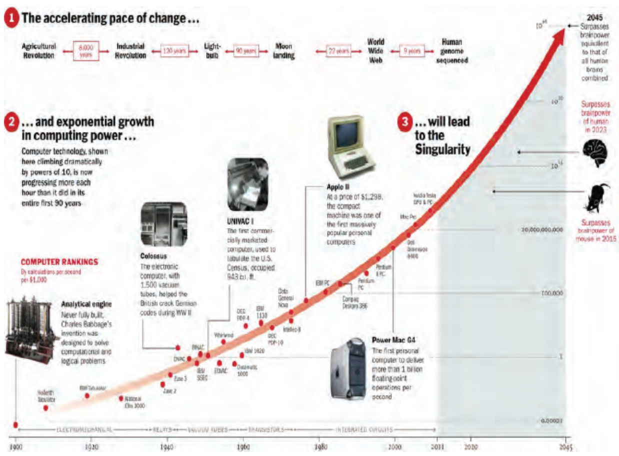
The evolution of AI will impact every facet of human life. Although we have world full of ANI around us, it doesn't possess existential threat to the humanity apart from replacing human labour and causing large scale catastrophic mass unemployment. Every technological revolution consolidates and reconsolidates the existing job market. Each technological revolution leads to cessation of old jobs and paves ways for newer categories of job. There is no doubt at all that ANI as assistant to the human intelligence will work wonders and thrive towards creating more comforts for human existence. AI evolution however won't stop at ANI, it will eventually develop into Artificial General Intelligence (AGI) and almost instantaneously it will achieve the Artificial Super Intelligence (ASI), an entity which is thousand times more intelligent than present level of human intelligence.

The Road from ANI to AGI

"AGI is intrinsically very, very dangerous. And this problem is not terribly difficult to understand. You don't need to be super smart or super well informed, or even super intellectually honest to understand this problem."

–Michael Vassar, president, Machine Intelligence Research Institute

The path from ANI to AGI is not easy. One thing that definitely needs to happen for AGI to be a possibility is increase in the power of current level of computer hardware. If an AI system is going to be as intelligent as the brain, it'll need to equal the brain's raw computing capacity at affordable prices. The fastest supercomputer Tianhe-2 clocking processing speed of around 37petaFLOPS is more or less comparable with human brain's raw computing power but at the same time it also costs a fortune (around $400 million), occupies lots of space and consumes tons of energy. Thus, on hardware side, the raw power needed for AGI is technically availablenow and with application of Moore's Law which says that the world's maximum computingpower doubles approximately every two years and cost will be halved the advancement in computer hardware will growsexponentially and we'll be ready for affordable, widespread AGI-caliber hardware within 10 to 15 years. Further, as per the Law ofAccelerating Returns, the term was coined by computer scientist and futurist Ray Kurzweil, theprogress will be quicker and quicker because more advanced societies can discover something new faster than lessadvanced societies,obviously because they're more advanced and know much more.



(Pace of Change in Technology, Source: Times Magazine)

Emergence of Super Intelligence:

It may take decades for the first AI system to reach low-level general intelligence, but when finally, it happens within few hours of hitting that milestone, the system pumps out the grand theory of physics that unifies general relativity and quantum mechanics, something no human has been able to definitively do. 90 minutes after that, the AI has become an ASI, thousands of time more intelligent than a human. In his book "Superintelligence: Paths, Dangers, Strategies," Swedish philosopher Nick Bostrom argues that if machine brains surpass human brains in general intelligence, then this new Superintelligence could replace humans as the dominant life form on Earth. He further talks about the "intelligence explosion" that will occur when machines much cleverer than us begin to design machines of their own. Dealing with Super Intelligence will be difficult for Humans, because mankind is yet to encounter anything smarter than the Human Brain.

The concept of Singularity

Ray Kurzweil in his book "The Singularity is near: When Humans Transcend Biology"defines theSingularity as a "singular" period in time (likely to begin around the year 2045)after which the pace of technological change will irreversibly transformhuman life. Most intelligence will be computer-based, and trillions of timesmore powerful than today. Hein his law of accelerating returns predicts an exponential increase in technologies like computers, genetics, nanotechnology, robotics and artificial intelligence. Once the Singularity has been reached, machine intelligence will be infinitely more powerful than all human intelligence combined. Afterwards he predicts intelligence will radiate outward from the planet until it saturates the whole universe. Kurzweil characterizes evolution throughout all time as progressing through six epochs, each one building on the one before. He says the four epochs which have occurred so far are Physics and Chemistry, Biology and DNA, Brains, and Technology. Kurzweil predicts the Singularity will coincide with the next epoch, The Merger of Human Technology with Human Intelligence.The Singularity will jump-start a new era inmankind's history in which most of our problems, such as hunger, disease,even mortality, will be solved.

Conclusion

There is no doubt that AI will change the fate of humanity especially after the arrival of Super Intelligence. Think about it, if will the present level of Intelligence, Human are able to build Nuclear weapons, what type of weapon ASI can build with Intelligence level of thousand and lakhs times more than the Human Intelligence. Not everyone believes the rise of AI will be detrimental to humans; some like Swiss neuroscientist Pascal Kaufmann believes that the technology has the potential to make our lives better. Some experts predict that AI could enhance our humanity. One thing true about all species that eventually all species go extinct. It is like that all species are walking on the life beam and eventually keep falling off to go extinct. This is also true for humans. Bostrom believes there are two sides to the beam and it's just that nothing on Earth has been intelligent enough yet to figure out how to fall off on the other side. Once humans will learn to merge with the technology, it may achieve Immortality except for the fact that such existence will not fully be biological. MA

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suraazz@gmail.com

ARTIFICIAL INTELLIGENCE – AN EMERGING TREND OF TECHNOLOGY

Abstract

AI's role in augmentation (reduce human errors) and automation (works autonomously) gathers momentum as many benefits are felt across industries. It has already started impacting our professional, personal lives. Effective Resource Utilization (24 hours) makes the deployment of AI technology much faster. To conclude, irrespective of various forms of intelligence - normal, smart, emotional, artificial, it appears that CMA has to be business intelligent and stay relevant to the business with appropriate usage of emerging technologies.

Imagine you are in Tokyo, for 2020 Olympics, welcomed by Japanese guests in the Airport and then assigned to a dedicated Robot. These robots can check and talk in your language (assume, it is part of select global languages), understand your requirements, arrange a taxi, guide you to the hotel and so on. Well, this is not an illusion. Japan Olympic Organising Committee is going all out to ensure Tourists from all parts of the world visit Tokyo in large numbers and make the event a grand success. Apart from manpower shortage, it is much easy to train the machines quickly than humans including learning new languages.

CMA H.Yuvaraj
Sr.DGM, TAFE
Chennai

Welcome to AI world.

AI plays dual role,

1. **Augmentation:** AI which mainly **reduces errors** due to human bias – Virtual Assistants, Data Analysis etc.,

2. **Automation:** AI which **works autonomously** in any field without the need for any human intervention ex. Robots in Assembly lines, Paint shops, Malls etc.,

24 hours resource utilisation has become a norm in the industry. Dashboards are created to get the real time data so that decisions can be taken in a proactive manner. These require appropriate sensors & inter-connections to collect and transmit the data. Here, AI takes a lead "augmentation" role as it reduces errors due to manual interventions in

the form of data updates. It moves on to "automation" role when it furnishes the dashboard info (based on defined algorithm) w/o any human intervention and facilitates faster decision making.

Globally,Management attentionis in Market Share, Sales Revenue, Cash Flows, Profitability, Productivity, Product Introduction, People Management – Talent Attraction, Retention, Rewards, Recognition, Risk Mitigation, Corporate Governance, and Legal Compliance.Decision Making and Organisation initiatives have always revolved on the above. Enormous time, energy and efforts are spent towards the above by the Management. In turn, the initiatives are driven at the operating level. Even the market leaders do not stay complacent and strive to achieve excellence in all of the above. This involves active combination of Human and Artificial Intelligence.

Artificial Intelligence AI : New Horizons for cost estimation and modelling

As business environment changes, product life cycle comes down dramatically. This calls for a structured new product introduction with absolute clarity in Strategy and Executing phases. Cost Estimations for the Target Price has become a major challenge.Often, Business Cases gets concluded with cost targets likely to be met in the development phases. Competitive pressure compels focus & thrust on cost estimation and modelling. Currently, these are dependent on the existing data base. The main advantage is it is easily understood by all the stakeholders. Biggest disadvantage is that it hides inefficiencies and hence misses out opportunity on Innovation. Big organisations and new tech firms are investing substantially to improve the cost estimation process. New software's or stand-alone systems collects the inputs and projects the estimated costs. AI will complement this through highlighting the areas where opportunity, not only exists to reduce the costs, but also to optimize it.

Ex. Ola, Uber - Based on the pick up&drop locations, cost estimation is done real time with due considerations for time (peak or normal), traffic conditions (heavy or normal), type of vehicle (micro, mini, sedan) and proposed to the customer. Customer is given an option to confirm or cancel the booking.

Similarly, when a new product gets developed, design impact in terms of customer price is the need of the hour. This is dynamically required by all the stake holders in the value chain - Customer, Dealer, OEM's, Suppliers. There is a dilemma for CMA's as it is difficult to choose between Accurate Cost Estimation or Reasonably Accurate Cost Estimation as timelines differs. There is a tremendous potential for AI in this – Augmentation role – to reduce the errors due to human bias.

New car launch of Marazzo, M&M Chairman, emphasized that this marks a triumph of skills and competencies bendingsuccessfully across different parts of the world. It was jointly developed and designed by teams atMahindra Automotive North America (MANA), Mahindra ResearchValley in Chennai and Italian auto design firm, Pininfarina along withcounterparts at the Mahindra Design Studio in Mumbai. He also clarified that the quality of technology which impacts collaboration, communication, dialogues etc., will ultimately determine project success.

AI in Project Management

There is a perception that time delays are inevitable in India. Realities vary from sector to sector. As India grows rapidly, Investments have to be carefully analysed and made in critical projects which also meets financial criteria like Pay Back, NPV and IRR. There will be many competing projects but funds will continue to remain scarce. Hence, proper execution is a must to avoid time delays.

Project Management – AI / Intelligent bots can act as digital assistant to Project Managers. It can help the project manager to identify critical tasks, critical paths, resources allocation, project prioritisation, projects as per plan or delaysetc.,

Task, Time Management – AI / Scheduling bots can support project managers to develop a comprehensive work breakdown structure and can identify the tasks which can be skipped considering the Project Scope. In the current market conditions, AI can play a significant role in project prioritisation and resource allocation to take care of the demand fluctuations. AI can plan and forecast required resources based on an estimation model. AI's role will become significant in risk mitigation and critical path identification.

An example is in Automobile Sector, where the following timelines have to be met

- By Apr19, ABS safety norms
- By Apr20, BS VI emission norms

People / Human Resource Management – AI / resourcing bot can match the skills required for a particular project and communicate on resource availability / non-availability to Project Manager. Based on the business case, Project Managers can determine the acquisition of specific skillset from outside for a particular project&duration. Compensation or Rewards can also be project specific and need not wait for year-end appraisals.

AI – Supply-Chain and Logistics Industry

Supply chain planning is a critical activity to match demand and supply. One of the major constraint is the inventory – RM, WIP and FG (within Factory, Dealer end, Distributor end etc.,). Accurate inventory with locations is a major challenge. And, Inventory carrying cost cannot be ignored.To fulfill market orders of any lot size, batch size constraints cannot be ignored. This puts tremendous pressure on all the key stakeholders in the supply chain. AI can arrive at the best possible scenarios with the least cost in the entire chain.AI can also support in supplier selection with proper assessment of Supplier capabilities, risks, ability to meet the demands (market fluctuations), ability to meet stringent quality norms, safety norms, financial strengths etc., This will improvequality of supplier interactions. Most of the data is passive and can be made active with AI. Server to Server information sharing with applicable protocols can provide better real time info for all the stakeholders and will result in better collaborations. This can also improve the data accuracy and can help CMA to do proper Profitability analysis.

AI in logistics & shipping. Central and State Governments focus is in better connectivity in all modes of transport – rail, road, air, sea, inland waterways. GST / e-way bill system enables faster and provides more accurate goods movement info. Availability of materials with high level of accuracy enables manufacturing efficiency. This has significant impact in the product costs which determines product pricing and profitability. In this context, autonomous vehicles will play a major role, if there areno driving time restrictions.

Recently, Indian Railways launched its first made-in-India, engine-lesstrain - named Train 18. Driven by a self-propulsion module sans a separate locomotive, T18 is capable of running at a speed of up to 160 kmph andis expected to reduce travel time by around 15 per cent as compared to Shatabdi. This is a major breakthrough and is part of Made in India initiative. Indian Railways are also working on DFC's (Dedicated Freight Corridors) and the above could pave the way for Driver-less Trains or Autonomous Train which can be utilized, 24 hours.

Recently, In India's first container movement on inland waterways, PEPSICO decided to move 16 containers from Kolkata to Varanasi. This was the country's first container movement on inland vessel post-independence, and a milestone moment in the history of India's Inland Waterways sector.PepsiCo (India) moved 16 containers and in the return journey, MV RN Tagore will carry fertilizers belonging to IFFCO.

Earlier, Maruti Suzuki India Ltd., commenced a pilot run to move its cars from Varanasi to Kolkata.

With **Autonomous vehicles**, there is every chance of utilising the resources 24 hours.

AI – Legal issues

AI usage in autonomous vehicles, speech recognition, facial recognition, cancer detection etc., has its own set of legal issues. Who will be made accountable for the failures? How the cases will be dealt by courts? Right now it seems the responsibility will be with authorised natural persons. Also, role of AI technology developer and AI user needs clarity.Many countries are planning to come out with a specific legislation to comprehensively address & regulate the use of AI. It is hard to escape the reality but AI is here to stay. Therefore, users have to protect themselves from unforeseen consequences and liabilities that may arise in the use of AI technology. It is believed that Insurance Industry along with Regulator is also keeping a close watch on AI technology.

Digital transformation is the base upon which AI can play a differentiating role. Recently, Coal India Limitedhas entered into a tie-up with Tech Mahindra to modernise the enterprise over a 5 year period whereby ERP will be implemented in CIL and its subsidiaries. It is expected to provide real time data for the management to take timely decisions and meet the targets. This will facilitate AI as the ERP systems gains maturity and stores big data.

Recently, in Gujarat, an Indian Doctor performed the world's first in-human telerobotic coronary intervention on a patient nearly 32 km away. Dr.Tejas Patel, Ahmedabad-based cardiologist controlled the robots that performed the telestenting surgery on a patient lying in the operation theatre at Apex Heart Institute in Ahmedabad while he was sitting in Akshardham Temple in Gandhinagar. This was done on a middle aged woman after she suffered a heart attack and volunteered for this unique procedure.Robotic stenting is said to provide accuracy of sub-1 mm, against a surgeon's 5-10 mm.

5G Technology - 5G networks are expected to increase the capacity and also to improve the speeds. Due to US-China trade conflict, US has pressurised / convinced other countries not to use Chinese 5G products (China's Huawei is a global leader in 5G). This has implications in technology migration and without agreement on standards it will be very difficult for different technologies to talk to each other. This can have implications in AI deployment in India also.

Role of CMA's

As could be seen, it is going to be very challenging as several factors will impact the future business. While we need to navigate different intelligences – normal, smart, emotional, artificial – it is clear that ultimately, CMA has to be business intelligent &stay relevant to the business. Influence of Technology makes us to stay updated and understand the business implications. As custodians of voluminous data, it is high time that we move on to the era of AI and Big Data. Technology interface & Machines communicating with various other devices (both inside and outside the organisation) will put pressure on us for proper, periodical cost – benefit analysis and profitability analysis. Risk Mitigation and Corporate Governance issues, will also creep in along with likely regulations for AI. The need to sharpen the saw is inevitable if CMA's need a role in the changing business world. CMA's should be open to collaborate with Robots, as part of Robotic Process Automation. CMA's have to seize the opportunity and should play a major role in the upcoming transformational journey. MA

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yuvarajhari1970@gmail.com

ARTIFICIAL INTELLIGENCE IN POWERED BANKING SECTOR

CMA Deepa Hinge
Assistant Professor
Bhonsala Military College
Nasik

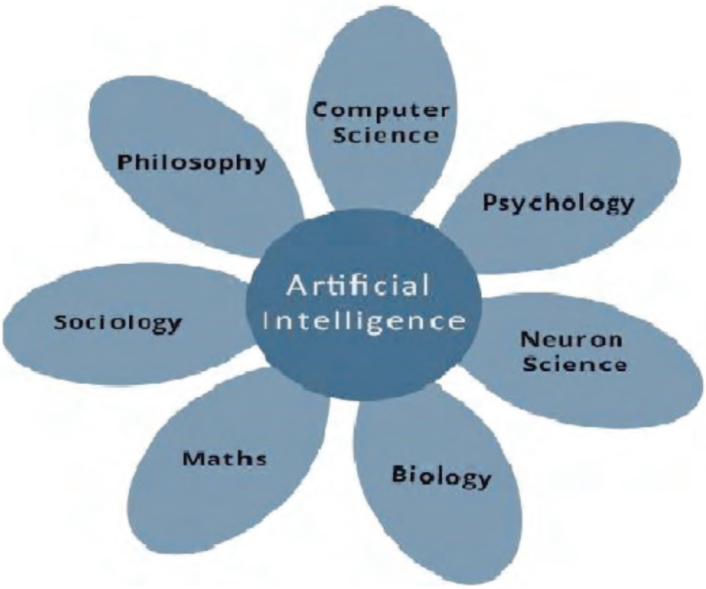
Abstract

Overall banking industries has every much ancient and history in overall world. According to the quantum of population trade business development in the technology government policies banking sector has been developing in the very country of the world. As for Artificial intelligence India being a developing country is concern banking sector is most important and trustful sector in the country.

Computerization and technology gives new horizon to the banking sector in the overall world with the help of computerization Indian banking and financial system develops and gets integrated with the international market and it has to be ready o accept the challenges Artificial intelligence is the most important and highest part of computer technology as it is used as human intelligence

In computer science Artificial intelligence sometimes it is called machine intelligence it is demonstrated by machine in contrast to the natural intelligence displayed by human and other animals " It is the area if computer science which emphasizes the creation of intelligent machines that work and react like humans " for example speech recognition learning these are the activities with Artificial intelligence

Diagram 1



It is the way of making a computer; a computer is controlled robot or software which think intelligently in the similar manner the intelligent human think.

John Mcarthy father of Artificial intelligence "It is the science and engineering of making intelligent machines especially intelligent computer programme. Artificial intelligence accomplished by studying how human learn decide work while trying to solve the problem and using out comes of this study as a basis of developing intelligent software and system.

"Can machines think and behave like human do ? " The development of Artificial intelligence started with the intention of creating modern definition of Artificial intelligence.

"The study and design of intelligent agents . " where an intelligent agent is a system in that pexeives its environment and takes action which maximizes its chances to success."

The term Artificial intelligence is also used describe a properly of machines of programmes the intelligence that the system demonstrations.

Artificial intelligence is the ability of a digital computer of computer controlled robot to perform tasks commonly associated with intelligent beings . This system is frequently applied to the project of developing of humans such as ability to reason discovering meaning generalisation or learn from past experience.

Artificial intelligence today known as narrow Artificial intelligence or weak Artificial intelligence in that it is designed to perform a narrow task that is only facial recognition or only internet searches or only driving car create general Artificial intelligence called strong Artificial intelligence. however narrow Artificial intelligence may outperform humans as a specific task and strong Artificial intelligence would outperform humans at every cognitive since the 1950's its only recently has begun to find real world applications (such as apple siri).

a . access to big data generated from e-commerce business govt. Science , wearable and social media

b. Improvement in machine learning along with rhythms due ti the availability of large amount of data.

c. Grater computing power and rise of cloud based services which helps to run sophisticated machines learning algorithms.

Artificial intelligence is important because it help to solve immensely difficult issued in various industries such as entertainment health commerce transport utilities.

Application of Artificial intelligence is grouped into five categories --

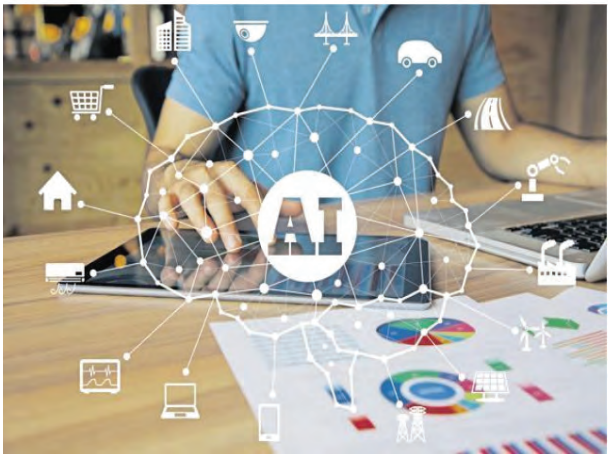
a) Reasoning the Artificial intelligence has ability to present knowledge about the world financial market trading purpose prediction treed prevention drug creation medical diagnosis media recommendation.

b) Planning – The ability to set and achieve goals ex inventory mgt demand forecasting predictive maintenance, physical digital network optimization navigation scheduling logistics.

c) Communication – The ability to understand spoken and written language voice- control

d) Perception – The ability to think about the world via sounds image other sensory inputs medical diagnosis, autonomies vehicles surveillance. Above mentioned are the general applications of Artificial intelligence. Artificial intelligence applications in the banking sector creates a stringer system to woken by making processes problem free Artificial intelligence cloud computing block chain and digital dash boards are some of he latest technology that are helping banks to automate their system . The article describe use of Artificial intelligence in banking sector above mentioned are the general application of Artificial intelligence

Diagram 2



Artificial intelligence in powered banking sector-

Artificial intelligence in banking especially in India is more about chat bots. It is fast going and evolving go to technology for companies across the world.

The technology in various ways. The application of Artificial intelligence is rudimentary which beings smarter chats bots for customer service personalisation services for individual and even panning an Artificial intelligence robot for self services at banks. Beyond these basic applications banks can implement the technology for bringing is more efficiency to their back office and even reduce fraud and quarry risk.

According to report of Accenture banking technology vision that Indian bankers believe that Artificial intelligence will work alongside humans in the net future which is very near many research institution and universities have been working with various Artificial intelligence technologies for decades and especially in the area of social transformation.

The largest bank for country SBI conducted code for bank for developing to build a solution leveraging futuristic technologies such as Artificial intelligence well as private banks like HDFC and ICICI bank have already introduced chat bots for customers services . Payment companies are using Artificial intelligence to offer personalised payments.

“Anomaly detection can be used to increase the accuracy of credit fraud detection and antimony founding.”

“Humanoids chat bots interfaces can be used to increase efficiency and reduce cost for customer interactions.”

Artificial intelligence illuminate human errors from hand crafted modes, suspicious behaviour logs analysis and spurious emails can tracked down to protect and possibly predict security breaches capturing data using OCR and then using machines learning Artificial intelligence to generate insights from the next data can greatly cut down back office processing times. Personalized portfolio can be managed by both advisors and client’s also Artificial intelligence techno. The technology of Artificial intelligence like deep learning can be used Artificial intelligence ms to defect and prevent fraud / crimes.

As far as India is concern a wide implementation of a high-end technology like Artificial intelligence is having great challenges. A key challenge is the availability of right and correct data. As data the use blood of Artificial intelligence any ambiguity or vulnerability is a serious concern for business structured mechanisms for collecting validating standardized correlating archiving and distributing Artificial intelligence relevant data is crucial the next biggest challenge is lack of trained human resources. The existing work force is not familiar with latest tools and applications.

Conclusion -

As banking is data incentive and analysing the abound ant available data meaningful patterns can be drawn by using Artificial intelligence. Artificial intelligence will take away all the monotonicity there is when it comes in banking and use of huge amount of structured as well as unstructured with increased mobile and internet usages.

From the benefits and challenges of Artificial intelligence in banking as started supra there should be brainstorming mechanism for implementation of Artificial intelligence in banking sector with the great consideration of abstract’s of unemployment and lack of skilled human work force.

After all artificial intelligence offers banks opportunities to reinvest banking processes and gain un presented advantages. MA

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hinge.deepa@yahoo.in

ARTIFICIAL INTELLIGENCE IN BANKING SECTOR – A STUDY

Dr. Mohammad Khaja Moinoddin
Professor
Dept. of Commerce & Business Management
SRM Group of Institutions
Karimnagar, Telangana

Abstract

Artificial Intelligence driven startup ventures square measure trying to redefine banking and progressive banks have launched AI primarily based pilots, be it within the house of client services, fraud management, or credit grading, among others. These ventures and pilots have sprung up as a result of AI battery-powered banking is viable currently and it's additionally seeing acceptance among finish shoppers. All this has junction rectifier to banking business and technology leaders agreeing that computer science is among the most popular banking trends which will reshape banking in present context.

Artificial Intelligence is a district of technology that emphasizes the creation of intelligent machines that sense, comprehend, reason and act to emulate human behavior. a number of the activities that computers with AI square measure designed for embrace image and speech recognition, learning, coming up with and downside determination. Samples of applied AI technologies embrace (but aren't restricted to): machine learning, deep learning, predictive/ prescriptive analytics, virtual agent and tongue understanding technologies.

Actually, computer science is all of those things. once a automatic data {processing system| ADP system| simulates a process, like thinking or sensing, that is one amongst the building blocks of human intelligence; it wants AI to try and do thus.

Objective of the Study

The study has been conducted to discuss the various drivers for adopting AI in banking sector at the same time to compare the AI adoption in various industries. In addition to this, the study focused on key areas of AI adoption in the banking processes. The study covered various key barriers as well as some challenges involved in the adoption of AI in the powered banking sector.

The Drivers of Adoption

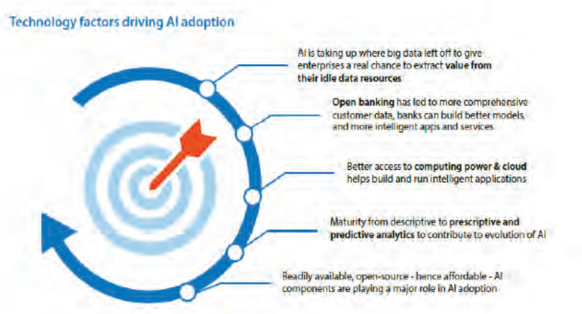
AI is poised at some extent of inflection, wherever it's mature enough to go out of the science laboratory and enter the $64000 world. In parallel, banks have additionally earned a degree of maturity in building digital elements, like massive information, method automation and cloud solutions, that may be a precondition for a prospering invade AI.

Business Factors Driving AI Adoption

- Need for in depth automation with intelligent processes to remain competitive on profit.
- Progressive banking

incumbents, contestant banks & payment suppliers, leading the approach in AI adoption.

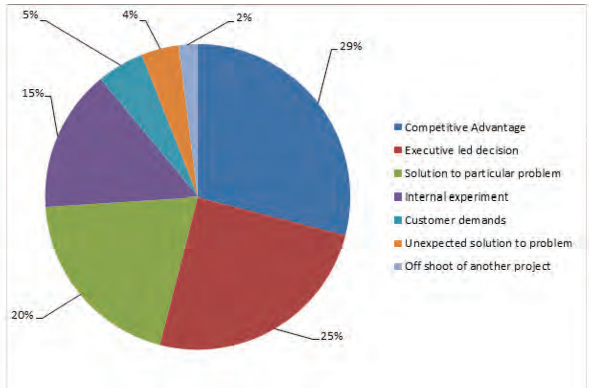
- AI's ability to method massive information, acknowledge speech, images, text, and patterns is that the price ticket to personalization at scale.

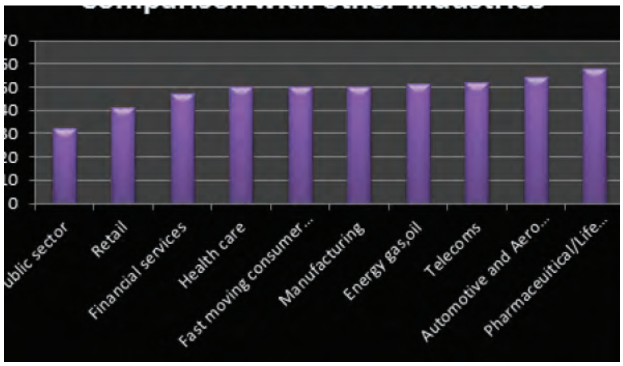


44 % of executives taking part in Associate in economist social scientist survey aforementioned delaying AI implementation would create their business susceptible to disruption at the hands of startup firms. In one analysis it's found that 3 out of 4 aforementioned that AI was elementary to the success of structure strategy. Those presently victimization or aiming to use AI technology anticipated revenues to travel up thirty ninth percentage on the average by 2020.

This places a good deal of responsibility on senior leadership to drive AI adoption among their organizations. The below Table & graph depicts however respondents to at least one of the survey rate the drivers of AI deployment: clearly concerns like gaining a competitive advantage, drive by executives and determination business downside square measure rated because the key drivers for adoption of AI. This goes to mention that the drivers square measure largely high down presently.

FACTOR	PERCENTAGE
Competitive Advantage	29%
Executive led decision	25%
Solution to particular problem	20%
Internal experiment	15%
Customer demands	5%
Unexpected solution to problem	4%
Off shoot of another project	2%





(Percentages indicate average maturity score by Industry)

An organization will use AI to do one or all of the following

1. Observe and Sense: read what's happening (Emulate the sensing side of human behavior)

2. Interpret and appraise: produce hypothesis and evaluate whether or not the hypothesis is true or wrong. Consequently decide and opt for the most effective response (Emulate the thinking side of human behavior)

3. Act and Act-Interact: with the human / machine and take action (Emulate the action side of human behavior).

Key Areas of AI Application

AI technologies may be infused into many banking processes to good advantage. In fact, advancement in AI technologies offers a chance to fully re imagine banking processes and gain new efficacies within the front, middle and back workplace.

Front Office: Sales and Marketing

Marketing campaign: Selecting the most likely adopters using the data available

Delivering offers: At the device and time most likely to get positive attention

Reviewing offer details in an app: Log in through a frictionless experience (biometric authentication) to review details of an offer

Immediate interaction with virtual advisors: Answers questions, qualities lead based on the discussion, if needed; it can pass the context to human experts

Empowering relationship manager: Virtual advisor - send details on conversation and potential areas for readiness of the meeting, including answers to questions expected

Mid Office: Fraud Management

Real time transaction data analysis instead of analysis on past data

AI based engine offers capabilities to sift through transactions and recognize suspicious activity in real-time

Deeper KYC and understanding of parties involved

Algorithms to identify risk indicators, unusual behavior for transacting parties, auto linkages with bad actors

Reduce false positives and negatives

Machine learning capabilities help improve system capabilities to continuously learn from false positives and negatives

Proactive, instead of reactive management

Augment risk analysts with recommended mitigation strategies and actions

Proactive compliance reports

Automatically generate compliance reports such as Suspicious Activity Reports (SARs)

Back Office: Cash and Liquidity Management

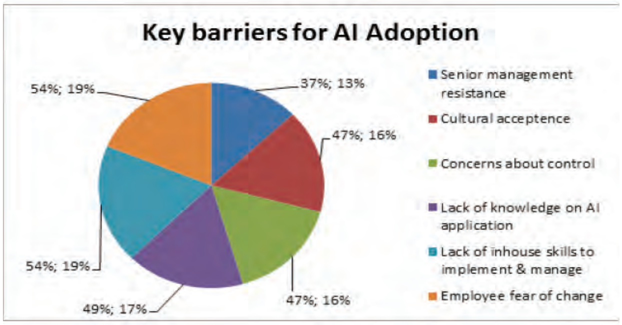
The schematic below shows how a bank can leverage AI technologies to redefine back office processes like liquidity management. The focus here is on the most popular liquidity management tools including target balancing and notional pooling.

Designing a more appropriate liquidity management structure

With the help of advanced data analytics techniques, one can project the account balances of the underlying accounts and perform analysis for designing the structure betters.

What if analysis

Comparative analysis across the combination of multiple structures both notional and target balancing is possible through AI



Recommending structure changes based on emerging

AI technologies can also help optimize structure dynamically basis changes in the FX rates for the underlying accounts.

Key Barriers to Adoption

Lack of adequate infrastructure and skills is that the biggest barrier to AI adoption. Different key barriers stem from cultural problems together with issues regarding cession management, (lack of) acceptance and resistance from the highest.

Not without challenges

A wide implementation of a high-end technology like AI in Asian nation isn't attending to be while not challenges. From the shortage of a reputable and quality information to India's various language set, consultants believe variety of challenges exist for the Indian banking sector victimization AI.

According to Accenture's Rishi Aurora, "A key challenge is that the accessibility of the correct information. Information is that the lifeblood of AI, and any vulnerability arising from unproven info could be a serious concern for businesses. Imagine as an example, the risks that might arise from KYC compliance AI systems if the info sources ar incorrect. Or think about the effectualness of a fraud detection AI system while not the correct reasonably information. Structured mechanisms for aggregation, validating, standardizing, correlating, archiving and distributing AI relevant information is crucial."

"The biggest challenge is that the deficiency of trained human resources; the present men isn't accustomed to latest tools and applications. Secondly, the AI technology could be a massive threat to redundant staff within the banking sector. The mass adoption of AI could cause a grave state drawback within the sector," aforementioned Rachit Chawla , chief operating officer of Finway Capital, a Delhi-based non-banking monetary company.

Conclusion

While the idea of AI has been around for many years, it's solely recently that the AI fantasy has began to change into reality. Several of the technology items are already in place, albeit in varied stages of maturity. What's left to try to is sew along these elements to re-think banking processes and experiences. Several banks have created a begin by incorporating many AI elements into their processes and have knowledgeable about early results.

While the technology's evolution is each fast and spectacular, banks, and indeed, all enterprises, ought to ground their adoption ways and expectations in point of fact. Notwithstanding, no matter initial hiccups and gestation times for expected results, banks ought to waste no time in capital punishment their AI plans. as a result of AI is evolving thus quickly, it doesn't permit banks the luxurious of waiting until it matures, and people World Health Organization do, risk ne'er having the ability to catch up with the leaders. Fast movers have another advantage therein their AI systems can begin learning prior others, and can so evolve quicker similarly. With AI, the business can undergo an extended voyage of re imagining banking, spanning many years, several milestones and a minimum of many challenges. MA

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mohin_khwaja1@yahoo.co.in

ARTIFICIAL INTELLIGENCE: LEVERAGING TECHNOLOGY IN ENHANCING OVERALL BUSINESS DECISION PROCESS

CMA Vitin Kumar
Dy. Engineer
Bharat Heavy Electricals Limited
Noida

Abstract

Technology is influencing in all sphere of our life. Area of accounting and costing are also not insulated from it. With influence of artificial intelligence and machine learning in accounting, routine job are facing threats. Whenever new technology comes to play, it brings ample opportunities for people, who wiling to acquire required skills to respond the changes. This paper attempt to highlight the strength enjoyed by strategic thinker, like CMAs to leveraging technology in existing and emerging areas of improvement in performance and efficiency. Artificial intelligence can be a right tool in better cost modelling and overall decision making process

While writing this paper, one of the fundamental concern in my mind was to adhere with integrity and ethical standards of publication process, as I am aware about theplagiarism software which take care ofconcerns and if, any of fundamental was breached in my writing, software inform to editorial team at time of processing content of article and my article shall be rejected by the editorial team. What is this plagiarism software? This is an intelligent softwareused by the publishers in order to ensure the integrity and ethical standards of publication and this is capable to detectif author copied any contain of his writing from earlier published material, or to say plagiarized work of others. In earlier days, this work was performed manually with substantial effort and time and at many occasions it was almost impossible to check with each and every document and some of the documents may not be available with publishers owing verity of reasons. In short, technology is influencing inall sphere of our life, whether it is writing, reading, education, lifestyle, healthcare, housing, governance,transportation, communication, navigation, administrationare name few. Naturally, Accounting too is not area of exception. Technology substantially influencing in accountingdomain and persons who are expert in traditional accounting work viz. book entries, punching data, balancing ledgers, payrolls function,billing, loan appraisal and processing function,calculation of just financial numbers for reporting period, tax calculations and certain level compliance (say return filling) etc. may found no place for themselves, as artificial intelligence or to say artificially intelligent machines are now performing their jobs and dealing with unthinkable in term of time, cost andaccuracy. One can recollect from recent announcement by the ministry of finance to automate tax return process and shortly auto populated return shall do away need of filing and processing of returns by anonymous tax officer. Wording simply, machine are now eating traditional accounting jobs. As per World Economic Forum financial sector and investment sector is going to be face more disruption with 4.0.WEF estimate that over 40% of the skills currently needed to perform well in accounting profession will soon become redundant. We are now in 4.0 environment (4th industrial revolution),where machines are capable to work and behave like human and exhibit learning and decision making abilities as powerful brainpower. It shall be unwise to presume that costing process as whole is insulated from this influence. In order to mitigate risk of redundancy professional to acquire new core skills.

State of technological influence in financials sector:

Artificial intelligence is now no longer mere theoretical concept and robotic process is already come to play and start displacing blueof collar professionals. The management accounting profession also not insulated from threats as some of job functions performed by management accounting and finance professionals will become completely automated. Initially, it will be the repetitive routine rulesbased tasks that are no longer required to be performed by humans, but possibility of higher level thinking tasks very likely to becoming part of the domain artificial intelligence. Like other technological influence, AI one side poses the threats of loss of job, but other side open the window of ample opportunities for those only who come up with right skill set. Indeed, robotics and AI are not the only challenges. The rate of data generation multiplied by two in every two years, and Big Data is just that, big—too big for traditional database management systems. Also, the data increasingly comes from various sources including mobile phones, internet of Things, radio frequency ID, and digital cameras in very much unstructured formats. Analysing vast dataand to reveal the various patterns of human behaviour is no longer possible with the exiting ERP systems. This big data can be turned into a strategic asset by right tooling like AI. Thus rather challenge is leveraging all this data to evolve and drive business success. The examples of right utilization of big data with levering AI include ranking customers based on their likelihood of paying, estimating customer mix, inventory levels management using (point of sale) data, marketing prepositions, identifying scam, detecting fraud, targeted marketing, selling recommendations, and identifying root causes of damages and managing quality related issue issues.

How CMA should see this?

On front of strategic decisions, strategic thinker like CMAs are charged with both creating and preserving values. The strategic leaders more and more need to play with their analytical and other core skills to manage state of operations strategically. The ever-expanding level of data collection (quantum of data/ Big Data) coupled with the ever fast processing abilities of computers, AI will generate exponentially more analysis. Using business analytics to leverage AI capabilities can help in unlocking the values.

Future state of affairs probably shall depend on how quickly professional accommodate technology driven changes and come with new skills and evolve new dimensions to work. For value creators like cost and management accountant, their position is something different from accountants, as they are much concern with organization's efficiency and performance, leading to creation of values within organization. For value creators, artificial intelligence or machine learning may help them in costing data collection, compilation, classification, measurement, analysis, ascertainment, allocation, simulation, modelling and decision making with greater accuracy and efficiency in existing field of play. For example, in ascertainment of cost of element and assignment to cost to object, the limiting or guiding factor are economy and feasibilityin treatability of cost of elements in entire costing process. As we elevate the level of traceability of a particular element of cost, the cost of costing process itself goes up. AI or Machine learning offer leveragein raising the level of traceability of elements of cost with accuracy, time, and substantially reduce thecosting process itself. The big data coupled with AI leverage can be use in real time cost management system. In describing and diagnosing the state of corporations Management Accountants to deal with predictive and prescriptive analysis. Predictive analysis concerned with useof statistics, data modelling, real-time data, and machine learning in forecasting. Prescriptive analysis is further used in in decision making like ranking of different proposals of action and making a recommendation for a specific action.

Emerging avenues for CMAs:

Project appraisal: Every industry keen to adopt artificial intelligence in its business process need answer of cost and benefit from adoption of AI. As AI cost is huge in present time, it may not be beneficial to every type and size of business. Here, CMA like other project appraisal can come forward for project appraisal of AI to potential businesses.

Input provider for architecture documents: Probability software providers now searching those people who can partner with in making their standardssoftware capable to produce financial, costing, commercial, managerial and strategic outputsin compliance with statutory framework. Here, CMA are well placed in a position to venture with such parties.

Business intelligence and analytics:

Leverage from AI enable use of real

informationthatinsight in what happen in the business now and how it is going to happening. Overall impact on real time monitoring facilitate improved business decision making through use of intelligence and advanced analytics. This eliminates surprises and companies can concerned with present and future only. Sources of new data are prolific and coming in many form and format. So management must be able to place filters and focus the use of information to gain insight and drive decision, which is much more challenging in the big dataenvironment. From information poolone has to choose information very carefully to derive quality decisions. With this analytics job is increasing several fold and management accountants capture opportunity within and beyond the domain.

Cyber and physical securities of financial information system: Cybersecurity is a primeconcern among companies. Corporations are constantly targeted by hackers to damageoperational controls, systems, and protections. Security of assets and facilities such as data centres, server, data offices, and cloudsare area of concern. Cost and Management Accountants have a vital role to play in protecting and preserving company's information systems, software, data centres, hardware, and much more through cost effectivefinancial information and monitoring system.

Concern on data Governance:

A data governance strategy and plan is all about company's overall management of the availability, usability,utility, integrity, quality, and security of information. Data is a critical asset of any company today. Here, management Accountant have to take care one more asset i.e. DATA. CMA with BOD and senior management need to evolve adequate strategies and put in place to govern,protect and preserve information assets. They can assume as additional area of DATA AUDIT to minimise exposure to significant potential risks. MA

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vitinktyagi@gmail.com

8TH MARCH

INTERNATIONAL

WOMEN'S DAY

A DAY OF WOMEN'S EMPOWERMENT

International Women's Day, celebrated worldwide on 8th March every year, commemorates the contributions of women who strived for empowerment. The day also marks a call to action for accelerating gender parity. Although in many countries women are achieving equality in health outcomes and education, the world has not seen the same kind of progress everywhere. Gender inequalities are still deep-rooted in every society. Women suffer from lack of access to decent work and face occupational segregation and gender wage gaps. In the era of Industry 4.0, trends indicate a growing gender digital divide and women are under-represented in the field of science, technology, engineering, mathematics and design.

From mobile banking to artificial intelligence and the internet of things, it is vital that women's ideas and experiences equally influence the design and implementation of the innovations that shape our future societies. *MC Mary Kom, Indian Olympic boxer and World's No. 1 boxer quoted once, "Don't let anyone tell you you're weak because you're a woman"*. Evidence shows that putting economic resources in women's hands is the best way to accelerate development and sustainably reduce poverty. Gender equality is not only a fundamental human right, but a necessary foundation for a peaceful, prosperous and sustainable world. Providing women and girls with equal access to education, health care, decent work, and representation in political and economic decision-making processes will fuel sustainable economies and benefit societies and humanity at large. Gender balance is essential for economies and communities to thrive. Long back *Father of the Nation, Mahatma Gandhi said "Woman is the companion of man, gifted with equal mental capacity"*. So, let's hope for a future in which innovation and technology creates unprecedented opportunities for women and girls to play an active role in building more inclusive systems, efficient services and sustainable infrastructure to accelerate the achievement of the Sustainable Development Goals (SDGs) and gender equality.

The Directorate of Journal and Publications of The Institute of Cost Accountants of India has dedicated pages in its pioneering monthly publication, *The Management Accountant, Vol.54 No.3 March 2019 Journal* to observe International Women's day by incorporating articles relating to Women Empowerment. We firmly believe a better and socio-economic sustainable society includes equal and fair treatment towards women.

As women, we must stand up for ourselves.
We must stand up for each other.
We must stand up for justice for all.

- Michelle Obama, Former First Lady, USA

ROLE OF WOMEN DIRECTORS: THE REALITY OF DIVERSITY IN CORPORATE BOARDS - AN INDIAN PERSPECTIVE

"The case for diversity is clear: Boards with more women outperform in terms of profitability, governance and teamwork. It's hard to imagine any team succeeding if every player brought the same skills to the field. The same is true of Boards. The diversity of thought, experience, background and gender creates the strongest possible leadership model for Newmont — it also helps us recruit the best and brightest from the broadest talent pool to run the business. Diversity and inclusion aren't just a nice idea — it's a business imperative."

-Noreen Doyle, Board Chair,Newmont

Abstract

Diversity in the Board is an important topic of debate among Policy makers, Regulators, Corporations and Investing community. It has been recognized across the world that the role of women director in a company is quite an important requirement for good governance. Women are known to bring an important perspective of all round welfare in their decision making. In this article we have tried to trace the development on the issue of women's representation on the Boards both in India and across the globe. The direction and imperatives mandated by the policy makers is playing an important role in increasing the women represantative to the Boards. However more needs to be done. The imperatives, challenges and possible solutions for this important challenge of Corporate Governance are also highlighted in this work.

CMA Krishna M. C.
Associate Professor,
Institute of Management
CHRIST
Bengaluru

Aravind Kumar P.V.N.
Research Scholar
Institute of Management
CHRIST
Bengaluru

Dynamics of business environment offer some change each and every day, forcing organizations to adapt to the changes swiftlyif it has to thrive in its business. In such an environment the topmost decision-making body of a corporate house should be able to evaluate the impact of its decisionson thethree most important stakeholders viz., Investors, Customers and Employees. To achieve such clarity in its decisions, it is important that the Board of directors should be drawn from different backgrounds and abilities. Gender diversity is key to this andthe role that a woman leader can play cannot be overemphasized. Women, therefore, must take up roles that are involved in strategic decisions of the company. This mandates that they should be seen intop executive roles including that of CEO, CFO etc. This takes for granted not just their ability to think about the big picture but also willingness to take risks which are an integral part of a business. This also assumes that they would take decisions which are carefully studied and well-informed ones. Therefore, it is not too surprising that the policymakers across the world have taken a very firm step to make it mandatory to have women on the boards of corporate. India is following the suit. The Companies Actmandates the requirement of atleast one women director on the board. In a recent survey of NIFTY 500 companies,it was found that only 15 companies did not have women directors on their board. This is a very significant achievement.

It is natural for us to think of this move by the policymakers as a move for women empowerment. Women's presence in the board should not be seen as a great recognition that the corporate showers on women, but a realization that the key stakeholder in the society must have a say in all the important decisions which have a long-term bearing on the organization. It is, therefore, an essential strategy. Many companies across the world have realised that inclusion of women in their boards has brough tnot just diversity in their top governing body, they have also become as a source of competitive advantage and have achievedfair standards in corporate governance.

Objectives of the Study:

1. To understand the benefits ofhaving women on the board of corporates

2. To trace the trends in various countries about appointing women directors

3. To explain the current scenario in the Indian context and measures to increase the women proportion in the board.

Women on the Board. A pressing need.

The role of women in raising a family and ensuring welfare in the society has been reminded to us through Indian tradition. Identification of the divine as a combination of female (Saraswati, Lakshmi and Parvati) and male (Brahma, Vishnu and Maheshwara) makes it obvious that both the genders play a significant role in the society.

However, over the years, women have been consigned to taking care of the family. Though there are many causes for the same, one of the most important reasons seems to be that traditional businesses have had highly physical labour intensive work and a lot of travel in some roles. Both of thesewerenot considered suitable for women,as their primary responsibility was to raisethe family. But, every successful family had the women who had important say in every decision of the family and the local body.

Hillary Clinton rightly quoted that "Women are the largest reservoir of untapped talent in the world". Many global researchershave shown that women directors on the board have a positive correlation with the company's financial performance and corporate governance. It is also believed that diversity in board brings more strategic advantage, quality governance, change in board dynamics and better organizational performance.

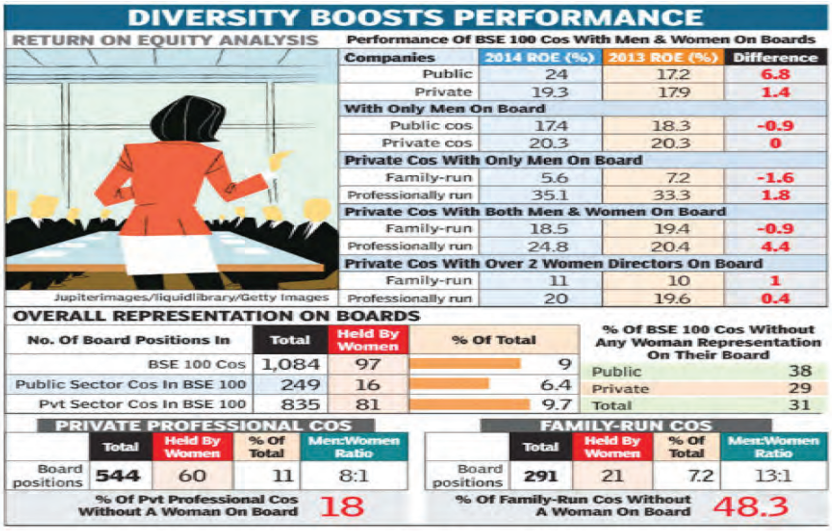
Industrial Revolutions 1.0 to 4.0 have moved the focus from pure physical labour intensiveto computing and now to Artificial Intelligence. Technology has reduced the physical labour and also the travel time, thus giving space for women to be an integral part of the business in many ways. It is important, therefore, that the corporations take advantage of the opportunity and bring women to the top decision-making body.

Women in the boardroom organizations stand to gain because of their collaborative leadership style. Corporate Governance experts say that companies with women directors can manage the risks effectively both in the immediate business imperative and also in the long run perspective.

In major corporate frauds like Enron and World Com, it was the women who were the whistleblowers and the alerted the outside world. Ms Sharron Watkins at Enron was the one to bring to light the scam and it was yet another woman, Cynthia Cooper who revealed the World Com's scam. These classical examples exemplify the need for gender diversity for improving governance practices.

Randstad (A leading HR service provider), in the year 2014 conducted a surveywith top 100 companies in BSE that has women on their board. The study revealed that the corporate board that has both men and women, were able to raise the ROE by 4.4% in 2014 overthe previous year. However, the companies that hadonly men in their board, had only 1.8% rise in ROE in the same period. The other results of the survey are highlighted in Chart 1. Another research by Catalyst (A non-profit organization) proved that there is a strong correlation between corporate reputation and presence of women directors in the board.

Chart 1: Return on Equity analysis of BSE 100 companies with men & women on board and Overall representations of Board



DIVERSITY BOOSTS PERFORMANCE

RETURN ON EQUITY ANALYSIS

Performance Of BSE 100 Cos With Men & Women On Boards

Companies	2014 ROE (%)	2013 ROE (%)	Difference
Public	24	17.2	6.8
Private	19.3	17.9	1.4
With Only Men On Board			
Public cos	17.4	18.3	-0.9
Private cos	20.3	20.3	0
Private Cos With Only Men On Board			
Family-run	5.6	7.2	-1.6
Professionally run	35.1	33.3	1.8
Private Cos With Both Men & Women On Board			
Family-run	18.5	19.4	-0.9
Professionally run	24.8	20.4	4.4
Private Cos With Over 2 Women Directors On Board			
Family-run	11	10	1
Professionally run	20	19.6	0.4

Jupiterimages/liquidlibrary/Getty Images

OVERALL REPRESENTATION ON BOARDS

No. Of Board Positions In	Total	Held By Women	% Of Total
BSE 100 Cos	1,084	97	9
Public Sector Cos In BSE 100	249	16	6.4
Pvt Sector Cos In BSE 100	835	81	9.7

% Of BSE 100 Cos Without Any Woman Representation On Their Board	
Public	38
Private	29
Total	31

PRIVATE PROFESSIONAL COS

	Total	Held By Women	% Of Total	Men:Women Ratio
Board positions	544	60	11	8:1

% Of Pvt Professional Cos Without A Woman On Board 18

FAMILY-RUN COS

	Total	Held By Women	% Of Total	Men:Women Ratio
Board positions	291	21	7.2	13:1

% Of Family-Run Cos Without A Woman On Board 48.3

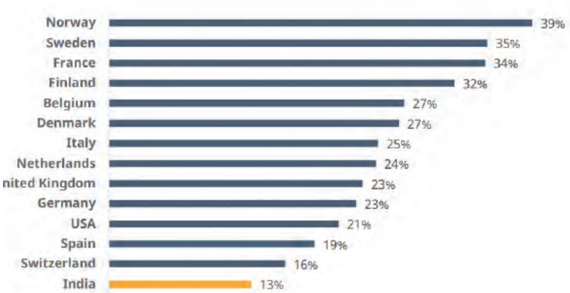
Source: https://timesofindia.indiatimes.com/business/india-business/Companies-with-women-board-members-make-more-money/articleshow/44943363.cms

Profitability with positive reputation can perhaps be the two compelling reasons to have significant women representation on the boards of the companies.

Global Scenario:

The importance of women directors on the board was highlighted on the world stagearound the year 2000. Intent followed legislations. In the initial stages, the compliance was quite less. Companiesincreased the women representation on the boards later. Norway has been showing the way for women representation on the boards. The government of Norway took the initiative in the year 2003 to pass a law requiring the companies to have at least 40% of the women directors on their boards.The law came to force from 2006. Many other European countries like Denmark, Belgium, France, Netherlands, Germany and Spain followed suit. Though this hasinitial implementation challenges, one could see improvement year-on-year. According to the Corporate Women Directors International (CWDI) report (2015), women directors in Italian companies increased from 1.9% in 2004 to 25.8% in 2014. In France, the number increased from 7.2% to 30.2% for the same period. This shows that companies in these countries have responded to the requirement. Chart 2shows the average percentage of women directors by country.

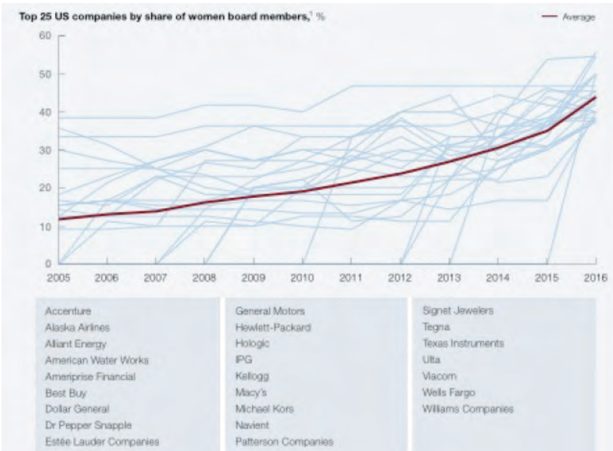
Chart 2: Average proportion of women directors by country.



Source:http://www.primedatabasegroup.com/primegroup_logo/Women%20Directors%20In%20India.pdf

The scenario in the US notas encouraging as it is in Europe. In an article for McKinsey report "The Board Perspective, Number 2" (March 2018), Ms Celia Huber and Ms Sara O'Rourke have highlighted the slow progress made by the US corporations in adding women to their boards. In the US currently, women hold about 19% of Board positions as opposed to some of the European nations as highlighted earlier. At the same time, they have also highlighted that some of the top US corporations are leading the way. The top 50 companies of S&P500 have about 33 per cent women on their board. It is expected that these leading companies can inspire others to add more women to their board. The Charts below show the trend over the last decade.

Chart 3: Trend of representation of Women on the Board among the top 25 US companies.



Source:BoardEx database 2005-16.

In another attempt, California has passed a law mandating the corporations headquartered in that state to have at least one woman on their board by the end of 2019. This has attracted both positive and negative feedback. In an HBR report (dated Oct 11, 2018) Shivaram Rajagopal and George Fleck have brought out some startling facts. Venture capital business is hugely male-dominated. VCs invest money in the start-ups and hence they serve on the boards of these companies. In the year 2017, "just 2% of venture capital funding went to startups founded by women and women comprise just 9% of the decision makers at US Venture capital firms." Fact that a large number of companies going public every year come from California, it has been suggested that a quota system can help more women representation on the boards of public companies. A recent report in the World Bank Group on Gender diversity has highlighted that "fifty percent of the world's middle managers are women, representing a solid pipeline of Board Talent for the future". This is a silver lining for this corporate governance issue.

Indian Context:

Section 149(1) of the Companies Act, 2013 makes it mandatory for all the listed public companies to appoint at least one woman director in each company if its capital is at least Rs 100 crores or their turnover is at least Rs 300 crores. The Act thus mandates gender diversity and establishes the rights of women to participate and lead the corporate.

The new laws have only tried to bring the participation of women on par with men. The gender bias at the senior roles is very high in the corporate and is still a fiefdom of men. There are only a few women who have been able to break the glass ceiling. This is perhaps the main reason why the Companies Act, 2013 mandated the inclusion of at least one women director.

In India, women directors to be on the board were made mandatory from 2013. Out of NIFTY 500 companies, 15 companies did not have one women director, 378 companies had one, 81 companies had two, 22 companies have three and 4 companies have 4 women directors in their boards as on 31–Mar-2017. The female representation in top 500 NIFTY companies increased from 5% in 2012 to 13% in 2017. There were around 622women directors out of total directors (4690) in NIFTY 500 Companies.The data, therefore, shows that the companies have stated complying more with the diversity requirement, which can also improve corporate governance and transparency.

Some Indian companies like Godrej, Asian Paints, Airan Ltd, Mahindra and Mahindra, Essar group etc.have had women on their board much before Governments mandated them. Governments of some countries in Europe mandated a threshold of 30% to 40% of women on the board. The table below shows a comparison of some key aspects related to women directors. The data for India is as of March 2017 and for U.S.A & Europe the data is as of March 2016.

Table 1: Global comparison of Key Metrics

	NIFTY 500	STOXX 600	S&P 500
	India	Europe	U.S.A.
Proportion of women on boards	13%	25%	21%
Women as proportion of independent directors	16%	34%	-
Boards without women directors	3%	5%	1%
Boards with two or more women directors	21%	80%	76%
Boards with three or more women directors	5%	49%	25%
Average number of women per board	1.2	2.8	2.3
Proportion of women on committees			
Audit Committee	12%	29%	22%
Remuneration Committee	13%	26%	20%

Source:http://www.primedatabasegroup.com/primegroup_logo/Women%20Directors%20In%20India.pdf

The above table shows the gap between the US, Europe and Indian companies. It would take some time for Indian companies to match its global counterparts.

Howgender diversity in board make good corporate governance?

In addition to the changes to the Companies Act, SEBI has recognized the need for diversity in the board position and has made a rule that the boards of listed companiesmust have at least one women director (Regulation 17(1) of SEBI (LODR) Regulations, 2015). Recently Kotak committee also gave a recommendation that there should be "at least one-woman independent director in the top 500 listed entities by market capitalization by April 1, 2019, and in the top 1000 listed entities by April 1, 2020". These guidelines were adopted in October 2017 to improve the corporate governance standards in Indian boards.

It has been reported that out of 1,723 companies listed in NSE, 1,667 companies have met the criteria for board diversity. But 425 companies out of these 1,667, have women directors from the family of promoters, which may be counterproductive. Hence, Kotak committee specifically recommended that it should be Independent director. That is a very significant recommendation and will help reduce the influence of men on the board.

The roles and responsibilities taken by the new age board of directors are totally different from the past. So, diversity in board helps to address issues with different perspectives while taking decisions. Good Corporate Governance is considered very vital for any organization irrespective of the capital and turnover that it reports.

What will bring about the change? Concluding remarks.

There seems to be a clear and larger agreement across the globe that women are a necessity on the boards of corporations. Implementation of which calls for awareness among the investing community and the management of corporations.The policymakers have been making efforts in this direction. However, the changes will come only when the intent matches action. In the McKinsey Article "How to accelerate gender diversity on boards", authors have recommended that the Board diversity can improve only if there is a real change in the mindset. They have also called for looking beyond the existing board or management teamof the organization for the appointment of Board members so that the diversity can be achieved.With the rapid changes in corporate governance and women asserting their role in the corporate, it looks like it is a matter of time beforewomen break this glass ceiling. MA

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krishna.mc@christuniversity.in
pabolu.kumar@mba.christuniversity.in

WOMEN EMPOWERMENT & SKILL DEVELOPMENT IN TOURISM SECTOR

S.Chidambara Selvi
Assistant Professor
Department of Business Administration
Manonmaniam Sundarnar University College
Puliangudi

Abstract

Tourism Fosters development of economy. It helps to create employment opportunity, development of entrepreneurs, local industries and infrastructure and at the same time earn foreign exchange. Now a days Women Participation in Tourism Sector is being increased. Sixty percentage of women directly or indirectly contribute their skill in Tourism sector. Tourism provides better opportunities for women's participation in the workforce, women's entrepreneurship, and women's leadership than other sectors of the economy. Women in tourism are still underpaid, underutilized, under-educated, and underrepresented, but tourism offers many pathways to their success. Actually their role & activities are invisible to the world. They are lacking grants from government because of their lack of awareness. This paper will explore the phenomena of Women empowerment and skill development in Tourism sector. This paper reveals the strength & weakness of women in tourism sector, their participation in tourism sector, the challenges faced by them in tourism sector; the development needed for their improvement and finally the government schemes to develop their skills.

Tourism is worth investing in; it has the potential to be a vehicle for the empowerment of women in developing regions. Tourism is one of the world's largest and fastest growing industries. In many countries it acts as the engine of development through foreign exchange earnings and the creation of direct and indirect employment.

In developing world 60% of women are in non-agricultural work in the informal sector. Much of this linked directly and indirectly to tourism. The role of women in informal tourism settings such as running home-stay facilities, restaurants and shacks, crafts and handicrafts, handlooms, small shops and street vending is significant But these roles and activities that women perform in tourism are treated as invisible or taken for granted.

Objective of the study:

- ✤ To know the women participation in Tourism department
- ✤ To know the strength & weakness of women in tourism sector.
- ✤ To know the challenges faced by women in tourism
- ✤ To know the components needed for women empowerment in Tourism.
- ✤ To know some Government schemes for the skill development of women.

Women Participation in tourism Department:

Tourism provides better opportunities for women's participation in the workforce, women's entrepreneurship, and women's leadership than other sectors of the economy. Women in tourism are still underpaid, underutilised, under-educated, and underrepresented, but tourism offers pathways to success.

Strength & Weakness of women in Tourism:

- ✤ Women make up a large proportion of the tourism workforce.
- ✤ Women are well represented in service and clerical level jobs but poorly represented at professional levels.
- ✤ Women in tourism are earning less when compared to men
- ✤ A large amount of unpaid work is being carried out by women in family tourism business.
- ✤ The tourism sector has almost twice as many women employers as other sectors.

Challenges faced by women in Tourism

- ✤ Women are often concentrated in low status, low paid and precarious jobs in the Tourism industry.

✤ Due to Gender stereotyping and discrimination the women mainly tend to perform jobs such as cooking, cleaning and hospitality.

✤ Mostly Tourism employment is seasonal and fluctuate, they face difficulty in employment in off seasons

✤ Mostly women face sexual exploitation.

Component needed for women in tourism sector

The need to acknowledge the important economic contribution of women and ensure for them, access to credit, capacity building and enhanced skills, access to the market, encouragement to form unions, associations and cooperatives to increase their bargaining power and to ensure that their safety health and social security needs are met is critical. Creating opportunities for income generating activities, effective marketing and integrating women's entrepreneurship with various government schemes to promote women's self employment, would be an important component to promote women's participation in tourism development.

Schemes of government to enchance the skill of women in Tourism

There are some specific schemes which are useful for enhancing the skills of women in field of Tourism.

The National Policy for Skill Development and Entrepreneurship, 2015:

The National Policy for Skill Development and Entrepreneurship, 2015 envisions skill development as a vehicle for women's empowerment. To impart skills to women, the government has taken steps like the Skill Development Initiative Schemes under Directorate General of Employment and Training developing over 10,000 training providers under which 12.6 lakh woman have availed benefits. There are 402 women ITIs and 1134 women wings in ITIs, which provide training to 1, 41,907 women annually.

Furthermore, vocational training schemes for women are being run by 10 Regional Vocational Training Institutes (RVTIs). The government has proposed to open 8 more. Given below are some of the policy provisions for skill development with a special focus on women.

The National Policy on Skill Development highlights that in order to improve the productivity of the economy, participation of women in the labour force needs to be improved. Below are the major takeaways from the policy.

Improving access to skill development by creating more seats for women
Gender mainstreaming of content and delivery of training
Use of digital platforms for women's empowerment

The policy provides a roadmap for skill development, including the setting up of Ministry of Skill Development and convergence of skill development initiatives of other Ministries. It also outlines various interventions that the government must take up to catalyze skill development for women. Some of the proposed interventions are enlisted below.

✤ The policy highlights the need to improve access to skill development for women. According to the policy, additional training and apprenticeship seats will be set up exclusively for women. While the skill development infrastructure in India is vast, we need to create facilities dedicated to women. This also includes increasing the pool of women trainers. As per the policy, mechanisms to provide certification to women trainers would be put into place. New institutes for training of women trainers will also be promoted

✤ The policy mentions the need for gender mainstreaming of training. Women participation in vocational education and training is low as compared to men. In order to bridge the gap, the policy identifies the need for special delivery mechanisms such as mobile training units, flexible afternoon batches along with on local needs based training. The policy envisions incorporation of women related issues in the guidelines for skill training procedures, such as issues of safe and gender sensitive training environment, employment of women trainers, equity in remuneration, and complaint redressal mechanism.

While Digital India is gaining momentum, there is need to incorporate ICT for providing skill development solutions as well. The policy announces the promotion of an internet or mobile based platform for women employment. The platform would connect skilled women and employers. It would focus on women willing to re-enter the workforce after a break and those affected by migration.

The Ministry of Women and Child Development seeks to promote economic empowerment of women through policies and programmes cutting across sectors, mainstreaming gender concerns, creating awareness about their rights and facilitating institutional and legislative support for enabling them to develop to their full potential. The important programmes in those areas are

Support to Training and Employment Programme for Women (STEP)

The STEP program is a Central Sector Scheme of Ministry of Women and Child Development under which training is provided to poor and marginalized women in traditional trades to improve employability. The scheme is intended to benefit women who are in the age group 16 and above. Under the programme, grants-in-aid are provided by the central government to societies, voluntary organizations, and cooperatives providing skills in sectors ranging from agriculture to hospitality.

Key sectors under STEP

- Agriculture
- Horticulture
- Food & Processing
- Handlooms
- Tailoring & stitching
- Handicrafts
- Computers and IT
- Travel & Tourism
- Hospital
- Gems & Jewellery

Training courses under STEP would primarily be of 3 months or 6 months duration, with total assistance per beneficiary at Rs 18000 and Rs 28000 respectively. The maximum number of beneficiaries per project will not exceed 200.

Cost item	Ceiling per beneficiary(- for 3 month course)	Ceiling per beneficiary(- for 6 month course)
Training	Rs.14000	Rs.20000
Food & Travel	Rs.4000	Rs.8000
Total	Rs.18000	Rs.28000

As of February, 2015, a total funding of Rs 400.21 lakhs was released under the scheme. Amongst the states, Manipur received the maximum funding under the scheme, followed by Madhya Pradesh and Assam. A total of 24,037 women beneficiaries have been impacted under the scheme.

With limited participation in the workforce, the potential of women remains untapped. Effective implementation of the envisioned skill development interventions is needed to make them key stakeholders in development.

Deen Dayal Upadhyay Kaushalya Vikas Yojana (DDU-KVY)

DDU-GKY, the erstwhile Aajeevika Skills, is the skill training and placement program of the Ministry of Rural Development (MoRD) carried out as part of the National Rural Livelihoods Mission (NRLM). The DDU-GKY focuses on providing high quality skill training opportunities through Project Implementing Agencies (PIAs) to rural poor youth, though there is a special focus on women as mentioned below. It has an outcome-based design and the PIAs are required to place a minimum of 75 percent of those who are trained in jobs providing regular monthly wages.

Recommendations for women's empowerment in Tourism:

Although there are various schemes for the improvement of women, there are some suggestions given below area wise for the empowerment of women.

Employment

Increase awareness of the important economic role that women play in the tourism industry. Strengthen the legal protection for women in tourism employment, such protection include minimum wage regulations and equal pay laws. Improve maternity leave requirements, flexible hours, work-from-home options and arrangements for child care.

Entrepreneurship

Facilitate women's tourism entrepreneurship by ensuring women's access to credit, land and property as well as providing appropriate training and resources to support women's enterprises.

Education

Promote women's participation in tourism education and training and improve the educational level of women already working in different areas of the industry through a targeted and strategic program of action.

Leadership

Support women's tourism leadership at all levels: public sector, private sector, and community management by establishing leadership programs at the national level and in large and small scale-tourism enterprises.

Community

Ensure that women's contribution to community development is properly recognised and rewarded by taking into account women's unpaid work and by monitoring tourism activities carried out in the household and in the community.

Conclusion:

Women play a significant role in tourism sector. Although there are many schemes & effective policies to improve the situation of women in tourism, it is important to protect the women's rights in tourism and to monitor progress in the empowerment of women in tourism by regular evaluating yardsticks. MA

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selvimahivasu271980@gmail.com

HEALTH INSURANCE IN INDIA *VIS-À-VIS* THE NEW AYUSHMAN BHARAT-NATIONAL HEALTH PROTECTION MISSION

Dr. Arindam Gupta
Professor of Commerce
Vidyasagar University
West Bengal

Abstract

After being declared in the last year's union budget as the government's new public health protection scheme, Ayushman Bharat has crossed one year since its announcement. Apart from the commitment of a huge financial burden, a few state governments only have either not signed or not launched the scheme even after giving the initial nod. Recently a few state governments decided to withdraw from the scheme even after having launched it. Such apathetic stand of the state governments in respect of the scheme is more because of the lack of political consensus. This mars the scheme's potentiality to protect the socially and occupationally deprived population of the country from any possible health hazard.

India's existing health infrastructure, healthcare expenditure and status of health insurance

The government expenditure in healthcare sector in India has remained approximately 1.4 per cent only of India's GDP till recently. Private sector expenditure constitutes 70 per cent of the total healthcare expenditure out of which 62 per cent is out of pocket while only 8 per cent is covered through pre-financed instruments, as per World Bank data (2014). India's health expenditure per capita of $267 as calculated in 2014 could be identified to be too low in comparison to the world average of $1271. At present, there are 479 medical colleges affiliated to the Medical Council of India (MCI) in the 543 parliamentary constituencies. Their spatial distribution is uneven, with more colleges being clustered around urban centres. A World Health Organization (WHO) Report (2016) titled The Health Workforce in India states that on an average there are 79.7 doctors per 100000 people in the country. India is thus at least 75% short of the number of qualified doctors it needs. WHO has a standard norm of 1 doctor per 1000 population. The doctor-population ratio in the country although below par yet does not represent further uneven distribution in a few states. It is uniformly too low in the rural areas. Six Indian states like Delhi, Karnataka, Kerala, Tamil Nadu, Punjab and Goa have a higher ratio than the WHO norm whereas a few states like Jharkhand, Haryana and Chhattisgarh have a dismal ratio of 8180, 6037 and 4338 people per doctor. Tamil Nadu has a ratio of 4 doctors per 1000 population making it almost similar to countries like Norway and Sweden having a ratio of 4.3 and 4.2 respectively[1]. The concentration of the doctors along with hospitals in urban areas is making the situation worse for the country. Further, there is acute lacking of general practitioners among the doctors. With the corporatization of medical treatment in the private hospitals and with the growing complexity of diseases, doctors have a general trend of opting for various specializations. In the extant situation of lack of availability of sufficient number of doctors to cater the huge population of the country, more general practitioners are needed.

The 71st round NSSO data (January-June, 2014) reveal that 85.9 per cent of rural households and 82 per cent of urban households have no access to healthcare insurance. The National Family Health Survey-4 (2015-16) shows however a better statistics as per which 28.7% families have at least one person covered by some form of health insurance. Coverage is marginally higher at 29% in rural areas compared to 28.2% urban households, largely because of the public health insurance schemes existing for the poor and vulnerable families. Health insurance will undoubtedly improve the quality of life of the people at large and therefore is much needed. But the country is far from reaching a sufficiently insured population till now. It is revealed from government sources that more than 24 % households in rural India and 18% in urban India have met their healthcare expenses through some sort of borrowing. Further, the country suffers from an acute problem of health infrastructure.

The new government initiative - Pradhan Mantri Jana Arogya Yojana

The Ayushman Bharat-National Health Protection Mission (AB-NHPM) was announced by the union finance minister in the 2018 union budget, dubbing it as Modicare. AB-NHPM targets to cover hospitalization expenses of over 100 million poor and vulnerable families with a tentative 500 million beneficiaries of up to ₹0.5 million per family per year. The targeted population to be served is based on 'deprivation and occupational criteria' as per the 2011 Socio-Economic and Caste Census (SECC) data. It will thus replace the existing scheme, Rashtriya Swasthya Bima Yojana (RSBY). The union finance minister has claimed AB-NHPM to be the world's largest government-funded health protection scheme. The scheme has been later rechristened as Pradhan Mantri Jana Arogya Abhiyan by the prime minister at the time of his independence day address to the nation on August 15, 2018. The prime minister fixed a target of starting the AB-NHPM in full on September 25, 2018 on the birth anniversary Pandit Deen Dayal Upadhyay. The mission was finally launched by him on September 23 from Ranchi (Jharkhand) and simultaneously in 445 districts in the country. On this occasion, the mission was renamed as Pradhan Mantri Jana Arogya Yojana (PMJAY) keeping conformity with other government schemes for public utilities. PMJAY thus emerges to be the secondary and tertiary care arm of AB-NHPM. Health infrastructure development remains the other arm.

The beneficiaries are identified with a unique quick response (QR) code having generated after authentication of identity. The beneficiary is added to one 'golden list' by which each beneficiary will have a ₹ 0.5 million wallet. The billing amount will get automatically deducted after treatment from such wallet. To prevent misuse, a referral from a public hospital is a must for treatment of a few ailments in a private hospital. But this would indeed again cause hindrance for the poor people at the time of need, consuming much of the critical time to start any procedure or treatment. The software developed for the mission will maintain patients' records, including details of hospital admission, treatment, medicines prescribed, discharge summary and feedback. On-line patient records will make it possible for the beneficiaries to avail treatment in any state, irrespective of the place of registration as announced.

On the event of launching the official logo of the mission on August 27, 2018, the union minister of health and family welfare (MoHFW), Mr. J. P. Nadda announced the anti-fraud guidelines along with data privacy and information security policy in regard to the mission. The Ministry of Skill Development and Entrepreneurship has already been assigned the job to train 100000 Ayushman Mitras to help identify intended beneficiaries under the scheme. Each empanelled hospital will have an Ayushman Mitra help desk where a prospective beneficiary can check documents to verify the eligibility and enrolment to the scheme. This help desk may be used later for lodging grievance.

Till January, 2019, 14434 hospitals, both private and public, are empanelled from a large number of hospitals intending to be empanelled[2].These are called Ayushman hospitals for which significant rise in hospitalization is reported from the states which have joined the scheme. The compounded monthly growth in number of hospital admissions is estimated at 47% since the scheme having fully launched on September 23, 2018. But, in states like Bihar, Jharkhand and Uttar Pradesh, which lag in respect of national health indicators, more than 50%, 67% and 70% rise respectively in monthly hospital admissions have been recorded. Such growth in hospitalization is really beyond expectation particularly when common people have acute lack of awareness in respect of health insurance.

The New scheme and its financial burden

One of the major reasons for low health insurance penetration in India could be the lack of affordability of the consumers in the tier 2/3 cities and rural areas to avail the insurance especially private insurance. Lack of insurance awareness is quite imminent among the mass. Recently the government has declared health insurance services under AB-NHPM to be exempt from Goods and Services Tax (GST). But other big health insurance segments like private retail and group insurance will remain under GST ambit. While private insurance services earlier attracted a service tax of 15 per cent, those now attract a GST of 18 per cent[3]. The incremental costs are passed on to the consumer, thus making the health schemes unattractive to the huge middle class.

The pre-existing RSBY had capped the premium at ₹ 750 per family annually. The latest data on RSBY show that it has remained restricted to 15 states only and among 36.3

million families, much shorter from its target of 59.1 million families to reach by March 2017. Thus with a slightly higher estimated premium per family, this mission is able to raise the health cover by up to 17 times of the RSBY. However, all active families as enrolled under RSBY till March 31, 2018 yet not featured in the targeted groups as per SECC data can identify if they are eligible for PMJAY using RSBY URN for their possible inclusion under the mission.

According to the National Health Profile (2018), per capita expenditure for Employees' State Insurance Scheme for 2016-17 was ₹505, from which an average family expenditure of ₹2525 could be estimated for a family size of 5 members. CRISIL has estimated a national average premium of ₹1765 per family with an average claim of ₹20000 which is 63% higher than the scheme's recommended premium[4]. Thus a question arises in view of the above-mentioned facts as to whether a premium of below ₹1000 per year per family as estimated in the AB-NHPM is sustainable. Otherwise if the actual cost increases in reality, the state governments may have to continue the mission unsatisfactorily because of not being able to bear the financial burden. Funding the scheme will cost central and state governments ₹100 billion in the first year, rising to around triple that amount once awareness grows and all those entitled are signed up. The central and state governments will share the cost in 60:40 ratio, except for the north-eastern states Jammu & Kashmir and Uttarakhand for which the state share will be 10% only and the UTs for which the central government will bear the full cost.

Lack of Political consensus to accept PMJAY

Almost all the state governments have been running their own health protection schemes.

But the coverage of the state schemes is found to be ranging from ₹100000 to ₹200000 per family and thus cannot match with the immensely rising hospitalization expenses. Thus after getting an option to subsume their existing schemes with the new central scheme, many state governments came forward. As the state schemes are being merged, the state government's constitutional responsibility with the autonomy of framing its health policies had to be largely given up. Although the health infrastructure development in a particular state has still to depend upon the state government policy only even after joining the mission. Many state governments have however expressed the problem in understanding the mechanism of merging their existing state scheme with the new central scheme. Many others have also expressed the huge financial burden in bearing with the 40% premium cost of an ever increasing eligible population. But most of the states, as many as 31 states and UTs are on the board of the mission, more due to the relentless effort of its present CEO, Dr. Indu Bhushan. The states of Odisha, Telangana and UT of Delhi have not yet signed MoU for implementation of PMJAY. States of Meghalaya, Andhra Pradesh, Rajasthan, Punjab and Kerala have signed MoU but have not launched the scheme in their states yet[5]. Very recently, the West Bengal and Chattisgarh state governments have declared to withdraw from the central scheme even after launching the scheme in the respective states. Due to the impending parliamentary election, the opposition political parties at the helm of the states by no means are ready to allow the ruling party at the centre to take any mileage out of the central scheme being accepted across the country. The potentiality of the scheme is thus marred by lack of political consensus.

Treatment package costs in the New scheme

AB-NHPM covers 1354 medical and surgical packages categorised under 25 specialities such as cardiology, neurosurgery, oncology (chemotherapy for 50 types of cancers), and burns among others. However, medical and surgical packages can't be availed at the same time. Expenses towards treatment of caesarean section having already a bad reputation of fake billing, hysterectomy and mental illness cannot be availed in private hospitals under AB-NHPM.

Indian Medical Association (IMA), the only representative voluntary body of doctors in the country has expressed dissent over the centre's recently announced packages for treatment of coronary bypass, knee replacements and stents among others at 15-20 per cent cheaper rates than the Central Government Health Scheme (CGHS). Association of Healthcare Providers India (AHPI) has opined adversely too about the treatment packages provided in the mission by saying that the same is expected to contribute 30-40% of the actual cost of hospital operations and may not encourage therefore the private hospitals[6]. Dr. R. N. Tandon, the general secretary of IMA has predicted the implementation of mission would fail if the packages are not revised upto a realistic level. Using the example of a caesarean section, he has argued that the procedure costs a hospital around ₹16000 to deliver vis-à-vis whereas it would get a fixed a sum of ₹9000 under the package. He has opined that this would be tenable for the smaller hospitals in the private sector but obviously not the more reputed and larger ones. IMA however appreciated the government's decision to empanel the hospitals from 10 beds onwards. Niti Aayog in its governing council meeting in June 17, 2018 decided to set up a sub-group of experts to look into the pricing of treatment for eradicating the existing anomalies as pointed out by Indian Medical Association (IMA).

The role of health insurance companies with the New scheme

State governments have expressed their reservation clearly about the prospective role of the insurance companies in particular in respect of claim settlement while joining AB-NHPM. Announcing Biju Swasthya Kalyan Yojana as the state's own health protection scheme assuring the same ₹500000 coverage per family per year, the Odisha state government has expressed strong reservation in the proposed insurance model of the central scheme. The state scheme will have the facility of reimbursement of costs at empanelled hospitals from a government-formed trust. As reported 20 states are planning to implement AB-NHPM through a 'trust model' or a mixture of trust and private insurance for keeping a check on expenses while maintaining simplicity. In the trust model, the claims would be settled from a corpus to be created by contributions from the central and state governments, with the latter responsible for settling claims. Considering claim settlement to be a critical issue, AB-NHPM has announced a toll-free helpline number (14555) for lodging grievance.

According to the International rating agency Moody's, the new scheme should have otherwise a positive impact upon the country's insurers because it will help grow health premiums and provide insurers with cross-selling and servicing opportunities[7]. But, there are claims on the contrary too because of the apathetic expression of the state governments in general till now about the insurers. Hence, the companies have no guarantee of getting business in AB-NHPM if these governments adopt finally the trust model.

The existing loopholes of the TPA-based health insurance

A Third Party Administrator (TPA) is to function as a liaison between the insurer and the insured to facilitate the cashless service by networking with hospitals. Once the policy has been issued, copies of all the records are sent to the TPA by the insurance company. Even for non-cash post-hospitalization claims, the claim may be submitted either directly to the TPA or to the insurance company after completion of treatment. In case it is submitted to the company, it sends the claim details to the TPA for scrutiny and fixation. Previously, claim was being disbursed by the TPA directly but now the insurance company took up the job of payment. IRDA has not put any mechanism till now to effectively appraise the performance of TPAs. The insurance companies at their divisional level only appoint TPAs. These TPAs have sometimes a meagre set-up and infrastructure to cope with the work pressure and function efficiently. IRDA should have an evaluation or accreditation mechanism of them on the basis of quality of services provided to the insured. Poorly developed protocols in the present TPA-based system of claim settlement instill little confidence amongst stakeholders.

The changes IRDA has brought in as a regulator of health insurance

Replacing some of its earlier guidelines of 2013, *IRDA* has announced on July 12, 2016 a new set of health insurance regulations with some anticipated positive impact for the insured. These include insurance companies becoming eligible to offer pilot products upto 5 years before those products start functioning as regular health insurance policies. Individuals who purchase health insurance early in life will avail discount in premiums. Companies are permitted to offer combo-plans which actually are a hybrid of health and life (endowment, money-back or unit-linked insurance) plans.

Change in the coverage of ailments under health insurance

Enhancement of diseases in the list of those eligible to qualify for insurance coverage is worth-mentioning. The Mental Healthcare Bill 2016, passed in the parliament in April, 2017 makes it mandatory for insurers to provide insurance to the mentally ill. Health insurers were thus to cover mental illness, such as depression and anxiety, however they could enhance premium for such coverage[8]. As a follow-up, *Insurance Regulatory & Development Authority of India* (IRDA) in its notification only on August 27, 2018 has removed psychiatric treatment in a list of 10 items which include dental, corrective ophthalmic surgery for refractive error, treatment of sexually transmitted diseases, obesity treatment, stem cell and infertility treatment too from the list of 'optional cover' for health insurance. So insurers have to design products accordingly to include these items.

The growing concern in health insurance for Out-patient treatment

The out-patient treatment, covering expenses of medicines, doctor consultation, pathological and radiological investigations at the medical clinics and hospital, is facing a high rate of inflation in recent past. This has created a need for a robust as well as inclusive health insurance plan. To address the particular problem, the FICCI-KPMG Report (2017) has recommended a model of a centralized health savings account to be managed by a government nominated body or by insurers as to be managed privately with centralized fund management[9]. But, that is yet to come. The health insurance policies have however included the clause to cover out-patient treatment expenses at some additional premium with the base premium as fixed for availing hospitalization benefits only. Another related development that the cancer patients having been exempted recently from the requirement of undergoing hospitalization under the mission to avail expenses of chemotherapy, medicines and diagnostics is worth-mentioning in this context. This was announced by Dr. Dinesh Arora, deputy CEO of the mission on August 27, 2018 having adopted the tumour board guidelines.

Conclusion

The government has started to focus rightly on the development of health infrastructure. The union finance minister has announced the creation of 0.15 million health and wellness centres in AB-NHPM as a follow-up of the national health policy, 2017 in pursuit of bringing 'healthcare closer to home'. A sum of 12 billion has been allocated in the last budget for providing free essential drugs and diagnostic services from these centres. Recently while inaugurating further advanced medical facilities in the AIIMS, New Delhi on June 29, 2018, the prime minister has announced to achieve a target of having at least one medical college per three parliamentary constituencies echoing the last budget proposal of the union finance minister. Out of the previous NDA government's Pradhan Mantri Swastha Suraksha Yojana (PMSSY), new AIIMS are coming up with allocation of central fund. Out-patient departments were made functional in 6 AIIMS-like institutes by the end of 2014 pending to be transformed into full AIIMS with hospital bed facilities. These are Bhopal (Madhya Pradesh), Bhubaneswar (Odisha), Patna (Bihar), Jodhpur (Rajasthan), Rishikesh (Uttarakhand) and Raipur (Chattisgarh). The present government has proposed to set up as many as 14 AIIMS in Manglagiri (Andhra Pradesh), Bilaspur (Himachal Pradesh), Changsari (Assam), Deoghar (Jharkhand), Gorakhpur (Uttar Pradesh), Bathinda (Punjab), Kalyani (West Bengal), Nagpur (Maharashtra), Vijaypur (Jammu and Kashmir), Awantipora (Jammu and Kashmir), Madurai (Tamil Nadu), Darbhanga (Bihar), Bibinagar (Telangana) and Rajkot (Gujarat) till 2018. Even in the 2019 union budget an AIIMS has been proposed to be set up in Haryana taking the total number of such hospitals to 22. But the pace of installation of the infrastructure of the AIIMS-fame in these upcoming hospitals is sluggish as only 3 percent of sanctioned funds for 11 of them have been released (Source: MoHFW's reply to Loksabha on February 09, 2018). To serve the mammoth population across the country, more number of smaller hospitals and health centres are needed beyond the handful number of large cities. Equally needed are a huge number of doctors along with nursing and para-medical personnel. The government should have an exhaustive plan of enhancing seats in medical colleges with appropriate learning facilities. 19 existing government medical college institutions have been taken up for up-gradation for creation of super specialty facilities in the first and second phases of PMSSY. The government has also to increase the scope of nursing education and that of supporting medical activities preferably in the existing medical colleges having a proper set-up. The steps of the present central government till now appear to be in the right direction in that context. The state-centre co-ordination is needed towards such health infrastructural development which is distinguishably missing in many states. The government should move ahead from here so that expenditure in healthcare sector can reach 2.5 per cent of GDP by 2025 as targeted in the national health policy, 2017.

The present government had to act a bit cautiously for launching the AB-NHPM since an earlier attempt to launch a similar scheme didn't take off although announced in the 2016 union budget. The earlier scheme was announced with a provision of ₹0.1 million cover for all with a top-up of ₹30000 for senior citizens. AB-NHPM has been introduced in the right time too as the previous government's RSBY, being launched in 2008, fell short of its target even with a paltry amount of coverage, by this time the treatment cost however increasing manifold.

Footnotes

[1] Times of India, 2018, September 2.

[2] *PMJAY website, https://www.pmjay.gov.in/*

[3] *The Hindu Business Line, 2018, July 22.*

[4] *Times of India, 2018, July 11.*

[5] *National Herald, 2019, February 19.*

[6] *The Economic Times, 2018, August 16.*

[7] *Business Standard, 2018, August 23.*

[8] *The Hindu Business Line, 2017, April 7.*

[9] *Business Standard, 2017, December 19.*

arindamgupta69@gmail.com

CORPORATE BOARD STRUCTURE: A KEY TO EFFECTIVENESS OF CORPORATE GOVERNANCE IN THE LIGHT OF SEBI'S LODR

(A CASE STUDY OF AUTOMOBILE SECTOR COMPANIES INCLUDED IN BSE SENSEX)

CMA Dr. Meenu Maheshwari
Assistant Professor
Department of Commerce and Management
University of Kota, Kota

Abstract

Board of Directors is the supreme body of any corporate house who plays a vital role in creating better environment for good Corporate Governance. The policy framing and process of decision making of a company depends on the size and structure of the board. The main aim of this paper is to focus light on the board structure, its strength and size of the automobile sector 5 companies included in BSE Sensex as per the requirements of LODR, 2015. The study shows that all companies comply the minimum requirement of NED as well as IDs in all the three years. All selected companies have one women director as per SEBI's requirements. Bajaj Auto, Hero Moto Corp and Mahindra & Mahindra have ED as chairman. It is suggested that for more transparency above three mentioned companies should have non-executive chairman.

Corporate Governance is an old concept but new term with a lot of changes as per requirement. There is an evidence to believe that good governance has always been a burning topic right from the ancient times. It should not be ignored that the ancient Indian texts are true originators of good business governance as one of the sloka of Rigveda says, "A businessman should benefit from business like a honey-bee which suckles honey from the flower without affecting its charm and beauty. "Corporate Governance means governing the corporate house. It implies that the corporation is run for the optimal benefit of its stakeholders.

N.R. Narayan Murthy committee on Corporate Governance (2003) constituted by the SEBI has observed that: "Corporate Governance is the acceptance by management of the inalienable right of shareholders as the true owners of corporation and of their own role as trustees on behalf of the shareholders. It is about commitment to values, about ethical business conduct and about making a distinct between personal and corporate funds in the management of the company."

BOD as per SEBI:

Present Corporate Governance norms for all listed companies are regulated by the Companies Act 2013. Now, the regulatory body of security market, SEBI has notified on 2nd September 2015 in the extraordinary Gazette of India the Listing Obligation and Disclosure Requirements,2015 (LODR). So, all the listed companies are now governed by LODR Regulations. 2015, further it is also necessary to mention here that every listed company should comply with the stricter provisions of Companies Act, 2013 and SEBI (LODR) Regulations,2015.

Board of Directors is the supreme body of any corporate house. It has power to constitute various committees of the company. The board structure and its strength in all is very important. The policy framing and process of decision making of company depends on the size of the board, selection criterion for directors, proportion of independent and women directors and expertise they can command.

As per SEBI's (LODR) regulations and Companies Act,2013 board of directors shall havean optimum combination of executive and non-executive directors with at least one woman director and not less than fifty percent of the board of directors shall comprise of non-executive directors. If the company has Non- Executive Chairman then the company should have at least one- third Independent Directors and if the company has an Executive Chairman then company should have at least half of the Board of Directors to be Independent Directors. Provided that where the regular non-executive chairperson is a promoter of the listed entity or is related to any promoter or person occupying management positions at the level of board of director or at one level below the board of directors, at least half of the board of directors of the listed entity shall consist of independent directors.

We can easily co-relate the golden words of Indian scriptures like Mahabharata with modern Corporate Board. It is told in Mahabharata that a King should surround himself with a panel of really learned, simple, truthful people who won't be scared to say the truth.

Lord Krishna told in chapter 3, 21stshloka of Mahabharata

" यदयदाचरतिश्रे्शठस्ततदेवेतरोजन : ।

स यत्प्रमाणंकुरूतेलोकस्तदनुवर्तते ।।"

"Lord Krishna warns Arjuna that he needs to lead by example viewed from perspective, leaders' hands are tied, they lose the degrees of freedom and the whole would will keenly watch the leaders act in and blindly follow the leaders.

Research Methodology:

A. Research Questions:

(i) Does the board has its chairman as Executive director or non-executive director?

(ii) How many non-executive directors are there in the board?

(iii) Does the board have at least one women director in its structure?

(iv) Does the company fulfil the requirement of independent directors of the chairman is executive director?

(v) Does the company fulfil the requirements of ID's if the chairman is NED?

B. Scope of the Study:

This research paper focuses light on the structure, strength and size of the board in Automobile sector companies included in BSE Sensex for the financial years 2014-15, 2015-16 and 2016-17 as per Companies Act 2013 and LODR 2015. Five companies viz., Bajaj Auto Ltd., Hero Moto Corp. Ltd., Maruti Suzuki Ltd., Mahindra and Mahindra Ltd. and Tata Motors Ltd. have been taken for the study.

Review of Literature:

Mehran et.al (2011) explained the probable reasons of difference in governance in banking and non-financial firms. They further laid an emphasis on various areas of governance in banks, amongst which board characteristics has been also given a heed. They elucidated board size and ratio of inside and outside directors by reviewing existing literature and inferring about the various repercussions. They argued that though existing literature reflected value reduction of firm due to large board size, the authors in their previous study didn't find any negative correlation between firm's performance and large board size. Further, the study suggests that proportion of outside directors does not influence bank performance but is negatively related to risk.

Voand Phan (2013) presented correlation of the Corporate Governance with the performance of firms in Vietnam. They considered the major nine elements of corporate governance in which board size and structure is prominent. The total 77 listed firms which were trading during 2006-11 were studied and Flexible Generalized Least Square (FGLS) has been adopted to indicate relationship between variables in the model. The paper stated the argument that each element of corporate governance paves way for determining the firm's performance. It has been inferred that large size of the board poses negative influence on firm's performance and independent directors and firm's performance have no relation among each other.

Tellidou et.al. (2016)in their paper focused on the extent to which corporations listed in Athens Stock exchange comply with the Corporate Governance and intended to suggest enhancements in adopting best practices reflected by recent corporate governance trends worldwide. The quantitative and qualitative variables have been considered for study and the financial statements 162 companies for the period 2011-12 have been analysed out of the population of 243 companies. It has been perceived by the study that size and diversity of the composition of board is viewed as crucial component for firms. While optimum size of board differs from country to country, it has been observed that half of the sampled companies do not adhere to code to maintain the size of the board. Moreover, if the matter of diversity has been taken into account, though most of the companies have atleast one woman in their board as recommended by code for Corporate Governance, still there are a considerable number of companies who don't have any woman in their board.

Maheshwari (2018) in her paper did a comparative analysis of corporate governance disclosure practices in Pharma and FMCG companies. The two companies have been selected from Pharma and two companies have been selected from FMCG sector and the data has been studied for the year 2016-17. For the aforesaid objective, corporate governance disclosure index has been developed by taking mandatory and voluntary guidelines into consideration and hypothesis of compliance with SEBI (LODR, 2015) has been taken. The data has been analyzed using index number and hypothesis has been tested by Wilcoxon signed rank-test. It has been observed that all sampled companies comply with mandatory requirements listed in SEBI while voluntary requirements vary amongst them on the ground of diverse philosophy followed by each company. Also, FMCG sector reflect better performance than Pharma sector. It has been recommended to consider social values in their approach and include draft of ethical code of company to present it to all stakeholders.

Data Analysis and Discussion:

Table -1
Board Structure, Strength and Size of Automobile Sector Companies for the Financial Year 2014-15

S.No.	Categories	Bajaj Auto	Hero Moto Corp.	Maruti Suzuki	Mahindra & Mahindra	Tata Motors
I.	**Total Number of Director**	16	12	12	11	10
A	Chairman					
	Executive Director	1	1	-	1	-
	Non-Executive Director	-	-	1	-	1
B	No. of Executive Directors					
	Promoters	2	2	-	-	-
	Others	-	-	4	1	2
C	No. of Non-Executive Directors					
	Promoters	4	1	2	-	-
	Independent Man Woman	 8 1	 6 1	 3 1	 6 1	 5 1
	Nominee	-	-	-	-	-
	Others	-	1	1	2	1
II.	**No. of Directors in Percentage**					
	Executive Directors	**18.75%**	**25.00%**	**33.33%**	**18.18%**	**20.00%**
	Non-Executive Directors	**25.00%**	**16.67%**	**33.33%**	**18.18%**	**20.00%**
	Independent Directors	**56.25%**	**58.33%**	**33.33%**	**63.64%**	**60.00%**

S.No.	Categories	Bajaj Auto	Hero Moto Corp.	Maruti Suzuki	Mahindra & Mahindra	Tata Motors
IV	**Minimum requirement of ID** If Chairman is Executive Director then 1/2 If Chairman is Non-Executive then 1/3	Yes -	**Yes** **-**	**-** **Yes**	**Yes** **-**	**-** **Yes**

Table –2
Board Structure, Strength and Size of Automobile Sector Companies forthe Financial Year 2015-16

S.No.	Categories	Bajaj Auto	Hero Moto Corp.	Maruti Suzuki	Mahindra & Mahindra	Tata Motors
I.	**Total Number of Director**	15	11	12	10	11
A	Chairman					
	Executive Director	1	1	-	1	-
	Non-Executive Director	-	-	1	-	1
B	No. of Executive Directors					
	Promoters	2	1	2	-	-
	Others	-	-	-	1	3
C	No. of Non-Executive Directors					
	Promoters	4	1	-	-	-
	Independent Man Woman	 7 1	 6 1	 3 1	 6 1	 5 1
	Nominee	-	-	-	1	-
	Others	-	1	5	-	1
II.	**No. of Directors in Percentage**					
	Executive Directors	**20.00%**	**18.18%**	**16.67%**	**20.00%**	**27.27%**
	Non-Executive Directors	**26.67%**	**18.18%**	**50.00%**	**10.00%**	**18.18%**
	Independent Directors	**53.33%**	**63.64%**	**33.33%**	**70.00%**	**54.55%**
IV	**Minimum requirement of ID** If Chairman is Executive Director then ½ If Chairman is Non-Executive then 1/3	Yes -	Yes -	- Yes	Yes -	- Yes

Table –3
Board Structure, Strength and Size of Automobile Sector Companies for the Financial Year 2016-17

S.No.	Categories	Bajaj Auto	Hero Moto Corp.	Maruti Suzuki	Mahindra & Mahindra	Tata Motors
I.	**Total Number of Director**	**15**	**11**	**12**	**11**	**10**
A	Chairman					
	Executive Director	1(Promoter)	1(Promoter)	-	1(Promoter)	-
	Non-Executive Director	-	-	1	-	1
B	No. of Executive Directors					
	Promoters	2	-	-	-	-
	Others	1	1	2	1	3
C	No. of Non-Executive Directors					
	Promoters	4	1	2	-	-
	Independent Man Woman	 6 1	 7 1	 3 1	 7 1	 4 1
	Nominee	-	-	-	1	-
	Others	-	-	3	-	1
II.	**No. of Directors in Percentage**					
	Executive Directors	**26.67 %**	**18.18 %**	**16.67 %**	**18.18 %**	30.0 %
	Non-Executive Directors	**26.66 %**	**09.09 %**	**50.00 %**	**09.09 %**	20.0 %
	Independent Directors	**46.67 %**	**72.73 %**	**33.33 %**	**72.73 %**	**50.00 %**
IV	**Minimum requirement of ID** If Chairman is Executive Director then ½ If Chairman is Non-Executive then 1/3	No -	Yes –	- Yes	Yes –	- Yes

Observations:-

1) All companies have more than ten directors in Board Structure for all three financial years.

2) The Chairman in Bajaj Auto, Hero Moto Corp and Mahindra & Mahindra is an Executive Director for all three financial years while Maruti Suzuki and Tata Motors have NED Chairman.

3) All Selected companies of this sector have one woman director as per SEBI's Regulations 2015.

4) Companies have better composition among ED, NED and ID in Board Structure during study period.

5) There were some changes in the board structure of all companies in all three financial years.

6) All companies comply the minimum requirement of NED as well as ID in all three financial years.

7) As per SEBI's Regulation 2015 if

the company has executive chairman then company shall have at least half of the BOD to be ID. Bajaj Auto, Hero Moto Corp and Mahindra & Mahindra fulfil this requirement. If company has non-executive Chairman then company shall have at least one third of the BOD to be ID, Maruti Suzuki and Tata Motors also comply this.

Suggestions:

1) Executive chairman are closely related to business houses and holds shares. For more transparency, Bajaj Auto, Hero Moto Corp. and Mahindra & Mahindra should have Non-Executive Chairman.

2) In Automobile sector only Mahindra & Mahindra have Nominee director in board structure while other companies did not have any nominee director. So, these companies should have nominee director. So that they may better monitor the activities of the company. RBI nominee may look at the execution of law and order.

Conclusion:

Corporate Governance is the way where corporate rules, norms and actions are structured, sustained, regulated and held accountable for its stakeholders. In present situation all the companies are governed by SEBI's Listing obligation and Disclosure Requirements Regulations, 2015. Now Corporate Board has pivotal role, on the one hand, it creates wealth competently and by legitimate means, and on the other hand, such created wealth is equitably distributed to all stakeholders. A properly structured board is always capable of taking objective and independent decisions.

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drmeenumaheshwari@gmail.com

A CASE STUDY – OVERNIGHT COURIERS

Abstract

With growth of service industry and free market in USA and Canada nowadays the Cost reduction is focused on Expense Reduction i.e. working on overheads category i.e Courier / Office expenses / Janitorial/ Telecommunications/ Transportation/ Supply chain components /Energy/ Packaging expenses The fees of Expense reduction project are based on sharing and monitoring of savings for two years or no fees when no saving .Cost accountants can also work on projects of Expense reduction for service companies by specializing in one or two categories or just having a project-basedpartnerships with specific category-basedexpert.

CPA Stephen Machin
CEO
Price Controllers Inc.
Toronto

CMA Davinder Bhatia
Costing Specialist
Fortis Business Solutions Limited
Toronto

Price Controllers helps mid-size companies that want to make sure they are getting the value that they should be for the money that they are spending on their indirect costs. Most businesses these day are running very lean. While this makes complete sense from a business perspective, one of the unintended consequences is that staff just don't have the time to understand and monitor all of the costs that are incurred in running the business. They are rightly focused on the big dollar spends where they can have the greatest impact on the business. But what happens to all of the other cost areas? This is where Price Controllers comes in. We know all of these other cost areas and can deploy our expertise to ensure that our clients are paying only for what they need and at a fair price.

Recently, a high tech company brought us in to review their overnight courier expense. They were pretty confident that they had a good deal in place with their incumbent but liked the Price Controllers Inc. (PCI) no risk proposition (i.e. no savings = no fee). At first glance it appeared that they may be correct and that there would not be a significant opportunity to reduce these costs. However, after employing PCI'sProfit Improvement System™we were in fact able to deliver recommendations that would result in significant savings.

Client Overview

The client is the Canadian division of an international distributor of medical products. Theclient spent $382,000 annually on Air/Ground Courier Expenses mainly within Canada.

Our Client's Goals

To competitively serve its customers by accepting and fulfilling replenishment orders in a timely manner. Due to the nature of their product, service reliability is a top priority.

The PCI Process

The PCI Analysts employed our Profit Improvement System™ to meet the needs of the client. PCI studied the client's shipping characteristics and seasonality to better understand how the various options available in the marketplace could deliver better value to the client and its customers.

After our Analysts studied several months of shipping history it was discovered that due to the size and weight of the packages, most shipments were subject to dimensional weight surcharges (the size of the box determines the minimum weight to be charged). Unfortunately, the low pricing in place only applied to shipments under 10 lbs. and with the surcharges most shipments had dimensional weights above 10 lbs. so very few shipments could actually take advantage of the low rates.

The PCI Analysts then met with the management team to understand the critical issues surrounding their order fulfillment and delivery. They also reviewed current vendor performance for on time delivery and other service issues. Based on the stakeholder interviews and key findings from the analysis of the low level data, PCI issued Requests for Proposals to pre-qualified vendors that, most importantly, could provide the level of service required by the client and were also known to be cost competitive. Supplier proposals were reviewed and discussed with each supplier with a view to arriving at a recommendation for the client.

The Result

PCIpresented the client with a Recommendation Report that compared the competitive proposals on costs as well as service coverage and recommended one of the suppliers to be the client's exclusive Small Package carrier. The client responded by seeking a buy-in from various internal stakeholders before allowing PCIto proceed with the implementation of its recommendations.

PCI recommended a 2 week trial period where a portion of the daily shipments were sent via the new vendor. The trial was successful and the selected vendor then put together a full implementation team representing the client locations as well as support services such as IT and customer service.

PCI also recommended that the Client implement electronic billing. This recommendation was accepted and was implemented in close consultation with client's accounting department. The electronic billing was able to significantly reduce the current manual process of allocating charges to various departmental ledger accounts.

As a result of this process, the client reduced its courier costs by 38% or $144,000 annually in hard costs with additional savings realized on account of process improvements and electronic billing. **In total the client invested a total of about five hours on this project.** MA

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smachin@pricecontroller.com
dsbhatia22@gmail.com

IMPLEMENTING IFRS –

A STUDY OF INDIAN CORPORATE

CMA Balwinder Singh
Vice President
The Institute of Cost Accountants of India & Chairman
Cost Accounting Standards Board

Abstract

Corporate Regulators in India have made it mandatory for Listed Entities and Other Large Entities to follow Accounting Standards (Ind AS) aligned with International Financial Reporting Standards from financial year 2016- 17 and onwards, in phases. This study intends to review the literature for the challenges faced and perceived by corporates across different nations while implementing IFRS. This is a working paper and aims to figure out the factors that can be bucketed under coercive, mimetic and normative isomorphism. The study would enable the policy makers to look out for the relevant grey areas where special attention is required to make IFRS implementation a success in an emerging economy like India.

JEL Classification: K34,M00, M41,M48.

The process of convergence of National Level accounting standards and accounting principles with International Financial Reporting Standards (IFRS) has been started by various countries in the recent years. A large number of countries have already completed the process of adoption or convergence with IFRS. Presently, IFRS are being followed by more than 125 countries and many other have already formulated their strategies to converge their accounting standards with IFRS. As on date 166 countries have made commitment to adopt global accounting standards.

India is the process of implementing the Indian Accounting Standards converged with IFRS from the financial year 2016-17 and onwards, in phases. For Banking & Insurance Industry, the convergence will be from the financial year 2018-19 and onwards, in phases.

The existing research conducted in various countries on adoption of IFRS provides evidence that institutional theory has a firm pathway for its significance in the implementation of IFRS. This study intends to identify the set of possible pressures prevailing in the Indian accounting information system under the framework of Institutional Isomorphism theory.

Theoretical Framework- Institutional theory

"Organisations need to achieve not only technical, operational efficiency but also social legitimacy" (Abernethy & Chua, 1996, pp. 571).In 1983, DiMaggio and Powell proposed the Institutional theory which provides the basic structure for the theoretical framework of the study. It focuses on the rules and constraints which lead towards the homogeneity of organizational structure. The theory proposed the concept of 'Isomorphism'. DiMaggio and Powell (1983) defined isomorphism as a 'constraining process that forces one unit in a population to resemble other units that face the same set of environmental conditions'. Further, they state that 'at the population level, such an approach suggests that organizational characteristics are modified in the direction of increasing compatibility with environmental characteristics, the number of organizations in a population is a function of environmental carrying capacity, and the diversity of organizational forms is isomorphic to environmental diversity'. Walking on the same line, a bird eye view of the related literature is showcased in the Exhibit I

Exhibit I: Evidences on presence of coercive, mimetic and normative isomorphism in the implementation of IFRS

Study	Year	Country	Aim of the study	Findings
Pricope, C.F.	2016	Developing Countries with active capital market	To investigate relationship between institutional pressures and IFRS adoption in developing countries	Mimetic pressures play a significant role in IFRS adoption in developing countries whereas Coercive and Normative pressures are not significant determinants
Samaha, K.; & Khlif, H.	2016	Developing Countries	To review theories and empirical studies to provide directions for future research	Corporate size, auditor type and leverage affect IFRS compliance. IFRS improve earnings and book values and increase in foreign direct investment. Stringent regulations lead to compliance of mandatory requirements.
Pricope, C.F.	2015	45 Countries Low/Middle Income (WB/ IMF Grant)	To identify the factors that could explain the adoption of IFRS by poor jurisdictions based on Institutional Theory	Institutional Isomorphism play significant role in IFRS adoption process. Poor countries are more driven by legitimacy concerns than by economic reasoning.
Quack; S.	2015	Africa	To investigate the motivations behind the adoption/non-adoption of IFRS in Africa	The diffusion and adoption of IFRS in developing countries emanate from the institutional pressures present in that country.
Lourenco; I.	2015		To examine the consequence of IFRS adoption.	IFRS adoption has a positive effect on information quality, capital market, analysts' ability to predict, comparability, and information use, subject to country's enforcement level and companies' characteristics.
Heidhues; E, & Patel; C.	2014	Germany	To examine the influence of historical, political, economic, cultural and legal features in development of German Accounting Model and usefulness of IFRS	German accounting model is based on its alignment with the social, cultural, political, economic and legal context. Whereas IFRS do not fulfil expectations of the German public and the demands of Germany's political economy.
Traistaru; D.	2014	Romania	To study the benefits and challenges in IFRS adoption in Romania	IFRS improves effectiveness, efficiency, comparability of financial reporting and provides better information for the decision making. It increases trust between management and stockholders. Challenges include high implementation cost, complex accounting and lack of implementation guidelines.
Augustine; A.	2013	Nigeria	To investigate the factors that promote the adoption of IFRS, via the perception of management among the listed companies in Nigeria	Government policy, educational level and capital market have a positive significant relationship, while company size is insignificant in IFRS adoption.
Wahyuni; E.	2013	Indonesia	To examine the role of Institutional Theory and Institutional Entrepreneurship Theory in institutionalizing IFRS in developing countries.	International pressures from bodies such as IFAC, IOSCO, World Bank and G20 during the period of IFRS convergence in 2004-12
Teller, P; Luu, P; & Dufour, D.	2013	Momentum - All countries	To formulate multi agent model that can simulate the diffusion of IFRS	Institutional Isomorphisms as highlighted in earlier studies play a decisive role
Ergun; U. & Ozturk; E.	2013	Bosnia	To investigate the problems with the implementation process of IFRS for Small & Medium Enterprises in Federation of Bosnia & Herzegovina.	Small and Medium Enterprises have positive perception on IFRS but the companies don't have enough information about IFRS and conversion process is complicated

Vellam, I.	2012	Polland	To evaluate the process of implementation of IFRS in Polland	Reluctance by companies to produce informative, understandable and invetor oriented financial statements and thus transperancy as envisaged by IFRS has not been adhered to.
Lasmin; R.	2011	161 Countries	To examine predictive factors of adopting IFRS	IFRS adoption is not related with its corresponding economic benefits. Countries are influenced by international organizations (coercive isomorphism), uncertain situations (mimetic isomorphism), and their own cognitive base (normative isomorphism) to accept IFRS for noneconomic reasons
Lasmin; R.	2011	46 Developing Countries	To examine Institutional perpective on IFRS adoption in developing countries	Decision of developing countries to adopt IFRS is motivated more by social pressures of legitimacy, than it is by economic reasoning
Tammenpaa, T.	2011	EU (Large Companies)	To identify how a company should implement changes in International Financial Reporting Standards after the initial or "first-time" adoption of the accounting standards	Key variables affecting the IFRS standards include the following nine variables: top management commitment, peer group contact, documentation level, training, amount of resources, the amount of time a company has reported under IFRS, the time reserved for the implementation process and the clarity of both communications and objectives of the change.
Kholeif; A.	2008	Egypt	To examine symbolic use IFRS in an Egyptian state-owned company (AQF Co.)	Conflicting institutional requirements led to IFRS adoption as loosely coupled accounting rules.
Irvine; H.	2008	UAE	To identify identifies some of the global coercive, normative and mimetic pressures that contributed to widespread adoption of IFRS	In UAE, IFRS adoption has been made in response to coercive, normative and mimetic pressures including the regulatory regimes of the World Bank and multinational corporations
European Accounting Association	2008	Netherlands	To study the factors that lead to inconsistent adoption/ diversity in implementation of IFRS.	Variety of ratios and reasons exist leading to inconsistency. Companies are unwilling to change their existing practice, not interested to all accounting disclosures and unwilling to incur convergence cost making own cost benefitg analysis
Wong; P.	2004	All	To study the challenges in IFRS implementation	IFRS Implementation face many challenges including actions required nationally for preparedness, accounting education, training, investor awareness

Forces identified through Institutional Theory

The study here intends to present only the set of possible forces which can be further categorized into coercive, mimetic and normative isomorphism under the Institutional isomorphism theory. The aim is develop a battery of such factors which can be further explored for their applicability in the Indian context. By focusing on the dimensions drawn from Institutional theory an instrument of thirty items is developed.

Factors which belong to coercive isomorphism, mimetic isomorphism and normative isomorphism are listed in the table below. Further, the challenges faced in implementation of IFRS in India are also listed.

Exhibit II: Summary of forces identified through Institutional isomorphism

	Factors contributing in
➢	**Coercive Isomorphism**
	Ease of access of funds through global capital markets.
	Pressure from Western forces and international aid organizations like the World Bank and IMF
	Indian Economy's openness to international trade
	India's International interests and Membership of WTO, G-20 and International Federation of Accountants (IFAC)
	Regulators (Securities and Exchange Board of India, Reserve Bank of India and Insurance Regulatory Development Authority, etc) compel implementation
➢	**Mimetic Process**
	Indian Corporates desire to advance like MNCs
	Enhanced quality of corporate governance

	Companies desire to share identity with peer organizations (benchmark) for statutory control, cultural values, etc.
	Professional Bodies compel implementation
➢	**Normative Pressures**
	Dominance of active auditing firms, like Big4 on international accounting standard setting process
	Greater transparency of financial statements.
	Roadmap for implementation is well defined and clear.
	IFRS education and training is adequate
	High cost of transition.
	Demand for professionalism
	Better investor protection.
	Adequate awareness campaign by Professional Bodies
	Adequate training of newly qualified auditors
	Dominance of active Auditing Firms (Big-4) in explanations of accounting provisions
➢	**Challenges**
	Increase in accounting complexities
	Significant changes in the IT infrastructure
	More skilled manpower
	Increase in expenses on Book Keeping
	Cost of implementing exceeds entity's ability.
	Auditors and Accountants are geared up
	Profitability will be significantly affected post IFRS
	Taxation Laws require significant changes
	Change in regulations of various regulators, such as SEBI, RBI, IRDA
	Difficultly in interpretation of IFRS compliant statements

Before finalizing the battery of forces stemming out of institutional theory, pilot testing of an exhaustive list of factors was run for pilot testing. During the initial stage, the inclusion or exclusion of forces in the set of factors was made to run through the review of a panel of expert users. This provided the forces with the support of construct validity. The aim was to verify whether the forces are measuring what they actually intend to measure. The expert panel comprised of industry experts, academicians and practicing professionals. The next step involved packing all the factors in a questionnaire form and roll them over for responses from respondents belonging to different industries. The profile of the respondents is shown in Exhibit III. The aim was to check the reliability of the instrument developed.

Exhibit III depicting profile of respondents

Industry	No. of Responses
Chemicals	1
Coal	5
Fertilizer	1
FMCG	4
Infrastructure	5
Machinery & Mechanical Appliances	3
Power	13
Healthcare	1
Hospitality	1
IT	2
Telecommunications	1
Auditors/Consultants	4
Total	41

The reliability of the questionnaire has been tested through Cronbach Alpha. Cronbach's alpha is a measure of internal consistency, that is, how closely related a set of items are as a group. It is a measure of scale reliability and a high value for alpha does not imply that the measure is unidimensional. The results obtained are indicated in Exhibit IV.

Exhibit IV: Cronbach's alpha values for the instrument tested

Cronbach's Alpha	No. of Items
0.998	n=30 (Complete Questionnaire)
0.997	n=20 (Isomorphism forces)
0.993	n=5 (Coercive Isomorphism forces)
0.995	n=5 (Mimetic Isomorphism forces)
0.997	n=10 (Normative Isomorphism forces)
0.993	n=10 (Challenges)

A value of greater than 0.7 is considered as a good estimate of reliability. The values thus obtained (Exhibit IV) indicate that forces included in the instrument are reliable enough in order to draw conclusive results from the responses of the complete sample. The study aim to follow the following sampling scheme:

Step 1: Companies (Listed as well unlisted) implementing IFRS has been treated a population for the study.

Step 2: Questionnaire were sent to the CFOs / Finance

Heads / Professionals and Auditors of the Companies belonging to the Industry defined in Step 1. For sending questionnaire Convenience Sampling technique was employed.

Step 3: Responses generated from the Step 2 will be filtered for its validity and suitability for further analysis and thus the final sample will be constructed.

Cochran's Sample Size formula allows us to calculate an adequate sample size given a desired level of precision, desired confidence level and the estimated properties of the attribute present in the population. This is the working paper and the study aims to capture the forces which are prevalent in Indian corporate sector by obtaining responses from the CFO / Finance Heads Professionals / Auditors of the corporates. Exhibit V illustrates the comprehensive list of the industry from which the responses are intended to obtain.

Exhibit V depicting categorization of responses

	Industry
Manufacturing Sector	
	Petroleum
	Pharmaceuticals
	Fertilizer
	Machinery & Mechanical Appliances
	Engineering
	Auto Components
	Steel
	Cement
	Coal
	Minerals
	Chemicals
	Textiles
	Rubber
	Other Products Mnfg
	FMCG
	Online Retail
Service Sector	
	Telecommunications
	Railway
	Power
	Infrastructure
	Shipping
	Healthcare
	Banking & Financial Services
	Information Technology
	Hospitality
	Education
	Other Services
	Regulator & Govt.
	Association
	Consultants/ Professionals

Conclusion

This study contributes to the literature by identifying the effect of institutional isomorphism in the implementation of IFRS. It may be suggested that considering the theoretical framework of Institutional theory, the mandatory compliance by the organisations turn out to be a strategic response shaped under the factors operating under coercive, mimetic and normative isomorphism. As it a working paper, the further analysis would intend to evolve the model form for the forces operative in Indian corporate environment. Thus, it is important to identify the forces operative in the corporate environment in order to make the policy makers more responsive towards this transition phase. MA

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balwinder@costaccountant.in

CSR PRACTICES – TRENDS AND COMPLIANCE

A COMPARATIVE STUDY BETWEEN SELECT PUBLIC AND PRIVATE SECTOR COMPANIES IN INDIA

Abstract

A business is a social entity. Over its entire lifetime it uses various social resources and thus, in turn, has a responsibility towards maintaining the societal wellbeing. Since in every country large corporate organizations are the highest consumers of societal resources, they are expected to discharge their social responsibility as a pre-condition for long term sustainability and growth. Keeping this in mind, regulators in different countries initiate well defined regulatory mechanism to guide and monitor the corporate social responsibility (CSR) activities undertaken by corporate firms. Unfortunately, Indian regulators had largely overlooked such a requirement, though, in a developing country like India, this could have been the most important. However, with the introduction of the new Companies Act 2013, which has introduced a well defined framework in this respect, the situation seems changing significantly and in a positive direction. In this backdrop, our study attempts a comparative investigation into the trends in CSR activities undertaken by selected leading private and public sector companies of India and the degree of compliance achieved by them.

Dr. Swapan Sarkar
Assistant Professor
Department of Commerce
University of Calcutta
Kolkata

Priyadarshini Chatterjee
Assistant Professor
Adamas University
Kolkata

Dipankar Biswas
Contractual Faculty
Surendranath College for Women
Kolkata

1. Introduction

A business is a social entity. Over its entire lifetime it uses various social resources and thus, in turn, has a responsibility towards maintaining the societal wellbeing. Since in every country large corporate organizations are the highest consumers of societal resources, they are expected to discharge their social responsibility as a pre-condition for long term sustainability and growth. Keeping this in mind, regulators in different countries initiate well defined regulatory mechanism to guide and monitor the corporate social responsibility (CSR) activities undertaken by corporate firms. Unfortunately, Indian regulators had largely overlooked such a requirement, though, in a developing country like India, this could have been the most important. However, with the introduction of the new Companies Act 2013, which has introduced a well defined framework in this respect, the situation seems changing significantly and in a positive direction. In this backdrop, our study attempts a comparative investigation into the trends in CSR activities undertaken by selected leading private and public sector companies of India and the degree of compliance achieved by them.

2. Evolution of the Idea of CSR in India:

The term CSR is relatively new in India. However, the idea dates back over thousand years and evolved with time. A sense of ethical practice and valuing social principles were deep rooted in Indian culture historically. Ancient literatures explicitly mention the ethical and charitable practices by businessmen. During the British colonization in India the idea of CSR was quite similar. CSR was more conceived as charity and philanthropy and was influenced by family values, culture, tradition and religion. Things got changed a bit after 1850s due to indigenous efforts of industrialization by some Indian industrialists. Business pioneers like Tatas, Birlas set up charitable foundations, healthcare and educational institutions and trusts for community development. During the independence movement the idea of CSR got further acceptance from the larger section of the businessmen beyond a handful of business families. Following Gandhian concept of 'trusteeship' to build the nation, industrialists came forward to establish trusts for colleges, research and training institutes. These trusts also participated in rural development, education and women empowerment. Post independence up to 1980s, the idea of CSR was largely influenced by the mixed economic policies and consequently the emergence of PSUs (Public Sector Undertakings). This triggered the enactment of suitable legislations on corporate governance, labour and environment related issues to protect the vulnerable and marginalized sector of the society and to ensure equitable development and distribution of social resources. However, due to the very poor success rate and high degree of political interference, soon the expectations shifted to private sector. After 1980s and more specifically 1990s, the wave of LPG (liberalization, privatization and globalization) led to phenomenon economic growth powered by the success of leading private sector companies. With intensifying competitive threat, even from the global peers, businesses started recognizing their ethical and social responsibilities in an attempt to build reputational capital. This, coupled with the recent effort from the regulators to build an ethically transparent and socially responsible corporate citizenship, has shaped the current idea of CSR being a business strategy to achieve long term sustainability by ensuring societal and environmental stability and adhering to the rights of the stakeholders.

3. Present Legislation on CSR in India

In India, traditionally, regulators' effort to bring CSR under the ambit of a well defined regulatory structure was never whole hearted. This is why the Companies Act 1956, regulating Indian corporate sector more than six long decades, never had a single provision on CSR. The present regulatory framework guiding the CSR activities in India has been introduced only recently under the new Companies Act 2013.

➠ **The Legal Framework:** The present legal framework on CSR in India comprises of –

(a) Section 135 of Companies Act 2013 [Notified on 01.04.2014];

(b) Schedule VII of Companies Act 2013; and

(c) Companies (Corporate Social Responsibility Policy) Rules 2014 [Notified on 01.04.2014].

The salient features of these regulations are given below.

➠ **Formation and Composition of CSR Committee:** Every company having net worth of rupees five hundred crore or more, or turnover of rupees one thousand crore or more or a net profit of rupees five crore or more during the immediately preceding financial year (amendment effective from 19.09.2018) shall constitute a Corporate Social Responsibility Committee of the Board consisting of three or more directors, out of which at least one director shall be an independent director.

However, companies, which are not required to appoint an independent director u/s 149(4), shall have in its Corporate Social Responsibility Committee two or more directors [Section 135(1)].

➠ **Board's Report and CSR**

Committee: The Board's report u/s 134(3) shall disclose the composition of the Corporate Social Responsibility Committee. [Section 135(2)].

➠ **Functions of CSR Committee:** The Corporate Social Responsibility Committee shall – (a) formulate and recommend to the Board, a Corporate Social Responsibility Policy which shall indicate the activities to be undertaken by the company in areas or subject, specified in Schedule VII.

(b) recommend the amount of expenditure to be incurred on the above activities; and

(c) monitor the Corporate Social Responsibility Policy of the company from time to time.[Section 135(3)]

➠ **Board's Responsibility:** The Board shall,–

(a) after taking into account the recommendations made by the Corporate Social Responsibility Committee, approve the Corporate Social Responsibility Policy for the company and disclose contents of such Policy in its report and also place it on the company's website, if any, in such manner as may be prescribed; and

(b) ensure that the activities as are included in Corporate Social Responsibility Policy of the company are undertaken by the company. [Section 135(4)]

➠ **CSR Spending:** The Board of every company shall ensure that the company spends, in every financial year, at least two per cent of the average net profits of the company made during the three immediately preceding financial years, in pursuance of its Corporate Social Responsibility Policy. The company shall give preference to the local area and areas around it where it operates, for spending the amount earmarked for Corporate Social Responsibility activities. If the company fails to spend such amount, the Board shall specify the reasons for not spending the amount. [Section 135(5)]

➠ Modalities of Undertaking CSR Activities [Rule 4]:

(i) The CSR activities shall be undertaken by the company, as per its stated CSR Policy, as projects or programs or activities (either new or ongoing), excluding activities undertaken in pursuance of its normal course of business.

(ii) The Board of a company may decide to undertake its CSR activities approved by the CSR Committee, through

- a company established under section 8 of the Act or a registered trust or a registered society, established by the company, either singly or along with any other company; or

- a company established under section 8 of the Act or a registered trust or a registered society, established by the Central Government or State Government or any entity established under an Act of Parliament or a State legislature.

(iii) A company may also collaborate with other companies for undertaking projects or programs or CSR activities.

(iv) The CSR projects or programs or activities that benefit only the employees of the company and their families shall not be considered as CSR activities in accordance with section 135 of the Act.

(v) Companies may build CSR capacities of their own personnel as well as those of their Implementing agencies through Institutions with established track records of at least three financial years but such expenditure shall not exceed five percent of total CSR expenditure of the company in one financial year.

(vi) Contribution of any amount directly or indirectly to any political party shall not be considered as CSR activity.

➠ **CSR Policy [Rule 6]**

The CSR Policy of the company shall, inter-alia, include the following namely:-

(a) a list of CSR projects or programs which a company plans to undertake in areas or subjects specified in of the Schedule VII of the Act, specifying modalities of execution of such project or programs and implementation schedules for the same; and

(b) monitoring process of such projects or programs:

➠ **CSR Report [Rule 8]**

The Board's Report shall include an annual report on CSR containing particulars specified in Annexure.

➠ Areas of CSR Activities [Schedule VII]: The broad areas are:

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

(ii) promoting education, including

special education and employment enhancing vocation skills especially among children, women, elderly and the differently abled and livelihood enhancement projects.

(iii) promoting gender equality, empowering women, setting up homes and hostels for women and orphans; setting up old age homes, day care centres and such other facilities for senior citizens and measures for reducing inequalities faced by socially and economically backward groups.

(iv) ensuring environmental sustainability, ecological balance, protection of flora and fauna, animal welfare, agroforestry, conservation of natural resources and maintaining quality of soil, air and water including contribution to the Clean Ganga Fund set-up by the Central Government for rejuvenation of river Ganga.

(v) protection of national heritage, art and culture including restoration of buildings and sites of historical importance and works of art; setting up public libraries; promotion and development of traditional art and handicrafts;

(vi) measures for the benefit of armed forces veterans, war widows and their dependents;

(vii) training to promote rural sports, nationally recognised sports, paralympic sports and olympic sports

(viii) contribution to the prime minister's national relief fund or any other fund set up by the central govt. for socio economic development and relief and welfare of the schedule caste, tribes, other backward classes, minorities and women;

(ix) contributions or funds provided to technology incubators located within academic institutions which are approved by the central govt.

(x) rural development projects

(xi) slum area development.

4. Problem Identification

The implementation of Section 135 and its recent amendments have changed the way CSR activities were previously undertaken by Indian companies. The disclosure requirements, in this context, have also made it possible to objectively assess the activities and their results. Thus, an investigation as to how the Indian corporate sector is obliging the CSR mandate has become imperative.

5. Literature Review

There exist a considerable number of research studies on different aspects of CSR in India during the post mandate period. Results of some of these studies are really noteworthy. For example -

Narwal and Sharma (2016) applied factor analysis to inspect the perception of CSR in India. Their findings suggested that in a market driven economy, society has both positive and skeptic view on CSR. However, it always expects a responsible and ethical behavior from the corporate organisations.

Bala (2014) analyzed the primary data collected on private and public sector Indian companies and MNCs by applying factor analysis and found that there is no significant variation in the components of CSR practices across these groups.

Krishnan (2018) found that companies from manufacturing industry spends more on environmental sustainability through their CSR programmes as compared to service industry.

Reddy et al. (2017) found that selected IT companies prefer environmental sustainability to other areas of CSR. Community development is the least preferable to these companies.

Bansal and Rai (2014) found that there was remarkable increase in CSR spending over the years by corporate firms even before the mandate. However, CSR spending pattern was largely different across industries.

Sawant and Patil (2017) concluded that actual CSR expenditure differs significantly from the mandated 2% for the sample companies over the sample period. Industries such as Pharma, Auto, Oil and Gas, FMCG and Chemical are the major defaulters.

Maqbool and Zameer (2017) used panel data analysis on a sample of 28 Indian commercial banks over a 10 years period and opined that CSR, as a rare and valuable resource, can be utilized to create competitive advantage for a corporate firm.

Mitra et al. (2015), based on an in depth factor analysis on select companies, opined that CSR has a significant positive association with firm performance.

Susruth (2017) studied the level of CSR initiatives taken by the Indian companies and its influence on the performance of the companies. Based on suitable statistical measures, he concluded that there exists a positive relationship between CSR and firm performance.

Dharmapala and Khanna (2017) found a negative and substantial effect on firm value around the first announcement of the CSR mandate.

6. Research Gap

Our extensive survey of existing literature reveals the following important observations:

✷ A considerable number of studies conducted during the post mandate period are descriptive or theoretical in nature and focus on the changing scenario of legislation and its possible impact on Indian corporate sector.

✷ Empirical studies are scattered in the sense that while some studies attempted to identify the CSR spending pattern, the others attempted to investigate the association between CSR spending and firm performance or firm value.

✷ Comprehensive studies covering all the aspects of CSR are really limited.

✷ None of the studies focused on comparing the trends of CSR practices of public and private sector companies in the backdrop of recent legislation under Section 135 and Schedule VII of Companies Act 2013 and associated Rules.

✷ Not a single study has attempted to investigate the degree of overall compliance with CSR regulations by companies across different sectors.

7. Objectives of the Study

Keeping the above research gap in mind, the study sets the following research objectives:

✷ To analyze the CSR practices of leading private sector companies of India.

✷ To analyze the CSR practices of leading public sector companies of India.

✷ To make a comparative analysis of CSR practices of the above two groups.

✷ To compare the degree of overall compliance (with CSR regulations) of these two groups.

8. Research Methodology

8.1. Type of the Study: Our study is primarily empirical in nature, though a significant part of it is based on a critical analysis of the provisions implemented u/s 135 of Companies Act. In that sense its partially exploratory character cannot be denied altogether.

8.2. Sample: Our primary sample comprises 101 companies belonging to NSE Nifty 100 Index as on 30.09.2018 (Currently Nifty 100 index comprises of 101 companies). The selection is justified by the fact that they are the 101 most valued companies to the investors and hence are expected to transparently report their discharge of social responsibilities that in turn will contribute to their long term sustainability. Of the 101 companies 82 are private sector companies and only 19 are public sector companies. However, as per govt. notification SBI (a public sector company) is not required to comply with Section 135. Again, Annual Report is not available for the study period for Vodafone-Idea, LIC Housing Finance, CSR data was not available in the Annual Report of Bank of Baroda and Tata Motors DVR does not have any separate (from Tata Motors) Annual Report. Thus our final sample consists of 96 companies of which 18 are public sector companies and 78 are private sector companies.

8.3. Type of Data: The study is entirely based on secondary data in form of information which is disclosed by the sample companies in their Annual Report of 2017-18.

8.4. Source of Data: The relevant information on CSR practices has been collected from the Annual CSR Report given as an Annexure to the Director's Report within the Annual Report of the sample companies. The relevant regulations (Section 135, Schedule VII and Rules) have been compiled directly from the e-resources available in the website of Ministry of Corporate Affairs of India.

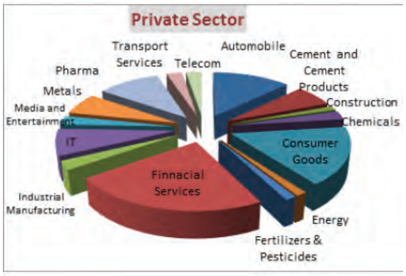
8.5. Research Methods Used: The study resorts to appropriate statistical tools including percentage distribution, pie chart and coefficient of variation for comparative analysis and presentation. Additionally, it calculates a CSR Compliance Index (CSRCI) to measure the degree of compliance with Section 135 and allied regulations. It also uses statistical tests of significance like Chi-square test of independence of attribute and 't' test for equality of mean (for CSRCI) to investigate whether the public and private sector companies differ in terms of their CSR performance and compliance.

8.6. Software Used: The study uses Excel 2007/2013 and SPSS 19.0 for processing the data and conducting the tests.

9. Empirical Results

The results of our analysis are summarized below:

✷ **Industry-wise Private vs. Public Sector Participation in Index:** Of the 96 index constituents only 18.75% are public sector companies. Public sector participation is the most (10.42%) in energy (even much higher than the private sector participation in the concerned industry) followed by metals (3.13%). Private sector participation is the highest in financial services (18.75%) followed by consumer goods (13.54%). The same is the least in chemicals, energy and fertilizers (1.04% each).



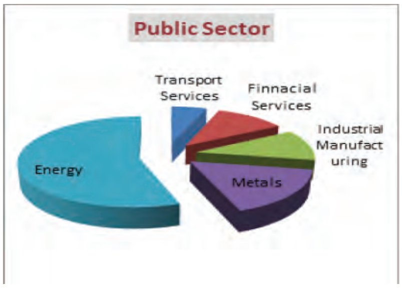


Figure 1: Industry classification of Private and Public Sector Constituents

✷ **Companies Eligible for CSR Reporting u/s 135:** As expected all the 96 companies in our sample are eligible for CSR reporting as per Section 135 as they have met one or more of the eligibility criteria. Among the 18 public sector companies Coal India missed the revenue criterion and SAIL missed the profit criterion. Among the 78 private sector companies 2 failed to meet the revenue criteria and 4 companies missed the profit criterion.

Table 1: Eligibility as per Alternative Criteria

Private Sector	Criterion Met	Public Sector
78	Net Worth (≥500 Cr.)	18
76	Revenue (≥1000 Cr.)	17
74	Profit (≥5 Cr.)	17

✷ CSR Committee:

(a) Total no. of directors: All the 96 companies which are eligible u/s 135 have constituted a CSR committee. Moreover, all of them have complied with the desired composition (at least 3 directors) of the CSR committee. All the public sector companies have more than 3 directors in their CSR committee. 78% of the public sector companies have 5 or more number of directors in the CSR committee. GIC of India has the highest (08) number of directors in the committee. Among the private sector companies 40% companies have 3 directors (the minimum requirement) and only 31% companies have 5 or more directors in the CSR committee. SBI Life Insurance has the maximum (08) number of directors among the private sector companies. We have conducted an independence of attribute test in this context and found that the two groups differ significantly. Thus, the result confirms the fact that CSR committees in public sector companies have significantly more number of directors than private sector companies.

Table 2: Percentage Distribution and Chi-square Test Result on Total No. of Directors

Private Sector Companies		Total No. of Directors	Public Sector Companies	
No.	%		No.	%
31	40	Only 3 directors	00	0
23	29	4 Directors	04	22
14	18	5 Directors	05	28
07	9	6 Directors	05	28
02	3	7 Directors	03	16
01	1	8 Directors	01	6
N.H: H_0(The two groups do not differ significantly in terms of number of directors in CSR committee)				
Chi-Square Value	19.14562	Decision: N.H is rejected at 1% level of significance.		
P value	0.001806			

(b) No. of Independent Directors: As per the Companies Act, a CSR committee must have at least 1 independent director. Though all the companies met the requirement, they vary widely in terms of accommodating more number of independent directors in the CSR committee. 50% of the public sector companies have 2 independent directors in the CSR committee while another 39% companies have 3 or more number of independent directors in the committee. ONGC has the highest number of such directors (05). Among the private sector companies 48% have just 1 independent director (the bare minimum) and only 19% companies have 3 or more, the maximum being 4 such directors. If induction of more independent directors can be considered as an indication of higher transparency in dealings, public sector appears to be more inclined to such practice. We have conducted an independence of attribute test to find any difference in the pattern of appointment of independent directors. The result confirms the fact that CSR committees in public sector companies have significantly more number of independent directors.

Table 3: Percentage Distribution and Chi-square Test Result on No. of Independent Directors

Private Sector Companies		No. of Independent Directors	Public Sector Companies	
No.	%	No.	%	
37	48	1	2	11
26	33	2	9	50
11	14	3	5	28
4	5	4	1	5.5
0	0	5	1	5.5
N.H: H_0(The two groups do not differ significantly in terms appointment of independent directors in CSR committee)				
Chi-Square Value	11.84394		Decision: N.H is rejected at 5% level of significance.	
P value	0.01855			

(c) Chairman of the CSR Committee: Though not mandatory, appointment of an independent director as the chairman of the CSR committee may mean more transparency and stakeholder orientation. In this front also public sector companies have outperformed the private sector. While more than 61% public sector companies have an independent director as the chairman of the CSR committee, only 50% of private sector companies have the similar feature. However, an independence of attribute test in this context reveals that the difference in the pattern of appointing an independent director as the chairman of the CSR committee is not statistically significant.

Table 4: Percentage Distribution and Chi-square Test Result on Appointment of Independent Directors as the Chairman of CSR Committees

Private Sector Companies		Independent Directors as the chairman	Public Sector Companies	
No.	%	No.	%	
39	50	Yes	11	61.1
39	50	No	7	38.9
N.H: H_0(The two groups do not differ significantly in terms appointment of an independent director as the chairman of CSR committee)				
Chi-Square Value	0.723478		Decision: N.H is accepted at 5% level of significance.	
P value	0.395005			

As per the requirement, composition of the CSR committee has been disclosed by all the sample companies. However, instead of the Directors' Report or annexure to it, some companies have included the information only in the Corporate Governance Report with reference of the same in the Directors' Report, just to avoid repetition of information.

✷**CSR Policy:** All the public and private sector companies in our sample do have a CSR policy. Following the requirement, the content of the same has been disclosed by a number of companies in the annexure to the Directors' Report. The others, however, provided a web link of the CSR policy in the Directors' Report. All the companies claimed to have placed the policy document in its official website.

Though all the companies have mentioned the modalities of execution of CSR policies, we have found a number of instances, in both the two groups, where such disclosure is far from adequate. In each of the 96 cases, the CSR committee has recommended the CSR spending based on the average profits of last three financial years. In its responsibility statement, each committee has also claimed that the recommendation for the CSR spending complies with Schedule VII of the Act and the policy is regularly monitored following the regulatory requirements from time to time. We have considered the frequency of meetings of CSR committee as an indicator of how regularly the policy is reviewed and monitored and found that the average number of meetings held in public sector companies is (4.4) higher than that in private sector companies (2.4). This shows that monitoring of CSR activities is relatively more regular in public sector companies.

✷ **CSR Spending:**

(a) Quantum of CSR Spending: The CSR committees of all the 96 companies have recommended spending 2% of the average net profit of the respective companies for CSR purpose. We have analyzed the recommended and actual CSR spending (out of current year's allocation) of these companies. The results are as follows:

Table 5: Summery Statistics of Recommended and Actual CSR Spending

Recommended CSR Spending			Actual CSR Spending		
Results	Private Sector	Public sector	Results	Private Sector	Public sector
Minimum	Rs. 1.83 Cr.	Rs. 7.877 Cr.	Minimum	0	Rs. 7.36 Cr.
Maximum	Rs. 703.08 Cr.	Rs. 327.94 Cr.	Maximum	Rs. 745.04 Cr.	Rs. 331.05 Cr.
Average	Rs. 75.56177 Cr.	Rs. 92.90945 Cr.	Average	Rs. 69.8547 Cr.	Rs. 80.71951 Cr.
SD	Rs. 115.9085 Cr.	Rs. 87.24613 Cr.	SD	Rs. 114.182 Cr.	Rs. 91.11794 Cr.
Coefficient of Variation	153%	94%	Coefficient of Variation	163%	112%

The results reveal that among the public sector companies (except SAIL which incurred an average loss) the maximum spend recommended was for Indian Oil Corporation (Rs. 327.94 Cr.) and the minimum spend recommended was for Coal India (Rs. 7.877 Cr.). The average CSR spend recommended for the financial year 2017-18 for the entire group was Rs. 92.91 Cr. Similarly, excluding the companies having average loss in last 3 financial years, the maximum spend recommended was for Reliance (Rs. 703.08 Cr.) and the minimum spend recommended was for Bajaj Finserv (Rs. 1.83 Cr.). The average CSR spend recommended for the financial year 2017-18 for the entire group was Rs. 75.56177 Cr. The coefficient of variation is more in case of private sector companies. As regards to the actual spending by public sector companies, the minimum and maximum amount spent is Rs. 7.36 Cr. (BHEL) and Rs. 331.05 Cr. (IOL). The same for private sector companies are 'Nil' (Aurobindo Pharma) and Rs. 745.04 Cr. (Reliance) respectively. The average spend is lower and SD is higher in case of private sector companies. This results in a higher coefficient of variation in case of private sector companies. Therefore, the variation in CSR spending is comparatively higher in private sector companies.

We have also analysed the number of companies that defaulted and those complied with the CSR spending recommendation. Our analysis shows that 50% of the public sector companies failed to spend the current year's allocated CSR expenditure, while only 23% of the private sector companies (excluding Aditya Birla for which the recommended and actual spend both are Nil) have defaulted in this respect. This shows a better compliance rate in private sector companies so far as the actual spending is concerned. Most of the companies that defaulted have given reasons like conducting multi-year projects, strict implementation procedure, delay in approval etc.

(b) Areas of CSR Spending: The areas chosen by the sample public and private sector companies to spend their recommended CSR expenditure varies widely. We have analysed the areas selected by the companies in this respect by appropriately mapping the respective projects and/ or programmes with the eleven CSR areas/ subjects mentioned in Schedule VII of the Act. The result of the analysis is given below.

Table 6: Percentage Distribution of the Areas of CSR Spending

Area of CSR Spending as per Schedule VII	Companies Selecting the Area					
	Private Sector		Public Sector		Total	
	No.	%	No.	%	No.	%
(i)	75	96	18	100	93	97
(ii)	76	97	18	100	94	98
(iii)	38	49	13	72	51	53
(iv)	47	60	14	78	61	63
(v)	21	27	12	67	33	34
(vi)	9	12	1	6	10	10
(vii)	20	26	11	61	31	32
(viii)	5	6	2	11	7	7
(ix)	3	4	1	6	4	4
(x)	42	54	15	83	57	59
(xi)	1	1	0	0	1	1

The results show that eradicating hunger, poverty and malnutrition and promoting education are the most preferred areas by the private companies, followed by environmental sustainability and rural development. Apart from areas namely eradicating hunger, poverty and malnutrition and promoting education, public sector companies also show interest in women empowerment and environmental sustainability and rural development. Both the groups are found to be less interested in promoting sports, contributing to designated funds, technology incubation and slum area development. Public sector companies are also found to promote various govt. schemes including Swachh Bharat Abhiyan, Swachhta Pakwada etc. Though allowed in the Act, only a few companies are found to spend on capacity building.

(c) **Mode of Spending:** Barring a few (GAIL, Bajaj Auto, Bajaj Finance, DLF) the companies are found to spend a significant part of the CSR expenditure directly. Public sector companies have implemented various projects or programmes through NGOs and govt. established trusts. ONGC is the sole public sector company to conduct its CSR activities through its own ONGC Trust. However, this trend is more prominent in private sector companies. Majority of these companies have been found to meet the CSR requirements though their own trusts. These include Ambuja Foundation, Infosys Foundation, Reliance Foundation, Britania Foundation, Fair and Lovely Foundation (HUL), Indiabull Foundation, Sriram Foundation, ABB India Foundation, HCL Foundation, Sun Foundation, Hindalco Foundation, Cipla Foundation, Dr Reddy's Foundation, Lupin Foundation, Piramal Foundation, Bharti Foundation etc. Though allowed in the Act, none of the companies have collaborated with another company to conduct CSR activities. As a result large CSR project involving multiple companies is still a far cry. Perhaps the companies are not interested to share the social connect and credit that they achieve through CSR projects with another company.

Overall Compliance: In order to judge the overall degree of compliance with Section 135 and allied regulations, the study has devised a CSR Compliance Index (CSRCI) based on 14 compliance requirements (assigning 1 and 0 for the status 'Complied' and 'Not Complied' respectively) as follows:

CSRCIj = ×100.

The 14 $\frac{\text{CSR Score Achieved by the Company}}{\text{Maximum Score i.e. 14}}$ areas for compliance have been identified based on Section 135 of the Act, related Rules and Schedule VII as follows:

Table 7: Components of CSRCI construction Methodology

Questions (Possible Response and Scores Allotted)
Has the company constituted the CSR Committee? (C = 1, NC = 0)

Does the company have minimum required number of directors in the committee? (C = 1, NC = 0)
Does the company have minimum required number of independent directors? (C = 1, NC = 0)
Does the BOD report disclose the composition of CSR Committee? (C = 1, NC = 0)
Does the company have a CSR policy duly recommended by the CSR Committee and approved by the Board? (C = 1, NC = 0)
Does the above CSR Policy approve the activities that it plans to undertake? (there must be a list in the CSR policy) (C = 1, NC = 0)
Does the CSR policy specify the modalities of their execution? (C = 1, NC = 0)
Are the activities in line with Schedule VII of the Companies Act? (C = 1, NC = 0)
Has the CSR Committee recommended the amount of expenditure? (C = 1, NC = 0)
Does the CSR policy specify the monitoring process of such programmes? (C = 1, NC = 0)
Does the CSR Committee monitor the CSR policy regularly? (C = 1, NC = 0)
Does the BOD report disclose the content of CSR Policy? (C = 1, NC = 0)
Has the company placed the report containing CSR Policy on its website? (C = 1, NC = 0)
Is the actual spent as per the recommendation of the CSR committee? (C = 1, NC = 0)

The frequency distribution of CSRCI is found to be as follows:

Table 8: Percentage Distribution of CSRCI

CSRCI	Private Sector Companies		Public Sector Companies	
	No.	%	No.	%
100	42	54	8	44
93	29	37	5	28
86	7	9	4	22
79	0	0	1	6
Total	78	100	18	100

The above results apparently indicate that more of the private companies are found to comply with Section 135 and related regulations as compared to public companies. To confirm the same we applied 't' test of statistical significance to determine whether the two groups have equal mean CSRCI.

Table 9: Result of 't' Test for Equality of Means

N.H: H_0 (The two sectors do not differ significantly in complying with Section 135)		
t Value	1.412779197	Decision: N.H is accepted at 5% level of significance.
P value (both tail)	0.172370773	

The results, however, confirm that the difference in the degree of compliance is not statistically significant. In other words the degree of compliance is almost similar across the two sectors.

10. Conclusion

After the introduction of Companies Act 2013, CSR activities are no more a philanthropic gesture. It is, rather, a mandatory action, non compliance of which will not only attract legal consequences, but can also hamper the reputational capital of the company. Thus, if not all, at least the most valued companies of India are expected to take CSR requirements seriously. However, public and private sector companies may differ in their approach to these requirements. Our study was a humble attempt to look into the same.

Based on an exhaustive analysis of 96 companies, the study, however, found mixed results. While public sector companies were found to take requirements like - formation of CSR committees, ensuring their transparency in making decisions by inducting more independent directors or appointing an independent director as the chairman of the CSR committee - more seriously, private sector companies were seen to comply more in areas like CSR spending as per recommendation. Their preference over various areas for CSR spend, mode of execution of projects or programmes also seem to differ from the public sector companies. For private sector companies, the overall degree of compliance with CSR provisions was found to be quite high for majority of cases, though statistical test confirmed that the degree of overall compliance did not differ significantly across the two groups. In short, while the trends in CSR practices largely differ across the two groups, they are similar in terms of overall compliance with regulations. Hence, it will not be wrong to conclude that both the public and private sector companies in India are acting in a socially responsible manner which not only is ensuring their long run sustainability but is also helping the government to build a new India. MA

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Web Resources/ Contents:

Official websites of sample companies

http://www.mca.gov.in/

https://www.nseindia.com

swapansarkar22@gmail.com
priyadarshinichatterjee93@gmail.com
dipankar.jeet21@gmail.com

INTERIM BUDGET: 2019-2020

CMA S. Rajaratnam
Retd. Member
Income-Tax Appellate Tribunal
Advocate & Tax Consultant
Chennai

Abstract

Interim budget, 2019 highlights fall in rate of inflation, reduction in fiscal deficit, increase in foreign direct investment, substantial addition to roads and new houses with electricity made available to every house, besides to farmers by Kisan Credit Card Scheme (KCC), to labourers with assured pension and direct benefit transfers and sponsoring digital revolution by creation of Common Service Centers (CSC), and Jan Dhan-Aadhaar-Mobile (JAM), extensive infrastructure development, plan for Government e-Marketplace (GeM) with rural industrialisation and concession to housing sector extending benefit to single house. Income-tax returns will be processed electronically without personal presence.

An interim budget is not a full-pledged budget for the whole year, but only a statement of receipts and expenditure and vote on accounts authorising expenditure from consolidated funds, which would ordinarily await the formal budget, but has to be approved by vote on accounts in absence of the budget. It is not expected to be a policy statement as ordinarily expected of a full-fledged budget. But all the same, this being an election year, there has been the temptation for the outgoing Government to indicate its policy projections, which would serve as an election manifesto to the extent possible in a budget speech, through interim budget.

Finance Minister's speech recalls the strong mandate it had received in the elections and claims that its regime was a period for decisive, stable and clean Government with transformational structure reforms reversing the policy of the previous Government, which is accused of popular paralistic attitude, so as to require restoration of the image of the Government by the present budget. Favourable sentiment abroad due to fall in inflation during 2009 to 2014 is claimed to have brought inflation down from 10% to 4.6% and even further down in December, 2018 to 2.19%, curbing inflation, which is an unfair tax affecting all classes of citizens including poor and middle class.

The ongoing discussion before budget was whether the budget to be presented would be fiscally prudent or it would be merely populist being the last budget of the Government with election shortly due. Notwithstanding the temptation to project a populist budget, it is claimed that it is a fiscally prudent budget in the light of the fact that fiscal deficit has come down from 5.6% six year ago to 2.5% with a fair rate of growth with increase in GDP. Revenue sharing with the State is claimed to have increased from 32% to 42%.

Foreign Direct Investments (FDI) have been received in increasing scale due to liberalization of FDI policy. Reform of GST is on the anvil. Banking reforms accompanied by Insolvency and Bankruptcy Code is another major step to promote clean banking with steps being taken for recapitalization of public sector banks and amalgamation as between three banks. Steps against corruption by The Real Estate (Regulation and Development) Act, 2016 (RERA) and The Fugitive Economic Offenders Act, 2018, it is claimed, has given added power to regulate real estate investments.

Swachh Bharat Mission is claimed to be world's largest movement for behavioural change. Improvement of the lot of backward classes is being made with the law enhancing reservation by 10% to 60% with 10% reservations for economically backward with larger number of seats provided for educational institutions. Food grains are to be subsidised and steps taken for reducing urban rural divide with cash grant with the help of collections under Pradhan Mantri Gram Sadak Yojana (PMGSY) helping to build pucca roads including village roads, besides substantially increasing housing with 1.53 crores houses built with concession for housing extended by a year with extension of deduction of what was hitherto available for a single house for assessment of income from property and capital gains extended to two houses.

Electricity at every house is another achievement of 'Saubhagya Yojna' saving expenses of poor and middle class families to the extent of fifty thousand crores.

Larger outlay for health growth under Ayushman Bharat, covering about ten lakhs patients for medical treatment which would have cost Rs.3,000 crores would make available medicines, cardiac stents and knee implants, besides medicines at affordable prices through Pradhan Mantri Jan Aushadhi Kendras.

Assistance to farmers assuring income supported through "Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)" entailing annual expenditure of Rs.75,000 crores will be of assistance to farmers.

Animal husbandry and fisheries have also been the subject matter of upscale sustainable genetic up-gradation for cow protection with extension of credit facilities for farmers with Kisan Credit Card scheme (KCC) is another innovation useful for this sector.

Minimum pay for labourers with extension of insurance for ensuring minimum pension under 'Pradhan Mantri Shram-Yogi Maandhan' is another proposal.

There is also a proposal being processed by a Committee under Niti Aayog for identification and promotion for de-notified Nomadic and Semi Nomadic communities with the formation of Welfare Development Board under Ministry of Social Justice at an advanced stage.

A reference is made to the Election Manifesto of the ruling party to transform the quality of life of women in rural India under Pradhan Mantri Mudra Yojana, which is incidentally intended for development of youth. Artificial intelligence is not neglected as a National Centre on Artificial Intelligence is created as hub centers of excellence in high priority areas which have been identified. MSME sector and trading sector too will not be neglected. Government e-Marketplace (GeM) steps being taken will foster their growth. Promotion of internal trade including retail trading is in the agenda. National security is expected to be strengthened by increasing the pay scale of service personnel. Indians across the world are not neglected. So is the infrastructure development. The global effort to address the problem of climatic change by taking steps for increasing supply of bio-fuel by alternate technologies so as to reduce imports by increasing hydro carbon supplies in different locations in India is in progress. Meghalaya, Tripura and Mizoram along with Arunachal Pradesh are being absorbed in Indian growth map.

India keeps pace with Digital India revolution world-wide with creation of Common Service Centres (CSCs). Jan Dhan-Aadhaar-Mobile (JAM) and Direct Benefit Transfers have also helped to a larger extent. Entertainment industry is assisted. There have been a number of proposals to create new Digital India with vision to build physical and social structure with a ten trillion dollar economy with electric vehicles and renewable energy.

Rural industralisation and increasing availability of drinking water, coast land development not neglecting space programme is in the cards with Gaganyaan. Higher farm production encouraging organic cultivation is in the cards.

Fiscal reforms

As regards taxation policy, the much expected increase in exemption limit and reduction in tax rate form part of the budget proposals. There is an effective exemption limit of Rs.5 lakhs for individuals apart from tax rebate under section 87A raised from Rs.2,500 to Rs.12,500. Standard deduction of salaried taxpayers, which will include pensioners, is raised from Rs.40,000 to Rs.50,000.

Concession for Real Estate Trade and Investments

Investment in housing is sought to be encouraged by more than one concession.

(i) Concessional treatment hitherto

available for a single self-occupied house is now proposed to be extended to two self-occupied houses with consequent interest deduction at Rs.2 lakhs each being available for both of them.

(ii) Rental income for those in real estate business was hitherto allowed exemption for the first year after construction pending sale will now be available for the first two years.

(iii) Section 54 which allowed abatement of capital gains limited to investment in one house will now be available for reinvestment in two residential houses.

(iv) Exemption hitherto available for housing projects under section 80IB which was to lapse on 31st March, 2019 is now extended to one more year.

(v) TDS is sought to be made less tedious for more items. There is some relief in enlarging minimum (threshold) limit for tax deduction at source (TDS) from rental income from Rs.1.8 lakhs now increased to Rs.2.4 lakhs. Threshold limit for tax deduction in respect of interest other than interest on securities received from post offices and banks under section 140A is increased from Rs.10,000 to Rs.40,000.

The expected increase in limit for savings under section 80C does not find a place in the proposal. But availing the existing incentives and the enhanced minimum exemption limit of Rs.5 lakhs, it is pointed out, a taxpayer with income upto Rs.6.5 lakhs per annum will not be liable for income-tax.

Carry forward and set off of loss from agriculture against profits (recognised for rate purpose) is now made available by amendment to Rule 8 retrospectively for losses from A.Y.2012-2013.

There is a promise in improvement of procedural law, with all assessments and verification of Income Tax returns planned to be completed electronically by anonymised tax system without calling the assessee for personal presence. MA

Reference

https://www.indiabudget.gov.in/ub2019-20/bs/bs.pdf

s.rajaratnam@vsnl.com

Form IV

Statement about ownership and other particulars about The Management Accountant, to be published under rule 8 of the Registration of Newspaper (Central) Rule, 1956

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6. Names and addresses of individuals who own the newspapers and partners or shareholders holding more than one percent of the total capital	:	It is the official organ of The Institute of Cost Accountants of India

I, Dr. Ketharaju Siva Venkata Sesha Giri Rao hereby declare that the particulars given above are true to the best of my knowledge and belief.

Dated: 04th March, 2019

Dr. Ketharaju Siva Venkata Sesha Giri Rao
Signature of Publisher

SHORTEN YOUR JOURNEY TO BECOME INSOLVENCY PROFESSIONAL

Dr. Neeti Shikha
Head
Centre for Insolvency and Bankruptcy

The Insolvency and Bankruptcy Code (IBC) has been a significant boost to the credit mechanism of the economy. Economic reforms through the GST and New Bankruptcy Code is seen as the main drivers for India's economic performers.

While the IBC has been lauded across the globe for being one of the strongest piece of legislation on Insolvency, the effort of all the stakeholders to create a sound infrastructure around it needs special accolade. There has been series of round table discussions, workshops and training programmes on the IBC. These workshops and discussions has addressed the challenges that is faced by the Code and through the discussions, it has aimed at finding solutions and providing clarity to the the Code.

Another significant development in this area is the introduction to the 2 year long Graduate Insolvency Programme that is being offered by the Indian Institute of Corporate Affairs and certtified by the IBBI. The course begins from July 2019 and the admission process opens from March 1st this year.

The course aims to produce pool of young insolvency professionals. Recognising the range of skills required by IPs, the course offers an indepth understanding of Insolvency ecosystem both locally as well as globally.

The course is one of its kind and does not have a parallel anywhere in the globe. Though there are Masters programme available in Insolvency in other jurisdiction, a detailed course that gives both theoretical underpinnings as well as practical hands on to the graudates makes this programme a unique and stand alone course.

The course focuses on building domain knowledge on Insolvency eco-system and industry. It will help the graduates understand the laws operating in Insolvency orbit.

Ethics and leadership are also the core component of the course. The programme has a "week with legend" wherein an international insolvency expert will spend a week with these young graduates. Internship and trainings are well embedded into the course. The graduates will do intership with leading Institutes for 12 months to get hands-on exprience. They can earn while they learn.

It will not be too ambitious to say that in years to come, it will emerge as one of the flagship programmes in insolvency around the globe.

Some prominent figures on the Advisory Board of the Programme include, Justice AK Sikri, Shri Arvid Datar and Dr. K.V. Subramanian, Dr. M.S. Sahoo, Dr. Sameer Sharma and Shri Sumant Batra among other international luminaries.

The credit goes to the Government of India which has determined to address the problem and not just the symptom of the problem. It has taken a route of addressing the financal distress in banks and companies holistically and avoided any quick fix approach. Instead, it has created a robust insolvency resolution ecosystem that will take India on path of economic development. Under the able leadership of Dr. M.S. Sahoo, Chairperson of IBBI, Dr. Sameer Sharma, DG& CEO of IICA and Mr. Sumant Batra, India's leading insolvency lawyer, commendable effort has been made to create this industry centric approach to Insolvency Education. MA

neeti.shikha@gmail.com

CAREER GUIDE

HOW TO PASS LIMITED INSOLVENCY EXAMINATION

CMA (Dr.) Rajkumar S. Adukia
Insolvency Professional
Mumbai

Synopsis

The Insolvency and Bankruptcy Code, 2016 was implemented with the object of optimising the values for all the stakeholders involved. The successful implementation of the Code is dependent majorly on the four pillars prescribed by it, namely, the Insolvency and Bankruptcy Board of India (IBBI), the Adjudicating Authorities, the Information Utility (IU) and the Insolvency Professional Agency (IPA) and its member professionals i.e. the Insolvency Professionals (IP) or Insolvency Professional Entities (IPE). To register as IP, a professional has to clear the Limited Insolvency Examination, designed by the IBBI. This write up majorly focuses on the syllabus of the exams and how to prepare for the same.

With the purpose of resolving disputes in time bound manner, improve credit availability, promote entrepreneurship, balance the interest of all the stakeholders and tackle around 12 old laws, the Insolvency and Bankruptcy Code, 2016, came into effect from May 28, 2016, but its sections were first notified on August 5, 2016.

The Code provides resolution to the aggrieved parties, i.e. the Financial creditors and Operational creditors when the corporate debtors do not make payments when due, in a time bound manner. The creditors in case of non-receipt of payments of Rs. 1 lakh or more, can make application under the Code. Even the corporate person when it feels that the assets in its possession are not sufficient to repay the liabilities, they can also make application under the Code. The Part II of the Code also provides for liquidation of the corporate persons.

The procedures laid down under the Code are such so as to eliminate the time-consuming debt recovery process resulting in capital erosion and demotivating the investor's confidence. It also provides exit opportunity for the corporates, through the process of voluntary liquidation.

A separate mechanism is set up under the IBC, 2016, for the faster disbursal of cases. The Ministry of Corporate Affairs has been entrusted with the administration of the Code. Section 239 of the Code, empowers the Central Government to make rules on the matters prescribed in the said section.

For the smooth implementation of the Code, and its efficient functioning, following authorities have been created:

1. The Insolvency and Bankruptcy Board of India
2. The Adjudicating Authorities
3. Information Utility
4. The Insolvency Professional Agency
5. Insolvency Professionals/ Insolvency Professional Entity

The Insolvency and Bankruptcy Board of India

It is the Regulator established by the Code. It is headed by Dr. M. S. Sahoo and is headquartered in Delhi. It was constituted on October 1, 2016. Commonly termed as IBBI, it is empowered to issue regulation on matters provided u/s 240 of the Code. The Board is also entrusted with supervision and registration of Insolvency Professional Agency, Insolvency Professionals and Information Utility.

Adjudicating Authorities

The purpose of the Code is timely resolution for debt recovery. The Code has separate Adjudicating Authority for its functioning. National Company Law Tribunal is designated for Part II of the Code dealing with Companies and LLP. Appeal against orders of NCLT may be filed in National Company Law Appellate Tribunal. Debt Recovery Tribunal is Adjudicating Authority for Part III of the Code dealing with Individual and Partnership firms. Appeals may be filed to Debt Recovery Appellate Tribunal. After that, last resort is the Supreme Court.

Information Utility

Information Utility is an organization incorporated with a purpose to store financial information of transaction relating to debt. Data can be requested during the processes of the Code. At present, National E-Governance Services Limited is registered as Information Utility under the Code.

Insolvency Professional Agency

An Insolvency Professional Agency is a collective Body of Insolvency Professionals. It shall be incorporated and registered with Board as per the provisions of the Code. At present, ICSI, ICAI and ICAI (CMA) have registered their IPA respectively.

Insolvency Professional/ Insolvency Professional Entity

Under various processes of the Code, Resolution Professional is required to be appointed for administration of corporate debtor, or, if company is in liquidation then liquidator. Insolvency Professional Entity is a group of Insolvency Professionals registered with Board. They are service provider under the Code. Insolvency Professional shall be member of Insolvency Professional Agency and shall have requisite qualification and experience. He shall also pass Limited Insolvency Examination.

Limited Insolvency Examination:

The limited insolvency examination is conducted by the Insolvency and Bankruptcy Board of India, under regulation 3(3) of the Insolvency and Bankruptcy Board of India (Insolvency Professionals) Regulations, 2016.

Who can appear?

There is no minimum qualification criteria for appearing for the Limited Insolvency Examination, but in order to be registered as the Insolvency Professional with the IBBI and to practice in the field of insolvency resolution, one has to clear the Limited Insolvency Examination.

How to Register?

Registration for the examination can be done online by visiting the link mentioned under the head examinations on the IBBI website, www.ibbi.gov.in. A candidate registration form is to be filled and submitted online. Once the registration is done, an activation link will be sent to the registered email id. This is a one-time process and no fees are payable for candidate registration.

When you decide to take the exam, again follow the link on the website, www.ibbi.gov.in, and click the link "Register and enrol online." After filling the online form and filling of exam fees of Rs. 1500/-, admit card will be generated. The admit card, along with PAN card and Aadhar card, is to be carried by the candidate to the examination centre.

The exams are conducted daily at more than 100 centres across the country.

Paper Pattern:

The Limited Insolvency exams are conducted online in a computer-based proctored environment. The paper consists of 87 multiple choice questions, which carry 100 marks in total. The duration of the paper is two hours. Minimum passing percentage is sixty and there is negative marking of 25% of the marks assigned to the question, incorrectly answered.

Number of questions on each topic will depend upon the weightage assigned to the topic in the syllabus.

The candidates who pass the examination will be awarded a certificate by the Board. On the submission of examination papers, a temporary marksheet will be provided.

Syllabus:

As the purpose of conducting the exams is to equip an individual to handle the responsibilities of the company in the process of insolvency resolution, the Limited Insolvency Examination stresses on the study of the Insolvency and Bankruptcy Code, 2016 and rules and regulations thereto.

The IBC comprises of 5 parts and 261 sections (255 at the onset + 6 sections added by amendments) and 12 Schedules. (12th schedule added as per the Ordinance passed on June 6, 2018).

Part	Particulars
I	Preliminary
II	Insolvency Resolution and Liquidation for Corporate Persons
III	Insolvency Resolution and Bankruptcy for Individuals and Partnership Firms
IV	Regulation of Insolvency Professionals, Agencies and Information Utilities
V	Miscellaneous

Schedules

THE FIRST SCHEDULE - Amendment to the Indian Partnership Act, 1932- Section 245

THE SECOND SCHEDULE - Amendment to the Central Excise Act, 1944- Section 246

THE THIRD SCHEDULE - Amendment to the Income-Tax Act, 1961- Section 247

THE FOURTH SCHEDULE - Amendment to the Customs Act, 1962- Section 248

THE FIFTH SCHEDULE - Amendment to the Recovery of Debts Due to Banks and Financial Institutions Act, 1993- Section 249

THE SIXTH SCHEDULE - Amendment to the Finance Act, 1994- Section 250

THE SEVENTH SCHEDULE - Amendment to the Securitization and Reconstruction of Financial Assets and Enforcement of Security Interest Act, 2002- Section 251

THE EIGHTH SCHEDULE - Amendment to the Sick Industrial Companies (Special Provisions) Repeal Act, 2003- Section 252

THE NINTH SCHEDULE - Amendment

to the Payment and Settlement Systems Act, 2007- Section 253

THE TENTH SCHEDULE - Amendment to the Limited Liability Partnership Act, 2008- Section 254

THE ELEVENTH SCHEDULE - Amendments to the Companies Act, 2013- Section 255

THE TWELFTH SCHEDULE – Acts for the purpose of Section 29A(d) (inserted by the Insolvency and Bankruptcy Code (Amendment) Ordinance, 2018, effective from June 6, 2018.

Rules & Regulations

The Ministry of Corporate Affairs has notified 4 set of rules on the matters specified in section 239 of the Code and one draft rules under Part III of the Code. Besides these, following rules are also relevant:

1. The National Company Law Tribunal Rules, 2016 - notified on 21st July, 2016

2. The National Company Law Appellate Tribunal Rules, 2016 - notified on 21st July, 2016

3. The Companies (Transfer of Pending Proceedings) Rules, 2016 - notified on 7th December, 2016, w.e.f. 15th December, 2016, except rule 4 which came into effect from 1st April, 2017

Also, there are 14 different regulations notified as per the provisions of section 240 of the Code and one draft regulation relating to Part III of the Code.

The third part of the syllabus deals with the related provisions of the Companies Act, 2013, and certain provisions of the Limited Liability Partnership Act, 2008.

Part Four and Five, which carry a weightage of 12% marks covers the following laws:

1. The Indian Contract Act, 1872
2. The Partnership Act, 1932
3. The Sale of Goods Act, 1930
4. The Transfer of Property Act, 1882
5. Specific Relief Act, 1963
6. Negotiable Instruments Act, 1881
7. The Recovery of Debts Due to Banks and Financial Institutions Act, 1993
8. The Securitisation and Reconstruction of Financial Assets and Enforcement of Securities Interests Act, 2002
9. The Arbitration and Conciliation Act, 1996
10. The Limitation Act, 1963 and
11. SEBI regulations on ICDR, delisting of equity shares, Substantial Acquisition of Shares and Takeovers, Listing and Disclosure Requirements.

These are the general and special acts related to the insolvency resolution process and the knowledge of the same will be very helpful to the candidate who successfully clears the examination, in carrying out his duties as an Insolvency Professional.

Part Six deals with topics of Finance & Accounts like that of Corporate Finance, Financial Analysis, Liquidity Management, Tax Planning and GST.

Part Seven of the syllabus deals with the topics of general awareness related to economy, financial markets, rights of workmen under labour laws and fundamental concept of valuation.

Besides the bare act and the rules and regulations, the decided case laws also form part of the legislation. The syllabus for the Limited Insolvency Examination also includes 5 questions of 2 marks each, based on the cases decided by the Supreme Court, the NCLT and the NCLAT.

The last part deals with testing the practical understanding of the candidate. For the purpose, two case studies or transaction analysis, one on corporate insolvency resolution and another on individual resolution will be asked. Both the cases will consist of a comprehension describing the situation, followed by 4 relevant questions each. Marks allotted per question for this section is two.

The syllabus may seem to be vast, but if tackled with proper planning, it is very easy to master. Clearing the Limited Insolvency examination makes one eligible to be registered as the Insolvency Professional with any of the Insolvency Professional Agency and the IBBI. The Insolvency Professionals can act as the Interim Resolution Professional, Resolution Professional, Liquidator or Bankruptcy Trustee, depending upon the stage of insolvency resolution process.

With a number of companies going into the Insolvency resolution process, either through creditors or on their own or on the directions issued by the RBI, there are great opportunities for the Insolvency Professionals for their personal and economic growth, at the same time contributing to the well-being of the nation. MA

Reference

https://www.ibbi.gov.in

cmadrrajkumaradukia@gmail.com / cmadrrajkumar@insolvency.services

Eastern India Regional Council

40th Eastern India Regional Cost Conference was jointly organised by Eastern India Regional Council and Durgapur Chapter at CMERI Auditorium, Durgapur on 15th and 16th December'18 on the theme "Changing Economic Realities – Role & Challenges for CMAs". The programme started with lighting of lamps by dignitaries followed by welcome speech by CMA A K Tulsiani, Chairman, Durgapur Chapter and GM(F&A), SAIL/DSP &ASP. Then the gathering was addressed by CMA S K Bhattacharya, Chairman, EIRC and Dr. P V S Jagan Mohan Rao, Central Council Member followed by key note address by renowned economist and academician Dr. Sugata Marjit. Chief Guest Sri A Dasgupta, CEO, IISCO Steel Plant with additional charge of Durgapur Steel Plant, SAIL presented his views on the topic sharing his personal experiences gathered by travelling to thriving economies of the world and comparing their scenarios with the Indian context. CMA Avijit Goswami, CCM, CMA Biswarup Basu, CCM, CMA Shyamal Kumar Bhattacharya, Chairman, EIRC, CMA Pranab Kr Chakraborty, Secretary, CMA C. Venkata Ramana, Vice Chairman, EIRC, CMA U Farooque, Treasurer, EIRC, CMA Bibekananda Mukhopadhyay, RCM, EIRC were present on the occasion. The Cost Conference had five technical sessions on Indian Economy: New Agenda for Change, Insolvency and Bankruptcy code, Emerging Land Scape of Personal Finance, GST Issues : Past Experiences and Way Ahead, Technological Developments in India and Roles Expected from CMAs. Prof. Anup Sinha, Head, Heritage Institute , Sri S S Kumar, Chairman, Govt. College

of Engineering & Leather Technology, Kolkata, Prof. Suman Mukherjee, a renowned economist and academician, CMA Pramod Jain, Shri Pritam Chatterjee, Certified financial planner, Shri Ravi Raghavan, Partner, M/S LKS, Attorneys, CMA M K L Chand , GM (F&A), SAIL/RSP, CMA Debasis Lahiri, Vice-Chairman, Durgapur Chapter of the Institute, Prof Anupam Basu, Director (NIT), Prof V K Tewari, IIT KGP, Head, Agricultural Engineering Department, CMA S C Dangayach, Ex ED (F&A)/SAIL were among eminent speakers and dignitaries present in the Conference. The valedictory session was chaired by CMA Amal Kumar Da, Past President of the Institute. Others present were CMA

S.K. Bhattachaya, Chairman, EIRC, CMA Pranab Kumar Chakraborty, Secretary, EIRC, CMA A.K. Tulsiani, Chairman, Durgapur Chapter, CMA Susit Kumar Chakrabarti, Secretary, Durgapur Chapter along with CMA C.R.Chattopadhyay, CMA

S.S. Sonthalia, Past Chairmen of EIRC. CMA Susit Kumar Chakrabarti, Secretary, Durgapur Chapter proposed vote of thanks and CMA Pranab Kumar Chakraborty, Secretary, EIRC of the Institute concluded the 40th Cost Conference. A programme on GST Audit & its Return Filing and the Recent Judgements on Advanced Ruling in GST was organized by EIRC on January 29, 2019 and CMA S.K. Bhattacharjee, Chairman EIRC, CS Anindita Chatterjee, CMA Timir Baran Chatterjee were among eminent dignitaries present in the programme. A programme on Interim Budget (2019-20) & Economic Analysis followed by Musical Soiree and Dinner was organized on February 14, 2019 and Ishita Ayan Dutt, Prof. Subhashis Gangopadhyay, Ambarish Dasgupta, Prof. Sugata Marjit, D. Mukherjee, CMA T.B. Chatterjee, CMA S.K. Bhattacharjee, Chairman EIRC were among eminent dignitaries present in the programme.

The Institute of Cost Accountants of India- Cuttack Bhubaneswar Chapter

The Chapter conducted a seminar on "Insight to the Assessment of Income Tax" in association with Tax Research Department on 27th January, 2019 at CMA Bhawan, Bhubaneswar to mark its Golden Jubilee year. CMA Damodar Mishra, Chairman of the Chapter delivered welcome address & CMA Niranjan Mishra, Council Member and Chairman, Taxation Committee and Regional Councils & Chapters Coordination Committee of the Institute delivered Key Note address on the occasion. Shri Ajai Das Mehrotra, IRS, Principal Chief Commissioner of Income Tax, Gujarat, Ahmedabad inaugurated and graced the Seminar as "Chief Guest" and also addressed in the topic w.r.t various amendments/notifications of CBDT. CMA Niranjan Swain, Head-Finance & Taxation, OPGC Ltd., Bhubaneswar deliberated in detail on the topic. CMA Mukesh Chaubey, Chairman, Professional Development Committee facilitated the programme and CMA Uttam Kumar Nayak, Member of Managing Committee of the Chapter extended formal vote of thanks. The Chapter organized an IEPF- Investor Awareness Programme with reference to the notification of Ministry Of Corporate Affairs, Government of India on 8th February, 2019. To mark the Investor Awareness Programme and Golden Jubilee Year of the Chapter an Evening Talk has been organized on the topic "Investment Opportunities and Risk Management". CMA Damodar Mishra, Chairman of the Chapter delivered welcome & key note address. CMA Niranjan Sahoo, Sr. General Manager (Finance), Funds, OPTCL and Past Chairman, ICAI-Bhubaneswar Chapter inaugurated and graced the occasion as "Chief Guest". CMA Rabindra Kumar Mohapatra, Additional General Manager (Finance), IRCON International Ltd., Mumbai and Author - Retirement Planning & Investment Risk and Growth was the "Chief Speaker" and delivered details on the topic "Investment Opportunities and Risk Management"and made a critical analysis about the advantages and safe investment of the surplus . CMA Saktidhar Singh, Vice Chairman extended formal vote of thanks and CMA Mukesh Chaubey, Chairman; Professional Development Committee facilitated the programme. CMA Damodar Mishra, Chairman of the Chapter also reported this CSR Activity is one of the important activities to mark Golden Jubilee year of this Vibrant Chapter. With the Cooperation and Support of all Members of the Managing Committee and Staffs of the Chapter, the programme ended with a grand success.

Northern India Regional Council

NIRC organized CMA Career Counselling Yatra on January 5, 2019 in association with Jaipur Chapter on 5th January 2019 at CMA Bhawan , Jaipur. Chairman NIRC, CMA Sunil Singh, Chairman Lucknow and Kota Chapters, Chairman Jaipur Chapter, CMA Rakesh Yadav, Vice- Chairman CMA S.L. Swami, Secretary CMA Swapnil Bhandari, Treasurer CMA Sudarshan Nahar and many members from Jaipur and other Chapter were present on this occasion. On 10th January 2019, efforts of CMA Harednra Kumar pareek were praised by Mr. Nathmal Didel, IAS Director, Secondary Education Board of Rajasthan. He has given the relay flag to CMA CAREER COUNSELLING YATRA in the presence of CMA Rajendra Singh Bhati, secretary NIRC, CMA Nand kishore Goyal Chairman Bikaner-Jhunjhunu Chapter and in the presence of CMA members at Bikaner. He had shared his views about the opportunity in commerce and Institute initiative to make aware about the commerce is commendable and his support to the cause. With the support of Udaipur Chapter, the career counseling session was taken at 10 places and around 1000 students took part in the sessions.

The Institute of Cost Accountants of India- Kota Chapter

Career day and career counselling programmes were organized at Govt. Sr. Sec. School, Kaishavpura, Kota on 12th January, 2019 and on 23rd January 2019, the chapter in association with Modi Institute of Management & Technology organised GST and CMA career counseling workshop with students of MIMT, Dadabari, Kota. On 24th January 2019 on behalf of the Chapter CMA S.N.Mittal, Chairman, CMA Surendra Prakash Gupta, Executive Member and Shri Dil Raj Meena organised a Career Counseling Program at Shishu Bharti Senior Sec. School, Teachers Colony, Kota. On 24th January, 2019 the Chapter in association with Modi Institute of Management & Technology organised a workshop on Crypto currency and other financial topics with students of MIMT, Dadabari, Kota. On behalf of the Chapter, CMA S.N.Mittal, Chairman, CMA Jai Bansal, Secretary and CMA Surendra Prakash Gupta, Executive Member participated in the workshop. On 25th January 2019 the chapter organised a CMA career counseling program with faculties and students of Kendriya Vidhyalaya,Kota and participated as a special guest in awareness workshop on Drug Abuse and its harmful effects organised by Kendriya vidhyalaya,Kota. On 26th January 2019, the chapter celebrated 70th Republic day at its CMA Bhawan.

The Institute of Cost Accountants of India-Jaipur Chapter

The Chapter organised a charity programme on 26th January 2019. CMA Rakesh Yadav, Chairman, CMA S.L. Swami, Vice Chairman, Senior Members, CMA H.L. Agrawal, CMA P.R. Jat and young Members CMA Govind Sharma, CMA Shashank Badaya and CMA Abhishek Sharma were present on this occasion. The chapter celebrated the 70th Republic Day function

on 26th January 2019 at its premises. CMA Rakesh Yadav, Chairman of the chapter hoisted the National Flag alongwith senior members. The programme was conducted by CMA Swapnil Bhandari, secretary of the chapter. The chapter celebrated the 50 years Golden Jubilee at its premises on 3rd February 2019. The programme was inaugurated by CMA Shivendu Gupta, General Manager (Finance), Department of Post, Government of India. In the beginning of the programme, CMA Rakesh Yadav, Chairman of the Chapter welcomed Chief Guest and all the participating members and their families, faculties and students. He briefly narrated the main activities and events of the Chapter during last 50 years and informed the participants that Chapter has been performing well from year to year in all respects i.e. student admissions, results, placements, programmes and activities for Members and branding of CMA profession etc. The Chapter organised a Seminar on Union Budget 2019 on 6th February 2019. In the beginning of the Seminar, CMA Rakesh Yadav, chairman of the chapter welcomed Key Speakers and all the participants. He also briefed the members about latest developments and activities of the chapter. In the first technical session Key Speaker, CMA Tanuj Agrawal explained in detail various changes in the Direct Tax provisions. In the second technical session, CA Ranjan Mehta, explained in detail about the latest notifications and circulars related to GST. The programme was conducted by CMA Swapnil Bhandari, Secretary of the Chapter.

Southern India Regional Council

The Institute of Cost Accountants of India-Coimbatore Chapter

The Chapter conducted a professional development programme on "Cost of Risk Management and Insurance" on January 17, 2019. Speakers, Mr. S. Mohan, Managing Director and Mr. S. Pandiperumal, Senior Vice-President of Paavana Insurance Brokers Pvt Ltd, Chennai spoke on the topic. CMA M. Gopalakrishnan, Past President of the Institute gave a lecture on the topic "Future Proofing of CMA Profession" in the PD meeting arranged by the Chapter on 28th January, 2019. A joint PD programme was organised by the Chapter with ICSI- Coimbatore Branch, Coimbatore Management Association, Coimbatore and PSG Institute of Management, Coimbatore on 5th February, 2019 on the topic " Union Budget – 2019". CA M. Sathya Kumar and CA K. Ravi analysed the Budget in detail.

The Institute of Cost Accountants of India-Mettur Salem Chapter

The Chapter conducted a programme on Interim Budget for 2019-20 & Cloud Computing for CMAs on February 1, 2019 and Former Central Council Member of the Institute, CMA TCA Srinivasa Prasad was present in the programme. CMA Srinivasa Prasad described that 'Cloud Computing' is a network using the internet and provides net working services to clients in the form of hardware and software.

The Institute of Cost Accountants of India - Bangalore Chapter

The Chapter organized a professional development meet on "BUSINESS ETIQUETTE - A BAROMETER TO SUCCEED" on January 12, 2019 and CMA N.R. Kaushik, Chairman of the chapter, CMA Manjula B.S, Secretary , CMA G N Venkataraman , CMA Ashok Kumar, CMA Ashok Kumar Shetty , Chairman, Mysore Chapter were among eminent dignitaries present in the Meet. Also a PD Meet on TDS and TCS Provisions in Direct Taxes was organized at chapter's premises. CMA N.R. Kaushik, Chairman of the chapter, CMA

Manjula B.S, Secretary of the chapter, CMA Sreepada, Vice Chairman of the chapter, Dr. Venkatesh A.V, DCIT Income Tax Dept , Sri. Yajnanarayana Kammaje, Vice President LUB, Sri. Yajnanarayana M N, General Secretary LUB were among the eminent dignitaries present in the meet. A one day seminar was organized on "Practical issues in IND AS -115" / "Works Contract and TDS provisions in GST" at BEL Officers Club, BEL, Jalahalli, Bengaluru and CMA N.R.Kaushik, Chairman of the chapter, CMA Vinayak Pai , CMA Girish K were among eminent dignitaries present in the seminar. The chapter attended Nation Cost Convention Programme held at Pune on January 21 and 22, 2019 and CMA N.R.Kaushik, Chairman of the chapter, CMA Manjula B.S- Secretary, CMA Jaganath , CMA G.N.Venkataraman , CMA Gurudath, Treasurer of the chapter , CMA Dwibedy, MC , CMA Satish R, MC, CMA Murali Mohan were among eminent dignitaries present in the convention. A three day training programme for PSUs were organized from January 3, 2019 till January 5, 2019 and CMA N.R.Kaushik, Chairman of the chapter, CMA Manjula B.S, Secretary, inaugurated the Training Program. The Chapter celebrated Corporate Law Day on January 4, 2019. On January 19, 2019 a Student's Study Circle Meeting on Incorporation of Company and LLP – Theoretical and Practical aspects at its premises was organized and CS Abhilash, Practicing Company Secretary was present in the Meeting.

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

The Chapter on behalf of WIRC, had conducted Investor Awareness programme for the benefit of members, staff and general public on January 12, 2019 at CMA Bhawan, Pimpri. Mr. Vikas Adawade, Senior Officer of the chapter gave introduction of the guest speaker, CMA Arvind Paranjape, CMA L D Pawar, RCM & Chairman, WIRC. CMA Paranjape conducted lecture on the subject "Prosperity through Mutual Funds". He focused on what is Mutual Fund and how people can start with financial planning. CMA L D Pawar in his speech addressed the audience by giving some important tips regarding Investors Awareness. The Chapter conducted inaugural function of 16th Batch of Oral Coaching classes on 14th January 2019 at CMA Bhawan. Ms. Simran Padhi, CMA Intermediate student welcomed and introduced the Chief Guest, CMA Mithlesh Kumar, Vice-President, Schindler India Pvt Ltd. and Guest of Honor, CMA Sanjay Kushvaha, Head – Costing, Schindler India Pvt Ltd. and CMA Ashish Deshmukh, Past Chairman of the chapter. CMA Mithlesh Kumar congratulated the students for choosing CMA course and guided them about their future after becoming CMA Professional. The Chapter has conducted Career Counseling program on 5th January 2019 at Indira Global Business School at Pune. CMA Virendra Tatake, Director of Global Institute has welcomed all and felicitated speaker CMA Suraj Tatiya, CMA Mandar Jadhav, Member of Managing Committee, Staff of the chapter Mr. Vikas Adawade and Mrs. Shubhangi Kulkarni by offering bouquets. On behalf of the Chapter CMA Mandar Jadhav felicitated CMA Virendra Tatake by offering memento. CMA Suraj Tatiya, speaker has delivered lecture informing students about Foundation, Intermediate and Final levels of the course. The Chapter celebrated 26th January 2019 as the Republic Day by hoisting flag. Members from Professionals, Members of the Institute, Students, Managing Committee Members and staff of the Chapter were present at this event. The function was followed by national anthem.

The Institute of Cost Accountants of India -Ahmedabad Chapter

The Chapter had organized an inaugural function of new oral coaching batch of Foundation, Intermediate & Final and to felicitate first three rank holder students of Foundation, Intermediate and Final of June'18 examination. The chief guest of the function was Shri Jayraj Pandya, Director of K S School of Business Management. In the welcome speech CMA P D Modh, Chairman of Oral Coaching Committee explained about oral coaching activities. CMA Ashish Bhavsar, Chairman of the Chapter informed about chapter's activities and facilities providing to members & students. Chief Guest Shri Jayraj Pandya expressed his views for development of CMA careers and advised students to decide goal for making career and hard work. The Chapter celebrated Flag Hoisting Ceremony on January 26, 2019. The Flag hoisting ceremony was performed by CMA P H Desai, Vice Chairman of WIRC in presence of CMA Ashish Bhavsar-Chairman, CMA K M Mehta, Vice Chairman, CMA Mitesh Prajapati, Jt.Treasurer, CMA Malhar Dalwadi, Treasurer, Managing Committee members, members, staff and students. Flag hoisting was followed by National Anthem. The Chapter organized Health Awareness programme at its office from January 29, 2019. In inauguration function, Chief Guest was Shri Saurabhbhai Brahmbhatt, District Governor-Lions International Club. CMA P D Modh welcomed Chief Guest, Lion member, members and students. He explained about Health Awareness program. CMA Ashish Bhavsar, Chairman informed about chapter's activities. CMA P H Desai, Vice Chairman of WIRC informed about stressful life and Chief Guest Shri Saurabh Brahmbhatt explained activities carried out by Lions Club to the society and appreciate the Chapter's initiative for organizing such program.

Kind Attention!!!

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The Institute of Cost Accountants of India

(Statutory Body under an Act of Parliament)

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Advisory for Renewal of Certificate of Practice For 2019-20

The members of the Institute holding Certificate of Practice (CoP) having validity up to 31st March, 2019 are requested to comply with the following guidelines for renewal of their Certificate of Practice:

1. The following changes consequent to amendment of the Cost and Works Accountants Regulations, 1959 vide Notification dated 4th February, 2011 published in the Gazette of India may be noted:

   a. The validity of a Certificate of Practice (CoP) is for the period 1st April to 31st March every year unless it is cancelled under the provisions of the Cost and Works Accountants Act and Regulations, 1959 as amended.

   b. The Certificate of Practice issued shall automatically be renewed subject to submission of prescribed Form M-3 and payment of renewal fee* and annual membership fee*.

   c. From the year 2011-12 onwards, letter for renewal Certificate of Practice is not being issued. However, the members concerned may download the renewal status from the Institute's website www.icmai.in.

2. It may please be noted that under Section 6 of the Cost and Works Accountants Act, 1959, **both the Annual Membership Fee* and Fee for Renewal of Certificate of Practice*** falls due on 1st April each year.

3. Special attention is invited to the fact that the validity of a Certificate of Practice expires on **31st March** each year unless it is renewed on or before the date of expiry in terms of the amended Regulation 10 of the Cost and Works Accountants Regulations, 1959. Hence, a member shall be required to renew his certificate within **31st March** every year.

4. **If the Certificate of Practice of a member is not renewed within 31st March, 2019, his/her status of CoP from 1st April 2019 till the date of renewal would be "Not Active".**

5. Subject to what has been mentioned in Sl. No. 4 above, a member can get his/her Certificate of Practice for 2019-20 renewed within **30th June, 2019**. If application for renewal of Certificate of Practice is made after 30th June, 2019, the member's Certificate of Practice for 2019-20 will not be renewed but will be considered as a case of fresh issuance with effective date being the date of the application or receipt of the prescribed fee* for Certificate of Practice, whichever is later.

6. It may please be noted that mere payment of fees* alone will not be sufficient for renewal of Certificate of Practice. Application in prescribed Form M-3 is to be used for Renewal of Certificate of Practice duly filled in and signed is **mandatory**. The soft copy of prescribed Form M-3 for Renewal of Certificate of Practice can be downloaded from Institute's website www.icmai.in.

7. The Institute has introduced a scheme of Continuing Education Programme (CEP) and the same is mandatory in accordance with proviso to sub-regulation (1) of Regulation 10 of the Cost and Works Accountants Regulations, 1959, as amended, whereby no Certificate of Practice and renewal thereof shall be issued unless a member has undergone minimum number of hours of such training. The detailed guidelines in this connection are available on Institute's website www.icmai.in.

*GST is applicable against payment

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8. <u>Other relevant issues for Renewal of Certificate of Practice are as follows:</u>

a. Application for renewal of Certificate of Practice upto 31st March, 2020 has to be made in prescribed Form M-3 which may be filed online or through hard Copy of form duly filled in and signed on both sides together with Renewal Certificate of Practice fee* of Rs.2,000/- and all other dues to the Institute on account of annual membership fees* and entrance fees*.

b. The annual membership fee* for Associate and Fellow members are Rs.1,000/- and Rs.1,500/- respectively. The entrance fee* for Associate and Fellow members is Rs. 1,000/- each payable at a time at the time of application for admission to Associateship or advancement to Fellowship, as the case may be.

c. The fees* may be paid online or by Demand Draft/at par cheque payable at Kolkata if remitted by post to the Headquarters of the Institute.

d. Members should note that the **renewal of Certificate of Practice can be effected only after receipt of the prescribed fees* along with duly filled in form at the Headquarters of the Institute and on meeting the stipulated CEP credit hours**. Mere submission of the same at the Regional Councils or Chapters will not be sufficient. Members are advised to make payment directly to the Headquarters or use the online facility of submission of application and payment to avoid any delay.

All practicing members are advised to send their application for renewal of Certificate of Practice for the year 2019-20 along with other requirements as indicated above immediately so as to reach the Institute's Office at Kolkata well in advance to enable the Institute to issue the renewal of Certificate by 31st March, 2019.

<u>Renewal of Part-time Certificate of Practice</u>

1. For renewal of part-time Certificate of Practice, it is also essential to furnish a certificate from the employer in the following form or in a form as near thereto as possible if the practising member has undertaken any employment or there has been a change in employment:

   "Shri/Smt ……………………………………………………………………………………. is employed as (designation)………………………………………….. and (name of Organisation)……………………. ………………… he/she is permitted, notwithstanding anything contained in the terms of his/her employment, to engage himself/herself in the practice of profession of Cost Accountancy in his/her spare time in addition to his/her regular salaried employment with us.

   Signature of Employers with seal of Organisation"

2. It may be noted that members holding Part-time Certificate of Practice (CoP) are not eligible to undertake statutory assignments like Cost Audit, Central Excise Audit, etc.

*GST is applicable against payment

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
(STATUTORY BODY UNDER AN ACT OF PARLIAMENT)

EXAMINATION TIME TABLE & PROGRAMME – JUNE 2019

FOUNDATION COURSE EXAMINATION

Day & Date	**Foundation Course Examination Syllabus-2016** **Time 2.00 p.m. to 5.00 p.m.**
Tuesday, 11th June, 2019	Fundamentals of Economics & Management
Wednesday, 12th June, 2019	Fundamentals of Accounting
Thursday, 13th June, 2019	Fundamentals of Laws & Ethics
Friday, 14th June, 2019	Fundamentals of Business Mathematics & Statistics

Examination Fees

Foundation Course Examination	**Inland Centres**	**₹ 1200/-**
	Overseas Centres	**US $ 60**

1. **The Foundation Examination will be conducted in Offline, descriptive (Pen & Paper) mode only**. **Each paper will be of 100 marks and for 3 hours duration.**

2. Application Forms for Foundation Examination has to be filled up through online and fees will be accepted through online mode (including Payfee Module of IDBI Bank).

3. STUDENTS OPTING FOR OVERSEAS CENTRES HAVE TO APPLY OFFLINE AND SEND DD ALONGWITH THE FORM.

4. (a) Students can login to the website www.icmai.in and apply online through payment gateway by using Credit/Debit card or Net banking.

   (b) Students can also pay their requisite fee through pay-fee module of IDBI Bank.

5. **Last date for receipt of Examination Application Forms is 10th April, 2019.**

6. Examination Centres: Adipur-Kachchh(Gujarat), Agartala, Agra, Ahmedabad, Akurdi, Allahabad, Asansol, Aurangabad, Bangalore, Baroda, Berhampur(Ganjam), Bhilai, Bhilwara, Bhopal, Bewar City(Rajasthan), Bhubaneswar, Bilaspur, Bokaro, Calicut, Chandigarh, Chennai, Coimbatore, Cuttack, Dehradun, Delhi, Dhanbad, Duliajan (Assam), Durgapur, Ernakulam, Erode, Faridabad, Ghaziabad, Guntur, Guwahati, Haridwar, Hazaribagh, Howrah, Hyderabad, Indore, Jaipur, Jabalpur, Jalandhar, Jammu, Jamshedpur, Jodhpur, Kalyan, Kannur, Kanpur, Kolhapur, Kolkata, Kota, Kottakkal (Malappuram), Kottayam, Lucknow, Ludhiana, Madurai, Mangalore, Mumbai, Mysore, Nagpur, Naihati, Nasik, Nellore, Neyveli, Noida, Palakkad, Panaji (Goa), Patiala, Patna, Pondicherry, Port Blair, Pune, Raipur,Rajahmundry, Ranchi, Rourkela, Salem, Sambalpur, Shillong, Siliguri, Solapur, Srinagar, Surat, Thrissur, Tiruchirapalli,Tirunelveli, Trivandrum, Udaipur, Vapi, Vashi, Vellore, Vijayawada, Vindhyanagar, Waltair and Overseas Centres at Bahrain, Dubai and Muscat.

7. **A candidate who is completing all conditions for appearing the examination as per Regulation will only be allowed to appear for examination.**
8. **Probable date of publication of result**: **23rd August, 2019.**

*** For any examination related query, please contact exam.helpdesk@icmai.in**

L. Gurumurthy
Secretary (Acting)

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
(STATUTORY BODY UNDER AN ACT OF PARLIAMENT)

INTERMEDIATE AND FINAL EXAMINATION TIME TABLE & PROGRAMME – JUNE 2019

	PROGRAMME FOR SYLLABUS 2016			
	ATTENTION: INTERMEDIATE & FINAL EXAMINATION (JUNE – 2019 TERM) WILL BE HELD ON ALTERNATE DATES FOR EACH GROUP.			
Day & Date	INTERMEDIATE (Time: 2.00 P.M. to 5.00 P.M.)		FINAL (Time: 2.00 P.M. to 5.00 P.M.)	
	(Group – I)	**(Group – II)**	**(Group – III)**	**(Group – IV)**
Tuesday, 11th June, 2019	Financial Accounting **(P-05)**	-------------------	Corporate Laws & Compliance **(P-13)**	-------------------
Wednesday, 12th June, 2019	-------------------	Operations Management & Strategic Management **(P-09)**	-------------------	Corporate Financial Reporting **(P-17)**
Thursday, 13th June, 2019	Laws & Ethics **(P-06)**	-------------------	Strategic Financial Management **(P-14)**	-------------------
Friday, 14th June, 2019	-------------------	Cost & Management Accounting and Financial Management **(P-10)**	-------------------	Indirect Tax Laws & Practice **(P-18)**
Saturday, 15th June, 2019	Direct Taxation **(P-07)**	-------------------	Strategic Cost Management – Decision Making **(P-15)**	-------------------
Sunday, 16th June, 2019	-------------------	Indirect Taxation **(P-11)**	-------------------	Cost & Management Audit **(P-19)**
Monday, 17th June, 2019	Cost Accounting **(P-08)**	-------------------	Direct Tax Laws and International Taxation **(P-16)**	-------------------
Tuesday, 18th June, 2019	-------------------	Company Accounts & Audit **(P-12)**	-------------------	Strategic Performance Management and Business Valuation **(P-20)**

EXAMINATION FEES

Group (s)		Final Examination	Intermediate Examination
One Group	(Inland Centres) (Overseas Centres)	₹1400/- US $ 100	₹1200/- US $ 90
Two Groups	(Inland Centres) (Overseas Centres)	₹2800/- US $ 100	₹2400/- US $ 90

1. **Application Forms for Intermediate and Final Examination has to be filled up through online only and fees will be accepted through online mode only (including Payfee Module of IDBI Bank). No Offline form and DD payment will be accepted for domestic candidate.**
2. **STUDENTS OPTING FOR OVERSEAS CENTRES HAVE TO APPLY OFFLINE AND SEND DD ALONGWITH THE FORM.**
3. **(a) Students can login to the website www.icmai.in and apply online through payment gateway by using Credit/Debit card or Net banking.**
   (b) Students can also pay their requisite fee through pay-fee module of IDBI Bank.
4. **Last date for receipt of Examination Application Forms is 10th April, 2019.**
5. **The provisions of direct tax laws and indirect tax laws, as amended by the Finance Act, 2018, including notifications and circulars issued up to 30th November, 2018, are applicable for June, 2019 term of examination for the Subjects Direct Taxation, Indirect Taxation (Intermediate) , Direct Tax laws and International Taxation and Indirect Tax laws & Practice (Final) under Syllabus 2016. The relevant assessment year is 2019-20. For statutory updates and amendments please refer to http://icmai.in/studentswebsite/Syl-2016.php**
6. **Companies (Cost Records and Audit) Rules, 2014 as amended till 30th November, 2018 is applicable for June, 2019 examination for Paper 12- Company Accounts and Audit (Intermediate) and Paper 19-Cost and Management Audit (Final) under Syllabus 2016.**
7. **The provisions of the Companies Act 2013 are applicable for Paper 6- Laws and Ethics (Intermediate) and Paper 13- Corporate Laws and Compliance (Final) under Syllabus 2016 to the extent notified by the Government up to 30th November, 2018 for June, 2019 term of examination.**
8. **For Applicability of IND_AS and amended AS for paper 5 –Financial Accounting and Paper 12-Company Accounts and Audit (Intermediate) and Paper 17-Corporate Financial Reporting (Final) refer to relevant circular in website for June, 2019 term examination. Please refer to http://icmai.in/studentswebsite/Syl-2016.php**
9. **Pension Fund Regulatory and Development Authority Act, 2013 is being included in Paper 6- Laws and Ethics (Intermediate) and Insolvency and Bankruptcy Code 2016 is being included in Paper 13- Corporate Laws and Compliance (Final) under Syllabus 2016 for June,2019 term of examination. For further clarification visit our website www.icmai.in**
10. **Examination Centres: Adipur-Kachchh (Gujarat), Agartala, Agra, Ahmedabad, Akurdi, Allahabad, Asansol, Aurangabad, Bangalore, Baroda, Berhampur (Ganjam), Bhilai, Bhilwara, Bhopal, Bewar City(Rajasthan), Bhubaneswar, Bilaspur, Bokaro, Calicut, Chandigarh, Chennai, Coimbatore, Cuttack, Dehradun, Delhi, Dhanbad, Duliajan (Assam), Durgapur, Ernakulam, Erode, Faridabad, Ghaziabad, Guntur, Guwahati, Haridwar, Hazaribagh, Howrah, Hyderabad, Indore, Jaipur, Jabalpur, Jalandhar, Jammu, Jamshedpur, Jodhpur, Kalyan, Kannur, Kanpur, Kolhapur, Kolkata, Kota, Kottakkal (Malappuram), Kottayam, Lucknow, Ludhiana, Madurai, Mangalore, Mumbai, Mysore, Nagpur, Naihati, Nasik, Nellore, Neyveli, Noida, Palakkad, Panaji (Goa), Patiala, Patna, Pondicherry, Port Blair, Pune, Raipur, Rajahmundry, Ranchi, Rourkela, Salem, Sambalpur, Shillong, Siliguri, Solapur, Srinagar, Surat, Thrissur, Tiruchirapalli, Tirunelveli, Trivandrum, Udaipur, Vapi, Vashi, Vellore, Vijayawada, Vindhyanagar, Waltair and Overseas Centres at Bahrain, Dubai and Muscat.**
11. **A candidate who is fulfilling all conditions specified for appearing in examination will only be allowed to appear for examination.**
12. **Probable date of publication of result: Inter & Final – 23rd August, 2019.**

*** For any examination related query, please contact exam.helpdesk@icmai.in**

L. Gurumurthy
Secretary (Acting)

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