THE JOURNAL FOR CMAs

THE MANAGEMENT ACCOUNTANT

ISSN 0972-3528

May 2019 | VOL 54 | NO. 05 | Pages - 124 | ₹ 100

UGC APPROVED JOURNAL

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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*

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cat.director@icmai.in, pd.director@icmai.in, discipline.director@icmai.in, intlaffairs@icmai.in

Senior Director (Studies, Training & Education Facilities and Placement & Career Counselling, Advanced Studies)
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Director (Membership & Infrastructure)
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membership.director@icmai.in

Additional Director (Public Relation, Delhi Office)
Dr. Giri Ketharaj
pr.hod@icmai.in

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CMA Arunava Ganguly
exam.addldir1@icmai.in

Additional Director (Internal Control and Tax Research)
CMA Rajat Kumar Basu
intcontrol.hod@icmai.in, trd.hod@icmai.in

Additional Director (Research & Studies, Training & Education Facilities and Placement & Career Counselling)
CMA (Dr.) Sumita Chakraborty
research.hod@icmai.in, studies.addldir1@icmai.in

Joint Director (PR Corporate)
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journal.hod@icmai.in

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it.hod@icmai.in

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finance.hod@icmai.in

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cpu.hod@icmai.in

Deputy Director (Admin-HQ, Kolkata)
Ms. Jayati Sinha
admin.hod.Kolkata@icmai.in

Deputy Director (Legal)
Ms. Vibhu Agarwal
legal.hod@icmai.in

Deputy Director (Admin-Delhi)
Ms. Usha Negi
admin.hod@icmai.in

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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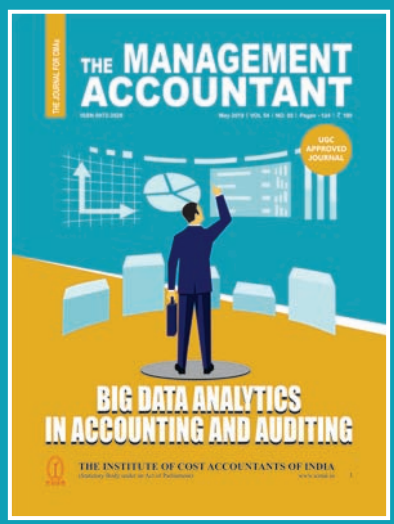

May VOL 54 NO.5 ₹100

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The Management Accountant, official organ of The Institute of Cost Accountants of India, established in 1944 (founder member of IFAC, SAFA and CAPA)

EDITOR - CMA Dr. Debaprosanna Nandy
on behalf of The Institute of Cost Accountants of India, 12, Sudder Street, Kolkata - 700 016, P. S. New Market, West Bengal
e-mail: editor@icmai.in

PRINTER & PUBLISHER - Dr. Ketharaju Siva Venkata Sesha Giri Rao
on behalf of The Institute of Cost Accountants of India, 12, Sudder Street, Kolkata - 700 016, P. S. New Market, West Bengal

PRINTED AT - Spenta Multimedia Pvt. Ltd., Plot 15, 16 & 21/1
Village - Chikhloli, Morivali, MIDC, Ambernath (West), Dist: Thane - 421505
on behalf of The Institute of Cost Accountants of India, 12, Sudder Street, Kolkata - 700 016, P. S. New Market, West Bengal

PUBLISHED FROM - The Institute of Cost Accountants of India, 12, Sudder Street, Kolkata - 700 016, P. S. New Market, West Bengal

CHAIRMAN, JOURNAL & PUBLICATIONS COMMITTEE - CMA Dr. I Ashok

ENQUIRY

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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

The Management Accountant technical data

Periodicity : Monthly
Language : English

Overall Size: - 26.5 cm x 19.5 cm

Subscription
Inland: ₹1,000 p.a or ₹100 for a single copy
Overseas: US$ 150 by airmail

Concessional subscription rates for registered students of the Institute:
₹300 p.a or ₹30 for a single copy

Contacts for Advertisement inquiries:

Mumbai
Rohit Bandekar
rohitb@spentamultimedia.com
+91 99872 79990

Delhi
Vikas Hajela
vikash@spentamultimedia.com
+91 98100 34830

Chennai
Shoba Rebecca
shoba@spentamultimedia.com
+91 98840 55523

Bengaluru
Sandeep Kumar
sandeep@spentamultimedia.com
+91 98868 70671

Kolkata
Pulak Ghosh
pulak@spentamultimedia.com
+91 98313 42496

The Management Accountant Journal is Indexed and Listed at:
- Index Copernicus and J-gate
- Global Impact and Quality factor (2015):0.563
- UGC enlisted journal [Journal No. 42202]

EDITORIAL

Greetings!!!

Big Data Analytics refers to the strategy of analyzing large volumes of data or big data. This big data is gathered from a wide variety of sources including social networks, videos, digital images, sensors and sales transaction records. The aim in analyzing this data is to uncover patterns and connections that might otherwise be invisible and that might provide valuable insights about the users who created it. Through this insight, businesses may be able to gain an edge over their rivals and make superior business decisions.

Big Data Analytics is the process of inspecting, cleaning, transforming, and modeling Big Data to discover and communicate useful information and patterns, suggest conclusions, and support decision making. Big data is high-volume, high-velocity and high-variety information that gets processed and analyzed. It refers to an immense volume of both structured and unstructured data that is aggregated and processed with automated tools or technologies.

This is a combination of Data Management Technologies that have evolved over time. When organisations talk about Big Data they mean, to store, to manage and to manipulate, humungous amounts of structured and unstructured data at the right speed and the right time to get the right insights. It is business analytics that makes it possible for the organisations to connect to their data and use it effectively to identify new opportunities that further leads to a better business environment and create an efficient operations environment, gain higher profits and acquire happy customers.

Companies using Big Data Analytics gain value by Cost Reduction where Cloud-Based Analytics and similar technologies cannot only bring down the cost of storing large amount of data but at the same time can bring about more ways of doing business. Quicker decision making is another key advantage where with the availability of in-memory analytics and ability to analyse the new sources of data, businesses can analyse real-time data and make immediate decisions based on what they have learnt.

Data Analytics can be applied across three key areas. In terms of planning, it can be used for effective risk profiling, the testing of data via simulation and statistical sampling. Data Analytics can also enhance the execution of audits, providing quick and effective monitoring of continuous controls, keeping watch for indications of fraud, recognising patterns to anticipate future risks and control simulation. It can enhance reporting of risk quantification, real-time exception management and root cause investigations to provide better understanding of how to avoid future breaches.

To keep pace in today's increasingly complicated governance and risk management landscape, progressive external audit firms and internal audit functions have started using technology to revolutionize the way audits are conducted. Both internal and external auditors are combining big data and analytics and greater access to detailed industry information to help them better understand the business, identify risks and issues and deliver enhanced quality and coverage while providing more business value.

There are opportunities for Cost and Management Accountants to work with data and data analytic outputs to assess business performance within the framework of accounting principles and methods. They can also use it to identify trends and unusual items requiring further investigation.

The integration of Big Data and Analytics into the audit helps to mitigate compliance and reputational risks and leads to better financial reporting and insights to ultimately drive better decisions and actions within an organization as well as to create strategic value.

This issue presents a good number of articles on the cover story theme *'Big Data Analytics in Accounting and Auditing'* 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: 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

Theme: August 2019

GST Audit: Emerging Scope for CMAs

Subtopics:

- GST Audit - An Overview
- GST Audit and Annual Return - Issues, Approach and Challenges
- GSTR 9C: Enhancement of scope for Professionals like CMAs
- Input Tax Credit Utilization Rules
- Special Audit in GST: Role of CMAs
- GST Audit and its impact on Ease of Doing Business

Theme: September 2019

Cost Governance

Subtopics:

- Concept of Cost Governance
- Cost Governance in Education Sector
- Cost Governance in Society & Economy
- Cost Governance in Industry & Corporate
- Cost Synergy and Cost Consciousness
- Embrace Technology for effective Cost Governance
- Sustainability of Business and Economy through Cost Consciousness
- 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
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PRESIDENT'S COMMUNIQUÉ

"The first step toward success is taken when you refuse to be a captive of the environment in which you first find yourself."

- Mark Caine

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

My Dear Professional Colleagues,

Namaskaar!!!

Judgement of Karnataka High Court

You may be aware that during 2016, the Honorable Karnataka High Court had handed over a landmark judgement in the case of Karnataka State Chartered Accountants Association and others vs. The State of Karnataka, Department of Co-operation and others. The judgement had settled that auditing the Accounts of a Cooperative Society is not the exclusive domain of Chartered Accountants and that the Cost Accountants are competent to carry out auditing work.

The said judgement was subsequently challenged by Karnataka State Chartered Accountants Association before the higher bench of Karnataka High Court. The Hon. High Court, in its judgement dated 3rd April 2019, has now ruled that they do not find any ground to interfere with the order of the learned single judge. Also since the question of law has also been answered in another judgement, the court did not find it necessary to advert to the contentions canvassed. Accordingly the appeal is dismissed.

National Students Convocation

I am happy to share that the Institute is organising its National Students Convocation – 2019 on 15th May, 2019 at Kolkata. Eminent dignitaries are expected to grace the occasion from various Universities. CMDs from PSUs/ Corporate besides other eminent personalities including academicians, corporate people, newly qualified CMAs and students of the Institute from the various parts of the country are also expected to attend.

Cost Governance Week

We will be celebrating the week 22-28 May 2019 as **"Cost Governance Week"**. I request all the Regions and Chapters to conduct maximum Seminars / Round-table discussions / Workshops on this topic during the week. 28th May being Institute's Foundation day, we may conclude the week with Mega Cost Governance and Awareness programs.

16th National Awards for Excellence in Cost Management-2018

It gives me immense pleasure to invite companies to participate in 16th National Awards for Excellence in Cost Management-2018. For facilitating participation, a Questionnaire is to be filled (available at https://icmai.in/icmai/award.php) and send along with the annual reports either through email to *ecma@icmai.in* or hard copy by post so as to reach the Institute latest by May 15, 2019. The information received will be kept strictly confidential. This year's questionnaire has been revised to make it compact and concise on the recommendation of the previous Jury. Awards will be given in various categories to the participating organisations in Manufacturing and Service Sectors as per the guidelines appearing in the Questionnaire.

We are happy to inform you that the responses to the Questionnaire will be evaluated by an independent rating agency (CARE Ratings Ltd.) and reviewed by an expert Screening Committee headed by CMA Vivekanand, Director (Finance), ONGC Videsh Limited. Recipients of awards under various categories would be selected by a Jury comprising of persons of eminence from Judiciary, Industry, Government, and CMA Profession. The national awards shall be presented in a widely publicised gala ceremony to be held in New Delhi in the presence of an august gathering

of corporates and professionals from across the sectors. We are eagerly looking forward to active participation in the 16th National Awards.

First Meeting of Committee on BRR

I am pleased to share that representatives from the Institute attended a meeting chaired by Shri. Gyaneshwar Kumar Singh, Joint Secretary, Ministry of Corporate Affairs to review the working of the sub- Committee of Business Responsibility Reporting (BRR) and to customize formats from the First Draft of the BRR Format for different classes of companies, viz. listed, unlisted, MSMEs, etc. on 9th April 2019 at Shastri Bhawan, New Delhi.

Roundtable on "Investment Protection @ Investor Awareness: Stakeholders' Perspectives and Way Forward"

I am pleased to inform that Institute's representative attended the roundtable on "Investment Protection @ Investor Awareness: Stakeholders' Perspectives and Way Forward" organized by Indian Institute of Corporate Affairs (IICA) on 26th April 2019 at India Habitat Centre, New Delhi to validate the findings and to discuss on the recommendations of the nationwide survey conducted by IICA with the objective to assess the needs of investors, developing communication material and increasing awareness among investors.

To apprise all the members of the activities / initiatives undertaken by the Departments/ Directorates of the Institute, I now present a brief summary of the activities.

International Affairs Department

- SAFA meetings and events at Kathmandu, Nepal

  I am pleased to share that the representatives from the Institute attended the SAFA meetings and events organized by the Institute of Chartered Accountants of Nepal during 4th to 6th April, 2019. SAFA International Conference on "Enabling Business Environment for Economic Development" was held on 4th April, 2019, SAFA Committee meetings on 5th April, 2019 and 58th SAFA Board meeting on 6th April 2019 at Hotel Radisson, Kathmandu, Nepal.

- Inauguration of Singapore Overseas Center of Cost Accountants

  I am very pleased to share that the Institute has opened its 10th Overseas Centre at Singapore. The center was inaugurated on 13th April 2019 at Singapore in the presence of H.E. Jawed Ashraf, High Commissioner of India to Singapore. During the inauguration event of the Singapore Overseas Center of Cost Accountants, a panel discussion on "Role of Cost & Management Accounting in Today's Economy" and session on "CMAs: Challenges & Opportunities", "CMAs Global Collaboration" and "AI: its impact on business & management Accounting were also organized. I convey my sincere gratitude to all the speakers and participants for making the event a grand success. I hope that the new center will take care of the interest of members and support the development of the profession of Cost and Management Accounting in the region.

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

I am happy to inform that the Insolvency Professional Agency of the Institute organized various Round table Interactions, workshops and webinars during the month on:

- Interactive session on Insolvency and Bankruptcy Code on 11th April, 2019 at Delhi.
- Knowledge Forum on IBC jointly with NeSL on 15th April, 2019 at Bangalore.
- Webinar on Use of Information Utility services under CIRP on 18 April 2019 at Delhi.
- Webinar on Valuation Mergers and Acquisition by Mr. Ram Mohan Bhave on 24 April 2019 at Mumbai.
- 17th Batch of Pre-Registration Educational Course Jointly Conducted by 3 IPA at Ahmedabad from 29th April, 2019- 5th May, 2019.
- Preparatory Educational Course for Limited Insolvency Exam from 6th April, 2019 at New Delhi.

Membership Department

I heartily congratulate and welcome all the new 209 Associate members who were granted membership and 35 members who were advanced to Fellowship during the month of April 2019.

Members are kindly aware that membership and COP renewal fees have become due on and from 1st April 2019 for the FY 2019-20. I call upon all members to take full advantage of the Members Online System to keep their dues and status updated and continue to enjoy the benefits

of membership. COP holders who are desirous of renewal of COP for 2019-20 but have shortfall of required and mandated CEP hours for 2018-19 (Block 2018-21) will be happy to note that they can now make good such shortfall by attending CEP bearing webinars and programs till 31st July 2019, provided they apply for renewal with payment of fees latest by 30th June 2019.

Placement Directorate

I am glad to share that CMA Campus Placement Program (1st phase) for December 2018 term Final qualified CMAs have been conducted by the Placement Directorate of the Institute successfully across India. 26 Companies visited in the Campus Placement Drive throughout India and more than 160 qualified CMAs have already been placed in various reputed organizations during 1st Phase of Campus Drive. The companies that participated in CMA Campus Placement Program April 2019 include Oil and Natural Gas Corporation (ONGC), Steel Authority of India, Rashtriya Ispat Nigam Ltd, ITC Foods, ITC Hotels, Capgemini, Accenture, Nestle, Ford Motors, ITC Ltd-Paperboards & Specialty Papers Division, CITCO, Reliance Industries Limited, Hero Moto Corporation, HUL, Karur Vysya Bank, Farida Group, ABB India Ltd, Federal Bank, GODREJ, Saint-Gobain, GST SUBHIDHA, WIPRO, Kalpataru Power Transmission Ltd., RSM Astute Consulting Group, Electrosteel, Tax Connect, H-Garb Informatix Private Limited. I am confident that CMAs successfully placed through these campus placement drives, would positively contribute towards the growth and prosperity of the respective organizations and raise the stature of our profession throughout their professional carrier.

Professional Development and CPD Committee

I am pleased to inform you that on the Institutes representation, CSIR- Indian Institute of Petroleum Dehradun included Cost Accountants for GST and Other taxation work, Bharat Heavy Electricals Limited (BHEL) Bhopal issued Corrigendum and included Cost Accountants for appointment as Auditors for Stock Verification and Stock Holding Document Management Services Ltd. included Cost Accountants for Internal Audit and issued corrigendum of Tender notice.

Kolkata Port Trust, Bharat Pumps and Compressors Limited (BPCL), UCO Bank, Bharat Heavy Electricals Limited (BHEL) Bhopal, Telecom Regulatory Authority of India (TRAI) , Mother Dairy Calcutta, Bureau of Indian Standards Mohali, Jammu & Kashmir Bank Limited, Gurugram Metropolitan City Bus Limited, India Trade Promotion Organisation (ITPO), National Fertilizers Limited, CSIR- Indian Institute of Petroleum Dehradun etc., have included Cost Accountants in their Tenders/EOIs during the month of April 2019.

The Institute was associated with PHD Chamber of Commerce & Industry for conducting Conclave on "Practical aspects of GST Annual Return (GSTR-9) and how to fill up the form clause by clause" on 12th April 2019.

Regional Councils and Chapters organized 15 programs, seminars and discussions on the topics of professional relevance and importance for the members such as, GST Annual Return & Audit, Anti-Dumping Duty with formats, Insight to the Assessment of Income Tax & Insight to Appeal of Income Tax, Workshop on Input Tax Credit and so on. I hope our members will be immensely benefited with these programs.

Taxation Committee

I would like to start by congratulating the successful candidates of 3rd Batch GST Course examination conducted on the 21st of April, 2019. Around 70% of the candidates who appeared for the examination were able to clear it. Congratulations to all. The classes and learning of Certificate Course on TDS and Certificate Course on Return Filing have also commenced and is undergoing successfully. Classes of Advanced Certificate Course on GST are also going on in full swing. It makes me happy to note that the department has planned and prepared for a Crash Course on GST for Students of College & Universities and it will be launched very shortly in a reputed college in Bangalore. Kudos to the team. In the regular activities, the 37th & 38th Tax Bulletins have also been published. I look forward to more knowledge contributions by the department.

I wish prosperity and happiness to members, students and their family on the occasion of Guru Rabindranath's Birthday, Buddha Purnima & Jamat-Ul-Vida and pray for the success in all of their endeavors.

Wish you a happy foundation day of our Institute.

Thanking you!!!

Warm Regards,

CMA Amit A. Apte
1st May 2019

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

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Dear Professional Colleagues,

Greetings from the Institute!

This is to inform that Professional Development Directorate has brought out three publications and are available for sale. The details are as under:

Sl.No.	Name of the Publication	Abstract	Cost of Publication
1	Guidance Note on Special Economic Zone (First Edition: December 2018)	A comprehensive Guidance Note that provides guidance with regards to half yearly certificate regarding utilization of goods and services to be submitted by the developer and also provide insights of general framework of the Special Economic Zone and specific issues which are peculiar to SEZ	**Rs 300/- per copy** To get book by courier Rs. 400/- (Rs.300/-Cost of publication + Rs. 100/- towards courier charges)
2	Guidance Note on Corporate Insolvency Resolution Process (First Edition: January 2019)	A comprehensive Guidance Note Corporate Insolvency Resolution Process which covered all the topics that are useful for the practicing Cost Accountants to know the complete about the CIRP	**Rs 300/- per copy** To get book by courier Rs. 400/- (Rs.300/-Cost of publication + Rs. 100/- towards courier charges)
3	Guidance Note on Electricals and Electronics Industry First Edition: (January 2019	A comprehensive Guidance Note on Electricals and Electronics Industry which covered all the topics that are useful for the practicing Cost Accountants to know the complete about the Industry	**Rs 150/- per copy** To get book by courier Rs. 250/- (Rs.150/-Cost of publication + Rs. 100/- towards courier charges)

These publications can be purchased by sending Demand Draft in favour of "The Institute of Cost Accountants of India" payable at New Delhi to the Professional Development Directorate, CMA Bhawan, 3, Institutional Area, Lodhi Road-110003 or by NEFT/ ECS payment in the Institute Account. Details of ECS Payment : Bank Name: State Bank of India, Lodhi Road Branch, New Delhi-110003

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CMA S C Gupta
Sr. Director (Professional Development)

BIG DATA IN FINANCE

CMA (Dr.) Jayanta Kumar Seal
Associate Professor
Indian Institute of Foreign Trade
Kolkata

Abstract

Finance has always been a data driven subject with financial institutions like banks, insurance companies, mutual funds, credit rating agencies as well as regulators are collecting and analyzing huge amount of data for taking meaningful decisions. Undoubtedly, the application of big data together with technology sophisticated analytics has brought a new dimension in the financial markets as well as in different financial services and seems to bring further changes in the near future

Dr. Pulak Ghosh
Professor
Indian Institute of Management
Bangalore

Background: Big Data- A new competitive advantage

We are living in the era of creating huge data every minute through digital channel and various other means touching every aspects of human life. It has been observed that the cumulative rate of generating data during last two yearshasfar exceeded the rate during the last century. McKinsey & Co. foresees that the society is "on the cusp of a tremendous wave of innovation, productivity and growth as well as new modes of competition and value capture- all driven by big data". Big data is an evolving term that can be defined as a voluminous amount of structured, semi-structured and un-structured data mined, for insight. The founder of Predictive Analytics, Eric Siegel, estimated that our average daily accumulation of data is around 2.5 quintillion bytes data. Another important character of the "datafication", as Viktor Mayor-Schonborge and Kenneth Cukiernamed it, is that "Data can

frequently be collected passively, without much effort or even awareness on the part of those being recorded".

The insight that big data brings is not always the largeness of the data, but also the use of proxy data that helps to make decisions on issues for which one may not have the data needed. Therefore, it reflects both a challenge and an opportunity. The challenge is how to harness voluminous data and how to find proxy data. The better an organization merges and uses these disparate sources of information the faster they are in understanding the business and insight.

This new discipline "Big Data" is still emerging and is a fusion of Statistics, Economics, Mathematics and other domain areas. Some of the challenges that researchers across the globe are facing, are related to the data deluge in general and in particular pertaining to Fundamental Science, Computational Biology, Bioinformatics & Medicine, Economics & Econometrics, GIS and Remote Sensing, Cognitive Science, Mathematical Sciences, Statistical data, Social Media, Smart City and Internet of Things among the few. Every day, different organizations (starting from health to finance to smart city) churn out a burgeoning volume of transactional data, capturing trillions of bytes of information about their customers, suppliers, and operations. Millions of networked sensors are being embedded in the physical world in devices such as mobile phones, smart energy meters, automobiles, and industrial machines that sense, create, and communicate data in the age of internet of things. While the scientific community have long been leaders in generating and using large data sets, the emergence of e-commerce, mobile data, social data and massive search engines has led other sectors to confront the challenges of big data. Mining these massive data sets is transforming the way we think about crisis response, marketing, entertainment, cybersecurity, national intelligence etc. It is also transforming our thoughts on information storage and retrieval. Collection of documents, images, videos and networks are thought of not merely as bit strings to be stored, indexed, and retrieved, but as potential sources of discovery and knowledge, requiring sophisticated analysis techniques that helps to find relational and semantic interpretations of the phenomena underlying the data.

While the field is in its nascent stage, there is a strong evidence that big data can play significant role to the benefit of national economics and its citizens, along with social value creation. As reported by NASSCOM and CRISIL Global Research and Analytics, global market will reach $53.4 billion by 2019; whereas the Indian industry in big data will reach $2.3 billion by the end of 2018-19.

This amount of immense data and increasing technology complexity are gradually transforming the ways of carrying out a research in every field. Analyses of the information contained in the big data has already led to major insight into various fields namely development economics, retail banks, hedge funds, mutual funds, consumer behavior etc.

What is Big Data

The term big data can have different definitions. As different stakeholders look at big data from a varied range of perspectives; it is not easy to have a precise definition. However, in a broad sense, big data can be defined as large data sets that require supercomputers to collate, process and analyse to draw meaningful conclusions.

Francis Diebold was perhaps the first to use the term 'Big Data' in 2003 for the current phenomenon or explosive growth of data. He stated that"Recently much good science, whether physical, biological, or social, has been forced to confront—and has often benefited from—the big data phenomenon. Big data refers to the explosion in the quantity (and sometimes, quality) of available and potentially relevant data, largely the result of recent and unprecedented advancements in data recording and storage technology".

Basically it is a collection of very large and complex data sets which are not possible to process with traditional data processing applications. Some experts believe that it is a combination of different 'V's.

- **Volume:**The data generated, stored and used are much more than what it was earlier.
- **Variety:**The data can be generated from multiple sources apart from the conventional data sources. For example social media is an important source of data generation and used for different purposes.
- **Velocity:**One can use data on a real time basis through mobile telephony, CCTVs, online transactions etc. Therefore, the speed of data generation is tremendous.
- **Veracity/Validity:**Multiple data sources along with mechanization of data capturing, resulted inincreasedauthenticity of data.
- **Value:**As there are multiple users of the same data

sets, it is worthwhile to capture and store the huge data.

- **Variability:**With sequential and multi-dimensional data there can be substantial variance at different sub-set levels.

- **Venue:**There are several data sources and data warehouses with different purposes and different formats.

- **Vocabulary:**There are newer definitions, terms and concepts used at present compared to thoseused earlier.

- **Vagueness:**The new terms and definitions are also creating confusion about the meaning of big data.

Boyd and Crawford define big data as a cultural, technological and scholarly phenomenon that encompasses a closely intertwined amalgam of technology, analysis and mythology, wherein technologyincludes computing power, algorithms, analytical tools and techniques, databases, and data warehouses; analysis refers to identification of patterns for making claims about the phenomenon being analysed; and mythology refers to the belief that bigger data sets can help in achieving higher form of intelligence and knowledge with the aura of truth, objectivity and accuracy.

Application in finance

Finance as a topic has intensively beendata driven, with financial institutions collecting and analysing large quantities of customer data and drawing insight in various areas. Big data today is fast becoming a must have skill for finance professionals, the reason beingthe job of a finance professional has changed from checking of accounts, preparation of budgets and analyzing the variances to a multi-dimensional level where they need to come out with new financial products to suit the need and preference of the consumer as well as the market. Financial decisions, therefore, are now data driven and not based on human judgement.

At present, big data ismostly used by the companies engaged in financial services like banks, mutual funds, insurance companies and credit rating agencies. The application of big data analytics has helped the fund managers to improve their investment decisions on generating a higher and consistent return. Traders maximize their return through algorithmic trading by using big data.

Undoubtedly, the application of big data has brought changes in the financial markets as well as in different financial services and seems to bring further changes in the near future. The regulators are also using big data in order to prevent fraud and financial crisis.

Some of the interesting applications ofbig data are:

- **Increase in revenue:** Banks and other financial service providers are designing their products, identifying their customers, launching products, and targeting areas of improvising by using data analytics to help financial institutions increase their revenues.

- **Increasing customer commitment and reliability:** Serving the right product at the right time to the right customer is the key to success in today's complex and competitive business environment. Banks and financial institutions are using the data accumulated by them to understand the need and behavior of the customer. They are investing heavily on making profit out of these unstructured data which were not worked upon till recent present.

Big data is mining information. The financial institutions are now analysing the spending and investment behaviour of their customers, their default history and so on. The information extracted help them to have a better relationship with their customers.

- **Optimizing Assets and risk mitigation:**Big data has enabled the banks and several financial institutions to have prior information on default risk, probability of default by the customers, possible interest rate, market conditions etc. before taking decisions on optimizing assets and risk mitigation.

- **Commercial Banks:** Big data analytics in commercial banks is moving more towards analysing unstructured data and mapping it alongside a structured data to get a holistic view of customers and build a real-time recommender system to predict their next moves. In the age of digital consumerism, financial institutions are taking a deep dive into an incredibly rich big data,which can be utilized in several ways, for instance: personalized offers made by banks. Personalization in the era of digital banking is of single most importance to maximize their profitability. There has been a growing trend of commercial banks developing and using real-time recommender systems. For example, a customer receiving a promotional SMS offering

discount for buying movie tickets using the bank's credit card; receiving a message in his/her mobile saying that his/her coffee time is coming up, or that he/she could use accumulated points on his/her credit card. Would customer not be pleasantly surprised if on a visit abroad, the customer receives an SMS from his/her bank informing about the nearest ATMs? Even more surprising, will it be if within a few hours of arriving he/she is contacted by the local branch of his/her bank asking for any help they can provide. Such is the power of analytics. To take advantage of and understand the next likely move of the customers, it is important that recommendations be sent to the right person at the right time.

However, perfecting these real-time recommendations is not easy and requires combined use of advanced statistical methods and machine learning algorithms. While distributed computing through Hadoop is becoming more mainstream for banks, expertising in some of the most advanced models likevariationalbayes methods, alternating direction method of multipliers and parallel matrix factorization, that will provide banks an edge in effectively retaining existing customers and increasing revenue.

What seems to be the need of the hour is merging several strands of information across systems such as data from customer relationship management, portfolio, loan, debit, credit card etc., and mapping them on a seamless 360-degree view of customers. Customer analytics is the most powerful device for banks. Research by McKinsey shows that banks with advanced capability of using customer analytics have a four to six percentage point lead in market share over banks who do not. The immediate areas where banks can leverage the value of big data analytics and maximize value are customer retention, market share growth, discovering potential affluent customers, selling the next best product pricing of products and increasing lead generation potential among others.

- **Central Banks and regulators:** Pick up the analyst interaction (even the Technical Advisory Committee minutes) with the Reserve Bank of India governor and you will find that after every policy announcement, there is at least one question regarding consumer inflationary expectations. Herein lies the role of 'Big Data' to unravel the mystery of deciphering such expectations accurately. Technically, big data refers to large volumes of structured and unstructured data and can be a combination of digital information on both, derived from the consumer interaction through web applications, social networks, sensors, etc, that can be used in facilitating policy decisions for banks (including central banks). The Billion Prices Project (BPP) at the Massachusetts Institute of Technology, led by professor Alberto Cavallo, took the internet's help to gather dataon inflation from online stores. Cavallo wrote a computer programme that scanned websites' HTML codes, and found out all the prices of all the online goods. The estimates derived through the internet were closely accurate to the ones produced by the statistical offices in US. The project now gives prices of about half-a-million products per day and while the Government Bureau in US comes out with the monthly inflation numbers, the BPP gives the daily inflation rate. Imagine the RBI using similar algorithms to scan retail inflation data on a daily (published by the ministry of consumer affairs) as well as weekly basis (Directorate of Economics & Statistics) and juxtaposing the same with the data from the supermarkets to generate an inflationary expectation index on a daily basis in advance. Such online data on prices will be of very high frequency, available almost in real time. It will have detailed information on product consumption and will thereby give greater improved forecasting abilities to the RBI.

Big data is helping Bank of Japan to have more accurate economic forecasts. The Cabinet Office of Japan back in 2013 had proposed a newand broader composite index of economic indicators that would be updated daily or weekly, instead of monthly as is the case at present. Such an index would ideally use big data including online search data and records from supermarket for vegetable prices. In a similar vein, the bank's prediction of GDP in mid-February was 1%, quite low as compared to the market expectation of 2.75%, but the bank's prediction using big data came out to be right. ECB too uses big data in its economic assessment and who knows that such an assessment may result in the ECB going ahead with such a massive QE.

For India, existing monthly indicators combined with big data (starting from digitisation of corporate ledgers, micro-level administrative data etc.) may be used to predict GDP growth even before CSO data are released. Big data can really be helpful in understanding and predicting real estate demand and prices. Assessment of these markets can be done in real time through the data from internet searches. The data from online money transfer, such as NEFT and RTGS, is huge in volume. A proper and timely analysis of this data can help in understanding bank intraday liquidity management, possible adjustments to

retail and consumption data as well as forming clusters of money movement within India. Another potential use is to understand the labour market using mobile phones. Call data records can track population movement or migration patterns in response to labour market shocks and give an insight into the dynamics of internal migration in low-income economies. While big data may be a new kid to central banks, it has already made inroads in to the commercial banks. While 60% of financial institutions in North America believe that such analytics offer a significant competitive advantage, 90% of them think that successful big data initiatives will define the winners in the near future. The next decade will possibly be experiencing "digital consumers". Big data analytics is a must for achieving greater penetration and deeper understanding of these customers. Be it customer targeting, cross-sell or up-sell, customer acquisition or customer management, Big data will play a big role in India's commercial banks today, particularly the larger ones. While this is all hard to replicate asit-is in India, RBI should put some thinking into creating these kinds of real-time indices to gain a better insight into policy decisions.

- **Finncial Fraud:** Financial frauds can be prevented using big data. Banks can intimate their customers as soon as they find any suspicious transactions. There are many financial frauds in credit card transactions, insurances etc. in the recent times. By analyzing data, they can prevent financial fraud and build up a strong and robust financial system which is necessary to earn investor's confidence. In fact most banks have already implemented data analytics to prevent frauds. Unusual transactions are reported to the customers immediately by many banks.Many a times the fraudsters follow some indicative patterns for attacking customers. The financial institutions can track those indicative patterns to prevent the same.However, at present the pattern of financial frauds are different. They use sophisticated techniques wheresimple monitoring techniques would not besufficient to prevent these frauds. They require sophisticated analysis to track the commonalities of fraudulent transactions in order to prevent the future financial frauds.

- **Algorithmic Trading:**The latest trend in the market is algorithmic trading, which has become possible with automated trading along with big data. Algorithmic trading is executed with speed and frequency which would not be possible without the help of sophisticated computers and programming along with big data. It helps the trader to execute trade at the best possible price which maximises the profit of the trader. News analytic software, which works on the basis of real time data is also used extensively by the traders today. Experts also use the data to back test their previous strategies in order to improve their future decisions.

Banks and financial institutions (both private sector as well as public sector) also use Robo advisory services which work on big data. This service requires minimum human interaction but works on the basis of massive analysis and processing of data.

- **Hedge Fund:** Large hedge fund companies are embracing big data, mainly in two ways:(a)By finding all possible predictors that can possibly effect a hedge fund return. Previous methods would have chosen few among many such predictors and then predict the return, as dealing with a large number of predictors would get into the trap of large "n" (sample size) and small "p" (predictors). For a regression to have a consistent estimation, one would need the "n" to be way larger than "p". Thus, one would need to find the predictors in such way that the dimension is small and they are important for predicting return. To solve these sorts of variables, researchers have to solve two distinct problems: identification and estimation. First, they have to identify a subset of candidate predictors, followed by estimating the quality of those predictors. However, in a big data era, one can use all possible predictors along with their interaction terms, resulting in a situation of large "p" and small "n". This is what we call high-dimensional regressions. Researchers are using the state-of-the art shrinkage methods to solve this problem and getting better prediction of returns as they are using more information by having lot more predictors. (b) The second big use of big data in this field is the use of proxy data. UBS investment predicted the quarterly earnings of Walmart in 2010 with the help of satellite data. The analysts in UBS counted the number of cars at Walmart's parking lot every month through satellite imagery. By cross-referencing the same with the unemployment figure, UBS investment firm could estimate Walmart's revenue more accurately. After the announcement of this prediction by UBS, more and more hedge funds are using this concept satellite imagery. As more firms are using the data, the cost of data has also reduced substantially. The importance of satellite imagery in case of hedge funds is to assess the risk of investing in mines, ports, plantations or farmland. This made data analytics a new tool for the hedge funds to

earn excess returns.

- **Financial Technology (FinTech):** Financial Technology refers to any kind of innovation of financial transactions with the help of technology. Major expansion of fintech happened in "lending business". To mention a few, millennials with zero credit history can now have their own credit score! Usually, millennials come across hurdles in getting quick loans from banks as they are yet to develop a credit score. However, new age fintech lending companies are crossing that hurdle by accessing extra data through mobile call logs, social media etc.andapplying big data machine learning algorithm to extract information on understanding the behaviour of the customer with much more accuracy.

- **Robo Advising:** Most investors would benefit by holding a diversified portfolio. However, financial planners who can efficiently develop a diversified portfolio and generate better returns would only be afforded by few rich individual. However, large asset management companies are using therobo advising concept coupled with machine learning to make the financial planning cheaper for the middle class income sections to afford it. A fintechrobo-advising tool would deliver diversified advice to individual investors and does not require the intervention of human advisers. The robo-advising is an automated portfolio optimizer usually available through a mobile app. The tool uses Markowitz mean-variance optimization to construct optimal portfolio weights based on historical data and modern techniques such as machine learning and short-selling constraints. Usually, robo advising is flexible as to allow investors rebalance current portfolios and add extra stocks from a set of stocks. Most importantly, the tool incorporates simplified trade execution, whereinvestors may only need to click few buttons.

Challenges

The biggest challenge of using big data in financial services industry is data privacy. One can extract personal information of the investors, including their investment decisions through social media.

Another significant challenge is to analyse the unstructured data accurately. As the volume of data is huge, it requires sophisticated techniques to be analysed with, in order to get accurate results. Modern techniques like machine learning, artificial intelligence and block chain technology are sophisticated tools which require expertise knowledge to work with.

Conclusions

Big data has brought a new dimension in various industries particularly in the financial sectors. In order to survive the competitive world, businesses are forced to use big data. The companies are coming out with newer products, complex trading strategies, innovative methods of payment and disbursement of loans etc. They have also reduced the involvement of human emotion and biases by using automation. Alongside complex algorithms can distort the market and hence has its own challenges. Big data together with technology,sophisticated analytics and machine learning techniques helping the business enterprises to supplement human instincts and experience better decision making and gain a competitive edge. MA

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jseal@iift.edu

BIG DATA ANALYTICS: THE NEXT BIG THING

CMA Dheeraj Kumar Pradhan
Senior Finance & Accounts Officer
ONGC Uran Plant
Mumbai

Abstract

We are living in a connected world, where loads of data is being generated every second. With digitization and growth of internet, the data to be dealt with has become not only humongous, but it is getting generated at a pace which is unimaginable and coming from innumerable sources. This data is aptly called as 'Big Data'. Big Data Analytics, by using advanced analytical techniques, aims to provide valuable insights out of Big Data to facilitate decision making. The present paper attempts to understand the concept of Big Data and Analytics and how it is impacting our life as it has entered into various fields.

Background

Decision-making is an integral part of the functioning of anorganization. A number of decisions are required to be taken by managers from time to time. The process of decision making starts with the identification of a problem. The next step is to search for alternatives to solve the problem. Now, some information is required,to evaluate the relative worth of the alternatives so that the best one is selected for action.

Some basic data in the form of facts, figures, numbers etc. is collected, which when analyzed and put into some context is termed as information. Even for the smallest of problems, we require a little information to proceed with. The bigger the problem, the bigger will be the decision, having bigger implications, and bigger will be the data which is to be collected. The 'Big Data' thus, has a crucial role in the decision making.

The term 'Big' in Big Data does not indicate volume only. In fact, it is much bigger than that.

Introduction

In recent years, some new concepts are emerging in the spectrum of our knowledge. Two of such concepts are Artificial Intelligence and Big Data. These two concepts may be viewed as poles apart. Anything related to data seems to be'old school', as people are dealing with data collection and analysis since ages. Artificial Intelligence (AI), on the other hand sounds a very fancy term, which appears to have jumped straight out of a Hollywood science fiction movie. However, going a little deep into both the concepts, there seems to be a close relationship. When the data to be dealt with, grows bigger and complex, advanced analytical techniques with some sort of automation is required, eventually leading to the 'highway' of AI. Similarly, AI also requires some data to function or to process as input for completion of a task or achievement of a desired outcome. We can say that data, more precisely 'Big Data', being the starting point, takes precedence and all the modern technologies are being built on or around it.

Big Data

The most widely used definition of Big Data is given by Gartner (2012):

"Big Data is high-volume, high velocity and/or high variety information assets that demand cost-effective, innovative forms of information processing that enable enhanced insight, decision making and process automation."

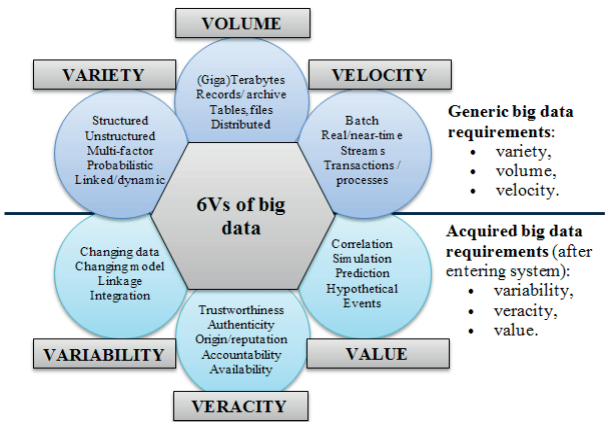
Big Data involves huge and complex data volumes that are beyond the capacity of traditional data processing applications.

Gartner's definition has emphasized on three important and distinct features of Big Data which are known as three Vs:

1. Volume: Big data involves large amounts of data with sizes of terabytes and zetabytes.
2. Velocity: The speed at which data is coming and getting refreshed is enormous.Often, the time frame to act on the basis of these data streams is very short.
3. Variety: Data is coming from different data sources, both internal and external and in various formats such as structured, semi-structured and unstructured.

There are 3 other Vs of Big Data namely Variability, Veracity and Value, which when added to Gartner's 3 Vs, gives us 6 Vs of Big Data.

Figure 1: Six Vs of Big Data, Image Credit -Yuri Demchenko



How Much Data is Created

The amount of data that is being produced every day is truly astonishing. Over the last two years alone, 90 percent of the data in the world is generated.

The internet has contributed further to this ever increasing Big Data bandwagon. Every time we turn our search engines on, we are adding to the existing data stockpile, which is huge already. Mobile phones contribute tohalf of the web searches conducted. There are around 3.7 billion internet users worldwide in 2018, up by 7.5 percent from 2016. Google processes 40,000 searches every second and that equates to 3.5 billion per day. Three-fourths of the searches are conducted by Google alone and rest by other search engines. Worldwide, there are 5 billion searches per day.

Domo's Data Never Sleeps 6.0 Report (2018)presents some interesting 'per minute' figures about social media:

- Snapchat users share 2,083,333 snaps
- More than 120 professional join LinkedIn
- Users watch 4,333,560 YouTube videos
- 473,400 tweets are sent on twitter
- Instagram users post 49,380 photos

With over 2 billion active users, Facebook is largest social media platform. Some Facebook statistics:

- 1.52 billion daily active users

- India is ranked 1st with 300 million users on Facebook
- Five new Facebook profiles created every second
- More than 300 million photos get uploaded daily
- 510,000 comments posted and 293,000 status updates, every minute

The data is growing bigger and bigger. Having so much data around, advanced analytical techniques can help in gaining some valuable insights out of it for making effective decisions.

Big Data Analytics

Big Data Analytics is the often complex process of examining large and varied data set- or Big Data- to uncover information including hidden patterns, unknown correlations, market trends and customer preferences that can help organizations make informed decisions. Big Data Analytics is driven by specialized analytics systems and software, as well as high-powered computing systems, and offers various business benefits including revenue opportunities, effective marketing, better customer service, improved operational efficiency and competitive advantage.

Big Data Analytics deal with big data of varied nature which can be broadly categorized as follows:

Structured Data Sets

Any data that can be stored, accessed and processed in the form of fixed format is termed as a 'structured' data. It can be used in its original form to derive results. Examples include employee salary records, phone numbers, product names and numbers etc.

Unstructured Data Sets

This type of data is without any proper formatting and alignment. Examples include texts files, search results, images, videos etc. It will require more processing power and time for conversion into structured data to derive some results.

Semi Structured Data Sets

These are the combination of both structured and unstructured data. These data sets might have a proper structure and yet lack defining element for sorting and processing. Example is data presented in an XML file.

Big Data Analytics Technologies and Tools

There are many open source Big Data tools for Big Data processing and. Here are some important big data tools:

a) Hadoop

Hadoop is an open-source software framework which can process large data sets. It allows distributed processing of large data sets across clusters of computers. It is designed to scale up from single servers to thousands of machines. Furthermore, it can run on a cloud infrastructure.

b) Apache Spark

Apache Spark is a powerful open source big data analytics tool. It offers over 80 high-level operators that make it easy to build parallel apps. It is used at a wide range of organizations to process large datasets. It handles both batch data and real-time data.

c) Apache Strom

Storm is a free and open source big data computation system which provides real-time stream data processing instead of batch data processing.

d) Apache Cassandra

Apache Cassandra is a distributed type database to manage a large set of data across the servers to process structured data sets. It does not follow master-slave architecture, and all nodes play the same role. It can handle numerous concurrent users

e) Microsoft HDInsight

HDInsight is a Spark and Hadoop service in the cloud. It provides an enterprise-scale cluster for the organization to run their big data workloads.

f) Tableau Public

It offers intriguing insights through data visualization,which can be embedded into blogs and shared through email or social media, which can be made available for downloads.

Business use of Big Data

There is a strong case for the use of Big Data Analytics in field of business. Some of the uses are:

1. Churn Modeling

Switching of customers from one company to another is called 'Churn'. Attracting new customer is much more expensive than retaining old ones. Hence, companies invest substantially to develop a churn model. The model identifies the customers at the risk of churning and efforts are made to retain them.

2. Recommender System

Recommender system works on the basis of user activity on a specific website or application. Shopping sites like

Amazon and Flipkart recommend purchase of items on the basis of previous purchase. Similarly, there are music recommendations on Wynk, video recommendations on YouTube, movie recommendations on Netflix and news recommendations on news portals.

3. Sentiment Analysis

Sentiment analysis is done on the data collected from Internet and social media. Many marketing decisions are based on customer sentiments. Political parties and governments are also considering social sentiments as a valuable resource for devising their strategies and programmes. The general direction of opinions across a large number of people can be observedto know what the market is saying, thinking and feeling about the organization.

Application of Big Data in Real Life

We are living in an era where almost every aspect of our life is digitized. Technological progress has ensured that the huge volume of data that is getting generated every second is duly captured and is accessible at ease. Big data analytics offers an ocean of opportunities in any sphere of activity. It has already made its presence felt in sectors like education, healthcare, media etc.

Figure 2: Big Data Applications in Real life

1. Education Sector

A huge amount of data relating to students, faculties, courses, results etc.is generated in the education sector. A proper study and analysis of this data can provide insights that can be used to improve the operational effectiveness and working of educational institute. It may provide insights in designing customized and Dynamic Learning programmes, reframing of Course Materials, career prediction.

2. Healthcare

Over the past decade, Big Data has been very useful in the healthcare industry. Electronic Health Records (EHR) are being widely adopted in hospitals and clinics worldwide. There is reduction in costs of treatment by avoiding unnecessary diagnosis. It helps in predicting outbreaks of epidemics and in deciding what preventive measures could be taken to minimize the effects of the same. Wearable devices and sensors can provide real time feed to the electronic health record of a patient.

3. Government

Big Data analytics helps government in planning and implementing various welfare schemes. Examples of data-driven policies are Demonetization and GST implementation in 2016 and 2017 respectively. In 2017, the Indian government launched Project Insight, a platform completely based on Big Data Analytics, which analyzed data to catch tax evaders.

4. Sports

Many Sports organizations are adopting data-driven decision-making strategy from player recruitment to fan engagement, which has led to increased investment in data analytical solutions. 'Moneyball', the 2011 Hollywood movie described the real story of how Oakland Athletics manager Billy Beane used analytics to achieve success in Major League Baseball. Andy Flower, the former England cricket coach, possibly executed the most noticeable and successful application of the 'Moneyball' philosophy in cricket.

5. Media and Entertainment

There is a rise in Big Data in media and entertainment industry mainly because of availability of digital content and increased use of smartphones. Social media platforms are also contributing to Big Data. It helps in predicting the interests of audiences, optimized or on-demand scheduling of media streams in digital platforms, getting insights into customers' reviews. Moreover, advertisements can be targeted more effectively.

6. Weather Patterns

Weather sensors and satellites are deployed around the globe which collect huge amount of data which is used to monitor weather and environmental conditions. This data can be used in different ways such as weather forecast, study of global warming, understanding patterns of natural disasters, and preparations in case of a crisis.

7. Transportation

Big Data Analytics can be used for efficient route planning by understanding and estimating users' needs on different

routes and on multiple modes of transportation to reduce waiting times. Real time traffic data helps in congestion management and Traffic control. Accident prone areas can be identified to help reduce accidents and increase the safety level.

8. Banking

Millions of transactions are recorded inreal-time by banks every day. Analysis of this data can help detect illegal activities like misuse of credit cards/ debit cards, fraudulent transactions, customer statistics alteration, money laundering etc. With a huge volume of data created from countless transactions, the banks can find out innovative business ideas and risk management solutions.

9. Social Sector

Insights gained from Big Data can play a crucial role for social good. In February 2017, Telefónica, a Spanish Telecom company collaborated with UNICEF on its Magic Box initiative- a social good platform which collects real-time data, combining and analysing aggregated and anonymised data from private sector companies. This helps UNICEF in optimising its response to public health emergencies and natural disasters – protecting children and saving lives.

Conclusion

The Big Data is not only about huge volume, but also the velocity at which the data is generated and the varied sources from where it is coming. Big Data or small data does not in and by itself possess any value, unless we get some insights out of the data which will aid us in decision making. Using big data analytics, organisations can take informed decisions to enhance their operational efficiency. Today, Big Data Analytics is all pervasive and we can see its impact everywhere, be it education, Government, Media, Sports, Banking and numerous other fields. And it is not a big statement to make that Big Data is not the next big thing, it has already made it BIG. MA

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dheerazz99@gmail.com

Benevolent Fund

FOR THE MEMBERS OF THE INSTITUTE

CMA Bhawan, 12 Sudder Street, Kolkata - 700016

FOR ATTENTION OF THE MEMBERS

The Institute is maintaining Benevolent Fund for the Members (MBF) of the Institute to provide assistance to the members of the Fund in case of financial help to the beneficiary or to the dependants in case of death of beneficiary. Members whose names continue to exist in the Register of Members of the Institute can apply for Life Membership of the Fund.

DETAILS OF BENEFITS AVAILABLE

- Outright grant not exceeding Rs. 3,00,000/- in each case to the beneficiary in the event of death of the member.

- Outright grant not exceeding Rs. 1,50,000/- in each case to the member and beneficiary for critical illness like cancer, heart/cerebral attack or any other disease having risk of life of the beneficiary to be duly certified by the doctor under whom the treatment is continuing.

- ***Illness or Temporary loss of employment of member:***

i) Expenses incurred in connection with temporary loss of employment or for marriage of daughter of a member during temporary loss of employment till the date of application should not be less than Rs. 5,000/- and not exceeding Rs. 15,000/- and further expenses are required to be incurred for the above mentioned purposes.

ii) Assistance for the above purpose shall be limited to actual amount claimed or Rs. 10,000/- whichever is lower, in the event of the member is not providing surety and where surety is provided maximum assistance shall not exceed Rs. 15,000/-. Surety should be a member of the Institute having his upto date membership and other dues paid to the Institute and belonging to the Region in which the member resides and should provide valid and authentic documents required in support as a surety. Financial assistance not exceeding Rs. 7,500/- will be granted for education of a dependent son/daughter of a deceased member. This financial assistance shall be provided once for a member.

- ***Illness of Spouse / Dependent Children of a member:***

i) Expenses incurred till the date of application should not be less than Rs. 10,000/- and further expenses are required to be incurred.

ii) The member should not be receiving medical reimbursement from his employer or reimbursement disallowed by the employer should exceed Rs. 10,000/-.

iii) Application for assistance should be supported by a surety who should be a member of the Institute having his up-to-date membership and other dues paid to the Institute and belonging to the Region in which the member resides and should provide valid and authentic documents required in support as a surety.

iv) The financial assistance is limited to actual amount claimed or Rs. 1,50,000/-, whichever is lower.

Income Tax Benefit

Contributions to MBF qualify for section

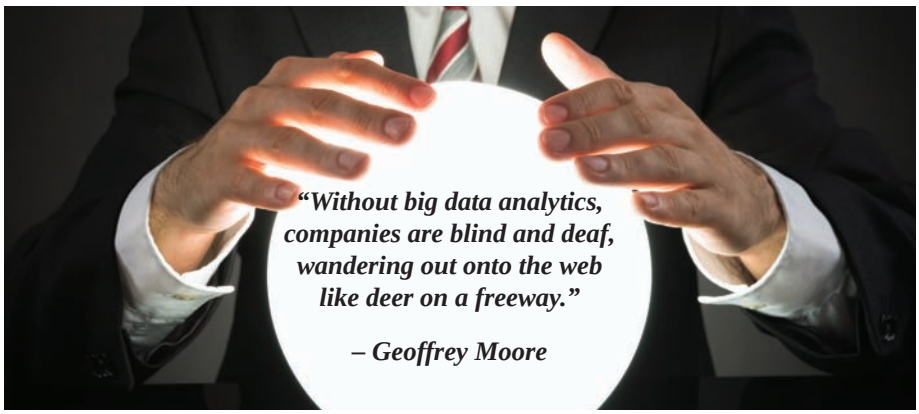
80G Exemption

Procedure to become member of MBF

➔ The prescribed fee for life membership is Rs. 7,500/-. The form can be downloaded from this link *https://eicmai.in/external/PublicPages/WebsiteDisplay/forms/mbf-form.pdf* which you may fill up and return to the Secretary along with a **Demand Draft/Cheque** for Rs. 7,500/- in favour of **"ICWAI Members' Benevolent Fund".** You may apply online also by visiting this link ***https://eicmai.in/MMS/Login.aspx?mode=EU***

For more information please visit the link given in *https://eicmai.in/external/Home.aspx#*

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



BIG DATA, ANALYTICS AND PARADIGM SHIFT IN MARKETING & SALES

Abstract

Outbreak of internet and its invasion in day to day life has created a plethora of opportunities in the field of marketing and sales. It disrupted the classical sales funnel and shortened journey of making a person, from prospect to customer. Marketing Information System (MIS) is the traditionally reliable system to collect valuable customer data for identifying potential sales target. Advancement in technology like, arrival of IPv6, IoT, social networking/ mobile and broadband penetration has ensured that there will never be the dearth of data. In today's world, problem of marketersis not lack of data rather it's plentifulness. The technological explosion and networking of various computing devices were also instrumental in generating huge stockpile of data. This unrelated data however, was meaningless due to lack of proper analytical tool. The scenario was changedwith the advent of Big Data Analytics which aided in identifying the pattern in these humongous and unrelated data. This not only led to paradigm shift in traditional marketing and sales but also change the way we perceive the sales promotion process as a whole.

Marketing can be regarded as one of the most important functions of the organisation as it does not matter how qualitative product one is manufacturing unless, it is sold. As per Patrick Gleeson, "Marketing isn't simply an important part of business success – it is the business. Everything else in the business depends upon marketing" (Gleeson, 2019). Efficacy of marketing in any organisation depends on the veracity of Marketing Information System (MIS), which painstakingly collects the valuable customer data for finalising proper marketing strategy for achieving sales objectives of the organisation. Over the years approach for collection of data has undergone a paradigm shift due to spread and ease in accessibility of internet. The omnipresence of internet has increased the digital presence in our life. This new found way of life has not only opened door to the world of endless information, but also resulted in creation of our own digital footprint which adds to the infinite ocean of existing data. Having huge hoard of data is pointless, if it cannot be interpreted in meaningful way. In such a scenario, data analytics come to rescue, which establishes pattern in rather unrelated heap of data.

Importance of Marketing as a business activity:

The importance of marketing is often undermined in a

business organisation and usually it is not given the same weight as other activities of organisation. In the words of the Marketing Guru, Philip Kotler, "Marketing is a terribly misunderstood subject in business circles and in the public's mind. Companies think that marketing exists to support manufacturing, to get rid of the company's products. The truth is the reverse that manufacturing exists to support marketing" (Kotler, 2005). Marketing encompasses not only determines consumer need, it also helps create consumer need. It really begins with understanding your potential consumer (Gleeson, 2019). One of the well-known methods of identifying potential customer is through creation of Sales Funnel.

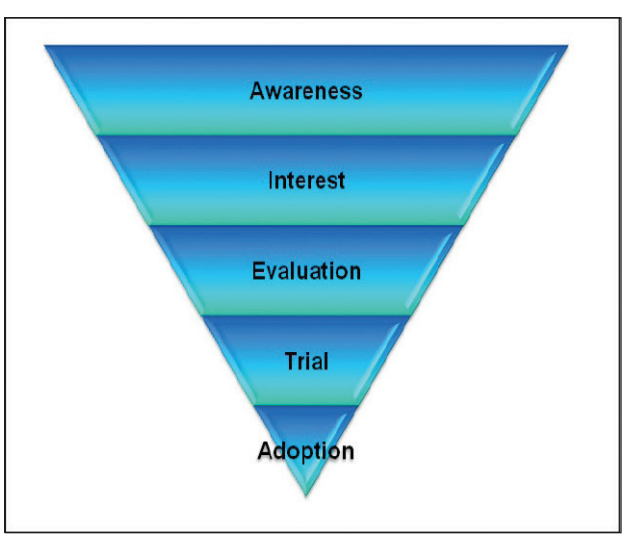
Sales Funnel:

The term 'sales funnel' and 'marketing funnel' can be used interchangeably. It represents a process targeting the broad population with aim to capturing as many lead as possible, then narrowing down to the potential sales prospects. It diagrammatically represents the shape of funnel with a broad top which narrows downs at each stage, ultimately at the final stage where it is at its narrowest point.

Stages of Sales Funnel:

Even though the stages of sales funnel vary from organisation to organisation the broad structure remains the same. Typically, a traditional sales funnel of any organisation consists of following stages: -

Diagrammatic representation of Sales Funnel



a) Awareness:

Out of the total population, potential customers are pulled through extensive marketing campaigns supported effective consumer research.

b) Interest:

Once awareness is created more information about the company and its products are furnished to prospects with aim to develop relationship with the people and introduce product positioning.

c) Evaluation:

At this stage, prospects examine the products in comparison with the competitors' product and inches towards final purchase decision.

d) Trial:

This is one of the sub-stages of sales funnel where free demo, free samples are made available to prospects with intention to induce them for favourable purchase decision.

e) Adoption:

This is the last stage in the sales funnel, where a prospect has made the decision to buy and turns into a customer. A positive experience on the part of the buyer can lead to referrals that fuel the top of the sales funnel and the process begins again.

Marketing Information System:

Businesses can sustain in long run only when there is continuous and new demand for their goods/services in existing and different markets. A well oiled information system generates continuous flow of information for timely decision making and developing strategies for assuring continuity in demand and expansion of business in the long-run. This system is referred to as the Marketing Information System (MIS), which consists of people, equipment and procedures to gather, sort, analyze, evaluate and distribute needed, timely, accurate information to marketing decision makers.

PEST (Political, Economic, Social and Technological) an acronym coined by Harvard professor Francis Aguilar in 1967 are the typical business environment under which a business operates and generates different set of data which can be further utilized for strategic business decisions. MIS normally collects customer information through traditional statistical techniques like survey, questionnaire etc, it therefore suffers from same inherent limitation which persists in these statistical techniques. One of such limitation is time lag in collection of data due to lack of real time access to information in application of statistical techniques. Big Data bridges this gap and provide the

marketers real time access to valuable customer data.

Marketing Information System (Source: https://businessjargons.com)

Introduction to Big Data:

Doug Laney, a tech analyst at Gartner, first defined Big Data in 2001 as being "Big data" is high-volume, -velocity and -variety information assets that demand cost-effective, innovative forms of information processing for enhanced insight and decision making" (Sicular, 2013).Webopedia defines Big Data as "a phrase used to mean a massive volume of both structured and unstructured data that is so large it is difficult to process using traditional database and software techniques."There exists no precise measurement which describes how much data can be regarded as big data? Big data can be used in the context of data handling by existing business organisations. Companies like ebay and Walmart with huge customer bases are handling data in excess of 2.5 Petabyte (PB) to 40 PB.

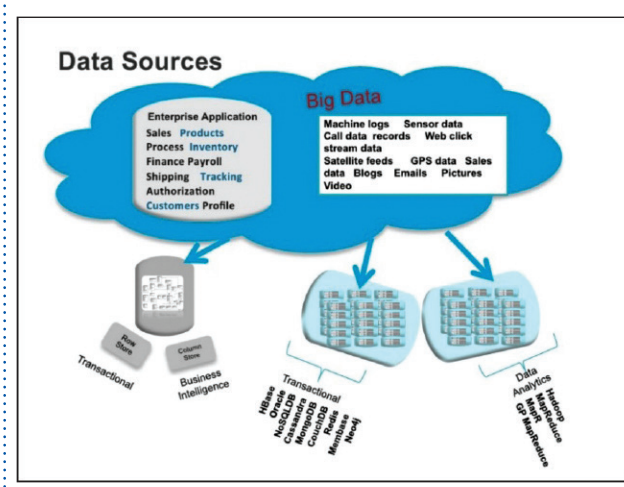
Type and Sources of Data:

Based on the type data can be categorised into structured and unstructured data. It is the structured data we mostly encounter. This type of data is written in a format that's easy for machines to understand. Examples include spreadsheets and data from machine sensors. Structured data easily fits into traditional relational into relational databases like SQL, ORACLE etc and can be easily searchable by basic algorithms. Unstructured data is more like human language. Examples include emails, text documents (Word docs, PDFs, etc.), social media posts, videos, audio files, and images. Processing and searching such data based on the old algorithms ranges from difficult to completely impossible. Big data mostly consist of unstructured data which is generated from human as well as machine source:

A) Human-generated unstructured data includes, (a) Text files, (b)emails, (c) Social Media like Facebook, Twitter etc, (d)websites like YouTube, Instagram etc, (e) Mobile data like text messages, locations etc, (f) Communications like chat, IM, phone recordings etc, (g) Media like mp3, digital photos, audio and video files etc, and (h) Business applications like MS Office documents, productivity applications etc (Taylor 2017).

B) Machine-generated unstructured data includes, (a) satellite imagery like weather data, land forms, military movements etc, (b) Scientific data like Oil and gas exploration, space exploration, seismic imagery, atmospheric data etc, (c) Digital surveillance and (d) Sensor data like Traffic, weather, oceanographic sensors etc (Taylor 2017).

Data Sources (Image credit: https://www.slideshare.net)



The Six V's of Big Data:

The characteristics of Big Data can be described in terms of 6 V's, which is explained below:

Volume:

The data generated by machine, network, human interactions on system etc, is in such huge volumes that it is measured in petabytes or even Exabyte.

Variety:

It consists of both structured and unstructured data. The unstructured data creates problems for storage, data mining and analyzing the data.

Velocity:

The speed of data generation is very fast and it is estimated that the amount of information man created from the dawn of civilization until 2003 is currently created every two days (www.dexlabanalytics.com, 2018).

Veracity:

It refers to the biases, noises and abnormality in data. Since Big Data is obtained directly from source, translation biases are at its minimum. However, data cleansing is done before storing.

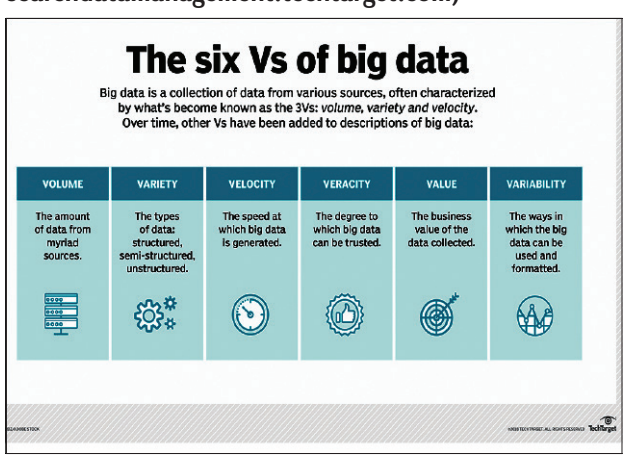
Value:

It refers to how meaningfully data can be interpreted for relevant solution. This determines whether data is worth being stored or collected?

Variability:

This refers to establishing if the data generated can even be processed even in conditions of extreme unpredictability.

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



Internet of Things (IoT) and Data Mining:

The genesis of Big Data is due to IoT revolution and IoT owe its ascent to the Internet Protocol version 6 (IPv6), which supports 2128internet addresses, meaning it is possible to connect almost any device to internet. Data mining is the process which excavates the valuable customer data. Reward points system was one of the earliest methods of data mining. However, in the digital world there are two major sources of data mining: -

a) Man-machine interaction: Each click on internet, likes in the facebook, posting photos in Instagram, video views in youtube, search queries in e-commerce websites and other similar activities leave behind digital footprints. Websites often requires logging in through existing google or facebook IDs, which helps to map the user across the devices and trail the user's unrelated activities in the internet.

b) Machine-machine interaction: This refers to IoT devices interacting with each other. It is estimated that "by 2020, there will be more than 50 billion smart connected devices in the world, collecting, analysing and sharing data" (www.cisco.com).

Big Data and Role of Analytics:

The science of Data Analytics is evolved to examine the raw data with the purpose of drawing conclusions. As pointed out earlier, content of Big Data are so humongous and unstructured that it cannot be processed with the traditional RDBMS software. Also, due to high velocity in data creation, it is practically impossible to keep all this data in a single physical storage deviceinstead itis divided into small portions and then mapped to numerous devices with general access. Hadoop, an open source software, released in 2005 by the Apache Software Foundation provide elemental solution to most of the complications raised by Big Data. Hadoop consists of four modules viz, Hadoop Distributed File System (HDFS), Hadoop MapReduce, Hadoop YARN, and Hadoop Common. The most important two are the Distributed File System, which allows data to be stored in an easily accessible format, across a large number of linked storage devices, and the MapReduce - which provides the basic tools for poking around in the data (Marr, n.d)

How Big Data disrupted the traditional Marketing Strategies:

It is well documented fact that efficacy of Marketing procedure to identify sales target through Sales Funnel is based on effective MIS. The advent of Big Data has disrupted the traditional Sales Funnel. The information collected form Man-machine and Machine-machine interaction helps marketers to directly narrowing down sales prospect without going through the steps of Sales Funnel making it altogether redundant. Some of the examples are: -

(a) Online content provider like YouTube, Netflix etc are able make more personalized recommendations to its users, by having a greater understanding of what people are actually doing on their websites.

(b) Online marketers gather information about user preferences, user browsing and purchasing behavior,

product attributes, geographic location of purchases, inventory levels, active promotions and campaigns and anything else that can be digitally recorded through various data collection points to predict the current and future needs of customers for proper placement of products.

(c) Data helps advertisers turn every billboard into a targeted entity that reaches the right audience in the right place at the right time, ultimately breathing new life into what were previously considered "dead boards" (Svilar M et.al, 2013)

(d) IoT enabled devices with several data collection points provided valuable customer data related to taste, habits and usage pattern, which is hard to get in traditional data collection method. This helps is improvement of product and enhance user experience.

Conclusion:

Big Data revolution has ensured availability of enough data for analysis. It is estimated that "out of all the data we create, only about 0.5% is analyzed and put to use" (www.technologyreview.com). One of the most important things to fuel Big Data is creation of more data points. The Apple ecosystem is one of the best-known examples of creation of multiple data points by allowing users to sync browsing histories across multiple devices, thereby combining behavioursamong various apple devices. Social media outlets also played tremendous role in continually creating andgathering numerous data points about consumers and their interests and purchasinghabits that can be used for analysis. Every "like," share, use of hashtag, video streaming, buying something, or commentingon media such as Facebook, Twitter, Instagram, YouTube,Tumblr, etc, data points are created marketing industry to makebetter predictions. To summarise uprising of Big Data, Analytics is ensuring that future of product marketing will be more personalised and enriching for every aspects of our life. MA

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suraazz@gmail.com

BIG DATA ANALYTICS AND THE FUTURE OF AUDITORS

Jeswin Jose
Student-MCom, CIMA
DCMS Calicut University
Calicut

Abstract

Big data analytics means the sophisticated technology that is used to extract the required information from the big data. 3Vs constitute big data. They are namely volume, variety and velocity. Big data analytics can solve the limitations in auditing like test checking. So the new millennium auditor should be an analytics professional too. Otherwise he will be out of the market, because survival of the fittest is the slogan of the market. If big data analytics included in auditing, the entire process will become a false proof one.

The question arises here whether the introduction of big data analytics into auditing will lead to the extinction of auditors or not. The answer is not so easy. However it is true that auditors still have a vital role to play. The role will be as of an administrator. But it will lead to extinction of such professionals who are reluctant to change. Even though, the technology at the tip of everyone, still big data analytics is a hard nut to crack.

What is big data?

It is nothing but dealing with huge data and extracting the needed information from it. The big data can be explained with the help of 3V

- ✔ Volume - huge amount of data
- ✔ Variety - data will be mixed with text, image, audio and video files
- ✔ Velocity - the high speed with which data is created

What is big data analytics?

It means the sophisticated processes to extract the needed information from such big data and making them available for decision making. The process used for this is known as data mining.

Entry of big data analytics into auditing

Auditing is the most sought after course in India. Auditing means checking the accuracy of books of accounts and comment that whether it is giving a true and fair view of the business or not. But apart from that, auditing is expanded to many other areas. The auditing personnel are upgraded into a role of managerial personnel. Auditing is now one of

the glamour professions that one can have. Actually auditing has a serious drawback that it is more depended on test checking. Because using the present methods, an auditor will not be able to check those huge data which is having the 3Vs (volume, variety, velocity). So big data analytics can solve this too a great extent by using sophisticated technologies and processes like data mining. So auditing will become a false proof method.

Benefits of big data in auditing

Auditor can deal with any amount of data irrespective of its size

- ✔ Auditors can extract the real value from the raw data
- ✔ Auditing will become a false proof method
- ✔ It enhances the integrity of auditing profession
- ✔ Reduces human errors and personal bias

Drawbacks of big data analytics in auditing

- ✔ Lack of experienced professionals in the country
- ✔ Reluctant to change attitude
- ✔ If the auditor is not able to control the system, auditing will be an utter failure
- ✔ There is issues of data privacy
- ✔ Chances of auditor becoming a slave of technology

Suggestions

While discussing the adoption of every technology, we must ensure that a man is able to control it like an administrator and not of a slave. So the human element should be taken into account. So the challenge is to make the man equipped with this and also develop new encrypted and false proof technology. So the new millennium auditor will be a big data analytics professional too. Otherwise he will be forced to take the favor of another expert. That will definitely lead to loss of integrity. So the auditing bodies should decisive and effective steps to impart big data courses with typical accounting courses. It is laudable that the official bodies like ICAI and ICWAI accepting changes in time.

Conclusion

Now the world accepted the slogan that data is the new oil. Those who are able to gain out of that will remain in the market ie, survival of the fittest. Arabian countries become rich not from the oil wells, but from the sophisticated technology that they adopted to extract the crude from the well. This is the implication to the new millennium auditors. They should be able to deal with the complex algorithms. So in a nutshell, the auditor will be a big data analytics professional too. MA

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jeswinmoolayil@gmail.com

ROLE OF BIG DATA IN ACCOUNTING & AUDITING

CMA (Dr.) Niranjan Mahendranath Shastri
Associate Professor
NMIMS
Indore Campus

Sarthak Kumar
Scholar-SOC
NMIMS
Indore Campus

Vanshika Shaw
Scholar-SOC
NMIMS
Indore Campus

Abstract

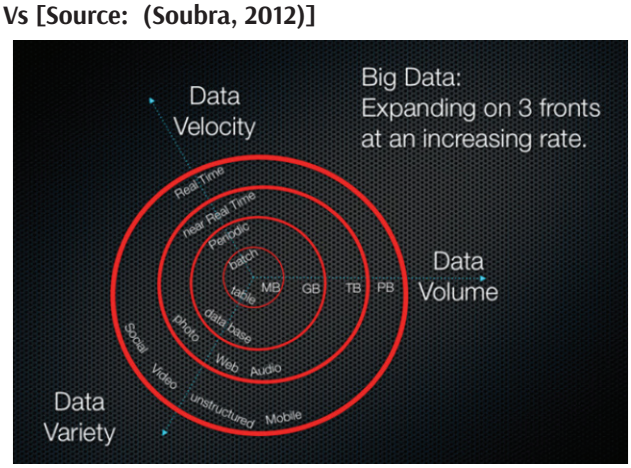
Volume, Velocity, Variety, and Veracity are 4 Vs of Big Data as its striking dimensions which are useful for any organisation only if it can be used to generate the fifth V viz. Value. In modern times Big Data has proved its utility in many areas of business management including accounting and auditing..In this study an attempt is made to discuss the role of Big Data in financial accounting, management accounting and auditing. Financial accounting information using big data can lead to better disclosure which in turn may enhance investor trust. Big Data can play a vital role in refining existing accounting standards and developing the needed ones. In nutshell, Big Data proposing a lot of opportunity in the area of accounting and auditing, thereby challenging accounting profession to develop competencies so as to make it their strength.

Introduction to Big Data:

"The term "Big Data" refers to massive volumes of data that grow at an increasing rate and encompass complex data types such as audio and video." (Murthy & Geerts, 2017) . It is voluminous compilation of unstructured and structured data (consisting soft information from sources like video streams, website traffic, postings on the web, emails, etc.) and one is unable to analyse it with the basic traditional programs (Syed, Gillela, & Venugopal, 2013).

Gartner analyst (Laney, 2001), while putting forth the concept of 3Vs (volume, velocity and variety) emphasised that these 3Vs are likely to phase out traditional data management practices and will need a "3D" data management practice i.e. novel and more formalised approach to manage these three dimensions of data."These three properties define the expansion of a data set along various fronts to where it merits to be called big data" (Soubra, 2012)

Picture 1: Three Dimensions of Big Data i.e. the Three Vs [Source: (Soubra, 2012)]



"Data Volume: The size of available data has been growing at an increasing rate. This applies to companies and to individuals. A text file is a few kilo bytes; a sound file is a few megabytes while a full length movie is a few giga bytes. More sources of data are added on continuous basis. For companies, in the old days, all data was generated internally by employees. Currently, the data is generated by employees, partners and customers. For a group of companies, the data is also generated by machines. For example, Hundreds of millions of smart phones send a variety of information to the network infrastructure. This data did not exist five years ago. More sources of data with a larger size of data combine to increase the volume of data that has to be analyzed. This is a major issue for those looking to put that data to use instead of letting it just disappear. Peta byte data sets are common these days and Exa byte is not far away." (Soubra, 2012)

"Data Velocity: Initially, companies analyzed data using a batch process. One takes a chunk of data, submits a job to the server and waits for delivery of the result. That scheme works when the incoming data rate is slower than the batch processing rate and when the result is useful despite the delay. With the new sources of data such as social and mobile applications, the batch process breaks down. The data is now streaming into the server in real time, in a continuous fashion and the result is only useful if the delay is very short." (Soubra, 2012)

"Data Variety: From excel tables and databases, data structure has changed to loose its structure and to add hundreds of formats. Pure text, photo, audio, video, web, GPS data, sensor data, relational data bases, documents, SMS, pdf, flash, etc etc etc. One no longer has control over the input data format. Structure can no longer be imposed like in the past in order to keep control over the analysis. As new applications are introduced new data formats come to life." (Soubra, 2012)

Volume, variety, velocity, and veracity are the four Vs which are considered as specific attributes defining big data. The fourth V i.e. **veracity reflects** the trustworthiness of the data. (Williamson)

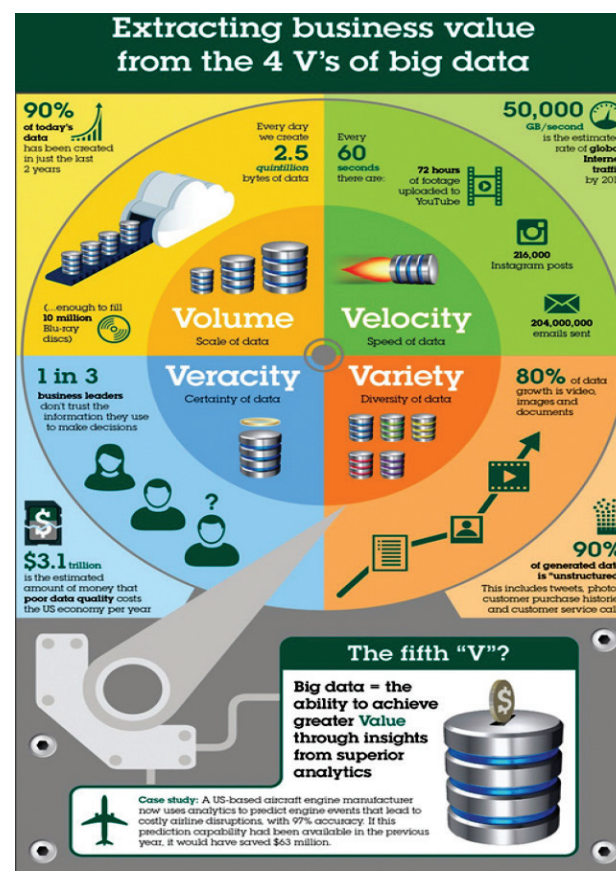
The term "Big Data" carries connotations over different domains. From the point of view of size (in terms of both volume and variety), the true meaning of 'Big Data' is relative to the size of the organization and availability of computational capacity with the organization. (Vasarhelyi, Kogan, & Tuttle, 2015)

"The definition of big data depends on whether the data can be ingested, processed, and examined in a time that meets a particular business's requirements. For one company or system, big data may be 50TB; for another, it may be 10PB." (Williamson)

(Williamson) **further suggested the fifth V as Value. According to him the** real objective is critical to this mash up of the four V's which should be able to generate some sort of value for enterprise.

"Big data gives you the ability to achieve superior value from analytics on data at higher volumes, velocities, varieties or veracities. With higher data volumes, you can take a more holistic view of your subject's past, present and likely future. At higher data velocities, you can ground your decisions in continuously updated, real-time data. With broader varieties of data, you can have a more nuanced view of the matter at hand. And as data veracity improves, you can be confident that you're working with the truest, cleanest, most consistent data." (IBM)

Picture 2: Five Dimensions of Big Data i.e. the Five Vs [Source: (IBM)]



Role of Big Data in Financial Accounting:

For marketing and other functions, firms are already using Big Data and they are finding its contribution as a valuable one, however since such Big Data not is not integrated with traditional accounting and enterprise resource planning (ERP) systems, these accounting systems are facing a danger of becoming obsolete. Advent of Big Data is going to have impact on various aspects of accounting and auditing e.g.

- assurance procedures
- accounting measurement and representation methods
- incorporation of semantic data from multiple sources and semantic understanding of accounting-related phenomena
- formalization of accounting-related procedures, standards and explicit consideration of digital information provisioning
- economics associated with the adoption of new accounting and auditing processes such as issues related to education of accounting and social welfare. (Moffitt & Vasarhelyi, 2013)

"While the applications of Big Data and analytic techniques for business purposes have received considerable attention, it is less clear how external sources of Big Data relate to the transaction processing-oriented world of accounting information systems" (Murthy & Geerts, 2017)

As new types of data like textual, audio and video information is made available through Big Data, it will have increasingly significant implications for accounting leading to improved financial accounting and reporting practices. Transparency and shareholder decision making will be improved as the quality and relevance of accounting information will be enhanced due to use of Big Data. (Warren, Moffitt, & Paul, 2015)

Textual data include nonfinancial or soft documentation. Some important repositories of text are SEC filings, emails, web pages (including corporate documents found on company websites), news media, and social media. One of the largest and fastest-growing repositories of relevant textual data is Social media. For example, the number of Facebook participants, Twitter users, and public blogs as of 2013 was 700 million, 250 million, and 156 million, respectively (Syed, Gillela, & Venugopal, 2013). This number has today tuned out to be 1.52 billion daily active users for facebook, 275 monthly active users (Statista, 2019). Data from these sources will be helpful for the firm to recognize the key areas and also over the areas that need improvement.

Audio data (quarterly conference calls, shareholder and board of directors' meetings, customer calls, internal employee phone calls, microphones placed on company premises for surveillance, and audio from video sources) related to business activities if captured and analysed properly can improve the quality of financial and accounting information. (Warren, Moffitt, & Paul, 2015). For example review of already recorded audio or video of previous meetings can be helpful for decision making in the next meeting not only for analysing past variances but also for setting the future agenda.

"Interview video data, combined with vocalic and linguistic elements, creates a more complete picture of executive intent and potentially gives insights about a company's health. To collect interview data efficiently, the process could be automated." (Pickard M. M., 2013). Video data could be a valuable source of vital financial and accounting information e.g. nonverbal components derived out of video recorded interviews of management and board of directors can be more valuable and relevant than the verbal content." (Guffey, 2006) .

"Similar to video data, the methods can also trace down business images from images including objects and scenes that appear in company-related images uploaded by customers, the demographic breakdown of product users featured in those images, and the condition and use of company products found in images. Image analyses could generate useful business insights, including but not limited to knowledge concerning product usage tendencies, and accurate assessments of corporate image." (Warren, Moffitt, & Paul, 2015). For example if a customer of a hotel posts the picture of a fountain then it shows that the fountain fascinates the customer. Thus image analysis may guide the management about key focus areas.

Traditional financial information augmented by different forms of Big Data such as video, images, audio, and text has potential to improve transparency. Using Big Data technologies, it possible to detect irregularities like outliers, thus ensuring management, auditors and other stakeholders. This can also facilitate better decision making. For example ERP systems records can be complemented

with video clips and other types of multimedia relative to fixed assests so as to provide more comprehensive and transparent view of each asset, not only benefiting auditors addressing pertinent assertions about fixed assets but also meeting stakeholder needs (Warren, Moffitt, & Paul, 2015).

According to (Eccles, 2001)"companies with fuller disclosure win more trust from investors e.g. (Shastri, Shastri, & Agrawal, 2015) found that mandatory cost audit enhances investor trust. But it has the potential to do so directly if investors are educated about cost audit and its reports are made public through innovation in reporting mechanism. Thus the more the disclosure, the higher is the trust of investors. Since accounting system using Big Data also brings better disclosure and transparency, it is likely to improve investor trust.

Big Data can transform accounting research (Griffin & Wright, 2015). (Murthy & Geerts, 2017) used the five-phase Resource-Event-Agent Enterprise Ontology (REA) based specification of a business transaction as defined in ISO (2007) to model the implications of external Big Data sources on business transactions. Several information extraction patterns are specified for extracting business transaction-related information from Big Data using technologies such as MapReduce and Apache Hadoop. They demonstrated that better decision making is possible due to integration of specific external Big Data sources with traditional transactional data through presenting various analytical patterns.

Role of Big Data in Management Accounting:

From the early 20th century, accountants contributed a lot toward their firms' strategic decision-making through engaging in a problem-driven approach applied on structured data largely using DuPont Analysis framework, but now in modern times' business environment generating Big Data, there exists a need to shift from DuPont framework to a new framework for upcoming future. (Wong, 2017).

One such attempt was made by (Patatoukas, 2012) who used structured and unstructured data (textual information from firm disclosures about major customers) to test the hypothesized negative relationship between customer base concentration and firm performance and he found that, although the relationship between customer base concentration and gross margin is negative, the effect on net income is positive because general, admin and marketing overheads goes down. Now firms desiring to increase their income can make an attempt to increase their customer base concentration using findings of this research.

In information economy, many organisations are leaving traditional methods because of their inward focus and adopting so-called beyond budgeting techniques (Bourmistrov & Kaarboe, 2013). Alternative sources of information for strategy formation, goal communication, operational planning and performance evaluation, are used in beyond budgeting (Hansen & Van der Stede, 2004). Big Data, including additional streams of data outside ERP systems (e.g., climate, satellite, census, labor, and macroeconomic data) will play a very important role in evolution of effective budgeting processes, as it will facilitate adoption of beyond budgeting practices (Warren, Moffitt, & Paul, 2015). This will promote use of alternative sources of information for planning and performance evaluation.

Management accounting presents analysis of information generated from accounting records so as to facilitate managers carry out their duties. One of the pivotal duties of a management accountant, at the helm of affairs of any firm, is to create systems, so as to facilitate goal congruence i.e. alignment of organizational goals with the behaviours of management and employees through behaviour regulating devices collectively known as the Management Control Systems (MCS). (Malmi & Brown, 2008). One of the most popular MCS tool is Balanced Score Card (BCS) (Kaplan & Norton, 1996). This system identifies financial and nonfinancial measures for behaviours that best fit with business objectives.(Sperkova, Vencovsky, & Bruckner, 2015).

Big Data affects the design and operation of management control systems (Griffin & Wright, 2015).The availability of image files, audio, video and nontransactional textual data (e.g., email messages) through Big Data will lead to better management accounting practices as it will play a significant role in the development and evolution of effective management control systems. (Warren, Moffitt, & Paul, 2015)

"Big Data can play a role in MCSs by discovering behaviors correlated with specific goal outcomes, which would prompt the creation of corresponding performance measures. For example, the BSC collects data in four areas: financial, customer, internal business process, and learning and growth. Within each area, Big Data can identify new behaviors that influence respective goal outcomes. For instance, web use while at work may be tied to learning and growth goals, internal emails may correlate with the effectiveness of internal business processes as well as customer service quality, and customer service quality may

be related to vocalic cues mined from customer service calls. In general, Big Data analyses can facilitate the discovery of important measures to be incorporated in MCSs. Companies can use metadata, such as the amount of time spent on a telephone, to track productivity. In sales, greater phone use might indicate higher productivity, whereas the converse could be true in manufacturing. Employee computers can also be monitored to generate activity logs that contain data on web use, click streams, and time spent using productivity software such as MS Excel. Companies can also monitor employee telephone calls, emails, and in-office behaviors. Furthermore, companies can track what employees do with company resources away from the office including vehicles, cell phones, and P-Cards. Big Data could convert MCSs into comprehensive monitoring and control systems (CMCSs)" (Warren, Moffitt, & Paul, 2015)

From the above discussion it is evident that Big Data in MCS has a micro focus on various aspects including human resource management, which is not only important for organizations looking for standalone growth but also for inorganic growth e.g. it is very important to bring coordination in HR issues even for better synergy in Mergers &Acquisitions(Shastri & Shastri, 2014). Employee engagement, which is one of the important HR issues, has a significant positive impact on firm value (Shastri & Rajpurohit, 2017). Use of technology is important in engaging millennial employees (Shastri & Rajpurohit, 2018). Thus it can be inferred that Big Data through CMCS can play a vital role in enhancing employee engagement levels and thereby enhancing firm value through establishing superior HR practices, and it is vital, as inferior HR and ethical practices may even lead to corporate frauds(Mittal & Shastri, 2018).

"India is likely to have the world's largest workforce by 2027, with a billion people aged between 15 and 64"(Sharma, 2017). Thus Millennials are going to form substantial proportion of workforce in growing economies like India. Millennials have grown up with internet, smartphones, laptops, real-time media and communications channels and various social media platforms. This also lowers their level of patience and at the same time make them expect immediate feedback from their managers. They are uncomfortable with rigid corporate structures and dislike information silos. MCS based on traditional information sources may create a Skill gap for such Millennials. Skill gap is not only harmful for career prospects of the employee but also create hindrances for firm performance, value and growth (Shastri, Wadhwa, & Rampal, 2018). Cashless system helps in bridging the skill gap. (Shastri & Vaidya, Cashless India: The Way Ahead, 2019) because of its digital and real time nature, likewise CMCS based on non traditional information sources (Big Data) will also be able to bridge the skill gap and thereby enhancing engagement levels of employees.

Work should be monitored on different factors and all those factors which have impact over productivity should be taken care of. The monitoring should not hamper the personal space of the employee. "For example, organizations assessing customer service quality could measure response times to customer inquiries. While precise and objective, this type of structured data does not reflect service quality from the customer's point of view. Combining structured data gathered regarding response times with unstructured customer sentiment data provides organizations with a deeper understanding of problems as they are perceived by the customer" (Sperkova, Vencovsky, & Bruckner, 2015)

Role of Big Data in Auditing:

Big Data can transform auditing research (Griffin & Wright, 2015). Sufficient, relevant and reliable information obtained from Big Data can complement traditional audit evidence as Big Data is often externally generated and can be collected directly by the auditor. For example to verify the shipments, auditor can use global positioning system (GPS) data obtained directly from a shipper rather than relying on client-provided shipping documents. Social media posts can be mined to gauge customer sentiments regarding products, which could serve as useful inputs into analytical procedure models designed to estimate whether sales revenues are within expected bounds. (Yoon, Hoogduin, & Zhang, 2015).

(Vasarhelyi, Kogan, & Tuttle, 2015) stated that "because of the large number of additional forms of evidence, their highly probabilistic nature, and the progressively more and more automated audit systems, it will be necessary to create a formal method of evidence aggregation. This raises important questions for future research including:

(1) What models can be used?
(2) What will be the algorithms of prioritization?
(3) Can Big Data bridges be used to enrich the above forms of evidence?"

The below table illustrates uses of extended audit evidences. For example web hits is an externally generated evidence which can be used to predict future revenues, purchases, cost of sales, profitability, geographical performance, project appraisal etc. with higher levels of accuracy than ever before with the help of Big Data analysis.

Picture 3: Examples of Extended Evidences [Source: (Vasarhelyi, Kogan, & Tuttle, 2015)]

TABLE 2
Illustrative Uses of Extended Audit Evidence

Data	Use 1	Use 2	Use 3
Security videos	Confirm receipts and exit of materials	Confirm shipping costs	Observe/deter fraud
News videos	Help in marketing	Warn of management or employees activities	Observe/deter fraud
Social networks	Evaluate consumer satisfaction and product defects	Support clients with technical problems and confirm technical support costs	Observe/deter fraud
RFID	Confirm inventory	Confirm/measure shipping	Link to price databases and estimate cost of goods sold
Web hits	Predict purchases	Predict revenue	Predict sales, cost of sales, geographic sales, product mix
Inbound mobile calls	Predict service costs	Monitor employees and estimate employee costs	Observe/deter fraud

Conclusion:

Volume, Velocity, Variety, and Veracity are 4 Vs of Big Data as its striking dimensions which are useful for any organisation only if it can be used to generate the fifth V viz. Value. In modern times Big Data has proved its utility in many areas of business management including accounting and auditing. Financial accounting information using big data can lead to better disclosure which in turn may enhance investor trust. Big Data can play a vital role in refining existing accounting standards and developing the needed ones. Along with evolution of real time dynamic economy, accounting profession needs to contribute useful information. For this it is vital that existing accounting standards are refined and needed once are developed with the help of Big Data, which in turn will lead to better reporting practices (Warren, Moffitt, & Paul, 2015). Financial reporting is adopting a fair value orientation (Lee & Park, 2013). International Accounting Standards Board (IASB) and Financial Accounting Standards Board (FASB) have been trying hard to converge International Financial Reporting Standards (IFRS) and U.S.GAAP especially given the convicting positions in application of fair value accounting under certain conditions. For example while U.S. GAAP prohibits the use of fair values in measurement of property, plant, and equipment except in cases of impairment, IFRS allows for a fair value approach and associated revaluations. When impairment occurs, U.S. GAAP requires each affected asset be revalued to the impaired lower value (Thornton, 2014). This disparity can be solved with the help of Big Data and a bumpy way to develop a global set of accounting standards can be made smooth which would create wonders. "One potential method for facilitating this process requires the power of internet agents and big data. The function of these agents would be to collect information to assist in the valuation of otherwise hard-to-value assets by using extensive automated Internet search methods running over extended periods of time." (Warren, Moffitt, & Paul, 2015).

Big Data can also play a pivotal role in improvement of management accounting, as it can augment MCS and transform it to CMCS. It can be crucial in enhancing employee engagement levels and thereby lifting up the firm value. Further Big Data can accelerate the practise of beyond budgeting techniques. "Big Data could aid management accounting in general and MCSs in particular. Before this can be done, however, data repositories must be transformed into actionable information. This middle layer between data and packaged information is where the roles of statisticians and data analysts (also known as data scientists) lie. For management accountants to use Big Data, those with expertise must first understand, mine, transform, and analyze the data. While accumulating data has proven to be easy and sometimes incidental to other activities, management cannot reap the benefits without additional resources" (Warren, Moffitt, & Paul, 2015).

In auditing also, externally generated evidences can be extremely useful in various ways as complementary or supplementary to the traditional evidences. This will even lead to robust audit outcomes. In nutshell, Big Data proposing a lot of opportunity in the area of accounting and auditing, thereby challenging accounting profession to develop competencies so as to make it their strength. MA

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niranjan.shastri@nmims.edu
sarthak.kumar32@nmims.edu.in
vanshika.shaw50@nmims.edu.in

BIG DATA ANALYTICS AND THE MANAGEMENT ACCOUNTANT

CMA Ravikumar Ramachandran
Account Security Officer
DXC Technology India
Chennai

Abstract

A business exists to earn more revenue with less costs and thus making it a profitable venture. Therefore it will strive cost containment with investment to develop its competitive position. To arrive at this balance is not easy and it requires deep understanding of the drivers of cost, risk and value in the business. All three factors are highly dynamic and management requires constant and current information for better decision making and performance management. Usage of Big Data Analytics have become imminent to improve operational performance and sustaining or improving competitive position. Research findings indicate that organizations are struggling to get valuable insights from their data. Businesses need to adopt strategic thinking and be innovative to ensure that they have the needed capabilities to exploit advances in big data analytics for not only success but also for survival in the technology and digital age. Management Accountants have an important role to play in ensuring business success in today's data-driven era. Therefore they need to develop their skills continually so that they remain relevant to their employer's needs. They also required to stay abreast of developments and upskill themselves in the discipline of analytics and data science so that they continue to contribute their value to the business and to the profession they serve. This paper explains the meaning of business analytics, its value to business and the evolution of roles of management accountants in the era of globalization and digital age and the need for management accountants to acquire the skills of business analytics and data science to retain their relevance to the corporate world.

Traditionally, a financial accountant handles all historical data and compiles from books of accounts, trial balance, profit and loss account and draws balance sheet, while a management accountant forecasts the revenue and expenses, prepares budget, applies various costing techniques of Standard costing and marginal costing and thereby arrives at the product mix, volume and price and thus ensures profitability of the business. Also strategic financial management is the key word of competitive business enterprises, as resources are always limited, while opportunities are unlimited and thus it requires thorough understanding of market dynamics and forecasting abilities of key business variables, which in turn requires lots of information, and rapid processing of it to arrive at value based decision making. Thus Big Data Analytics has become the necessity for business survival making imperative for the pursuit of the skills associated with data science for management accountants.

Big Data Analytics

Big Data Analytics have been around for long time. All of us have been very familiar with the concepts of data warehousing and data marting, where the business enterprises used to segregate large amounts of data in a separate infrastructure for analysis of business trends and patterns of demand, so that they plan future production and marketing strategies as per the conclusions they arrive at after such analysis

Big Data analytics is the name given for the next generation of data warehousing and business analytics. Big Data is massive amounts of Data. It is a huge collection of data or data sets that can be structured, unstructured, or combination of both and quickly grows so large that it becomes difficult to manage using conventional databases or statistical tools.

Structured data is data which can be easily defined and can be entered in a relational database. Unstructured data does not have predefined data model and/or does not fit well into a relational database. Unstructured data is not only text heavy but also consists of dates, numbers and facts.

It is the volume of unstructured data which drives big data analytics for the following reasons:

- The amount of data is doubling every two years of which unstructured data is almost 95%
- More and more data is exploding through social media as people are becoming more transparent and wants to share more information.
- Unstructured data tends to grow exponentially, while structured data grows in a more linear fashion
- Unstructured data though the entire data may not be useful, still remains vastly underutilized.

Big Data is also defined as any data that has the following characteristics (known as 3Vs)

- Extremely large volume of data
- Extremely high velocity of data
- Extremely high variety of data

Sometimes two more Vs are added for variability and value.

Some interesting facts of data explosion which are as follows:

- As of January 2019, there are 4.4 billion users with China, India and United States ranking ahead of all other countries
- More than half of the world's population is using Internet. Total population is estimated around 8 billion.
- The total data held by Google, Amazon, Microsoft and Facebook accounts for 1.2 million terabytes
- Facebook processes more than 500 TB of data everyday
- 95% of the world's data have been generated over the last two years.

Value of Big Data Analytics to Business

Big Data offers unparalleled insights and predictive abilities, but only to those who know how to leverage it. For most, getting value from Big Data is a Challenge. However the reflection of every challenge is opportunity. Thus businesses world over have embraced big data analytics for processing large amounts of unstructured data to arrive at decisions which need not be 100% accurate, but at least 70-80% which should be good enough to make a good break through.

SQL queries of RDBMS technology gives 100 % accurate results, but it works only on structured data. Therefore NOSQL have been invented which can process unstructured

data comprising huge amount of rows and columns. It cannot give accurate results, but approximate results in very less time, which enables timely decision making.

Google says it has cut its vast data centers energy use by 15% by applying data analytics and artificial intelligence to manage them more efficiently than humans. The servers that power billions of web searches and social media accounts are estimated to account for approximately 2% of global greenhouse emissions. Thus analytics led deep learning has helped to conserve global warming and help reduce greenhouse emissions.

Thomas Cook has seen a 14% jump in lead conversion, with the use of analytics, artificial intelligence and upgradation of its internal technology portal. It reports that on the basis of intelligence provided by analytics and AI, the conversion rates which were 33-34% have gone up to 47% over all.

The Changing Roles of Management Accountants in the Digital Age

Siegel and Sorensen (1999) mentioned that with the pressure of globalization that is an increase in competition, advancement of technology and pressure to get information much sooner. Management accounting now plays bigger roles in organizations. Management accountant is not only playing the role of information provider but also participating in decision making or at least to help managers to make better decisions (Cooper & Dart, 2009).

Management Accounting involves getting more timely information and processing it faster to arrive at more or less accurate decisions.

The Statement on Management Accounting (2008) issued by Institute of Management Accountants (IMA) on definition of Management Accounting states it as follows:

"Management accounting is a profession that involves partnering in management decision making, devising planning and performance management systems, and providing expertise in financial reporting and control to assist management in the formulation and implementation of an organization's strategy"

IMA further elaborated on the rationale for the definition by stating that management accounting's essential component is the formulation and implementation of strategy to help an organization to succeed and this will necessarily include participation in strategic management decision making. It further added that the role of management accountants on the management team can be described by a brief list of global, inclusive competencies which can be differentiated from other professionals in the organization.

In another Statement on Management accounting (2015) issued by the Institute of Management Accountants (IMA) on Forensic Analytics and Management Accounting the following is worth noting, "As the volume of data increases, models help management accountants identify what is important, organize it, hypothesize about it, and discover connections between disparate data. Through such approaches, management accountants can help the organization transform into a risk-intelligent enterprise that proactively manages risks and reduces its exposure to fraud rather than retroactively acknowledging the compromises of controls and occurrence of fraud. Rather than focus on a single risk or event, management accountants can effectively manage risk across organizational silos and consider interactions of multiple risks and breaches."

"Management accountants thrive on the collection, analysis, and dissemination of data. As the amount of organizational data grows exponentially, so do the opportunities for management accountants. In the Big Data environment, management accountants are expected to make significant contributions. Data in varying formats and from various sources are processed, fused, and superimposed to enable a more contextual interpretation and analysis"

The concluding part is very important as it states, "Forensic accounting is of growing importance to all organizations worldwide. With the increased economic consequences of fraud, organizations need measures to reduce the risk of fraud. Management accountants have much to contribute to the process by adapting commonly used techniques of contribution margin analysis, static and flexible budgeting, and variance analysis to direct attention to anomalies caused by financial misappropriation. Additionally, techniques such as association analysis, cluster analysis, outlier analysis, and regression tools developed in data analytics can be co-opted into forensic analytics"

The emergence of Big Data Analytics and Data Science as a high skill in demand and the role of Management Accountants

Big data is part of a wave of digital technology which has the potential to threaten many highly skilled roles. Big Data has enabled to identify frauds or diagnose an illness

without human input in a much easier and faster way, although there is severe shortage of skilled professionals in this area.

Typically in any organization, big data activity is likely to take place in IT department followed by Finance Department. Therefore management accountants needs to be aware of the role they will play and the potential of big data.

According to research undertaken by CIMA while updating its syllabus, employers expect management accountants to be champions of evidence-based decision making, translating analytical insights into commercial insights and ensuring these are used to improve business prospects and performance. This means the biggest opportunity for management accountants is in the use of their combination of accounting and analysis skills with business understanding as business partners.

Management Accountants pathway to Big Data

1. Brush up your statistical skills
   A good understanding of statistics is very useful when participating in a big data project.

2. Learn something new
   Sign up for a course or certification programme on Big Data Analytics

3. Get familiar with the jargon associated with Big Data Analytics

4. Understand the context
   Gain a strategic awareness and understanding of your organization's business model

5. Be Curious
   Identify the key questions for the business and the data needed to answer them

6. Build internal links
   Establish good relationships with your IT team, data scientists, etc

7. Visualise the future
   Communicating data effectively is key to implementing big data. Understand the basics of visualisation, what tools are available and how they can be used.

8. Become a
   Big Data Champion Become the "go to" person in your team for data analytics. Identify how your team or business function should use big data

9. Network
   Attend seminars and workshops to learn more about the way data is used and meet other professionals who are using analytics

10. Do what you do best
    As a management accountant, you have a unique skill set that allows you to understand the business from its strategic context to the granular level of data. This would be valuable to any analytics project team. Develop your business acumen and the ability to recognise opportunities to create value. MA

Foot Notes

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ravikumar1993@yahoo.co.in

BIG DATA ANALYTICS: OPPORTUNITY OR THREATS FOR THE ACCOUNTING PROFESSION

CMA (Dr.) Rohit Poddar
Asst. Manager (Finance)
NMDC Ltd.
Kirandul, Chhattisgarh

Abstract

The rapidly changing business environment has created the demand of real time data analysis. The volume of data is increasing day by day which requires to be filtered as per the need of users.The rise of transformative technologies such as robotic process, Blockchain, Artificial Intelligence (AI), automation & machine learning has certainly raised the concerns among many accountants about what their profession will look like in the future. Therefore through this paper it has been tried to analyse and develop some insight on the topic of "Big Data analytics: Opportunity or threats for accounting profession."

The method & process of Accounting evolved with the development of business environment. It underway with the traditional method of bahikhata which was maintained manually to the phase of modern method of double entry maintained through the ERP or customized accounting packages based softwareof the organisation. This rapidly changing business environment created the demand of real time data analysis which can improved the managerial decision making. Traditionally, the demand of data analytics was limited to the technology industry. But now all industries are basically driven by Big Data and the skill set on these big data analysis have universal application. According to a 2016 survey, 59 percent of employers say data science and analytics skills will be necessary for finance and accounting managers by 2020.It is clearly reflect the importance & probable demand of accounting professionals in the field of data analysis. On the other side, it is also bringing the challenge for the currently engaged professionals to get acquainted with these changing scenario. They have to think beyond the traditional form

of dataset as presently the dataset are more complex, having the large volumewithdifferent varieties.

Big data is measured in terabytes and zettabytes, which is beyond the processing power of a typical server. It's unstructured and it can come from a variety of sources. The processed and verified big data is used for understanding the patterns and trends of human behaviour. With the proper analysis of these big data, professionals can effectively analyse & gather an insights to transform their business decisions. It all requires the skill set on big data analytics to solve the major problems& to reach into an effective decision based in the processed data.

Definition of important term

Big Data: The volume of huge data which can outpace the processing capacities of the common technological tools.

According to the Association of Chartered Certified Accountants (ACCA), big data pertains, basically, to an extensive chunk of data that is steadily gathered and aggregated using tools and technologies such as debit cards, the Internet, social media, and electronic tags. A majority of the amassed data is unstructured or does not conform to an explicit and predefined data model.

Big Data analytics:BDA uses data mining to uncover knowledge from a data warehouse or a big dataset to support decision making creating predictive models to forecast future opportunities and threads, and analyzing and optimizing business processes.

Theoretical framework

In the literature, the Big Data Analytics (BDA) is described as a science and technology for examining, summarizing and drawing meaningful conclusions from the huge database. It uses data mining to uncover knowledge from a data warehouse or a big dataset to support decision making through analysis and optimization of business process. It helps in creating predictive models to forecast future opportunities based on major trends & the market based real time data of dynamic business scenario. Hence, the big data analytics offer a capability of capturing "sequential causational and correlational processes" on a real-time basis and may change the financial accounting dramatically.

As the financial accounting is an information system of recording, storing, retrieving, summarizing, analyzing and presenting the financial and economics transactions of a business, it doesn't provide the concise & processed data for the management decision making. It is mainly concerned with the recording &reporting of the historical data to reflect the true & fair view of any organization on a periodic basis. Therefore the big data analysis can bring an avenue to the organisation for their future endeavours. Some of the major definitions for the big data analysis are outlined as follows:

Sun et al. (2018) defined BDA as the process of collecting, organizing, and analyzing big data to discover, visualize and display patterns, knowledge, and intelligence as well as other information within the big data.

According to Coyne et al. (2018), Big Data has become more and more meaningful to the accounting, but accountants have little understanding of the steps necessary to convert big data into useful information. This creates a deficiency on behalf of accountants assisting in Big Data information governance.

Palem (2014) argue that many companies appreciate that they need BDA, but they do not know precisely what they need it for. In most cases, BDA Solution providers bridge the gap between the customers 'needs and Big Data requirements.

Warren et al. 2015 assert that big data could significantly influence the future of financial reporting and the evolution of generally accepted accounting principles specifically on the reporting of off-balance sheet assets and fair value accounting.

Based on these definitions it can be said the BDA is very much helpful in decision making as it uncover the hidden facts& provide the necessary information from a data warehouse or a big dataset. In future, the success of any business will very much depends on these real time process information provided through the BDA. The BDA is also very much useful for the Internal Audit and internal control, as it provides deeper insights forplanning & accessing the strategic risks through the analytics and robotic work. It helps in identifying the fraud indicators to minimise the risk exposure of the organisation.

Flow & Nature of Big data Analytics:

The nature of big data essentially epitomised by four "V" that is:

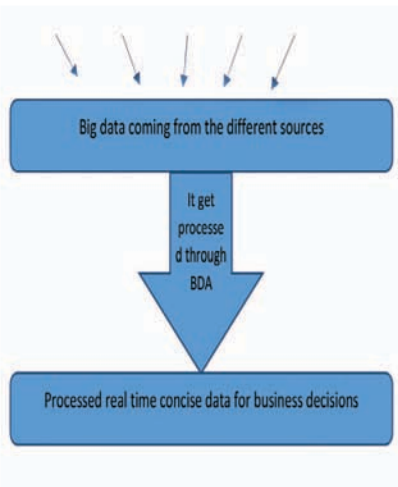
Volume: The quantity of generated data, often measured in terabytes or more. A typical server's processing power cannot handle the volume of big data.

Variety: The data originates from multiple sources such as social media, sensors& individuals.

Velocity: The rate at which the data is being created& analysed is very fast.

Veracity: Since the big data is derived from various places, it is inconsistent, incomplete and sometime even inaccurate.

Flow chart of BDA



Advantages of Big data Analytics

The big data analytics became very important tools for the processing the big data which helps in effective decision making. The following benefits of BDA is outlines:

- It uncover the relationship between key performances of the business.
- It provides the real time processed data for the key decisions of any business.
- It visualises the business process & data linked to that.
- It helps in identifying the fraud indicators of the organisation.
- It develops the risk profile of the organisation.
- The helps the internal auditor to implement in-depth verification of the transactions.
- The helps in developing the control simulation for the organisation
- It helps in quantifying the risk &to provide the root cause of any issue.

It uncovers the valuable insight of financial figures of a business.

- It helps in improving the business process which can increase the efficiency of the organisation.

Threats of BDA

- In future, there may be too much dependency on the BDA.
- The skillset of BDA is not very much available with the many working accounting professionals.
- It may create the unemployment due to its fast & technology based data processing.

Conclusion

The Big data analytics provides many benefits to the organisation. Presently, though it is not very much used by Indian accounting professional, it is quite popular & practiced across the world. The data analytics enables the internal audit work less time consuming& cost effective. It really enhances the quality & bring the efficiency & effectiveness in the accounting & auditing system. Due to its many advantages it can be said, that the BDA is a game changer in the dynamic & rapidly changing business environment. It isvery much helpful for the top management of the organisation for their decision making. The time is not very far, when the accounting professionals in India too, will become very much dependent of BDA. MA

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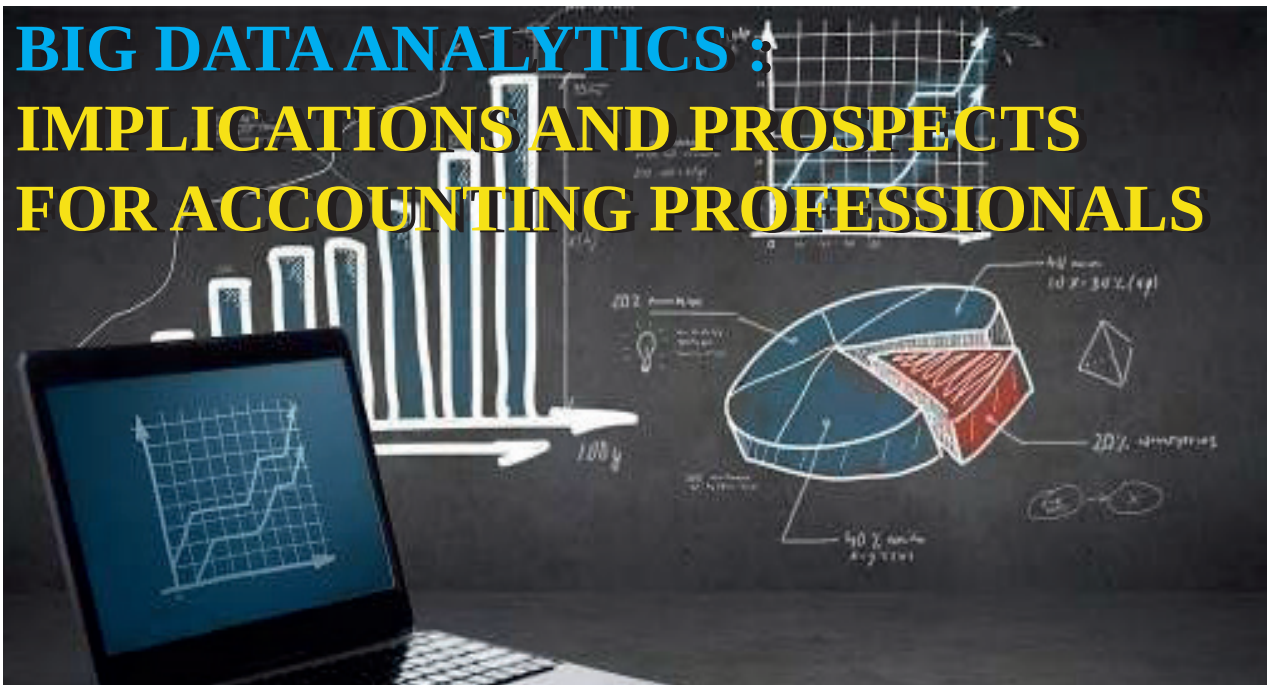
rohitpoddar.jh@gmail.com

BIG DATA ANALYTICS : IMPLICATIONS AND PROSPECTS FOR ACCOUNTING PROFESSIONALS



CMA.(Dr.) Sanjeev K.Bansal
Department of Management
I. K. Gujral Punjab Technical University
Main Campus
Kapurthala

CMA(Dr.)Rajni Bala
Assistant Professor
Department of Management
Punjab Institute of Management & Technology
Mandi Gobindgarh, Punjab

CMA Deepak Bansal
Manager, Costing (Purchase)
Hero Cycles Ltd.
Ludhiana, Punjab

Abstract

Technology is constantly changing. Smartphones, tablets, wireless access, networks, portals and the cloud have changed how the accounting and finance department uses data. Big data and Big Data Analytics impact nearly every aspect of accounting, including audit, tax, and managerial accounting.It helps in identifying various opportunities for improvement, and aid in evaluating global opportunities. Accounting professionals will need cutting-edge data analytics skills to thrive in this changing landscape. Accounting professionals should try to enhance their own capabilities in terms of both technical and analytical/statistical skills & knowledge. The present paper is basically a theoretical paper covering various aspects of Big Data and Big Data Analytics apart fromdiscussing the opportunities available to accounting professionals in the era of Big Data Analytics. The paper also throws light on various implications of Big Data Analytics in accounting and finance area.

Big Data-An Introduction

Change is the law of nature. Nothing is permanent in this world except change. The same is true in case of Data also. Data has become the "currency" of the digital world.The quantum of data that is generated and stored is increasing very quickly. The term Big Data was used when the generation of data started to outpace the processing capacities of the common technological tools.The business world has already spotted and appreciated the potential of big data. In 2012, ACCA and IMA described big data as one of the major factors shaping the future for accounting professionals, in its publication describing 100 Drivers of Change for the Global Accountancy Profession.

Features of Big Data

Factors like an upsurge in the number of mobile users, widespread usage of applications, and the switch from analog to digital technologies have fostered the growth of the Big Data market. The following are the main features of Big Data:

- ✔ Big data is the vast quantity of data collected, stored and transferred by new technologies.
- ✔ It is complex, and generally beyond the processing capacity of traditional analytical tools like spreadsheets.
- ✔ Big data is measured in terabytes and zettabytes.
- ✔ Big data may create an environment in which business will have to reimagine itself.
- ✔ It is unstructured, and may occur even from social media. cell phone records, surveillance cameras etc.
- ✔ It is generally not always complete, consistent, or accurate.
- ✔ Big data can depreciate very rapidly.
- ✔ The value of Big Data datagenerally diverges depending on its usage.
- ✔ Big data may dramatically redefine the accounting and finance landscape.
- ✔ In the modern era, it has become easy to integrate big data, but at the same time, companies need the adequate IT infrastructure and professionals to deal with this data.

Definition of Big Data

1. According to the Association of Chartered Certified Accountants (ACCA):

"Big data pertains, basically, to an extensive chunk of data that is steadily gathered and aggregated using tools and technologies such as debit cards, the Internet, social media, and electronic tags. A majority of the amassed data is unstructured or does not conform to an explicit and predefined data model".

2. According to Gartner

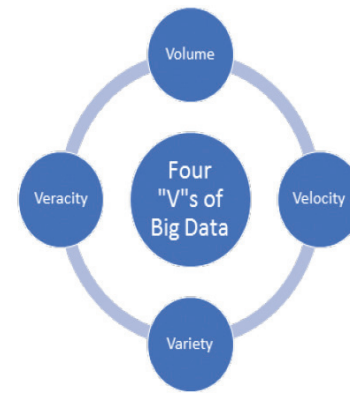
"Big data are high volume, high velocity, and/or high variety information assets that require new forms of processing to enable enhanced decision making, insight discovery and process optimization".

4Vs of Big Data

In 2001, Gartner, the US IT Research Specialist and Consultancy, developed a 3V model for big data, which signified mainly'Volume, Velocity and Variety'. But now one more Vi.e Veracity is also considered in Big Data.

4Vs of Big Data

Figure No.1 depicting 4Vs of Big Data



Volume: The quantity of generated data is very large indeed. It is generally so big that a typical server is unable to process its handle large volume.

Velocity: The data is being created very quickly. Generally. It may be in fractions of a second.

Variety: The data collected originates from multiple sources, various locations different devices and sensors. So before using this data for analysis, it must be linked and merged, or combined.

Veracity: Now a 4th "V" i.e. Veracity may also be considered in this context. As big data is derived from multiple sources, the veracity or quality of the data needs to be evaluated. Big Data has to be purified and verified, before it can be analysed.

Big Data Analytics

Big Data Analytics is used in integrating Big Data. The market for big data analytics is growing very fast. New advanced analytical techniques allow practitioners to utilise their data analytic skills to deal with large volume of available data to support decision making.The worldwide big data

analytics market has been trifurcated into three segments viz. End-users, Components(Hardware & software) and Solutions(Customer analytics & content analytics, fraud detection and risk management).Some of the most renowned players of Big Data Analytics Market are Teradata Corporation, Hewlett Packard Enterprise, Tableau Software, Pentaho and Datameer etc.

Definition of Big Data Analytics:

According to Cao, Chychyla, & Stewart (2015):

"Big Data Analytics is the process of inspecting, cleaning, transforming, and modelling Big Data to discover and communicate useful information and patterns, suggest conclusions, and support decision making."

Significance of Big Data Analytics in Accounting:

Big Data and Data Analytics in accounting is an early stage, and it provides an opportunity to accounting professionals to use their skills in descriptive analytics, predictive analytics and prescriptive analytics. The opportunity provided by Big Data Analytics may be transformative for accounting professionals, as justified by the following:

1. **Big Data Offers More Strategic, Proactive &Future-facing Role:**
   By using Big Data in an effective manner, accounting professionals may play a more strategic, proactive and future facing role. In the words of Sundara Raj, Consulting Leader, PwC, Malaysia,"I think that big data will provide a new lease of life for finance professionals. By embracing the concept of big data, by harnessing the benefits, I think finance professionals will sit at the strategy table rather than the finance table".

2. **Useful in Decision Making:**
   Using big data will offer more specialised decision making support in real time.Accounting professionals may act as custodians of non-financial datasets and set quality and ethical standards for the information used in making strategic decisions, and help in improving profitability, managing risks and improving operating efficiency by undertaking value-adding activities.

3. **Useful in Financial Accounting:**
   Big Data will improve the quality and relevance of accounting information, thereby enhancing transparency and stakeholder decision making. Big data analytics will definitely eliminate inefficient and time-consuming redundancy in Financial Accounting, which would be a boon for accounting professionals.

4. **Useful in Management Accounting:**
   Big Data can contribute to the development and evolution of effective management control systems and budgeting processes. CFOs can spot the places where resources leak out and opportunities for new revenue go unnoticed. Big Data Analytics may be used for cash forecasting for working capital management, or payment recovery.

5. **Useful in Management of Risk:**
   Big data is very useful in identifying and managing risks in real-time. Risk may be managed by using predictive analytics to test the risk of longer-term investment opportunities in new markets and products. Credit risk can be better predicted.

6. **Useful in Fraud Detection:**
   Aspecialised team may be employed to investigate fraud, through a 'visualisation' of information from various sources like official documents, social media, emails and texts etc. Big Data Analytics can help identify areas that may represent fraud, which can then be investigated further.

7. **Useful in Integrated Reporting:**
   Big data makes integrated reporting more effective. The potential of big data to demonstrate connections between non-financial data and financial value through integrated reporting means that the accounting and finance functions could play a greater role in promoting integrated thinking across organisations.

8. **Useful in Auditing:**
   Big data may make real time auditing a reality. It will help the auditors in analysing both structured and unstructured data to identify potential transactional anomalies, patterns of behaviour and trends. Further, it will enable them in judging which errors are worthy of further investigation.

9. **Useful in Financial Reporting:**
   Big Data Analytics can improve the quality and accuracy of financial reporting and provide opportunities to accounting professionals to gain valuable insights to evaluate results at period ends and between reporting periods, helping them spot errors and anomalies in the financial reports.

Implications of Big Data Analytics on Accounting Professionals:

Big Data Analytics offer accounting

professionals an opportunity to increase their visibility and weightage in business. The impact of Big Data Analytics on Accounting Professionals may be elaborated with the following points:

1. Acquiring Technical Competencies:
Accounting professionals should be trained in software tools such as XBRL (eXtensible Business Reporting Language). They must act as a bridge between statistics, decision science, data science and data art, combining analytical skills and sophisticated models developed by mathematicians and statisticians. They should collaborate closely with the IT specialists in cross-functional and multidisciplinary teams. They are expected to possess a combination of Data transformation, Data collection services and Data warehousing. They should be able to tackle AI-powered, data-dominated future.

2. Awareness of Cyber and Information Security Laws:
Accounting professionals must be aware of cyber and information security laws because of increasing concerns that commercially sensitive data in the cloud is vulnerable to cyber-attack.

3. More Consolidation:
The Accounting industry will witness much more consolidation in years to come. The small firms will be collaborating with each other to share a niche expertise with each other. As AI tools gain insights from the data and questions, accounting firms may move closer to a tiered consulting model. Automation will reduce the need for lower-level accountants, but client demand for expert data analysis will increase the need for experienced accounting professionals having industry experience at a senior or manager level.Accounting professionals must find ways not only to measure big data as an organisational asset but also to use it as a measure of organisational performance. Further, creative ways of preparing and auditing financial statements, for improving the effectiveness, efficiency and efficacy of their work is needed.

4. Data Driven Auditing:
Auditing will become data-driven, and the use of data analytics and artificial intelligence will change how historical financial statements are audited.Accountants will need to provide the auditor intelligence to ask the right questions and have staff run data queries.

5. Blockchain and Robotics related Applications:
Blockchain-related applications will have to be used by accounting professionals in order to remain in accounting profession.Blockchain, which allows data to be exchanged with the help of a decentralized ledger, could transform corporate reporting. Robotic process automation promises to automate and reduce the cost of back-office processes. Digital issues to tackle include global tax implications for how goods and services are sold; where companies base their operations; robotics; and new competitors.

6. Real-time Reporting:
As a result of Big Data Analytics, accounting professionals will be better equipped to conduct predictive analysis, and real-time reporting and real-time audit will become a reality.

7. Modified Accounting and Auditing Standards:
Big Data will have increasingly important implications for creation and refinement of accounting standards. A change in accounting and auditing standards is needed to focus on data, the processes that generate them, and their analysis, balancing the need for disclosure with the need for protection of sensitive data, and to empower end users, and improve the efficiency of the capital markets.

8. Revised Accounting Curriculums:
There will be a need to modify the accounting curriculums to embrace data analytics as a core component. Therefore,the Board of Studies of various professional bodies must ensure to update the curriculato accommodate the challenges of Big Data Analytics, and to produce accounting professionals with enhanced technology skills, to act as data-driven decision makers.

9. Proper Coordination with IT Professionals:
Accounting professionalsneed to effectively coordinate with the IT Professionals designing the AI-powered financialsystems. They can support data scientists performing exploratory analysis on Big Data. by determining which data is valuable, choose an established valuation technique, and identify key suppositions.

10. Need for Positive Attitude and Mindset:
In order to exist and be successful in Big Data environment, accounting professionals must be keep a positive attitude and open mindset to enhance their technical skills through continuous learning.

Concluding Remarks

To conclude, it may be remarked that Accounting professionals should aim at moving from bookkeepers to business partners in the era of Big Data Analytics. Accounting processes are increasingly automated, providing real-time visibility into transactions. In audit also, big data can produce more data driven audits, providing a better experience for the client and the auditor. In the era of Big Data, both accounting academics and accounting practitioners will benefit from learning about the significant potential benefits of Big Data and the inevitable challenges and obstacles in the way of its utilization. MA

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commerce.ptu@gmail.com
Rajni.arora@pimt.info
deepak44_bansal@hotmail.com

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LEADERSHIP CONCERT BETWEEN BIG DATA ANALYTICS AND THE ACCOUNTING PROFESSIONALS

Supratik Mitra
Faculty
Department of Commerce
Heramba Chandra College
Kolkata

Shouvik Mitra
Student
DIT University
Mussoorie

Abstract

Through complex applications with elements Big Data Analytics analyse huge volume of structured transaction data sets to provide means of drawing business conclusion. Accounting professionals as collaborators of the quality of data have truly become significant . They have no threat from BDA. There is vast potential if they play the desired complimentary roles in proactive manner. BDA and accounting professionals may have supplemental role also

Since the global financial crisis of 2008,firms providing financial services have been putting their best efforts to re-invent themselves and to find new ways to establish sustainable competitive advantages. The adoption of advanced technologies and capabilities to extract insights and add value from newly available data is bringing about change to leadership roles within the financial services firms.

At present, data is the key element for decision making throughout the firm, to be made really available to the persons who can make the best use of it. Importance of data gathering (e.g. customer purchasing routine) is well acknowledged. Following four big opportunities are now available to accounting professionals:-

(i)Data driven decision making,

(ii) Discoveries of new business opportunities,

(iii)Enhanced productivity and efficiency and

(iv) Risk and Regulatory management.

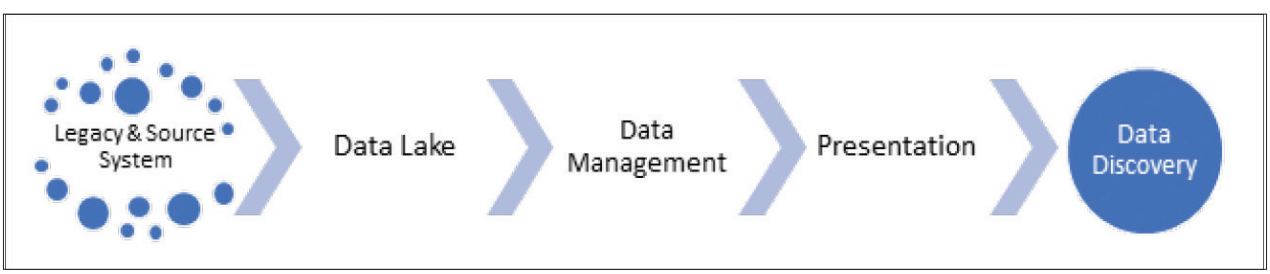
Basically, Big Data Analytics (BDA) facilitate to analyse huge volume of structured transaction data sets hitherto unutilised. It is a form of advanced analysis involving complex applications with elements such as statistical applications. BDA provide means of drawing business conclusion to the leadership.

Big data pertains to an extensive quantum of data that is gathered steadily and aggregated using tools and technologies (viz. debit cards, internet, social media and electronic tags) as per Association of Chartered and Certified Accountants. Where data-volume, the quantity of generated data is extensive; data is full of variety as it is originated from various sources; data velocity (rate of generation of data) is very fast and veracity or quality of data must be evaluated as it is derived from various places.

Final reporting is increasingly induced by BDA.Many consumers and business units now depend on accounting reports those usereal time information. The importance and role of BDA is to be clearly understood from following flow charts for proper implementation of more data resources and analytics over time.

Process:

Layers:



BDA can support entities in appraising the data assets by expanding various assessment techniques of accountsand finance professionals in which valuable data is chosen through established valuation techniques and key suppositions are identified. Accountants and similar professionals can assist in turning data sets into more in-demand,secure and important. The roles of accountant will no longer be limited to reporting financial data only. Alternatives will be determined by evaluation of many data sets which can be used by decision makers. As there is substantial risk in committing mistakes in data collection skilled and experienced professionals are in high demand. The potential of big data may not be fully realised due to lack of confidence, particularly when there is so much risk and business units have to avoid fines be imposed by the Regulators.

However, to ensure real time visibility there is need for automation across the sector. Big data is to be integrated. BDA have the potential to improve the financial reports giving professionals a tool to evaluate results helping business units to spot errors and prevent fraud, provided infrastructure and skill in house are ensured. BDA will then provide useful information by gaining at much lower cost.

Accounting professionals can play significant roles in big data information governance as they have the ability to identify the control needs as well as information while BDA help to improve the data management process through elaboration and analysis of large amount of data and provide real time information. Their concerted efforts must elicit the desired result of enhancing competitive advantage and implementation of corporate needs.

There is a lot of opportunities to link traditional extended data to new sources data.Extended ERP systems augment

the utility of accounting records with BDA. Processing big non-traditional data from various sources has a positive effect on accuracy of final reports.

Accounting professionals have the capacity to help enhancing the clarity of the figure from the angle of pertinence, accuracy and lucidity of information.Level of assurance placed on information originated from accountants is generally very high.Withthe advent of big data revolution Accounting professionals will know more than ever about the dynamics of the business environments and have access to the real time insights to improve business decisions.

Function of Accounting professionals as stewards of truth and as collaborators of the quality of data has become significant day by day. They have no threat from BDA. On the other hand, there is vast potential if they play the desired complimentary roles in proactive manner.

BDA may present a pressing issue having real time opportunity for auditors working in forensic and auditing areas in revenue recognition and accounting estimates. Data Analytics are transforming the data and programme by instituting to entities that seek ways on how to make better cost /benefit ratio of the internal audit functions (idea of continuous auditing) is compilation of audit evidences and gauges by an internal auditor on information technical processes, systems, controls and transactions and integrates a continual risk assessment process. Thus, BDA and accounting professionals may have supplemental role also.

Due to advancement of self-service data recovery nature of services provided by will be changed widely. Data sharing will result to created value. Internal and external careful movement of data can be done in better way by Accounting professionals. It will escalate efficiency and save time.

Since there are opportunities of BDA solution providers for Accounting professionals as detailedabove theyare expected to adapt to the challenges of BDAin terms of using and mastering new technologies and their applications. Preferred attention must be given for improvement of their capabilities and skills in the areas of BDA. They are to be skilled up in the area of data driven financial decisions to allow most use of BDA to businesses.On real time specific enhancement will be materialised in making decision by utilising big data.Together they can play essential role in achieving corporate goal and leadingedge architecture. MA

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shouvikmitra@outlook.com
supratikmitra@hotmail.com

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"THE FUTURE OF COST & CHARTERED ACCOUNTANTS – IMPACT OF AUTOMATION AND ARTIFICIAL INTELLIGENCE"

CMA (Dr.) Girish Jakhotiya
Ex - Professor
Jamnalal Bajaj Institute of Management Studies
Mumbai

Abstract

Artificial Intelligence (AI) is certainly going to impact the role & scope of working of the cost & management accountants in a big way. AI will seriously take over the robotic components of accounting & auditing. Therefore, the cost accountants need to move their value-chain upward & get into a strategic role. They need to think and act like business partners to contribute entrepreneurial value to the business organizations

World over the accounting profession is simultaneously being challenged and also complimented by 'automation'. The validity, suitability and productivity of this profession is further going to be tested (& also benchmarked) by "Artificial Intelligence (AI)". Therefore, professional accountants and their institutions need to introspect and restructure their "value chains", to ensure the sustenance of their role. This should be possible if they intelligently assess their "entrepreneurial partnership" with clients and other functional value - drivers. They will have to innovate their role to contribute 'alternate or bigger' value to businesses, which

the intelligent machines and systems won't.

Business organizations are increasingly expecting their 'non finance' executives to reasonably understand the financial impact of their business decisions, using the "automated financial decision - enablers". This has considerably reduced their operational dependence on the accountants. Today's young entrepreneurial generation is also finance - savvy and hence prefers 'financial or commercial acumen' to conduct their own 'risk - return analysis'. They expect more of an advisory role to be played by the accountants rather than conducting a 'post mortem exercise' in terms of accounting & auditing. Accounting system & control has been substantially automated. It will get further improvised with the application of AI. The auditing process (except 'strategy audit') is also being automated very fast. Now there is a thin line difference between an IT professional carrying out a concurrent or internal audit online and a traditional auditor.

With globalisation of business, on one hand the business enterprises are expecting tax - laws to be simplified and hence to be robotised in terms of compliances and on the other hand they need "business economists" who can spell out the strategic implications of direct & indirect taxes. Accountants therefore will have to gain an expertise in "economics of taxation" and not just limit their role to systemized compliances. More and more countries & companies are attempting to reduce the unproductive use of their accountants by simplifying, standardising and systemising their tax, audit & accounting compliances. Therefore the 'robotic' role of the professional accountants is speedily getting discarded. In nutshell, the accountants will have to move up their "value chain" to remain relevant and hence indispensable.

Artificial Intelligence clubbed with machination will make the 'auditing process' more robust and rational. This should considerably reduce the 'human element' which often causes either judgmental errors or emotional blunders. Ofcourse, only time will tell us to what extent 'artificial intelligence' would replace 'human brain'. Yet companies would prefer to invest more in AI for the ' systemic applications of accounting & auditing' than hire 'human accountants'. This shall be for an important reason that upgrading the machines or replacing them would be easier than working on the newer competencies &behavioural adaptability of the 'human accountants'. This all sounds scary, especially in a country like India where creating millions of accounting jobs is socially necessary. Incidentally, business owners always carry a different thought.

So, what should the Chartered & Cost Accountants do to ensure their 'role perpetuity'? - They need to disconnect themselves from the 'robotic process orientation' and equip with new & better skill - sets which should enable them to create value through strategic financial management (policy orientation), financial engineering (techno-commercial product designing) and financial performance benchmarking (market & people orientation). Business owners are now expecting their accountants who can think strategically, engineer suitable financial models to suit their business model & value chain and constantly bring newer benchmarks to improve financial performance of the organization. In other words, the professional accountants will have to be entrepreneurial advisors for their clients, using both, techno- commercial tools and strategic rigor. Obviously, the accountants will have to understand the entire"value chain" of the business, champion the commercial role with strategic maturity, apply innovation in financial engineering and develop new methods of performance benchmarking to add objectivity to the exercise of performance measurement & monitoring.

The professional accountants can use automation and artificial intelligence to bring more accuracy to their financial planning, monitoring, measuring and valuation. Ofcourse, this would require to apply utmost "financial innovation" to all the five components of business viz. business growth, cost management, performance measurement, technological excellence and resource optimization. Accountants can excel on all these five fronts if they sharpen their competencies of strategic thinking, financial product designing, appropriate benchmarking, techno - commercial measurement and converting abstract targets into measurable targets. So, the crux of the story is, accountants will have to be " intense business partners" who help their clients or functional colleagues in the entire pursuit of "creating wealth" through "financial strategizing and engineering". They will have to convert the challenges posed by automation & artificial intelligence into opportunities of value - creation! MA

girishjakhotiya@gmail.com

THE STUDY OF THE DETERMINANTS AFFECTING THE PERFORMANCE OF MUTUAL FUNDS IN INDIA- EQUITY MUTUAL FUND

Preeta Sinha
Asst. Professor
Army Institute of Management
Kolkata

CMA (Dr.) Tamal Taru Roy
Associate Professor
Naba Ballygunge Mahavidyalaya
Kolkata

Prof. Debi Prasad Lahiri
Associate Professor
Naba Ballygunge Mahavidyalaya
Kolkata

Abstract

The Indian financial sector has gone through a radical change in the last two decades. Theplethora of investment avenues available in the financial market is not only attracting the retail and domestic investors but also foreign investors. Today we have a more matured market with Mutual Funds and SIPs being the order of the day.The AUM has grown from Rs.5.45 trillion as on 31st August 2008 to Rs.25.20 trillion as on 31st August 2018 i.e., more than fourfold increase in a span of about 10 yearsAbout 40 lakhs new investor's accounts are added during April to July of 2017-2018 fiscal. The rise in assets is mainly due to an increase in retail inflows, especially in equity funds. The performance of the Mutual funds is not the same across all the asset class. The study is an attempt to determine the impact of factors affecting the Performance of the Fund and also to find the interrelation between the determinants to know their degree of influence on the performance indicator of the fund.

A wide range of investment avenues are available to the investors such as fixed deposits, insurance, post office savings/ national savings certificate, gold/e-gold, bonds, public provident fund (PPF), real estate, shares, commodities etc. Mutual fund is one of the important investment vehicle that offer good investment prospects to the investors. The Indian mutual fund industry offers a plethora of schemes like Open-ended, Close-ended, Interval, Growth, Income, Balanced, Equity Linked Saving Schemes (ELSS) and Exchange Traded Funds (ETF), etc.

The total number of Mutual Funds schemes floated by 43 AMCs as on 31st March 2018 is 2,599 (AMFI) . A plethora of schemes makes it impossible for an investor to gauge a fund's suitability.The rapid growth of Indian Mutual fund necessitates the investigation of some crucial issues of the performance of mutual fund schemes. The study was named to know the effects of factors affecting the performance of Equity Mutual Fund in India. The study investigated performance of 102 mutual funds schemes for the period April 2013 to March 2018.

Literature Review

AUTHOR	YEAR	VARIABLE	FINDINGS
Philpot.J.et.al	1998 (27 bond Fund)	Asset Size	+VE
Indro et al	1999	Asset Size	+VE
Dahtquist M.et al	2000	Asset Size	+VE (Bond Fund)
Wharton School	1962	Asset Size	-VE
Gorman	1991 (1971-1985) 355MF	Asset Size	-VE
Daniel C. Indro, Christine X. Jiang, Michael Y.Hu and Wane Y.Lee	1993	Asset Size	-VE
karlson&persson, Haslem, Baker, & Smith, 2008	1999	Fund Size	Fund size affects the Mutual fund performance.
Ippolito	2005 2008	Fund Size	Negative relationship between fund size and fund return
Droms&Walker	1989	Expense ratio	+VE Earn more return to offset high expense ratio
Karlsson&Persson	1996	Expense ratio	+VE
David A Latzko	2005	Expense ratio	-VE
Malhotra&McLoad	1999	Expense Ratio	The change in the fund expenses is less than the fund Size
Peterson et al David C. Webster	1997	Age of the Fund	+VE
Otten&Bams	2001 2002	Age of the Fund	No Relationship
Karlsson&Persson	2002	Age of the Fund	-VE
Ippolito& Turner	2005	Age of the Fund	-VE
Carhart	1987 (1977-1983)	Turnover	-VE

AUTHOR	YEAR	VARIABLE	FINDINGS
Chen & Lin	1997	Turnover	-VE
Massa	1998	Turnover	-VE
HossainVaramini	2003	Market Capitaliza-tion	-VE
Gerald P. Maddan,Kenneth P-Num	2008	Market Capitaliza-tion	+VE (small Cap) -VE (large Cap)

Objective of the study

Literaturereview states that Fund characteristics have power in explaining returns. The conventional wisdom among financial academics is that fund performance is negatively correlated with fund assets, expense ratios and turnover (Droms& Walker,1996). According to Peterson et al(2001) the most frequently used attributes are: Risk, Style, expenses, Turnover, Fund size, cash flow ,Management tenure and fund age. The objective is to determine the relative importance of factors- ER, NA, TU, MC, TN & AG, affecting the fund's performance (3 yr return, Sharpe ratio).

Performance Indicator (Fund's Return)

Average Annual return (R3): The 3 year annualized average return is taken as the indicator of Fund's performance.

Risk adjusted Return: It is calculated as-

Sharpe Ratio (SHR): It is the average return earned in excess of the risk-free per unit of volatility or total risk.

$$Sharpe\ ratio = \frac{\bar{r}_p - r_f}{\sigma_p}$$

$\bar{r}_p = expected\ return\ of\ the\ portfolio\ or\ investment$

$r_f = risk\ free\ rate$

$\sigma_p = standard\ deviation\ of\ portfolio\ returns$

Determinants

Net Asset/Fund Size (NA): It is calculated as the total net assets of the fund and represents the total investment of fund managers in assets.

Expense ratio(ER): Represents the total expenses incurred in fund management.

Turnover(TN): Portfolio turnover is calculated by taking either the total amount of new securities purchased or the amount of securities sold-whichever is less-over a particular period, divided by the total net asset (NAV) of the fund.

Market Capitalization (MC): It gives the weighted average market cap of each fund's portfolio. It is calculated by taking the geometric mean of market cap of the stocks raised to the power of stock's respective weight in the portfolio.

Tenure of the fund Manager (TN): It refers to the number of years the current fund manager has been managing the fund.

***Age of the Fund (AG)*:** It refers to the age of the fund which is calculated as the difference between the current date and the launch date.

Research Methodology

The research is quantitative in nature and is based upon the secondary data collected from the selected Mutual funds annual report, fact sheets and official website of Association of Mutual Funds in India (AMFI).Annual NAV for the selected Mutual Funds were collected for the period April 2013 to March 2018.To determine the factors affecting the performance of the Mutual Fund open ended equity funds across all the AMCs are taken.Multiple Regression analysis is usedto determine the relationship between a dependent variable and several independent variables: Net Asset, Expense ratio, Turnover ratio, Tenure of the fund, Market capitalization& Age of the Fund to the fund performance i.e., average annual return and risk adjusted return.

Data Analysis

The study is an attemptto analyse to what extent the criterion variable i.e, the return of the fund is influenced by the predictor variables. The analysis is done using SPSS-Statistical Package of Social science

3 Year Return (R3)

Table 1: Pearson Correlations

	R3	NA	ER	TU	MC	TN	AG
R3	-	-0.069	-0.026	-0.059	-0.709	-0.114	-0.193
NA	-0.069	-	-0.419	-0.005	0.172	0.335	0.06
ER	0.026	-0.419	-	-0.035	-0.016	0.009	0.002
TU	-0.059	-0.005	-0.035	-	0.12	-0.14	-0.125
MC	-0.704	0.172	-0.016	0.12	-	0.112	0.134
TN	-0.114	0.335	0.009	-0.14	0.112	-	0.162
AG	-0.193	0.06	0.002	-0.125	0.134	0.162	-

The correlation between expense ratio and Net assets is negative (-0.704) and the correlation between net asset and tenure is positive. It is attributed to the fact that higher is the experienceof the fund manager greater is the expertise which generally result in higher returns and leads to garner more funds, thereby increasing the Net Asset value of the fund.

Table 2: Model Summary

Model	Sum of Square	df	Mean Square	F	Sig
Regression	2744.901	6	457.484	43.253	0.000
Residual	2601.917	246	10.577		
Total	5346.81	252			

The value of R-Square is 0.513, which means that about 51.3 percent of variation in the return is explained jointly by all the independent variables.

Table 3: ANOVA

R	R Square	Adjusted R Square	Std. Error of Estimate	Durbin Watson
0.716	0.513	0.502	3.25	1.255

The p-value (0.000) associated with F value is very small and is less than 0.05 at 5% level of significance .It implies that independent variables i.e., NA ,ER,TU,MC,TN and AG jointly explain variations the dependent variables.

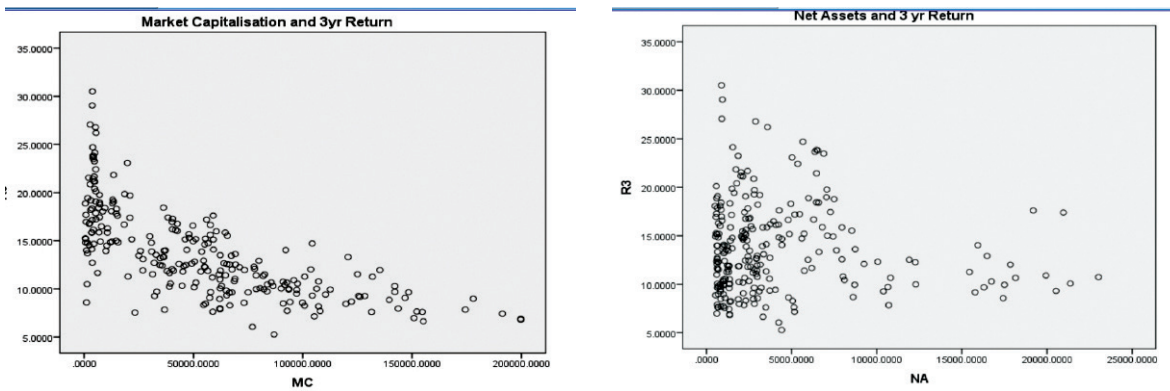
Table 4 : Coefficients

Model	Standardised Coefficients	t	Sig
	β		
Constant (15.617)		5.832	0.000
NA	0.099***	1.857	**0.065**
ER	0.057	1.141	0.255
TU	0.009	0.0197	0.844
MC	-0.703*	-15.234	**0.000**
TN	-0.053	-1.073	0.284
AG	-0.096**	-2.091	**0.038**

*significant at 1% sig. level, **significant at 5% sig. level, ***significant at 10% sig. level

The standardised coefficients β represents the values of the regression .It compare the magnitude of the coefficients to see which one has more of an effect. MC is found to be significant at 99% level of confidence while AG is significant at 95% level of confidence.Net assets is also found to be significant at 90% level of confidence .Thus three determinants, MC,NA and AG are significant determinants affecting the performance of the fund.

Table 5 : Scatter Plot



Sharpe Ratio

Descriptive Analysis

Table 6: Descriptive Analysis (Sharpe Ratio)

	Std. Deviation	Mean	Minimum	Maximum
SHR	0.232	0.743	0.28	1.39
ER	0.203	2.284	1.97	2.96
NA	4830.367	4201.047	571.66	23021.38
TU	48.598	63.319	11.48	272
MC	52328.112	52760.94	571.66	199746.7
TN	3.831	4.731	0.6	16.1
AG	5.798	13.678	3	31

Table 7: Pearson Correlation

	SHR	**AG**	**ER**	**NA**	**TN**	**MC**	**TU**
SHR	-	-0.355	-0.037	-0.021	-0.18	-0.668	-0.055
AG	-0.355	-	-0.029	0.093	0.255	0.232	-0.117
ER	-0.037	-0.029	-	-0.416	0.021	-0.016	-0.018
NA	-0.021	0.093	-0.419	-	0.346	0.169	-0.036
TN	-0.18	0.255	0.021	0.346	-	0.183	-0.15
MC	-0.668	0.232	-0.016	0.169	0.183	-	0.091
TU	-0.055	-0.117	-0.018	-0.036	-0.15	0.09	1

A strong negative correlation (-0.668) is found between Sharpe ratio and market capitalisation. Expense ratio and Net assets is showing negative correlation (-0.419).

Table 8: Model Summary

R	R Square	Adjusted R Square	Std. Error of Estimate	Durbin Watson
0.709	**0.502**	0.474	0.168	1.46

The value of R-Square is 0.502, which means that about 50.2 percent of variation in the return is explained jointly by all the independent variables.

Table 9: ANOVA (Sharpe Ratio)

Model	Sum of Square	df	Mean Square	F	Sig
Regres-sion	3.007	6	0.501	17.67	0.000
Residual	2.978	246	0.028		
Total	5.985	252			

The p value (sig.) is less than 0.05 we conclude that the independent variables jointly explain variations in the dependent variable (Return: Sharpe ratio)

Table 10: coefficients

Model	Standardised Coefficients	t	Sig
Constant (15.617)			
NA	0.122	1.474	0.143
ER	-0.002	-0.025	0.980
TU	-0.027	-0.379	0.705
MC	-0.627*	-8.632	**0.000**
TN	-0.058	-0.741	0.460
AG	-0.209*	-2.858	**0.005**

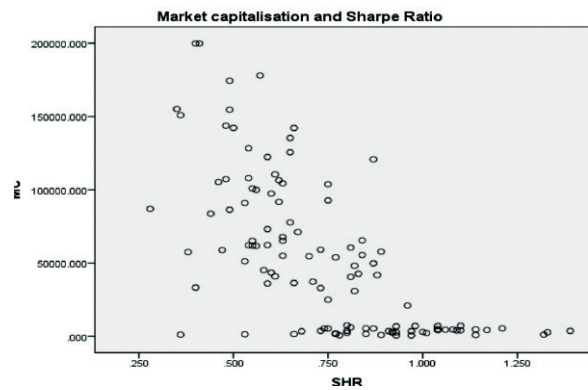
* Significant at 1% sig. level Coefficients

Market Capitalisation (MC) and Age of the Fund is found to be significant at 99% level of confidence as the sig. value of both MC and AG are less than 0.01.

Figure 11: Scatter Diagram between MC and Sharpe Ratio

Findings of the Study

The Spearman correlation between 3 yr return and market Capitalisation is strong and negative. This is due to the fact that large Cap fund tend to give moderate returns



as compared to small cap fund. But this is seen in the bull market. Expense ratio and Net asset also negatively correlated when 3 yr return is taken. When the Net asset increases, the fixed cost remains the same but the variable cost decreases due to economies of scale. As the net assets increases the expense ratio decreases. Equity Fund can charge a maximum of 2.5% on average weekly net assets for the first 100 cr, 2.25% for 100- 400 cr, 2% on the next 400-700 cr and 1.75% on any sums above 700 cr.

The correlation between net asset and tenure is positive. It is attributed to the fact that higher is the experience of the fund manager greater is the expertise which generally result in higher returns and leads to garner more funds, thereby increasing the Net Asset value of the fund.

The independent variables of the fund jointly explain about 51.3 percent of variation in the return. A Strong negative relationship is found between Market capitalisation and Sharpe ratio. Though the market capitalisation of large cap fund is higher than that of the smaller cap fund, the return is less or more stable as compared to small cap fund. Therefore the risk adjusted return in case of large cap is less than that of small cap fund in a very volatile market when the market is in the boom phase.

Market Capitalisation and Net assets are found to be significant at 5% sig. level. The increase in the return leads to more inflow into the fund which ultimately increases the Net assets .As the objective of the fund cannot be changed the fund start to contribute more to the stocks already in the basket, thereby increasing the market capitalisation.

Conclusion

The study indicates that the different determinants of Mutual fund have a different level of impact on the

performance of Mutual Fund. None of the determinants have significant impact on the return of the fund except market capitalisation. As the Market Capitalisation of the fund increases, the risk adjusted return decreases becauseas large cap fund having larger market capitalisation generates moderate return with less risk as compared to small cap fund having smaller market capitalisation providing more return with higher risk in a highly volatile market. Thus to get better return the market capitalisation of the fund should be taken into consideration. The other important factor is the Net Asset which affects the performance as it may give the Fund Manager more flexibility for investment in the portfolio. MA

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preeta1999@gmail.com
tamaltaruak@gmail.com
dplahiri@gmail.com

FIFTY YEARS OF BANK NATIONALIZATION: PHASE WISE POLICY AND PROGRESS OF INDIAN BANKING

Dr. Goutam Bhowmik
Department of Commerce
University of Gour Banga
Malda

Sri Saikat Dutta
Department of Commerce
Kalyani Mahavidyalay
Nadia

Abstract

In India, Nationalisation of 14 Commercial banks in 1969 was a landmark so far as Indian economy is concerned for many many reasons. Many rounds of debates took place that provided a plethora of issues on the success or otherwise of the historic move. Nevertheless, Indian Banking System over the post nationalisation period revolves around the public sector banks. In 2019, we are going to complete 50 years of bank nationalisation. In this context, present study is to describe the phase-wise developments of Indian commercial banking along with an evaluation since 1969 to till date and to highlight the phase wise goals, related measures for that goal and achievements with critical issues.

1. Introduction

In the earlier years of Independent India, greater rolethe public involvement in the economic life of the nation was thought of as a policy suitable for overall economic development of the country. This resulted in greater involvement of the state in different segments of the economy including banking and finance. In the sphere of banking the impression of such policy was visible in the following major steps to regulate banking industry:

- The Reserve Bank of India or RBI was nationalized on 1 January 1949 under the terms of the Reserve Bank of India (Transfer to Public Ownership) Act, 1948.

- In 1949, the Banking Regulation Act was enacted, which empowering theRBI to regulate, control and inspect the banks in India.

- The Banking Regulation Act also provided that no new bank or branch of an existing bank could be opened without a license from the RBI, and no two banks could have common directors.

Despite the provisions, control and regulations of the RBI, banks in India except the State Bank of India (SBI), remain owned and operated by private persons. By the 1960s, the Indian banking industry had become an important tool to facilitate the development of the Indian economy. Such ambitious policy could not be achieved without nationalization of commercial Banks. To overcoming the vicious circle of low capitalization, control of bank board by big industrial houses and consequently to build-up public confidence drastic step was needed. When the then Prime Minister of India, expressed the intention of the Government of India in a paper entitled *"Stray thoughts on Bank Nationalization"*, the idea received with enthusiasm.

Then, Government of India issued an ordinance ['Banking Companies (Acquisition and Transfer of Undertakings) Ordinance, 1969'] and nationalized the 14 largest commercial banks with deposits worth Rs. 500 million or more by virtue of the Banking Companies (Acquisition and Transfer of Undertakings) Act,1970 which was effected from the midnight of 19 July 1969.

These banks contained 85 percent of bank deposits in the country.Within two weeks of the issue of the ordinance, the Parliament passed the Banking Companies (Acquisition and Transfer of Undertaking) Bill, and it received the presidential approval on 9 August 1969. The above was followed by a second phase nationalization in 1980, when government of India acquired the ownership of 6 more banks, these are:

The main objective of bank nationalization is to strengthen the foundation of 'Social Control' on institutional finance. More specifically, the broad objectives are:

- To align banking policies with larger social purpose and be in accordance with the national priorities and objectives as it touches the lives of millions.

- Direct control over banks to inject an element of dynamism and new vigour into the banking system.

- To eradicate the malaise of very low or negligible stake of shareholders in the banks (This aspect of banking has led even predominantly capitalist countries to nationalize their banks. For example, France nationalized four of its six large banks and Italy, four out of five).

- To restrict some socially undesirable activities, such as hoarding, black-marketing etc.

- To removes commercial banks' apathy in opening branches in the countryside primarily due to lack of profitability.

The bank nationalization is going to complete its 50 years journey in 2019. The banking fraternities as well as experts are divided on the issue of whether bank nationalization in India delivered its stated objectives. The present paper attempts to revisit the progress and development of Indian Banking in the nationalized era.

2. Objective of the study

The prime objective of the present study is to describe the phase-wise developments of Indian commercial banking along with an evaluation since 1969 to till dateand to highlight the phase wise goals, related measures for that goal and achievements with critical issues.

3. Methodology of the study

The present study is both descriptive and analytical in nature. It describes the background of and phase-wise progress of Indian banking during the nationalized era. The study is based on secondary data only, which were collected from the published data mostly from the Reserve Bank of India and other related sources. The data are analyzed by using descriptive statistics. Mainly the study is segregated in three economic phases since bank nationalization, like:

- **Follow up of Social Control (1969 – 1991)**
  Focus was to achieve the stated objectives of nationalization.

- **Prudential Phase (1992 – 2008)**
  Focus was to strengthen the soundness and resilience of the banking system and

- **Cost Conscious and Cost Governance Phase (2009 – Till date)**
  Focus has been to control the implicit and explicit costs and improve the governance framework as a policy response to the Global Financial Crisis.

4. Phase-wise Development andProgress in Banking after Nationalization

4.1 Follow up of Social Control (1969 – 1991)

Nationalization was resorted on the ground that exiting 'social control' over banking systems need to be strengthenedin order to make available the credit for revival of the small business industries and agricultural sector. Accordingly, the initial phase can be categorized as Follow up of Social Control. During this phase, the development and progress of Indian Banking revolved around broad objectives:

- Mobilization of deposits through a massive programme of branch expansion particularly in the unbanked rural areas.

- Ensuring adequate financial assistance to the priority sectors of the economy.

A quick glance to the Table1reveals the progress made by the Indian banking system during 1969- 1991. During the social control phase, we may notice three major developments within the economy in India. These are:

4.1.1 Progress in Branch Expansion

During the period, banking was mainly guided by the philosophy to reach to the people who were not covered under any banking facilities. So, from the year 1969 to 1991, total number of bank offices increased from 8,262 to 60,220 giving an annual rise of 2,259, with Compound annual growth Rate (CAGR) of 5%. In 1969 there was only one bank to serve 64,000 people, whereas by the end of March 1991, there were almost five banks to serve the same population. During December 1960 to June 1969 the number of bank offices increased from 5,026 to 8,262 giving an annual rise of 380 offices. It is thus clear that the progress of branch expansion was on a modest scale during pre-nationalization period. Apart from the numerical increase in bank offices, there has been a qualitative change in branch expansion. As against 22.4% bank offices located in rural areas in June, 1969, there were 58.46% bank offices in these areas in March, 1991. The relative importance of semi-urban areas appeared to have declined during the period. Compared to 40.2% branches located in these areas in 1969 there were 18.8% at these centers in March, 1991 and the CAGR was negative 3%.

During the same period the percentage of bank offices in urban and metropolitan areas also declined. The corresponding CAGR were negative 2% and 3% respectively. As to the removal of regional imbalances, planned attempts have been made during the period to align banking facilities in relatively backward states. As a result, branch expansion has been faster in the states like Assam, Orissa, Bihar, Madhya pradesh and Uttar Pradesh than in the developed states like Maharashtra, Gujrat and Tamil Nadu. This has progressively reduced regional inequalities in banking facilities. But they can never be wiped out completely unless the level of economic development is the same everywhere (Mishra &Puri, 2003).

Table 1: Progress of Banking during Follow up of Social Control Phase (1969-1991)

Particulars	Jun-69	Mar-91	CAGR[1](%)
1. No. of Commercial Banks	89	276	5
1(a). Schedule Commercial Banks (SCBs)	73	272	6
1(a) (i). Of which Regional Rural Banks (RRBs)	0	196	
1(b). Non SCBs	16	4	-6
2. Bank offices in India	8262	60220	9
2(a) Rural Branches (no.)	1833	35206	14
Rural Branches (%)	22.2	58.5	5
2 (b) Semi-Urban Branches (no.)	3342	11344	6
Semi-Urban Branches (%)	40.45	18.8	-3
2 (c) Urban Branches (no.)	1584	8046	8
Urban Branches (%)	19.17	13.4	-2
2(d). Metropolitan Branches (no.)	1503	5624	6
Metropolitan Branches (%)	18.2	9.34	-3
2(e). Population per office (in thousands)	64	14	-7
3. Deposit of SCBs (Rs. In millions)	46460	1925420	18
4. Credit of SCBs (Rs. In millions)	35990	1163010	17
5. Credit-Deposit Ratio (percentage)	77.46	60.4	-1
6. Credit to Priority Sectors (Rs. In millions)	5040	445720	23
Credit to Priority Sectors (percentage)	14	37.7	5
7(a). Total Advances to Agriculture(Rs.In millions)	1884.1	173340	23
7(b). Total Advances to Small Scale Industries (SSI) ((Rs. In millions)	2941	206761	21
8. Share of Rural Deposit (%)	3.10	15.10	7
Share of Rural Credit (%)	1.50	14.70	11

Source: Statistical tables relating to banking in India, RBI, various issues

4.1.2 Deposit Mobilization

The main function of anybanking system is to mobilize money from saving surplus units. Since 1950-51 deposit mobilization and supply of credit by banks were growing at a rapid rate particularly after bank nationalization in 1969. Growth of deposits in India of all schedule commercial banks was as follows:

- 1951-1971 (20 years) – 700% or 7 times.
- 1971-1991 (20 years) – 3260% or 33 times.
- 1991-2010 (19 years) – 2296% or 23 times.

It is clear that the most rapid deposit expansion was during 1971 to 1991 – nearly 33 times. This was because of nationalization and tremendous expansion of banking (Datt and Sundharam, 2012). Aggregate bank deposit of Schedule Commercial Banks (SCBs) stood at Rs. 19, 25,420 million as on March 31, 1991 as against Rs. 46,460 million in July, 1969. This phenomenal rise in bank deposit was partly due to inflationary pressure, partly due to rise in national income and partly due to the success of deposit mobilization efforts of commercial banks.

A notable feature is the increase in the deposit mobilized by rural branches both in absolute and relative terms. Rural deposits increased from 3% to 15% of total deposit (Khan, 2004). Deposits of semi-urban and urban areas have also increased but growth at these centers was not as spectacular as in rural areas. It is undeniable that bank nationalization created a trust building environment within the mind of the '*AamAdmi*'. Basically poor and mediocre populations of India were started to think that nationalized banks are the safest custodian of their hard earned money.

4.1.3 Expansion of Credit

There has been continued expansion of bank credit reflecting the rapid expansion of agricultural and industrial output.Since nationalisation, there has been a spectacular rise in bank credit. In July, 1969 the credit of (SCBs) stood at Rs. 35,990 million. Over a period of 23 years, bank credit has steadily increased and was more than 32 times. However, extension of credit to small borrowers in the priority sectors was in fact the foremost aim of nationalisation and, therefore, its magnitude is considered to be the real test of its success.In this regard, it is found that the flow of bank credit to the priority sector was considerably accelerated after nationalisation. For instance, the share of the priority sector in the total outstanding bank credit increased from 14% at the end of June, 1969 to 23.2% at the end of March, 1971 and further to 26.3% at the end of December, 1975 (RBI Trend and Progress of Banking in India, 1976).

The Government advised the Public Sector Banks (PSBs) to increase the proportion of advances to the priority sector in their portfolio to the level of 33% by the end of March, 1979. In the latter years, the priority sector accounted for nearly two-fifth of the bank lending and in 1991 it stood at 37.7%. Thus, a remarkable shift has been achieved by the banking system so for as extension of credit to priority sectors are concerned. However, credit-deposit ratio, which is an important indicator of banking activities, declined to 60.4% in 1991 from 77.46% in June, 1969. This indicates banks' insignificant improvement in lending activities to pick up the credit demand (Ahmed, 2003).

There is no denying the fact that since nationalisation, Indian banking system has grown immensely in the areas of deposit mobilisation, branch expansion, coverage to rural areas and credit to priority sectors. Because of the success achieved, the Government on 15th April, 1980, nationalised six more private sector banks to extend further the area of public control over the country's banking system. Thus, we got a gigantic public sector in banking consisting of 28 banks (SBI Group and 20 nationalised banks).

4.2 Deficiencies Developed during 'Follow-up of Social Control' Phase

The social control phase faced some serious criticisms. The shifting of concentration from profit motive to service motive,in this period some serious weaknesses developed within SCBs in the form of decline in productivity and efficiency of the banking system and consequently serious erosion in profitability with implication for its viability itself. Gross profit of SCBsprogressively reduced to a level of 1.1% of working fund. In case of some banks, the incremental cost of operation per rupee of working fund was more than the incremental income per rupee of working fund (Khan, 2004). The major factors responsible for this state of affairs are as follow:

- **System of directed investment:** System of directed investment in terms of Statutory Liquidity Ratio (SLR) and the Cash Reserve Ratio (CRR) pre-empted 63.5% at the margin of the Net Demand and Time Liabilities (NDTL), comprising SLR 38.5% and CRR 15% plus 10% incremental ratio. This high pre-emption is responsible for the poor show in the sphere of credit deposit ratio. The income of banks was adversely affected both by the quantum of and interest on SLR.

✤ **Directed credit programme:**Serious departures from the principles of sound banking on account of shift from security–oriented credit to purpose–oriented credit, resulted in deterioration of the quality of loan portfolio, growth of over-dues and consequent erosion of profitability. In the desire to attain credit targets, the banks paid inadequate attention to the qualitative aspects of lending.

✤ **Subsidisation of credit:** Priority sectors have been receiving bank credit at concessional rate and therefore involve an element of subsidy which has adversely affected the profitability of banks. Two points are worth mentioning here. First, the timely and adequate access to credit is much more important than its cost or the subsidisation thereof. Second, subsidised credit to the selected beneficiaries is at the expense of those unfortunate who are denied bank credit.

✤ **Political and administrative interference in credit decisions:**Political and administrative interference in credit decisions contributed, by far the most to the decline in portfolio quality. The phenomenon of loan *melas* and scheme of loan waivers have added an additional element of politicization of banking. They have also done serious damage to credit discipline among borrowers by encouraging default. The political element has condoned overdue of defaulters without any regard for the social obligation of banks towards their deposit holders. The forced extension of bank credit to sick-units was another dimension to the contamination of the portfolio of banks. The problem of infected loan portfolios is quite high.It is estimated that over 20% of agricultural and SSI credit is not recoverable (Gupta, 1999).

✤ **Increase in expenditure:**The escalation in expenditure is partly responsible for the decline in profitability of banks. First, the increase in interest cost of deposits and a shift in the maturity pattern of deposits towards the longer-term deposits. Second, and perhaps the single most important cause, was the opening of unremunerated branches in rural and semi-urban areas which were basically deposit centers and never generated adequate credit business and consequently, income. Thirdly, the rapid growth of number of staff and increasing inefficiency among them and the excessive load of servicing more branches, as operational methods and procedures remained largely unchanged.

✤ **Lax regulation and supervision:**Laxity in regulation and supervision was due to excessive political pressure and non-transparent accounting practices in terms of income recognition, asset classification, provisioning and capital adequacy in conformity with international norms and practices.

✤ **Lack of operational flexibility and internal autonomy:** Under direct control of the Government, the nationalized banks have been suffering from lack of operational flexibility. The autonomy of decision making was almost vanished during this period.

✤ **Lack of competition:**PSBs, which accounted for more than 90% of banking business among them, have little incentive to compete. Competition was inhibited by the regulated interest rate. Even non-price competition was missing. This has an adverse effect on the quality of customer services.

These persistent deficiencies over the years lead the Indian banking system to the prudential phase of banking development. The macro economic crisis in 1991 prompted the Government to introduce comprehensive economic reforms. As a part of this initiative, banking sector reforms were undertaken to take care of many of the above mentioned problems.

4.3 Prudential Phase (1991 to 2008)

In 1991, the country was caught into deep economic crisis. India's foreign reserve balance was just around $ 1.1 billion and the country barely had enough to finance two weeks of import. Then Government of India made a paradigm shift in its economic order. India broke away from decades of Nehruvian Socialist Order and embraced an open economy. Consequently Indian Banking sector was starting to shift from 'social banking' to 'prudential banking'. The government at this juncture decided to introduce comprehensive economic reforms. The banking sector reforms were part of this package.

The government appointed a committee on the Financial System under the chairmanship of M. Narasimham in August 1991 which submitted its report within three months (popularly known as Narasimham Committee- I or N.C-1). The committee had set a comprehensive agenda for transforming Indian banking system against the background of serious deficiencies mentioned earlier. As a result of the reform measures taken, some positive developments can be noticed in the banking system like:

✤ Greater accuracy and transparency in line with international best practices,

✤ Improvement of capital adequacy of majority

commercial banks,

✤ Decline in proportion of gross and net NPAs in terms of advances,

✤ Slight improvement on profitability etc.

Yet, the efficiency and productivity still offer much scope for improvement which necessitates second generation reforms.The Second generation reform began after the committee on Banking Sector Reform (N.C-II) also headed by Mr. M. Narsimham submitted its report in 1998.The N.C-II dealt with three broad issues:

✤ Action that should be taken to the strengthen the foundation of the banking system,

✤ Streamlining the procedures, upgrading technology, and HRD and

✤ Structural changes in the system.

The reforms after 1998, therefore, addressed internal financial management of the banks in contrast to the regulatory compliance until then. The basic aim of banking sector reforms was to establish a sound and viable banking system.The banking system in India has grown in this phase as a sequel to the implementation of the recommendations of the N.C-I and N.C-II. In this phase the following developments took place:

4.3.1 Direct Investment: High SLR and CRR requirements were reduced several times. During 1996 to 2012, SLR came down between 23 – 25% of Net Demand and Time Liabilities (NDTL). SLR was brought down to 19.50% in January 2019. Similarly, CRR was reduced to in phases and brought down at 4 % in January 2013 and remained around 4% since then.

4.3.2 Direct Credit: N.C.I made a strong case for the gradual reduction of priority sector from the present high level of 40% to 10% of total bank credit. Such a recommendation was obviously not acceptable to the Government party because of economic and partly because of political consideration.Consequently, N.C-II gave up the idea of phasing out the directed credit programme. Despite this, some changes have taken place in respect of directed credit programme in the reform era as a result of which the concept of directed credit is diluted. Table-2 shows how the scope of priority sector has been enlarged in the reform era. Not only the scope has been enlarged but the stipulation of 40% is no longer a rigid one.

On the other hand, Table 3 showed that there is increasing trend in lending towards all priority sectors elements with the exception of SSIs during the post reform period. As per the endorsement of N.C-I, banks have come forward to facilitate the evolution and growth of micro-credit institutions including NGOs specialized in meeting the banking needs of the poor.

Table 2: Scope of Priority Sector Credit in the Pre and Post Reform Era

Sl. no.	Priority sector in the pre- re-form period includes	Priority sector in the post- reform period includes
1.	Agriculture	Loans to traditional plantation crops viz. tea, coffee, cardamom etc.
2.	SSIs	Housing loans (upto Rs. 50 lakhs)
3.	Small road and water transport operators.	Loan to transport operators (up to 10 vehicles)
4.	Small business	Advances to dealers of drip/sprinkler irrigation system and agricultural machinery.
5.	Retail trade	Investment in special bonds of SIBDBI, NABARD, NHB, NSIC, HUDCO, SFCs, Rural Electrification corporation and contribution to Rural Infrastructure Fund.
6.	State – sponsored organization for SC/ST Section	Investment in bonds issued by REC for financing its system Improvement scheme under Special Project Agriculture (SI-SPA).
7.	Educational loans	Advances to NBFCs for lending to truck operators.
8.	Credit schemes for weaker sections	Advances to software industry (up to Rs. 10 million).

Source: Bhowmik, G. (2010)

Year Item	1997-98	1998-99	1999-2000	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Priority Sector (PS)	913190 (41.8)	1040940 (39.2)	1274780 (40.2)	1491160 (43.7)	1711850 (43.1)	2030950 (42.5)	2444560 (43.6)	3100930 (43.3)	4097480 (40.3)	5213760 (39.7)	6089630 ((44.6)
Agriculture	343050 (15.7)	376310 (14.2)	452960 (14.3)	535710 (14.3)	630820 (15.9)	735070 (15.4)	844350 (15.1)	1124750 (15.7)	152200 (15.3)	2026140 (15.4)	2486850 (17.4)
SSI	381090 (17.5)	425910 (16.1)	460450 (14.6)	484000 (14.2)	497430 (12.5)	529880 (11.1)	583110 (10.4)	676340 (9.4)	824340 (8.1)	1025500 (7.2)	1486510 (10.9)
Other PS	188810 (8.7)	236610 (8.9)	308160 (9.7)	407910 (12.0)	537120 (13.5)	714480 (15.0)	1017100 (18.1)	1298840 (18.1)	1637560 (16.1)	2066610 (15.7)	2116270 (15.5)

Table-3: Priority Sector Lending by PSBs(Rs. Million and bracketed figure indicate percentage)
Source: Report on Trend and Progress of Banking in India, Various issues, RBI.

4.3.3 Capital Adequacy[2]

Over the years, inadequacy of capital measured in terms of Capital to Risk-Weighted Asset (CRAR) has been a cause of concern for the safety and soundness of PSBs. In the pre-reform period there was no capital adequacy requirement. The N.C-I based on the Basel norm, prescribed a definite time frame for achieving minimum CRAR of 4% by March, 1993 and 8% by March, 1996. It is found that as on March 31, 1997, except two banks all have achieved 8% CRAR. Five PSBs had successfully raise capital from market since 1993 for a total of Rs.60, 350 million. The Government of India also subscribed to share capital of banks to the extent of Rs.2, 00,460 million up to February, 1998 (Khan, 2004).The N.C-II suggested a further increase in CRAR to 9% by 2000 and 10% by 2002. Table-4 demonstrates that there was a steady convergence to the higher class CRAR. All 27 PSBs came under above 12% category w.e.f. March 2005.CRAR of Indian Banks under Basel I, has been rising since 2007, and stood at 13.2% as on 31 March 2009.

Table-4: Frequency Distribution of CRAR of PSBs (figures within bracket indicate percentage of banks to the total number of banks in public sector)

Year End	Below 4%	4 to 6%	6 to 8%	8 to 10%	10 to 12%	Above12%
March, 2000	1(3.7)	0 (00)	0 (00)	4(14.81)	15(55.55)	7 (25.94)
March, 2001	1 (3.7)	0 (00)	1 (3.7)	2 (7.41)	13 (48.15)	10 (37.04)
March, 2002	1 (3.7)	0 (00)	1 (3.7)	2 (7.41)	11 (40.74)	12 (44.44)
March, 2003	0 (00)	0 (00)	1 (3.7)	0 (00)	9 (33.33)	17 (62.96)
March, 2004	0 (00)	0 (00)	0 (00)	1 (3.7)	6 (22.22)	20 (74.07)
March, 2005	0 (00)	0 (00)	0 (00)	0 (00)	0 (00)	27 (100%)
March, 2006	0 (00)	0 (00)	0 (00)	0 (00)	27(100%)	
March, 2007	0 (00)	0 (00)	0 (00)	0 (00)	27(100%)	
March,2008	0 (00)	0(00)	0 (00)	0 (00)	27(100%)	
March, 2009	0 (00)	0 (00)	0 (00)	0 (00)	0 (00)	27(100%)

Source: Computed from Report on Trend and Progress of Banking in India, Various Issues

4.3.4.Management of Non-Performing Assets (NPAs)[3]

The issue of NPAs was emerged a vital concern in this phase and the new economic term, named twin balance sheet problem[4], was taking place at center stage of our economic theater. Efforts have been made to arrest the accretion of fresh NPAs and to recover the existing NPAs. The following measures are taken:

- First Health Code System was introduced,

✤ Then Prudential norm for Income Recognition, Asset Classification and Provisioning has been introduced,

✤ Recovery of Debts Due to Banks and FI Act, 1993 was passed,

✤ The Securitization and Reconstruction of Financial Assets and Enforcement of Securities Interest (SARFASI) Act, 2002

In the second phase of reform more stringent norms are enforced in relation to income recognition, asset classification and provisioning requirements. Revised guidelines of the RBI relating to these aspects chalked out a phased programme to bring them at par with international standard.

4.3.5. Transparency in Financial Statements

To inject transparency and accountability in the financial statements, the following steps were taken in this phase:

✤ The RBI modified the format of the balance sheet to facilitate greater transparency and disclosures in 1992.

✤ Banks are further prohibited to recognize income on accrual basis, but in case of NPAs, the incomes are recognized on cash basis.

✤ Asset classification system was made more objective and scope of discretion available earlier to banks was virtually sealed.

✤ The banks were required to disclose the capital adequacy ratio from the year 1996.

✤ More significant disclosure was prescribed from 1997, namely, a breakup of the provisions made during the year and percentage of net NPAs to net advances and investment on gross and net basis.

✤ Banks were directed to disclose several ratios relating to productivity and profitability from 1998 accounts.

✤ Full disclosure of lending to sensitive sector such as stock market, real estate; and maturity pattern of assets/ liabilities; foreign currency assets/ liabilities; and movements in provision of NPAs are made mandatory.

4.3.6 Deregulation of Interest Rate

Deregulation of interest rate is the removal of government rules, control on the amount charged by commercial banks for efficient credit system in the economy. In this regards the following measures are taken into consideration:

✤ Except lending to small borrowers at 4% interest and a part of export finance, all lending rates of interest have been deregulated.

✤ Interest rates on deposits are now free except for prescription in respect of savings deposits. The interest rate on Government borrowings is also now market determined.

✤ Bank Rate (BR) has been reactivated after April 1997 by linking it to refinance from the RBI penal interest on shortfall in reserve requirement.

4.3.7 Operational Flexibility and Internal Autonomy

In this phase PSBs were given more flexibility in their operation.The significant developments in this regard areas follows:

✤ The duality of control over the banking system by the RBI and Banking Division of Ministry of Finance was abolished with the RBI gaining absolute right to control and supervise the banking system.

✤ Banks fulfilling certain performance related criteria have been allowed to make their own recruitment of specialised officers. The BOD has been given powers to decide their own policy in respect of creation, abolition, up gradation/modification of posts to a level of DGMs.

✤ To defuse politicization in appointments, an Appointment Board has been set up for board level appointment with RBI Governor as chairman.

✤ A Board of Financial Supervision (BFS) under the aegis of the RBI has been constituted to instill prudential norm-based supervision with greater emphasis on internal audit and inspection.

4.3.8.Competitive Environment

With the removal of administered interest rates and starting of New Private sector Banks (NPBs) and liberalized policy in respect of entry of Foreign Banks (FBs) and starting of more branches by the existing FBs, competitive environment in Indian Banking has been created.

4.3.9.Technological Up gradation

During this phase,rapid induction of Information Technology (IT) in the banking functions and processes has been taking place. The purposes of such technological up

gradation are:improving customer service; improvinghousekeeping; improving decision making and improving productivity and profitability of banks.

Table-5: Computerisation in Public Sector Banks(Percentage of Total Bank Branches)

Year	Branches Already Fully Computerized	Branches Under Core Banking Solution	Computerized Branches	Partially computerized Branches
2004-05	60.00	11.00	71.00	21.80
2005-06	48.50	28.90	77.40	18.20
2006-07	41.20	44.40	85.60	13.40
2007-08	26.60	67.00	93.70	6.30

Source: Report on Trend and Progress of Banking in India, Various issues, RBI.

Table-6: Trend and Progress of Key Indicator of PSBs in the Reform-Era

Year ended March 31	Net profit to total assets (TA) ratio	Operating cost to TA ratio	Total expenses to TA ratio	Gross NPA to gross advances	Average CRAR (computed)
1993	-0.99	2.86	10.2	23.2	----
1994	-1.15	2.75	9.2	24.8	---
1995	0.25	2.87	8.7	19.5	---
1996	-0.07	3.4	9.3	18.0	---
1997	0.57	2.92	9.6	17.8	9.21
1998	0.77	2.76	9.1	16	11.13
1999	0.42	2.66	9.1	15.09	11.24
2000	0.57	2.53	9.0	14.0	11.39
2001	0.42	2.72	9.0	12.4	11.43
2002	0.72	2.29	8.5	11.1	11.45
2003	0.96	2.25	7.8	9.4	12.36
2004	1.12	2.20	---	7.79	13.13
2005	0.9	2.1	7.3	5.5	12.90
2006	0.01	0.02	0.07	3.64	12.20
2007	0.01	0.01	0.06	2.66	12.36
2008	0.01	0.01	0.07	2.23	12.51
2009	0.01	0.01	0.07	1.97	13.2
Overall trend	**Increasing, and then Decreasing**	**Decreasing**	**Decreasing**	**Decreasing**	**Increasing**

Source: Report on Trend & Progress in Banking in India, various Issues.

Several technological tools such as Electronic Fund Transfer (EFT), Electronic Payment System (MICR), Indian Financial Network (INFINET), Electronic Clearing Service (ECS), Automated Teller Machines (ATMs), Plastic Money (ATM Card, Debit Card, Credit Card, Gold Card etc.), Advanced Ledger Posting Machines (ALPM) have been introduced (Chowdhury, 2005) to improve operating efficiency of the banks.There has been a significant increase in coverage ofthe number of branches providing core banking solution (CBS). The percentage ofbranches to total bank branches under CBS increased from 11.00 per cent in 2004-05 to67.00 per cent in 2007-08. At the end of March 2008, the number of fully computerized branches

reached to 93.6 per cent as against 71 per cent at the end of March 2005 as shown in Table 5.

4.3.10. Risk Management System

Banks adopted effective risk management systems to cover credit risk, market risk and operational risk as per Basel Norm. Banks were also advised to address market risk by adopting a more comprehensive Asset-Liability Management System (ALMS) w.e.f. April, 1999. In this regard the RBI has issued guidelines for the introduction of ALMS as a part of the risk management and control system in banks.

With these measures Indian banking system is geared up and now ready to face the challenges emanating from the global integration of financial markets as clearly evident from trend and progress of important parameters like Net profit to total asset, operation cost to total asset, Gross and Net NPA ratio and average CRAR as shown in Table 6.

4.4 Cost Conscious and Cost Governance Phase (2009 – Till date)

The Global Financial Crisis strongly affected the functioning of banks and since then a clear shift in the way of doing banking business has been evident. During the aftermath of Global Financial Crisis, the entire focus of banking fraternity has been shifted to control the implicit and explicit costs and to improve the governance framework as a policy response. Major Concern Areas of this phase are as follows:

- ✤ Decline in profitability of PSBs due to host of factors.
- ✤ Increasing level of 'Stressed assets' (NPAs plus restructured advances).
- ✤ Default and fraud perpetrated by so called big industrialists.
- ✤ Increasing demand of qualitative capital as a consequence to Basel III adoption.
- ✤ Risk mitigation and diversification of banking business.

The following developments are taken place during this phase:

4.4.1. Improved risk management practices to reduce the potential implicit costs

Indian banks are increasingly adopting integrated approach to risk management. RBI adopted Basel III norm and all PSBs are in the process of meetingthe requirements of Basel III in phases. From March 31, 2019, Indian banks will be fully converged to Basel III. CRAR of PSBs as a whole stood at 11.7% at the end of FY 2017-18. Most of the banks have put in place the framework for asset-liability match, credit & derivatives risk management mechanism.

4.4.2 Technological up gradation to reduce cost of delivering services

Cost effective means such as Internet banking, mobile banking, RTGS, NEFT, ECS etc. is introduced.As of May 2018, total number of ATMs in India increased to 210,312 and is further expected to increase to 407,000 ATMs by 2021. The digital payments system in India has evolved the most among 25 countries, including UK, China and Japan, with the IMPS being the only system at level 5 in the Faster Payments Innovation Index (FPII). Real Time Gross Settlement (RTGS) and National Electronic Funds Transfer (NEFT) are being implemented by Indian banks for fund transaction. Securities and Exchange Board of India (SEBI) has included NEFT & RTGS payment system to the existing list of methods that a company can use for payment of dividend or other cash benefits to their shareholders & investors. Funds transferred through IMPS increased to Rs 3.23 lakh crore (US$ 48.18 billion) between April - June 2018 from Rs 1.74 lakh crore (US$ 25.95 billion) between April to June 2017. Digital influence in the Indian banking sector has been growing faster due to the rising digital footprint. India's digital lending stood at US$ 75 billion in FY18. Digital lending is estimated to reach US$ 1 trillion by FY2023 driven by the five-fold increase in the digital disbursements. It is true that by using technologies in banking system, the PSBs reduce their accounting costs and use their optimum manpower in various new productive sectors.

4.4.3 Diversification of Revenue Stream to improve the income base

To reduce cost and to improve the operating ratio PSBs are diversified their way of generating revenue. Its means various new avenues of revenue generation are opened in this period, such as:

- ✤ Fee based income is giving utmost importance
- ✤ Deposit rates are reduced progressively but the cost of credit did not follow the legitimate reduction.
- ✤ Cross selling of insurance related products individually and with credit products

4.4.4 Consolidation of Public Sector Banking

Banks are increasingly looking at consolidation to derive greater benefits such as enhanced synergy, cost savings from economies of scale, organizational efficiency & diversification of risks. In this regard on October 1, 2017 the State Bank of India's merged with its five associate banks viz State Bank of Patiala, State Bank of Bikaner and Jaipur, State Bank of Raipur, State Bank of Travancore, State Bank of Hyderabad as well as withBhartiyaMahila Bank (BMB) and The government had also announced that the merger of Bank of Baroda, Vijaya Bank and Dena Bank on September 2018, to create the country's third largest lender

4.4.5 Increasing exposure to Derivative and Risk Mitigation products

The increasingly dynamic business scenario & financial sophistication has increased the need for customized financial products. Banks are developing innovative financial products & advanced risk management methods to capture the market share, like Bank of Maharashtra tied up with Cigna TTK, to market their insurance products across India.

4.4.6 Implementation of Financial Inclusion Plan

As per the 11th national five years plan, the government of India concentrated on inclusive growth. The main focus of this plan is to decentralize the economic power among the normal citizen of our country. The basic motto of this plan was to reach to the financially unreached or deprived person. To provide various social welfare plans to the poor, the PSBs were considered as a main catalyst to link up normal people, basically rural people with the Government. In this regard the following initiatives were taken into consideration:

- RBI emphasized the need to focus on the bottom of the pyramid.
- Indian banks are expanding their branch network in the rural areas to capture the new business opportunity, like supporting Self Help Groups (SHPs).
- According to RBI, Under Financial Inclusion Plan, 598,093 banking outlets were provided in villages as on March 2017.
- PradhanMantri Jan DhanYojana (PMJDY) increased the accessibility of financial services such as bank accounts, insurance, pension, direct benefit transfer, credit facilities, etc. mostly to the low income groups.
- Under the Jan DhanYojana, Rs 80,674.82 crore (US$ 12.03 billion) were deposited and 32.25 million accounts were opened in India
- 247.7 million 'Rupay' debit cards were issued to users.

4.4.7 Tightening of Norm with Legal Reforms

Indradhanush Plan' was launched in the month of August 2015 for revamping the functioning of the PSBs. Among these seven strategies, restoring the health of PSBs loan book is important and significant one. As a part of this 'Indradhanush Plan' the SARFAESI Act and DRT Act have been amended to facilitate the recoveries. The enactment of the Insolvency and Bankruptcy Code (IBC), 2016 has opened up new possibilities for time bound resolution of stressed assets. It binds defaulters with a timeline – something which did not exist in the past.

In order to effectively implement the IBC, Banking Regulation Amendment Ordinance, 2017 was promulgated which gives the RBI powers to act directly against any defaulter and can invoke IBC, 2016. New NPA Rule is framed for better reporting and monitoring of stressed assets in 2017. Besides, to reduce the burden of NPAs, the Central government has revived the idea of setting up an asset reconstruction or asset Management Company, a sort of 'bad bank'.In the Economic Survey Report 2017, Chief Economic Adviser Arvind Subramanian had suggested the creation of Public Sector Asset Rehabilitation Agency (PARA) which will work as a "Bad bank" to absorb the losses from the PSBs.

5. Concluding Observations

The above discussion highlighted the fact that each and every phases of bank nationalisationhave different socio-economic compulsions. If we looked up the decades of 60's, India faced two wars against Pakistan and China andnorthern part of Indiawas suffered from drought. To combat those multidimensional hazards, Indian economy had to take some strong decision. So, bank nationalization was the only available option for our economic policy makers. It was true that in the pre- nationalization period commercial banking did not play its proper role in the planned development of the nation. Because then it was controlled by industrialists and business icons who had primary motive to provide funds for large industrial houses. Small, micro and cottage industries along with agricultural sectors were constantly ignored by the then banking system. The years after nationalization of banks, therefore, are devoted to make good those loopholes in the policy. Accordingly, the follow up of social control phase witnessed massive growth in the sphere of branch expansion,

mobilization of deposits and deployment of credit towards the neglected sectors of the economy. Naturally, the social orientation of banking had its impact on the profitability and health of the banks.

In order to cure those deficiencies, prudential phase takes the center stage which was significant in the context that in 1990's – Indian economy take a giant leap towards globalization. It was take off stage of our economy to use the horizon of economic opportunities. Accordingly, PSBs were asked to make the financial structure strongand equipped to face the challenges emanating from the globalization of financial services.

Cost Conscious and Cost Governance phasewhich the Indian banking system currently undergoes is significant in view of the global recession and its ill effects. Strong legal and enforcement norms are promulgated so as to tackle the issues of recession. MA

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Footnotes

[1] The compound annual growth rate (CAGR) is a useful measure of growth over multiple time periods. It is calculated as CAGR = (EV / BV)1 / n – 1, where: EV = Ending value, BV = beginning value, n = Number of periods.

[2] Capital Adequacy is the proportion of a bank's total assets that is held in the form of shareholders' equity and certain other defined classes of capital. It is a measure of the bank's ability to meet the needs of its depositors and other creditors. The minimum international requirement is 9%.The Capital Adequacy Ratio, also known as capital-to-risk weighted assets ratio (CRAR). It is an important measure of soundness and stability of financial institutions and is measured by the formula

$$CRAR = \frac{\text{Tier one capital + Tier two Capital}}{\text{Risk Weighted Assets}}$$

[3]Loan assets of the banks are broadly classified as performing assets and non-performing assets (NPAs) while non- performing asset is further classified into substandard, doubtful and loss assets.

[4] It is called 'Twin' as the balance sheets of both the lender as well as the borrower are displaying it. On the one side, banks are saddled with large NPAs (Non-performing assets) and stressed assets (restructured loans) and on the other the borrowers are unable to repay their debts.

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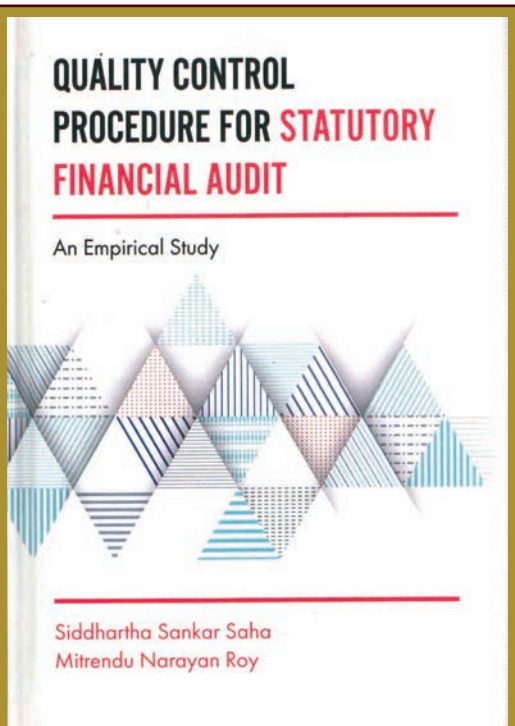

QUALITY CONTROL PROCEDURE FOR STATUTORY FINANCIAL AUDIT: AN EMPIRICAL STUDY

Professor (Dr.) Siddhartha Sankar Saha
and
Dr. Mitrendu Narayan Roy
Emerald Publishing Ltd., UK, 2017, Rs. 4935 (Hardback)
ISBN: 978-1-78714-227-5

Quality control procedure for statutory financial audit is an intriguing area of study in the backdrop of corporate accounting scandals and protection of stakeholders' interest. The book, outcome of a research work, is an excellent resource for the professionals in the field of accounting and auditing; students pursuing professional courses; and the researchers in finance and control. In reviewing this book, the principal criteria included content, organization, and reference sources. The book is refrained from editorial errors and organizational incongruities making the book a comfortable proposition for its readers.

Starting with a conceptual discussion on the quality of statutory financial audit, the authors have conceptually reviewed the quality control framework for statutory audit of financial statements in select countries. The readers are then taken on a journey to review quality control framework in select countries comparatively. A significant part of the book has mainly covered an empirical study on perceptions of professional accountants and students pursuing professional accounting course on quality control procedures for statutory financial audit.

The first author, Professor (Dr.) Siddhartha Sankar Saha, Professor of Commerce, University of Calcutta, India, having more than 20 years of teaching and research experience, has proved to be a prolific author and learned researcher with a number books and papers in the finance area published nationally and internationally. The second author, Dr. Mitrendu Narayan Roy, Assistant Professor of Commerce, Goenka College of Commerce and Business Administration, India has become an excellent researcher in the related area as well. The authors' multifaceted backgrounds establish them in a constructive position to pursue this research work.

The organisation of the book has allowed the readers to easily follow the evolution of quality control procedures governing statutory financial audit and the status of quality control framework in select developed and developing countries of the world. The book is divided into six chapters. Opening with a conceptual discussion on the input, output and process factors governing quality of audit; interaction among auditors, management, those charged with governance, regulators and users of financial information; and contextual factors governing quality of audit, the book has progressed through a comparative review of quality control framework in the USA, UK and India based on certain parameters. Finally, the book looks into the perceptions of practising chartered accountants (CAs) and students' pursuing chartered accountancy course in Kolkata (India) on select issues governing quality control procedures for statutory financial audit. While it is impossible to thoroughly explore all topics, the detailed bibliography provides sources for obtaining more information. Moreover, the categorisation of different bibliographical elements is expected to benefit the readers.

The construction of the book has fitted well with the organisation of the study. Each chapter breaks down into different sections which fit logically into the topic of the chapter. The chapters comprised several defining parts maintaining a sense of continuity throughout the volume. A summary of the chapter under review leads to the introduction and the objectives of the succeeding chapter. Within the text of the chapters, there are assortment of examples and references that often make the reading a pleasant experience.

The authors have presented a broad analysis of quality control procedures from different viewpoints, as compared to a few books in this field that only talks about quality of audit in a business concern. A long history of corporate failures actually offers an objective view of the quality control procedures for statutory financial audit and illustrates its need in the current environment. Inadequacies in quality control procedures for statutory financial audit actually pave the way for publication of falsified financial reports year after year. These financial irregularities eventually get the attention of the regulatory authorities and oversight agencies resulting in exposure of massive accounting frauds that calls for companies' demise. It has a far reaching impact not only on the stakeholders but also to the financial markets and economy as a whole.

Each chapter of the book is filled with well-structured tables and exhibits providing deeper insight into the factual information on different areas. The authors also provide an in-depth analysis of the quality control frameworks in different countries as well as opinions of the CAs and students on various issues that may influence quality control procedures for statutory financial audit. Some of the areas explored comprise comparison of quality control framework of India with that of the USA and the UK; identifying major determinants of quality control procedures for statutory financial audit; divergence in the opinion of CAs and students and impact of professional experience on the outlook towards the stated theme.

It is observed that the quality control framework in the USA is less inclined to the international requirements as compared to the quality control framework of other two countries. However, all three countries treat the issue with utmost importance which is reflected in their regulatory standards.

The authors have identified that a select variables, like 'scientific designing of quality control policies'; 'education and training for the members of the firm'; 'long association with audit client, engagement quality control review (EQCR)'; 'sufficiency and enforceability of auditing standards'; 'limitations in time and scope of auditing'; 'dependence of internal control mechanism of the company'; 'participation of all members in audit planning'; 'documentation of professional skepticism of statutory auditors'; 'reporting compliance with applicable standards'; 'management's control in appointment procedure'; 'continuous learning programmes'; and 'cut throat competition in the accounting profession', significantly impact quality control procedure for statutory financial audit. However, there is heterogeneity in the opinions of CAs and students with respect to quite a few issues governing quality control procedures. This divergence is caused probably due to differences in their level of knowledge and experience in the accounting profession.

Quality control procedures for statutory financial audit is a collection of quality control standard, other standards on auditing and other regulatory pronouncements that govern compliance with applicable regulations in an audit engagement and issuance of a report which is appropriate in a particular circumstance. The book's vivid discussion on different concepts on quality control procedures makes the book a significant contribution of the authors. While at times it may seem that so many concepts are cluttered together in the book, its well thought-out structure also makes the subject interesting, which is otherwise considered as a monotonous one.

The book delves into the quality control procedures in three select countries, while more countries could be considered for further researches. The field survey for the current research is conducted in Kolkata (India) only, while respondents' perceptions from other parts of the country or even from outside the country could be covered for having more conclusive results. Despite those paucities, the book reflects the well-thought out and scientific approach of the authors towards this critical issue attracting manifold audiences in this area, which may facilitate further research.

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

swapansarkar22@gmail.com

STATUTORY UPDATES

DIRECT TAXATION

Compiled by CA Vikash Mundhra

Giving effect to the judgement(s)/ order(s) of Hon'ble Supreme Court on Aadhaar-PAN for filing return of income - Circular No. 6/2019, dated 31-03-2019

As per Section 139AA (1)(ii), w.e.f. 01.07.2017, every person who is eligible to obtain Aadhaar number has to quote the Aadhaar number in return of income.

In a series of judgements i.e. (i) Binoy Viswam vs. Union of India reported in (2017) 396 ITR 66 (ii) Final Judgement and order of the Constitution Bench of Hon'ble Supreme Court dated 26.09.18 in Justice K. S. Puttaswamy (Retd.) and another {Writ Petition (Civil) No. 494 of 2012}; & (iii) Shreya Sen & Anr. In SLP (Civil) Diary No(s) 34292/2018 dated 04.02.2019, Hon'ble Supreme Court has upheld validity of Section 139AA.

In light of the aforesaid judgement(s)/order(s) of Hon'ble Supreme Court, from 01.04.2019 onwards, to give effect to the above judgements/orders, it has been decided by the CBDT that provision of Section 139AA (1)(ii) would be implemented and it is mandatory to quote Aadhaar while filing the return of income unless specifically exempted as per any notification issued under section 139AA(3). Thus, returns being filed either electronically or manually cannot be filed without quoting the Aadhaar number.

Returns which were filed prior to 01.04.2019 without quoting of Aadhaar number as an outcome of any decision of different High Courts in a specific case or returns which were filed during the period when the online functionality for filing the return without quoting of Aadhaar number was so available in the aftermath of decision of Delhi High Court dated 24.07.18 in W.P. C.M 7444/2018 & C.M. Application No. 28499/2018 in case of Shreya Sen vs. Union of India &Ors., till it was withdrawn post decision of Constitution Bench of the Hon'ble Supreme Court dated 26.09.18, would also be taken up for processing without causing any adverse consequence for non-quoting of Aadhaar as per provision of Section 139AA.

Extending the due date for furnishing of report u/s 286(4) – Notification No. 7/2019 dated 08-04-2019

As per Rule 10DB(4),the period for furnishing of the report u/s 286(4) by the constituent entity referred to in that sub-section shall be twelve months from the end of the reporting accounting year.

It has been further provided that in case the parent entity of the constituent entity is resident of a country or territory, where, there has been a systemic failure of the country or territory and the said failure has been intimated to such constituent entity, the period for submission of the report shall be six months from the end of the month in which said systemic failure has been intimated.

On receipt of representations regarding the hardship being faced in complying with the requirement of furnishing such report by March 31, 2018, vide Circular No 9/2018 dated December 26, 2018, as a one-time measure, the period for furnishing of said report by the constituent entities referred to under clause (a) or (aa) of said sub-section, in respect of reporting accounting years ending upto February 28, 2018, was extended to March 31, 2019.

The agreement for providing for exchange of the report of the nature referred to in sec. 286(2) has been entered into by India and the USA on March 27, 2019. However, the agreement and the exchange mechanism would come into effect only after both the countries notify each other about the completion of all internal procedures for exchange which is underway.

Since filing of the report by the constituent entity referred u/s 286(4) (a) or (aa) in India gets triggered on completion of twelve months from the last date of the reporting accounting year and Circular 9/2018has extended the period for furnishing of the report till March 31, 2019 in respect of reporting accounting years ending upto February 28, 2018, due to non-notification of the agreement and resultantly non-activation of the exchange mechanism between India and the USA, said report has to be filed by such constituent entities, whose parent entities are resident in USA and whose reporting accounting years ended after February 28 , 2018.

In view of the above, in order to remove the genuine hardship faced by the constituent entities referred to under clause (a) or (aa) of said sub-section, whose parent entities

are resident in USA, in furnishing of the report u/s 286(4) read with Rule 10DB(4), the Board, in exercise of powers conferred u/s 119, extends the period for furnishing of said report by such constituent entities, in respect of reporting accounting years ending upto April 29, 2018, to April 30, 2019.

Due date to link Aadhar with PAN extended to 30-09-2019 - Notification No. 31/2019 dated 31-03-2019

The date for intimating the Aadhaar number and linking PAN with Aadhaar is extended to 30-09-2019, unless specifically exempted. Notwithstanding the last date of intimating/linking of Aadhaar Number with PAN being 30.09.2019, it is also made clear that w.e.f. 01.04.2019, it is mandatory to quote and link Aadhaar number while filing the return of income, unless specifically exempted.

ITR Forms for A.Y. 2019-20 notified - Notification No. 32/2019, dated 01-04-2019

The CBDT has notified Income-tax Return Forms (ITR Forms) for the Assessment Year 2019-20 vide this notification.

New format for Form 16 notified – Notification No. 36/2019 dated 12-04-2019

The new format for Form 16 is notified by the Central Board of Direct Taxes (CBDT), which requires a detailed break up of tax-exempt allowances paid to the employee.The format specified in the notification shall be effective from May 12, 2019.

'Andhra Pradesh Electricity Regulatory Commission', Hyderabad notified u/s 10(46) – Notification No. 24/2019 dated 19-03-2019

The Central Government notifies following income of the 'Andhra Pradesh Electricity Regulatory Commission', Hyderabad, is exempt u/s 10(46) for A.Y. 2019-20 to 2023-24:

a) Licence fee received under the Electricity Act, 2003;
b) Grants-in-Aid received from Government; and
c) Interest earned on (a) & (b) above.

The notification shall be effective subject to the conditions that:

i. It shall not engage in any commercial activity;
ii. The activities and the nature of the specified income shall remain unchanged throughout the financial years; and
iii. The assessee shall file return of income in accordance with the provision of sec. 139(4C)(g).

'Visakhapatnam Special Economic Zone Authority'notified u/s 10(46) – Notification No. 25/2019 dated 19-03-2019

The Central Government notifies following income of the 'Visakhapatnam Special Economic Zone Authority', is exempt u/s 10(46) for A.Y. 2019-20 to 2023-24:

a. Lease Rent (charged as per Government prescribed rate);
b. Receipts from I-Card and Permit fees;
c. Allotment fee in respect of Standard Design Factories;
d. Auction/bid amount in respect of Plots/Building which fall vacant;
e. Transfer charges in respect of Plot/Building;
f. Fee for Issue of Form-I for exemption of Building Plans;
g. Processing fee for approval of Building Plans, conveying NOC's etc.;
h. Site usage charges from Service Providers;
i. License fee for allotment of Staff Quarters to the Staff; and
j. Interest earned on (a) to (i) above.

The notification shall be effective subject to the conditions that:

i. It shall not engage in any commercial activity;
ii. The activities and the nature of the specified income shall remain unchanged throughout the financial years; and
iii. The assessee shall file return of income in accordance with the provision of sec. 139(4C)(g).

Housing and Urban Development Corporation Ltd. (HUDCO), New Delhinotified u/s 194A(3)(iii)(f) – Notification No. 26/2019 dated 20-03-2019

The Central Government notifies Housing and Urban Development Corporation Ltd. (HUDCO), New Delhi for the purpose of sec. 194A(3)(iii)(f). Thus, any income credited or paid to HUDCO is not liable for tax deduction at source u/s 194A.

Securities and Exchange Board of India (Mutual Funds) Regulations, 1996notified as specified regulation u/s 9A(9)(e) – Notification No. 27/2019 dated 20-03-2019

The Central Government notifies Securities and Exchange Board of India (Mutual Funds) Regulations, 1996for the purpose of sec. 9A(9)(e). Thus, Securities and Exchange Board of India (Mutual Funds) Regulations, 1996 shall also be considered as specified regulation for the purpose of sec. 9A.

'Odisha Electricity Regulatory Commission' Bhubaneswarnotified u/s 10(46) – Notification No. 28/2019 dated 26-03-2019

The Central Government

notifies following income of the 'Odisha Electricity Regulatory Commission'Bhubaneswar, is exempt u/s 10(46) for A.Y. 2018-19 to 2021-22:

a. Amount received in the form of Government grants;
b. Amount received as Licence fee from the licensees;
c. Amount received as application processing fee; and
d. Interest earned on (a) to (c) above

The notification shall be effective subject to the conditions that:

i. It shall not engage in any commercial activity;
ii. The activities and the nature of the specified income shall remain unchanged throughout the financial years; and
iii. The assessee shall file return of income in accordance with the provision of sec. 139(4C)(g).

'Mysore Palace Board', Karnataka notified u/s 10(46) – Notification No. 33/2019 dated 09-04-2019

The Central Government notifies following income of the 'Mysore Palace Board', Karnataka, is exempt u/s 10(46) for A.Y. 2019-20 to 2023-24:

a. Income from Palace or proceeds of any property vested in the Board;
b. All fees and charges levied by the Board under the Mysore Palace (Acquisition and Transfer) Act, 1998 and forming part of the Board fund;
c. Rent received from the stalls let out to Government Agencies; and
d. Interest earned on (a) to (c) above

The notification shall be effective subject to the conditions that:

i. It shall not engage in any commercial activity;
ii. The activities and the nature of the specified income shall remain unchanged throughout the financial years; and
iii. The assessee shall file return of income in accordance with the provision of sec. 139(4C)(g).

'Telangana State Electricity Regulatory Commission', Hyderabad notified u/s 10(46) – Notification No. 34/2019 dated 09-04-2019

The Central Government notifies following income of the 'Telangana State Electricity Regulatory Commission', Hyderabad, is exempt u/s 10(46) for A.Y. 2020-21 to 2024-25:

a. Grants and loans received from the government of Telangana;
b. All fees and sums received by Telangana State Electricity Regulatory Commission, Hyderabad under the Electricity Act, 2003; and
c. Interest earned on (a) & (b) above

The notification shall be effective subject to the conditions that:

i. It shall not engage in any commercial activity;

ii. The activities and the nature of the specified income shall remain unchanged throughout the financial years; and

iii. The assessee shall file return of income in accordance with the provision of sec. 139(4C)(g).

'Kerala Headload Workers Welfare Board', Kochi notified u/s 10(46) – Notification No. 35/2019 dated 09-04-2019

The Central Government notifies following income of the 'Kerala Headload Workers Welfare Board', Kochi, is exempt u/s 10(46) for A.Y. 2020-21 to 2024-25:

a. Amount received in the form of grants-in-aid and loan from Government;
b. Levy collected under the Kerala Headload Workers Act, 1978, Kerala Headload Workers rules 1981 and schemes there under;
c. Registration fees collected from members registered with the board as beneficiaries;
d. Sums received as deposit from employers as per Para 27 of Kerala Headload Workers (regulation of employment and welfare) Scheme 1983 formulated under section 13 of the Kerala Headload Workers Act, 1978;
e. Contribution from the members as defined in the Kerala Headload Workers Act, 1978, Kerala Headload Workers Rules 1981 and Scheme there under;
f. Interest on loans and advances given to staff of the board and workers;
g. Sums received as wages from employers as per Para 24(a) and 24(b) of Kerala Headload Workers (Regulation of employment and welfare) Scheme 1983 formulated under section 13 of the Kerala Headload Workers Act, 1978; and
h. Interest earned on (a) to (g) above.

The notification shall be effective subject to the conditions that:

i. It shall not engage in any commercial activity;
ii. The activities and the nature of the specified income shall remain unchanged throughout the financial years; and
iii.The assessee shall file return of income in accordance with the provision of sec. 139(4C)(g). MA

Vikash@taxpointindia.Com

INDIRECT TAXATION

Compiled by CA Shubham Khaitan

➤ IDT Updates between 16th March – 15th April

The following are the major amendments which have been notified in the real estate industry:

- Builders can opt for 1% GST for affordable housing projects and 5% for other residential projects. However, ITC will not be eligible in such a scenario.
- The other option for ongoing projects is to continue with the same rate of payment of tax as was prevalent before 1st April 2019. This option is not available for new projects.
- The developer needs to submit intimation in Annexure IV by 10th May 2019 selecting which option it wants to opt for. If no intimation is given, then the new rate of 5%/1% will be presumed
- Affordable Residential Apartment means residential apartments with carpet area not exceeding 60sqm in metropolitan cities or 90sqm in other places for which gross consideration does not exceeds Rs. 45 lakhs.
- Where the area of commercial projects in a residential project is less than 15% of the total carpet area, the commercial portion would also be taxed at the rate of 1%/5% as applicable to residential flats
- For builders who wish to opt for the rate of 1%/5% for ongoing projects need to reverse the proportionate ITC as on 1st April 2019 as per the notified formula projectwise
- For concessional rate, 80% procurement should be from registered dealer. If not, Reverse Charge Mechanism (RCM) on the deficit is applicable. Irrespective of the limit, if cement is procured from unregistered dealers, RCM is applicable.
- ITC not taken is to be reported in GSTR 3B under ineligible ITC
- ITC is to be reversed every month on the basis of estimated sale after completion of theconstruction in case the builder continues with the old scheme of taxation.
- When flats are allotted by builder to landowner, the time of supply will be the receipt of completion certificate (CC). When the flats are not fully sold at the time of receipt of CC, builder is liable to pay on reverse charge tax on land development right in proportion to the unbooked flats.

http://www.cbic.gov.in/resources//htdocs-cbec/gst/notfctn-16-central-tax-english-2019.pdf

http://www.cbic.gov.in/resources//htdocs-cbec/gst/notfctn-3-2019-cgst-rate-english.pdf;jsessionid=2207FE38871EF8AF32DFDD8FA69A3400

http://www.cbic.gov.in/resources//htdocs-cbec/gst/notfctn-4-2019-cgst-rate-english.pdf;jsessionid=CD850F9C53673FC67DAB95103EBC5545

http://www.cbic.gov.in/resources//htdocs-cbec/gst/notfctn-5-2019-cgst-rate-english.pdf;jsessionid=9DF23120C3D4F98C7723A9A4DC12A409

http://www.cbic.gov.in/resources//htdocs-cbec/gst/notfctn-6-2019-cgst-rate-english.pdf;jsessionid=3D29149CEA95FC997724896A052E0C3E

http://www.cbic.gov.in/resources//htdocs-cbec/gst/notfctn-7-2019-cgst-rate-english.pdf;jsessionid=859E653F56C70CC1393B50295E8F6B66

http://www.cbic.gov.in/resources//htdocs-cbec/gst/notfctn-8-2019-cgst-rate-english.pdf

➤ IGST credit shall be used first to pay IGST and the balance may be used for paying CGST orSGST. However, only after fully utilising the IGST credit, credit of CGST or SGST shall be used in any proportion and manner

http://www.cbic.gov.in/resources//htdocs-cbec/gst/notfctn-16-central-tax-english-2019.pdf

➤ Assessment procedure as per Section 100 has been rationalized with effect from 1st April 2019

http://www.cbic.gov.in/resources//htdocs-cbec/gst/notfctn-16-central-tax-english-2019.pdf

- The time limit for furnishing the declaration in FORM GST ITC-04 of the said rules, in respect of goods dispatched to a job worker or received from a job worker, during the period from July, 2017 to March, 2019 till the 30th day of June, 2019

  http://www.cbic.gov.in/resources//htdocs-cbec/gst/notfctn-3-2019-cgst-rate-english.pdf;jsessionid=D1D8940AEE7933323D5FBE67F519A1C0

- While considering the application for registration, the proper officer shall ascertain if the earlier registration was cancelled on account of violation of the provisions of clauses (b) and (c) of sub-section (2) of section 29 of the CGST Act and whether the applicant has applied for revocation of cancellation of registration. If proper officer finds that application for revocation of cancellation of registration has not been filed and the conditions specified in clauses (b) and (c) of sub-section (2) of section 29 of the CGST Act are still continuing, then, the same may be considered as a ground for rejection of application for registration.

  http://www.cbic.gov.in/resources//htdocs-cbec/gst/circular-cgst-95.pdf

- Refund of accumulated ITC on account of inverted tax structure, for the period(s) in which there is reversal of the ITC required to be lapsed in terms of the notification no. 20/2018-CT (rate) dated 26th July 2018, is to be claimed under the category "any other" instead of under the category "refund of unutilized ITC on account of accumulation due to inverted tax structure" in FORM GST RFD-01A. Further, all those registered persons required to make thereversal in terms of the said notification and who have not yet done so, may reverse the said amount through FORM GST DRC-03 instead of through FORM GSTR-3B

  As the registered person has reversed the amount of credit to be lapsed in the return in FORM GSTR-3B for a month subsequent to the month of August, 2018 or through FORM GST DRC-03 subsequent to the due date of filing of the return in FORM GSTR-3B for the month of August, 2018, he shall be liable to pay interest under sub-section (1) of section 50 of the CGST Act. He would remain eligible to claim refund of unutilized ITC on account of accumulation due to inverted tax structure w.e.f. 01.08.2018. However, such refund shall be granted only after the reversal of the amount of credit to be lapsed.

  Refund of accumulated ITC under rule 89(4B) of the CGST Rules shall be applied under the category "any other" instead of under the category "refund of unutilized ITC on account of exports without payment of tax" in FORM GST RFD-01Aand shall be accompanied by all supporting documents required for substantiating the refund claim under the category "refund of unutilized ITC on account of exports without payment of tax".

  If deficiency memo is issued, the claimant may resubmit the application manually in Form GST RFD-01A after correction of the deficiencies. if the proper officer is satisfied that the whole or any part of the amount claimed is payable as refund, he shall request the taxpayer, in writing, to debit the said amount from his electronic credit ledger through FORM GST DRC-03.

  http://www.cbic.gov.in/resources//htdocs-cbec/gst/circular-cgst-94.pdf;jsessionid=D003B165B0FC16C0424197993A814267

- On death of the sole proprietor and transfer of business, new registration needs to be opted for the transferee in Form GST REG-01, the old registration of the transferor is to be cancelled in Form GST REG-16 and the ITC is to be transferred in Form GST ITC-02

  http://www.cbic.gov.in/resources//htdocs-cbec/gst/circular-cgst-96.pdf;jsessionid=B7415092AFEADF3EFD4083097BF788CB

- For persons opting for the new scheme prescribing rate of 3% as per notification No. 02/2019-Central Tax (Rate) dated 07.03.2019, the option to opt for the scheme is to be selected in Form GST CMP-02 by 30th April 2019. Such person would also furnish a statement in FORM GST ITC03

  http://www.cbic.gov.in/resources//htdocs-cbec/gst/circular-cgst-97.pdf;jsessionid=439D4923A57B68B91541E319E10600FB

  http://www.cbic.gov.in/resources//htdocs-cbec/gst/notfctn-9-2019-cgst-rate-english.pdf

shubham@cakhaitan.com

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA

EL-2019/Adv/01 11th April, 2019

ADVISORY

The undersigned has been receiving many unsolicited communications from members/potential candidates seeking clarifications on the interpretation of the Code of Conduct already notified by the Institute and seek confirmation whether they can do some or other activities. Few members are seeking clarifications putting the following conditions

"I seek your clarification in this regard. In case no communication received from your side, then it will be fair on my part to assume that my above mentioned understanding is in line with the understanding of Institute & that of the Returning officer and there is no mismatch"

All members are hereby informed that the Returning Officer will not be entertaining any such communication seeking clarifications and interpretations of the Code of Conduct or on any other process of elections and will not be responding to members/potential candidates individually. It is for the members/potential candidates to understand the contents of the Code of Conduct and adhere to the same.

L Gurumurthy
Returning Officer

ELECTIONS - 2019

Kolkata, the 28th March, 2019

NOTIFICATION

CORRIGENDUM TO NOTIFICATION NO.EL-2019/4 DATED 26TH MARCH, 2019
PUBLISHED IN LIST OF VOTERS AND CD

No. EL-2019/4/CORR/01: The notification published in page No.V of the List of Voters and CD may be read as below:

NOTIFICATION

Kolkata, the 26th March, 2019

Constitution of Regional Councils of the Institute of Cost Accountants of India

No. EL-2019/4-In exercise of the powers conferred by sub-section (1) of Section 23 of the Cost and Works Accountants Act, 1959, the Council of the Institute of Cost Accountants of India, hereby notifies the constitution of Regional Councils as under in pursuance of sub-regulation (1) of Regulation 114 of the Cost and Works Accountants Regulations, 1959 for the four Regional constituencies notified by the Central Government vide Notification published in the Gazette of India Extraordinary, Part II, sub-section (ii) of Section 3 as S.O. 1331 (E) dated 20th November, 2003 under clause (a) of sub-section (2) of Section 9 of the Cost and Works Accountants Act 1959, namely:

Sr. No.	Name of the Regional Constituency
1	**Western India Regional Constituency:** Comprising the States of Chattisgarh, Goa, Gujarat, Madhya Pradesh and Maharashtra and the Union Territories of Dadra and Nagar Haveli and Daman and Diu;
2	**Southern India Regional Constituency:** Comprising the States of Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and Telangana State and the Union Territories of Lakshadweep and Pondicherry;
3	**Eastern India Regional Constituency:** Comprising the States of Arunachal Pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Orissa, Sikkim, Tripura and West Bengal and the Union Territory of Andaman and Nicobar Islands;
4	**Northern India Regional Constituency:** Comprising the States of Haryana, Himachal Pradesh, Jammu and Kashmir, Punjab, Rajasthan, Uttaranchal and Uttar Pradesh and the Union Territories of Chandigarh and Delhi.

L. GURUMURTHY, Returning Officer

Kolkata, the 28th March, 2019

NOTIFICATION

CORRIGENDUM TO NOTIFICATION NO.EL-2019/7 DATED 26TH MARCH, 2019
PUBLISHED IN LIST OF VOTERS AND CD

No. EL-2019/7/CORR/01- The notification published in page No.VIII of the List of Voters and CD may be read as below:

NOTIFICATION

Kolkata, the 26th March, 2019

Notification of Recognition of Qualifications for the purpose of Sub-rule (4) of Rule 9 read with Schedule 4

No. EL-2019/7.-In pursuance of sub-rule (4) of the Rule 9 read with Schedule 4 of the Cost and Works Accountants (Election to the Council) Rules, 2006 and Regulation 118 of the Cost and Works Accountants Regulations 1959 relating to nominations for elections, the Council has resolved that for the purpose of sub-clause (a) of clause (2) of Schedule 4. the following qualifications have been recognized by the Council :

i) All degrees/Diplomas awarded by the Universities recognized by Government or Council of the Institute.

ii) Professional - Associate/Fellow Membership of The Institute of Chartered Accountants of India, Associate/Fellow Membership of The Institute of Company Secretaries of India, Associate/Fellow Membership of The Chartered Institute of Management Accountants, UK, Full/Fellow Membership of the Institute of Public Accountants, Australia and Associate/Member level Membership of the Chartered Institute for Securities & Investment, UK, Professional Membership of IPA of Institute of Cost Accountants of India, Institute of Company Secretaries of India and Institute of Chartered Accountants of India."

L. GURUMURTHY, Returning Officer

ELECTIONS - 2019

Kolkata, the 28th March, 2019

NOTIFICATION

CORRIGENDUM TO NOTIFICATION NO.EL-2019/12 DATED 28TH MARCH, 2019
PUBLISHED IN LIST OF VOTERS AND CD

No. EL-2019/12/CORR/01: The addresses of Polling Booths in respect of Booths B-128, B-129 and B-141 published in page Nos.XII and XIII of the List of Voters and CD in respect of Northern India Regional Constituency may be read as below:

B-128	Lucknow Chapter of The Institute of Cost Accountants of India CMA Bhawan, Vikas Khand-I, Gomti Nagar, Lucknow-226010
B-129	Ludhiana Chapter of The Institute of Cost Accountants of India SCO 23-24, 2nd Floor, LIC Building, Model Town Extension, Block-D, Dugri Road, Opp Hotel Grand Marrian, Next to Libra Bus Service & Hotel Silver Stone, Ludhiana, Punjab – 141001
B-141	Hindu College (Boys) Rohtak Road, Sonipat, Haryana

L.Gurumurthy
Returning Officer

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
(STATUTORY BODY UNDER AN ACT OF PARLIAMENT)

CMA BHAWAN
12, SUDDER STREET, KOLKATA – 700 016.

24th April, 2019

Corrigendum to Information dated 23rd April, 2019

The page numbers given at the end of list of nominations as hosted on 23rd April, 2019 may be read as "1 of 6" "2 of 6" "3 of 6" "4 of 6" "5 of 6" and "6 of 6", in place of "1 of 5" "2 of 5" "3 of 5" "4 of 5" "5 of 5" and "6 of 5" respectively.

L Gurumurthy
Returning Officer

ELECTIONS - 2019

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
(STATUTORY BODY UNDER AN ACT OF PARLIAMENT)

CMA BHAWAN
12, SUDDER STREET, KOLKATA – 700 016.

ELECTIONS - 2019

23rd April, 2019

Nominations received till the last date and time of receipt of nominations i.e. 6.00 PM of 18th April, 2019.

Details of Region-wise members whose nominations have been received, within the appointed time and date i.e. 6.00 p.m. on 18th April, 2019 at the HQrs of the Institute of Cost Accountants of India i.e. CMA Bhawan, 12, Sudder Street, Kolkata 700016, for contesting the Election to the Twentieth Council and Four Regional Councils(2019-2023) of the Institute scheduled to be held on 28th June, 2019 are given herein below for information of all concerned.

(A) TWENTIETH COUNCIL:

WESTERN INDIA REGIONAL CONSTITUENCY

Name	Membership No
Adukia, Rajkumar Satyanarayan	17569
Birla, Dinesh Kumar	7907
Dalwadi, Ashwinkumar Gordhanbhai	8996
Joshi, Neeraj Dhananjay	24118
Lokegaonkar, Haresh Anant	31418
Mitra, Debasish	15379
Narasimhan, Srinivasan G	7464
Paliwal, Ghanshyam Rajaram	7815
Pawar, Laxman Digambar	17598
Thatte, Ashish Prakash	27543
Vora, Rohit Jamnadas	5740

ELECTIONS - 2019

SOUTHERN INDIA REGIONAL CONSTITUENCY

Name	Membership No
Annamraju, Venkatanarsimha Satya Nageswararao	8029
Ashok, Iyya Nadar	11929
Govindarajan M	18667
Gunjalli, Suresh Rachappa	22121
Iyer, P Raju	6987
Kalavalapalli, Sanyasi Rao	16865
Murali, V	29241
Murthy, K Ch A V S N	13338
Padmanabhan, H	16200
Rao, Sunkara Papa	8045
Srinivasa Prasad, T C A	10996

EASTERN INDIA REGIONAL CONSTITUENCY

Name	Membership No
Basu, Biswarup	8237
Bhattacharjee, Shyamal Kumar	5828
Chattopadhyay, Chittaranjan	11028
Das Chowdhury, Rinku	13497
Das, Chiranjib	22659
Mishra, Niranjan	13060
Mukhopadhyay, Bibekananda	26671
Mukhopadhyay, Dinabandhu	9737
Prasad, Bidyadhar	25182
Sonthalia, Shyam Sundar	8123

NORTHERN INDIA REGIONAL CONSTITUENCY

Name	Membership No
Bhalla, Rakesh	9442
Bhatt, Sandeep Kumar	14652
Budhiraja, Jugal Kishore	10364
Choudhury, Rakesh	10913
Gupta, Suresh Kumar	7778
Jain, Baboo Lal	6218
Jain, Navneet Kumar	17133
Sharma, Vijender	18513
Singh, Balwinder	19898
Singh, Sunil Kumar	23553

(B) REGIONAL COUNCILS (2019-23)

WESTERN INDIA REGIONAL COUNCIL

Name	Membership No
Anikhindi, Anil Gunderao	6564
Bhombe, Mahendra Tulshiram	29773
Birla, Dinesh Kumar	7907
Chourasia, Yogesh	24965
Deshpande, Harshad S	25054
Goswami, Arindam	30993
Kaka, Mukeshkumar Bapulal	13599
Kulkarni, Vinayak Balkrishna	28559
Kumar, Arun	10519
Mahankaliwar, Shriram Narayan	22055
Mohrir, Chaitanya Laxmanrao	27229
Mundra, Satya Narayan	28778
Rakshit, Samir	11022
Sapkal, Baliram Narayan	12471
Savala, Nayana Premji	18067
Shah, Akshay Pravin	28018
Shahane, Amit Shantaram	26078
Sureshchandra, Bhavsar Ashishkumar	22646

ELECTIONS - 2019

SOUTHERN INDIA REGIONAL COUNCIL

Name	Membership No
Agastya, Vijay Kiran	25827
Anegundi, Yankappa H	16148
Badrinath, Attuluri Ramavenkata	21573
Bhat, Vishwanath Ramakrishna	22986
Darapaneni, Munisekhar	33464
Dwibedy, Pranabandhu	19238
Garlapati, Shivannarayana	15898
Iyer, Rajesh Sai	28373
Kambadaraya, Girish	17416
Narayanan, Krish	24815
Narayanan, Padmavathi	42007
Panamoottil, Pramode Chandran Gangadharan	29147
Prakash, Uppalapati	19328
Panicker Sankar P	25794
Rajagopal, K	17491
Rao, K Pandu Ranga	17466
Satish, Jyothi	31292
Sekhar, Rajanala Chandra	24524
Srinivasa Rao, Yadlapalli	20543
Suryanarayanan, K	24946
Warrier, Rakhesh Ramankutty	26732

EASTERN INDIA REGIONAL COUNCIL

Name	Membership No.
Banerjee, Ashis	19645
Basu, Arundhati	25144
Bhattacharya, Pallab	20372
Chatterjee, Sandip	18288
Dutta, Abhijit	36223
Ghosh, Sanjiban	24176
Mishra, Damodara	23265
Nayak, Bibhuti Bhushan	17713
Nayak, Sanjit Kumar	13166
Nayak, Uttam Kumar	23918
Patwari, Deepak Kumar	26122
Ramana, Cheruvu Venkata	15030
Samanta, Ashok Kumar	17006
Singh, Abhishek Kumar	33400
Singh, Nishant Kumar	31126
Sinha, Rakesh Kumar	24947

NORTHERN INDIA REGIONAL COUNCIL

Name	Membership No.
Bhati, Rajendra Singh	33509
Goel, Sandeep	17120
Gupta, Mukesh Kumar	12643
Gupta, Yogesh Kumar	18379
Handa, Musarrat Rai	4090
Jagdeep	43517
Jaiswal, Pawan	21374
Jat, Parash Ram	11268
Kandpal, Manish	33796
Kumar, Sandeep	38413
Kumar, Vijay	9426
Malpani, Deepak	27191
Mittal, Naveen	38412
Mittal, Satya Narayan	16794
Paliwal, Shailendra Kumar	25067
Pant, Santosh	32283
Prasad, Deepika Bhugra	38893
Sabharwal, Anika	32111
Satpal, Honey	32086
Sharma, Anil	15091
Singh, Manoj Kumar	22538
Tara, Harkesh	17321
Thapliyal, Vinod Kumar	18530
Tiwari, Upendra	23872
Tiwary, Pawan Kumar	28905
Wadhwa, Sankalp	38933
Yadav, Prahalad Sahai	45084
Yadav, Rakesh	22755

It may be noted that the above details only indicate the receipt of nominations in time. The list of valid nominations to be issued on as per election schedule, needs to be awaited to ascertain the eligibility to contest. In other words, persons whose names will be included in the list of valid nominations to be issued as per election schedule, shall alone be eligible to contest the said elections.

Candidates can check and download receipts of their remittances made towards fee for elections and security deposit (subject to realisation) by logging on to 'Members' on-line system' in the website of the Institute.

L Gurumurthy
Returning Officer

The Institute of Cost Accountants of India

Kolkata, the 8th April, 2019

NOTIFICATION

No. EL-2019/13: In the Form of Nomination for Election to the Council and Regional Councils of the Institute, notified on 26th March, 2019 the following has been indicated under the heading CONSENT among other declarations:

" I agree to abide by the provisions of the Cost and Works Accountants Act, 1959, The Cost and Works Accountants (Election to the Council) Rules, 2006 and The Cost and Works Accountants Regulations, 1959 and amendments thereof and other applicable Acts, Rules and Regulations as well as the decisions taken by the Council / Returning Officer in regard to Elections from time to time and forward herewith the statement (and photograph) pursuant to Schedule 4 of the Cost and Works Accountants (Election to the Council) Rules, 2006 as annexed to this nomination form."

It is notified that the Nominations forms for the Council and Regional Council Elections-2019, are to be submitted with the passport size photograph in colour of the candidate along with his/her signature and membership number written on the back side of the photograph.

Those who have already submitted their nominations without their photograph as indicated above, should send their passport size photograph in colour along with their signature and membership number written on the back side of the photograph, to CMA L.Gurumurthy, Returning Officer, CMA Bhawan, 12 Sudder Street, Kolkata – 700 016.

L. Gurumurthy
Returning Officer

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
(STATUTORY BODY UNDER AN ACT OF PARLIAMENT)
CMA BHAWAN
12, SUDDER STREET, KOLKATA – 700 016.

Ref.No:EL-2019/12/CORR/02 Dated: 09 April, 2019

Elections to the Council & Regional Councils- 2019

In pursuance of sub-rule 6 of Rule 6 of the Cost and Works (Elections to the Council) Rules, 2006, further to the List of Voters for the Elections to the Council & Regional Councils, 2019 published vide Notification No.EL-2019/12, dated 28th March, 2019, the following changes in the Booth Numbers already allotted have been made on the basis of information / particulars subsequently made available:

Against the voters allotted under the town heading 'New Delhi' whose addresses fall under Pin Code:	Booth No.	
	Earlier Allotted	**Now Changed to**
110002	B-136	**B-132**
110009	B-136	**B-133**
110010	B-136	**B-137**
110012	B-134	**B-136**
110015	B-134	**B-136**
110018	B-134	**B-137**
110024	B-133	**B-134**
110026	B-133	**B-132**
110027	B-133	**B-137**
110030	B-133	**B-134**
110031	B-137	**B-135**
110032	B-137	**B-135**
110033	B-137	**B-133**
110034	B-137	**B-133**
110035	B-137	**B-133**
110036	B-132	**B-136**
110039	B-137	**B-136**
110040	B-137	**B-133**
110041	B-137	**B-133**
110042	B-137	**B-133**
110043	B-137	**B-133**
110044	B-137	**B-134**
110048	B-137	**B-134**

110049	B-137	**B-132**
110051	B-137	**B-135**
110052	B-137	**B-133**
110053	B-137	**B-135**
110054	B-137	**B-136**
110055	B-137	**B-136**
110056	B-137	**B-133**
110057	B-137	**B-134**
110059	B-132	**B-137**
110059	B-133	**B-137**
110060	B-133	**B-136**
110061	B-133	**B-137**
110062	B-133	**B-134**
110064	B-133	**B-137**
110065	B-133	**B-134**
110066	B-132	**B-134**
110066	B-133	**B-134**
110066	B-138	**B-134**
110067	B-133	**B-132**
110068	B-133	**B-134**
110070	B-133	**B-134**
110071	B-132	**B-137**
110074	B-136	**B-132**
110075	B-136	**B-137**
110076	B-136	**B-134**
110077	B-136	**B-137**
110078	B-136	**B-137**
110080	B-136	**B-134**
110081	B-135	**B-133**
110083	B-135	**B-133**
110084	B-135	**B-133**
110085	B-135	**B-133**
110086	B-135	**B-133**
110087	B-135	**B-133**
110088	B-135	**B-133**
110089	B-135	**B-133**
110090	B-132	**B-135**
110108	B-136	**B-132**
110124	B-136	**B-132**

Members are requested to check the changes made in their respective Polling Booths by visiting the web site of the Institute: www. icmai.in - Election-2019/ "Check your Voting Status"

L.Gurumurthy
Returning Officer

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
(STATUTORY BODY UNDER AN ACT OF PARLIAMENT)
CMA BHAWAN
12, SUDDER STREET, KOLKATA – 700 016.

Ref.No:EL-2019/12/CORR/03 Dated: 23rd April, 2019

Elections to the Council & Regional Councils- 2019

I. In pursuance of sub-rule 6 of Rule 6 of the Cost and Works (Elections to the Council) Rules, 2006, further to the List of Voters for the Elections to the Council & Regional Councils, 2019 published vide Notification No.EL-2019/12, dated 28th March, 2019, the following changes in the Booth Numbers already allotted have been made on the basis of information / particulars subsequently made available:

Against the voters allotted under the town heading 'Kolkata' whose addresses fall under Pin Code:	Booth No.	
	Earlier Allotted	Now Changed to
700008	B-100	B-105
700009	B-102	B-099
700010	B-099	B-102
700017	B-099	B-105A
700019	B-099	B-105A
700019	B-100	B-105A
700022	B-105	B-099
700029	B-099	B-105A
700029	B-100	B-105A
700031	B-100	B-105A
700032	B-100	B-105A
700033	B-099	B-105A
700033	B-100	B-105A
700034	B-103	B-105
700036	B-099	B-102
700037	B-099	B-102
700039	B-100	B-105A
700042	B-100	B-105A
700045	B-099	B-105A
700045	B-100	B-105A

700049	B-099	B-105B
700050	B-099	B-102
700051	B-101	B-105B
700053	B-103	B-105
700056	B-105	B-102
700057	B-099	B-102
700058	B-099	B-102
700060	B-099	B-105
700061	B-103	B-105
700063	B-103	B-105
700065	B-103	B-102
700066	B-103	B-105
700068	B-099	B-105A
700068	B-100	B-105A
700075	B-103	B-105A
700076	B-105	B-102
700077	B-105	B-102
700078	B-100	B-105A
700079	B-100	B-102
700083	B-103	B-102
700091	B-105	B-104
700095	B-100	B-105A
700099	B-103	B-105A
700103	B-105	B-103
700104	B-103	B-105
700105	B-099	B-105B
700107	B-103	B-105A
700108	B-105	B-102
700109	B-105	B-102
700110	B-105	B-102
700111	B-105	B-102
700113	B-105	B-102
700114	B-105	B-102
700115	B-105	B-102
700116	B-105	B-105B
700118	B-105	B-102
700119	B-105	B-102
700120	B-105	B-102
700121	B-105	B-102
700122	B-105	B-102
700123	B-105	B-102
700124	B-105	B-105B

700125	B-105	B-105B
700126	B-105	B-105B
700127	B-105	B-105B
700129	B-105	B-105B
700130	B-105	B-105B
700131	B-105	B-105B
700132	B-105	B-105B
700136	B-104	B-105B
700143	B-105	B-105B
700144	B-105	B-103
700146	B-105	B-103
700148	B-105	B-103
700149	B-105	B-103
700150	B-105	B-103
700151	B-105	B-103
700152	B-105	B-103
700153	B-105	B-103
700154	B-105	B-103
700156	B-105	B-102
700157	B-104	B-105B
700159	B-105	B-105B
700160	B-105	B-102
700161	B-105	B-102
711101	B-105	B-094
711106	B-105	B-102
711204	B-105	B-102
721401	B-105	B-099
722101	B-105	B-099
743122	B-105	B-105B
743127	B-105	B-105B
743166	B-105	B-099
743176	B-105	B-102
743178	B-105	B-102
743203	B-105	B-105B
743273	B-105	B-105B
743330	B-105	B-103
743424	B-105	B-105B
743427	B-105	B-105B
743512	B-103	B-105
748102	B-105	B-102

II. Members are requested to check the changes made in their respective Polling Booths by visiting the web site of the Institute: www. icmai.in - Election-2019/ "Check your Voting Status"

III. The address of the following Polling Booth in alteration/cancellation of what has been printed in the List of Voters, 2019 of Eastern India Regional Constituency should be read as indicated below:

Polling Booth No.	Address
B-102	THE PARK INSTITUTION, 12 MOHANLAL STREET, KOLKATA – 700004
B-103	NAKTALA HIGH SCHOOL, 348/165, N. S. C. BOSE RD., KOLKATA - 700047
B-105	BEHALA HIGH SCHOOL, 6, BANAMALI NASKAR ROAD, BEHALA, KOLKATA – 700060
B-105A	ANDHRA ASSOCIATION SCHOOL, 13A, SAHNAGAR ROAD, NEAR KALIGHAT METRO, KOLKATA – 700026
B-105B	SUBHASH INSTITUTE, PO - NABAPALLY, PS - BARASAT, DIST- 24 PGS. (N), PIN – 700126

(L.Gurumurthy)
Returning Officer

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
(STATUTORY BODY UNDER AN ACT OF PARLIAMENT)
CMA BHAWAN
12, SUDDER STREET, KOLKATA – 700 016.

Ref.No:EL-2019/12/CORR/04 Dated: 25th April, 2019

Elections to the Council & Regional Councils- 2019

Sub: LIST OF VOTERS OF SOUTHERN INDIA REGIONAL COUNCIL

I. In pursuance of sub-rule 6 of Rule 6 of the Cost and Works (Elections to the Council) Rules, 2006, further to the List of Voters for the Elections to the Council & Regional Councils, 2019 published vide Notification No.EL-2019/12, dated 28th March, 2019, the following changes in the Booth Numbers already allotted have been made on the basis of information / particulars subsequently made available:

Against the voters allotted under Pin Code:	Polling Booths	
	Earlier Allotted	Now Changed to
600001	B-039	B-038
600003	B-039	B-038
600004	B-040	B-042
600005	B-040	B-038
600009	B-039	B-038
600010	B-041	B-038
600011	B-041	B-038
600012	B-039	B-038
600014	B-040	B-038
600017	B-042	B-043A
600018	B-040	B-042
600019	B-039	Voting by Post
600021	B-039	B-038
600023	B-041	B-038
600024	B-042	B-043A
600026	B-042	B-043A
600028	B-040	B-042
600029	B-041	B-038
600030	B-041	B-038

600033	B-042	B-043A
600034	B-038	B-038A
600035	B-042	B-043A
600037	B-041	B-038A
600038	B-041	B-038A
600039	B-039	B-038A
600040	B-041	B-038A
600043	B-042	B-039
600044	B-042	B-039
600045	B-042	B-039
600048	B-043	B-039
600049	B-041	B-038A
600050	B-041	B-038A
600051	B-041	B-038A
600053	B-041	B-038
600054	B-041	Voting by Post
600057	B-039	Voting by Post
600058	B-041	B-038A
600059	B-042	B-039
600060	B-041	B-038A
600062	B-042	Voting by Post
600063	B-042	B-039
600064	B-042	B-039
600067	B-041	Voting by Post
600068	B-039	Voting by Post
600070	B-043	B-039
600072	B-041	Voting by Post
600073	B-043	B-039
600074	B-043	B-039
600075	B-042	B-039
600077	B-041	B-043
600078	B-042	B-043A
600079	B-039	B-038A
600080	B-041	B-038A
600081	B-039	B-038A
600082	B-041	B-038A
600083	B-042	B-043A
600084	B-038	B-038A
600086	B-038	B-038A
600087	B-042	B-043A

600092	B-042	B-043A
600093	B-042	B-043A
600094	B-038	B-038A
600095	B-041	B-043
600096	B-043	B-041
600097	B-043	B-041
600098	B-041	B-038A
600099	B-041	B-038A
600100	B-043	B-041
600101	B-041	B-038A
600102	B-041	B-038A
600103	B-039	Voting by Post
600105	B-038	B-038A
600106	B-041	B-038A
600107	B-041	B-043
600108	B-039	B-038A
600109	B-041	Voting by Post
600110	B-041	B-038A
600111	B-041	B-043
600112	B-038	B-038A
600113	B-040	B-041
600117	B-043	B-039
600118	B-039	B-038A
600119	B-040	B-041
600123	B-039	B-043
600125	B-039	B-043
600126	B-039	B-041
600127	B-039	B-041
600129	B-039	B-041
600130	B-040	B-041
601102	B-039	Voting by Post
601302	B-039	B-041
602003	B-039	Voting by Post
602024	B-039	Voting by Post
602103	B-039	Voting by Post
602105	B-039	Voting by Post
602106	B-039	Voting by Post
602117	B-039	Voting by Post
603002	B-039	Voting by Post
603029	B-039	Voting by Post

603102	B-039	Voting by Post
603103	B-039	B-041
603109	B-039	Voting by Post
603109	B-039	Voting by Post
603112	B-039	Voting by Post
603202	B-039	Voting by Post
603203	B-039	Voting by Post
603204	B-039	Voting by Post
603209	B-039	Voting by Post
603210	B-039	Voting by Post
603211	B-039	Voting by Post
605202	B-039	Voting by Post
606032	B-039	B-043
631503	B-039	Voting by Post
631604	B-039	Voting by Post
631604	B-039	Voting by Post
500001	B-050	B-051
500004	B-052	B-051
500005	B-052	B-051
500006	B-052	B-051
500007	B-067	B-051
500008	B-052	B-049
500013	B-050	B-051
500014	B-052	B-067
500016	B-067	B-051
500018	B-050	B-052
500019	B-050	B-049
500020	B-050	B-051
500022	B-052	B-051
500023	B-052	B-051
500024	B-052	B-051
500027	B-050	B-051
500028	B-052	B-051
500029	B-050	B-051
500030	B-052	B-049
500033	B-050	B-049
500034	B-050	B-051
500035	B-050	B-051
500036	B-050	B-051
500037	B-049	B-052

500038	B-050	B-052
500039	B-050	B-051
500040	B-049	B-067
500042	B-049	B-052
500043	B-049	B-067
500044	B-050	B-051
500045	B-050	B-051
500046	B-050	B-049
500047	B-049	B-067
500048	B-052	B-049
500054	B-067	B-052
500055	B-049	B-052
500057	B-052	B-051
500058	B-051	B-050
500059	B-051	B-050
500062	B-049	B-050
500063	B-051	B-050
500064	B-051	B-050
500067	B-051	B-052
500068	B-051	B-050
500070	B-051	B-050
500072	B-049	B-052
500073	B-051	B-050
500074	B-051	B-050
500075	B-052	B-049
500076	B-052	B-050
500078	B-049	Voting by Post
500079	B-051	B-050
500080	B-051	B-050
500081	B-052	B-049
500082	B-051	B-050
500083	B-049	B-050
500084	B-051	B-049
500085	B-049	B-052
500087	B-052	B-067
500088	B-051	B-050
500089	B-052	B-049
500090	B-051	B-052
500091	B-052	B-049
500092	B-052	B-050

500093	B-049	B-067
500094	B-049	B-067
500095	B-051	B-050
500096	B-052	B-049
500097	B-052	B-050
500098	B-052	B-050
500100	B-052	B-067
500101	B-052	B-067
500102	B-052	B-050
500108	B-052	Voting by Post
500409	B-052	Voting by Post
501218	B-051	Voting by Post
501359	B-052	Voting by Post
501505	B-051	Voting by Post
501510	B-051	Voting by Post
501512	B-052	Voting by Post
502291	B-051	Voting by Post
502307	B-052	Voting by Post
502325	B-052	Voting by Post
502329	B-052	Voting by Post
503185	B-052	Voting by Post
507203	B-052	Voting by Post
508207	B-052	Voting by Post
509408	B-052	Voting by Post
515001	B-032	Voting by Post
515004	B-032	Voting by Post
515005	B-032	Voting by Post
515144	B-032	Voting by Post
515201	B-032	Voting by Post
515414	B-032	Voting by Post
515671	B-032	Voting by Post
515711	B-032	Voting by Post
515774	B-032	Voting by Post
515865	B-032	Voting by Post
516001	B-053	Voting by Post
516002	B-053	Voting by Post
516108	B-053	Voting by Post
516151	B-053	Voting by Post
516172	B-053	Voting by Post
516203	B-053	Voting by Post

516213	B-053	Voting by Post
516217	B-053	Voting by Post
516218	B-053	Voting by Post
516227	B-052	Voting by Post
516247	B-053	Voting by Post
516309	B-053	Voting by Post
516312	B-053	Voting by Post
516359	B-053	Voting by Post
516396	B-053	Voting by Post
516411	B-053	Voting by Post
516454	B-053	Voting by Post
517129	B-052	Voting by Post
517237	B-073	Voting by Post
517418	B-073	Voting by Post
517501	B-073	Voting by Post
517502	B-073	Voting by Post
517520	B-047	Voting by Post
522004	B-047	Voting by Post
522101	B-047	Voting by Post
522112	B-047	Voting by Post
522201	B-068	Voting by Post
522202	B-068	Voting by Post
522235	B-047	Voting by Post
522236	B-047	Voting by Post
522237	B-047	Voting by Post
522259	B-047	Voting by Post
522261	B-068	Voting by Post
522295	B-068	Voting by Post
522302	B-047	Voting by Post
522304	B-047	Voting by Post
522324	B-047	Voting by Post
522325	B-047	Voting by Post
522341	B-047	Voting by Post
522402	B-047	Voting by Post
522403	B-047	Voting by Post
522410	B-047	Voting by Post
522411	B-047	Voting by Post
522414	B-047	Voting by Post
522421	B-047	Voting by Post
522435	B-047	Voting by Post

524137	B-061	Voting by Post
524222	B-061	Voting by Post
524228	B-061	Voting by Post
524315	B-061	Voting by Post
524318	B-061	Voting by Post
524319	B-061	Voting by Post
524323	B-061	Voting by Post
524344	B-061	Voting by Post
524345	B-061	Voting by Post
524346	B-061	Voting by Post
524409	B-061	Voting by Post
524410	B-061	Voting by Post
524421	B-061	Voting by Post
524534	B-061	Voting by Post
530027	B-052	Voting by Post
530031	Voting by Post	B-076A
530032	B-076	B-076A
627850	B-068	Voting by Post

The above list include the voters who have been permitted to vote by post by dissolving the following booth as the number of voters fall short of 15 in the respective locations of the polling booths.

Polling Booth which stands dissolved and the voters permitted to vote by post
B-32
B-53
B-68
B-73

The voters at Serial Nos. 4425 and 7568 falling under Western India Regional Constituency whose names were printed inadvertently in the List of Voters of Southern India Regional Constituency now stand restored to Western India Regional Constituency.

ELECTIONS - 2019

The address of the following Polling Booth in alteration/addition of what have been printed in the List of Voters, 2019 of Southern India Regional Constituency should be read as indicated below:

Polling Booth No.	Alteration/Additions
B-038A	CMA BHAWAN, 4, MONTIETH LANE, EGMORE, CHENNAI - 600008
B-043A	THE STENOGRAPHERS' GUILD NO. 1 , GUILD STREET, (BEHIND SIVA VISHNU TEMPLE) T. NAGAR, CHENNAI - 600 017
B-052	HYDERABAD CHAPTER OF COST ACCOUNTANTS OF INDIA CMA BHAVAN, 7-2-5/d/1, POST OFFICE ROAD, NEAR DENA BANK, SANATH NAGAR, HYDERABAD - 500 018
B-076A	UKKUNAGARAM CHAPTER OF COST ACCOUNTANTS OF INDIA CMA BHAWAN, SECTOR-6, UKKUNAGARAM VISAKHAPATNAM-530032

(L.Gurumurthy)
Returning Officer

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
(STATUTORY BODY UNDER AN ACT OF PARLIAMENT)
CMA BHAWAN
12, SUDDER STREET, KOLKATA – 700 016.

Ref.No:EL-2019/12/CORR/05 Dated: 26th April, 2019

Elections to the Council & Regional Councils- 2019

Sub: LIST OF VOTERS OF WESTERN INDIA REGIONAL COUNCIL

I. In pursuance of sub-rule 6 of Rule 6 of the Cost and Works (Elections to the Council) Rules, 2006, further to the List of Voters for the Elections to the Council & Regional Councils, 2019 published vide Notification No.EL-2019/12, dated 28th March, 2019, the following changes in the Booth Numbers already allotted have been made on the basis of information / particulars subsequently made available:

Voter List Srl. No	Existing Booth/Mode of voting	New Booth Allotted/ New Mode of Voting
1	Voting by Post	B-007A
1138	B-002	B-007A
1139	B-002	B-007A
1140	B-002	B-007A
1141	B-002	B-007A
1142	B-002	B-007A
1143	B-002	B-007A
1144	B-002	B-007A
1145	B-002	B-007A
1146	B-002	B-007A
1147	B-002	B-007A
1148	B-002	B-007A
1150	B-002	B-007A
1151	B-002	B-007A
1152	B-002	B-007A
1153	B-002	B-007A
1154	B-002	B-007A
1155	B-002	B-007A
1156	B-002	B-007A
1157	B-002	B-007A
1158	B-002	B-007A

1159	B-002	B-007A
1160	B-002	B-007A
1161	B-002	B-007A
1162	B-002	B-007A
1163	B-002	B-007A
1164	B-002	B-007A
1166	B-002	B-007A
1167	B-002	B-007A
1168	B-002	B-007A
1169	B-002	B-007A
1170	B-002	B-007A
1334	Voting by Post	B-007A
1336	Voting by Post	B-007A
1149	Voting by Post	B-007A
1165	Voting by Post	B-007A
1056	B-010	B-018A
1057	B-010	B-018A
1058	B-010	B-018A
1059	B-010	B-018A
1060	B-010	B-018A
1061	B-010	B-018A
1062	B-010	B-018A
1063	B-010	B-018A
1064	B-010	B-018A
1065	B-010	B-018A
1066	B-010	B-018A
1067	B-010	B-018A
1068	B-010	B-018A
1069	B-010	B-018A
1070	B-010	B-018A
1071	B-010	B-018A
1072	B-010	B-018A
1073	B-010	B-018A
1074	B-010	B-018A
1075	B-010	B-018A
1076	B-010	B-018A
1077	B-010	B-018A
1078	B-010	B-018A
1079	B-010	B-018A
1080	B-010	B-018A
1081	B-010	B-018A
1082	B-010	B-018A

1083	B-010	B-018A
1084	B-010	B-018A
1085	B-010	B-018A
1086	B-010	B-018A
1087	B-010	B-018A
1088	B-010	B-018A
1089	B-010	B-018A
1090	B-010	B-018A
1091	B-010	B-018A
1092	B-010	B-018A
1093	B-010	B-018A
1094	B-010	B-018A
1095	B-010	B-018A
1096	B-010	B-018A
1097	B-010	B-018A
1098	B-010	B-018A
1099	B-010	B-018A
1100	B-010	B-018A
1101	B-010	B-018A
1102	B-010	B-018A
1103	B-010	B-018A
1104	B-010	B-018A
1105	B-010	B-018A
1106	B-010	B-018A
1107	B-010	B-018A
679	B-029	B-010
680	B-029	B-010
681	B-029	B-010
682	B-029	B-010
683	B-029	B-010
982	B-029	Voting by Post
983	B-029	Voting by Post
984	B-029	Voting by Post
811	B-029	Voting by Post
812	B-029	Voting by Post
813	B-029	Voting by Post
814	B-029	Voting by Post
2150	B-029	B-015
2677	B-029	B-015
3650	Voting by Post	B-015
3651	Voting by Post	B-015
4086	Voting by Post	B-015

4087	Voting by Post	B-015
4088	Voting by Post	B-015
5525	B-029	B-015
5528	B-029	B-015
5553	B-029	B-015
5600	B-029	B-015
5673	B-029	B-015
739	B-029	B-018A
741	B-029	B-018A
742	B-029	B-018A
1489	B-029	B-018A
1502	B-029	B-018A
1503	B-029	B-018A
1504	B-029	B-018A
1505	B-029	B-018A
1696	B-029	B-018A
2149	B-015	B-018A
2151	B-029	B-018A
2205	B-015	B-018A
2240	B-015	B-018A
2433	B-012	B-018A
2678	B-015	B-018A
3137	B-015	B-018A
5510	B-029	B-018A
5530	B-029	B-018A
5531	B-029	B-018A
5532	B-029	B-018A
5555	B-029	B-018A
5560	B-029	B-018A
5561	B-029	B-018A
5588	B-029	B-018A
5601	B-029	B-018A
5605	B-029	B-018A
5608	B-029	B-018A
5614	B-029	B-018A
5641	B-029	B-018A
5672	B-029	B-018A
5686	B-029	B-018A
5702	B-029	B-018A
5703	B-029	B-018A
5708	B-029	B-018A
5714	B-029	B-018A

5721	B-029	B-018A
5735	B-029	B-018A
5744	B-029	B-018A
5745	B-029	B-018A
5748	B-029	B-018A
5761	B-029	B-018A
5764	B-029	B-018A
5772	B-029	B-018A
5774	B-029	B-018A
5788	B-029	B-018A
5794	B-029	B-018A
5803	B-029	B-018A
5828	B-029	B-018A
5848	B-029	B-018A
5850	B-029	B-018A
6163	B-029	B-018A
6164	B-029	B-018A
6165	B-029	B-018A
4621	B-022	B-024
4880	B-022	B-024
5031	B-022	Voting by Post
5127	B-022	B-023

Against the voters allotted under Pin Code:	**Polling Booths/Mode of Voting**	
	Earlier Allotted	**Now Changed to**
410504	B-022	B-023
411009	B-023	B-024
411011	B-023	B-024
411013	B-023	B-022
411016	B-022	B-023
411020	B-022	B-023
411021	B-022	B-024
411023	B-022	B-024
411025	B-022	B-024
411027	B-020	B-023
411028	B-022	B-024
411029	B-022	B-024
411030	B-022	B-023
411032	B-022	B-023

411035	B-024	B-022
411036	B-024	B-023
411039	B-024	B-022
411044	B-024	B-022
411045	B-024	B-023
411057	B-024	B-023
411061	B-024	B-023
411062	B-024	B-022
412100	B-024	B-022
412101	B-024	B-022
412105	B-024	B-022
412106	B-024	B-022
412114	B-024	B-022
412201	B-024	B-023
412207	B-024	B-023
412208	B-024	B-023
412210	B-024	B-023
412220	B-024	B-023
412412	B-024	B-023
413802	B-024	B-023
400016	B-014	B-023
400023	B-012	B-024
410405	B-022	Voting by Post
410502	B-022	B-024
411024	B-022	B-024
411047	B-024	B-023
411136	B-024	B-023
412039	B-024	B-022
412216	B-024	B-023
412411	B-024	Voting by Post
413114	B-024	Voting by Post
413401	Voting by Post	B-027
431136	B-003	B-023
411057	B-022	B-023

The following voters originally falling under Western India Regional Constituency whose names were printed inadvertently in the List of Voters of Southern India Regional Constituency now stand restored to Western India Regional Constituency with the following details

Voter List Sl. No. in Southern India Regional Constituency	Voter List Sl. No. in Western India Regional Constituency	Membership No.	Mode of Polling
4425	1179A	28938	Voting by Post
7568	6154A	40128	Voting by Post

The address of the following Polling Booths in alteration/addition of what have been printed in the List of Voters, 2019 of Western India Regional Constituency should be read as indicated below:

Polling Booth No.	Alteration/Additions
B-007A	JALARAM TEMPLE SECTOR 29, GANDHINAGAR-382030
B-018A	MANJUNATHA COLLEGE OF COMMERCE KANCHANGAON, KHAMBALPADA, THAKURLI EAST, THANE, MAHARASHTRA 421201
B-021	WESTERN COLLEGE OF COMMERCE AND BUSINESS MANAGEMENT, BUILDING NO. B, INDIRA INSTITUTE OF BUSINESS MANAGEMENT, PLOT NO. 2, SECTOR 9, SANPADA, NAVI MUMBAI 400705
B-023	COLLEGE OF AGRICULTURE SHIVAJI NAGAR, PUNE-411005
B-024	MIT WORLD PEACE UNIVERSITY, 124- PAND ROAD, KOTHRUD, PUNE-411038

(L.Gurumurthy)
Returning Officer

ELECTIONS - 2019

THE INSTITUTE OF COST ACCOUNTANTS OF INDIA
CMA BHAWAN, 12, SUDDER STREET, KOLKATA – 700 016.

ELECTIONS TO THE COUNCIL AND REGIONAL COUNCILS, 2019

Kolkata, Thursday, the 18th April, 2019

NOTIFICATION

Scrutiny of Nominations

No. EL-2019/14: This is for information of all concerned that the nomination papers for Elections to the Council and Regional Councils, 2019 will be scrutinized by the Panel appointed by the Council in accordance with Rule 12 of the Cost and Works Accountants (Election to the Council) Rules, 2006 read with Regulation 118 of the Cost and Works Accountants Regulations, 1959 on Friday the 3rd May, 2019 at the Headquarters of The Institute of Cost Accountants of India, CMA Bhawan, 12, Sudder Street, Kolkata – 700 016.

L Gurumurthy
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For information of all concerned

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EXAMINATION JUNE 2019

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

Day & Date	PROGRAMME FOR SYLLABUS 2016 ATTENTION: INTERMEDIATE & FINAL EXAMINATION (JUNE – 2019 TERM) WILL BE HELD ON ALTERNATE DATES FOR EACH GROUP.			
	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)	₹1400/-	₹1200/-
	(Overseas Centres)	US $ 100	US $ 90
Two Groups	(Inland Centres)	₹2800/-	₹2400/-
	(Overseas Centres)	US $ 100	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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